



Linking Teaching and Research in the Disciplines

<http://www.ltsn.ac.uk/genericcentre/index.asp?id=17230> or <http://www.brookes.ac.uk/genericlink/about.htm>

This national project for the Learning and Teaching Support Network Generic Centre involves:

- Exploring how to embed teaching/research links in disciplinary communities;
- Creation of generic support materials to help further embed teaching/research links in disciplinary communities
- Support materials to include web site with: links to international projects on the teaching/research nexus; a guide to support making strong linkages in departments; and a range of workshop materials for others to adapt;
- Initially involved Five LTSN Subject Centres embedding teaching/research links in their disciplinary communities; Bioscience: GEES: Health Sciences and Practice: Hospitality, Leisure, Sport and Tourism; UKCLE;
- English and Medicine, Dentistry and Veterinary Medicine joined later for more limited /focused project;.
- Providing a framework, ideas and strategies that will also support other LTSN Subject Centres in developing such links.
- Initially the project is for the period January 2002 to September 2003;
- It formally and informally links to the 2000-2003 FDTL Project LINK: Linking Teaching and Research in Built Environment Disciplines.

While the project is directed to identifying and disseminating good practice, it also recognises that as disciplinary communities and academic institutions we have much to learn about both the nature of the links in our communities, and how best to strengthen those that are 'effective'. The project is thus directed both at tangible 'deliverables' and developing processes that support our understanding.

Advice to Other Subject Centres

- Whether this project obtains further funding – to other SC's? – is yet to be decided.
- With or without overall continued project funding the issue of linking T and R is anyway something you might want to pursue. Clearly you now have the benefit of what we have learned and the project materials to support you in what you decide to do out of your budget.
- Work in the ways that meet both your disciplinary community and the way that your Subject Centre is organised. Trying to 'direct' this project I am struck by the particular ways Subject Centres are organised.
- Take heart that this project is one that nigh certainly will strongly resonate with your disciplinary community. Potentially there can be a very strong interest in this project.
- The issue is also one that will interest staff from all types of institutions from the Russell Group to those teaching HE in the FE College of Poppleton!
- The original idea in this project (as in Project Link) of initially gathering case studies of 'good practice' may need to be prefaced with stages/processes developing/exploring disciplinary understanding of these issues.
- What comes out of the Review of Research is important in shaping the national and institutional climates in which this issue will be perceived by your community.

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Linking Teaching and Research in the Biosciences

Project deliverables

Development of a dedicated section of the LTSN Bioscience (URL) web site which contains:

- case studies of effective practice in linking teaching and research in the Biosciences;
- an annotated bibliography on teaching/research links in the Biosciences;
- a short review on teaching/research links in the Biosciences;
- a digest of the Bioscience Benchmark and the Agriculture, Forestry, Agricultural Sciences, Food Sciences and Consumer Sciences Benchmark to illustrate areas where teaching and research are or should be linked;
- links to relevant web sites;

Development of a workshop session, which will offer guidance, resources, discussion and exchange of ideas about linking T&R in Bioscience departments. The session will be presented within the LTSN Bioscience Events Calendar and on request from departments.

Understanding the link in the Biosciences

The role of textbooks – Bioscience teaching is based on describing, explaining and celebrating key experiments that moved the science on or produced a paradigm shift in understanding. Textbooks in the biosciences tell the 'human story' behind the experiment – much more memorable than bare facts – and simultaneously illustrate experimental methodology. Research is a team effort in the biosciences – how are team-working skills taught/developed in the curriculum?

Advice to other subject centres

The link is well embedded in the science disciplines – the community already need help to articulate what they do AND believe that they are doing something that others will be interested in. Make it clear that linking teaching and scientific research NOT pedagogic research.

Getting the Bioscience community involved

Raising Awareness – series of articles in LTSN Bioscience Bulletin: editorial (Spring 2003), article by Alan Jenkins (Spring 2003), case study from USA (Autumn 2002), perspective from Canada (Summer 2003)

Encouraging Case Studies – website lists research methods/skills that could be incorporated into the student experience as a prompt for case studies; exemplar case studies available early in project.

User friendly resources – subject specific bibliography is in two sections:

- 1) educational research and relevant projects;
- 2) practical guidance for students on how to undertake research projects and research related activities (producing posters, data analysis, experimental design).

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Main deliverables of Overall Project

- A web site as part of the Generic Subject Centre web site – that provides material that support/exemplify strategies for linking teaching and research in course teams and departments.
- A set of generic workshop materials that others can customise (to be placed on the website by Sept 2003).
- Special issue of Exchange on Linking Research and Teaching (Dec 2002) <http://www.exchange.ac.uk/issue3.asp>.
- Presentations/workshops at selected conferences.
- Selected publications: including Jenkins A and Zetter R (2003) Linking Teaching and Research in Departments, York LTSN Subject Centre <http://www.ltsn.ac.uk/genericcentre/index.asp>
- Effective links with Project LINK – which is possibly to be continued through additional funding from October 2003 and which would involve working with the four original partner institutions but in different disciplines.

Main Processes

- Supporting individuals in Subject Centres: The overall project has worked by Alan Jenkins finding ways that seem to resonate with the way each SC is organised and which fits the needs of the key person(s) in that SC.
- As well as this individual support, there has been c 3 project meetings aimed at; initially clarifying what 'we' mean by linking teaching and research; discussing overall strategies; and gently encouraging production of 'deliverables'.

Case studies

Origin: publishing undergraduate research in an extra-curricula house journal

Dr Jac Potter, Chester College of Higher Education

Origin was devised to offer a genuine experience of research publication to students in response to a perceived need as a significant proportion of students go on to further discipline-specific study or research when their degree is completed. Publication does not accrue academic credit. The benefits of publication to the student are considered to be the genuine experience of completing the full research cycle and the end product, a professionally produced article, which student authors can include with their curriculum vitae. Feedback from student authors also indicates that they gain a great deal of personal satisfaction and learn a great deal about scientific writing and the research and publication process.

Taking learning into the field

Dr Julian Park, School of Agriculture, Policy and Development, University of Reading

A core module has been designed to introduce students to basic research techniques and research issues associated with Rural Environmental Sciences using existing research projects and themes in the School and via field visits to local research institutions. This concept is underpinned by the high research rating of the School of Agriculture, Policy and Development from which the degree is co-ordinated, the availability of on-going research projects and the geographic position of the University of Reading which provides access to a number of high quality research institutes relevant to the degree subject. The actual background to activities that a given cohort of students pursue changes as different research projects are completed and new contracts won. This gives a dynamic background to the module which ensures students are being associated with the latest research projects.

<http://bio.ltsn.ac.uk/projects/ltr/>

*"The strongest policy claim that derives from this Meta analysis is that universities need to set as a mission goal the improvement of the nexus between research and teaching. The goal should not be publish or perish, or teach or impeach, but we beseech you to publish and teach effectively. The aim is to increase the circumstances in which teaching and research have occasion to meet, and to provide rewards not only for better teaching or for better research but for demonstrations of the integration between teaching and research." Hattie, J. and Marsh, H.W. (1996, 53). "The relationship between teaching and research: A Meta-analysis," *Review of Educational Research*, 66 (4), pp 507-42*

Linking Teaching and Research in Geography, Earth and Environmental Sciences (GEES)



" Let's stop trying to separate the inseparable... Not only teachers but also their students must be researchers"
Peter Scott (2002, 27-28)

At Liverpool University final year students work in teams on fieldbased projects related to staff research in Santa Cruz
The purpose of the option field course is to provide students with first-hand experience of project-based research – from initial planning and design to final reporting and dissemination. The level of expertise and research maturity demonstrated in the completion of all project elements crosses the interface between teaching and research – so much so that on completion of the field course, the student teams have completed the type of project work a graduate will be faced with in employment in a wide range of spheres. The sense of student achievement is tangible on final submission of the field report, and their efforts are rewarded through publication of a Santa Cruz Field Course Research Report Series.
Source: Platter, A et al. (2003) Case Study, LTSN-GEES Web site

Main Deliverables

- Annotated bibliography of 40 published examples of teaching-research links in GEES on LTSN-GEES Web site
- 20+ international case studies of how academics and departments promote teaching research nexus on LTSN-GEES Web site
- Hold UK national conference (30 June -1 July 2003)
- Review essay on nature of linkage in GEES on LTSN-GEES Website
- Publish outcomes of project in LTSN-GEES journal Planet

Students across all three years of an environmental studies degree course work together on local sustainability projects
Outlines and evaluates the aims and practice of a local sustainability project, which brings levels 1, 2 and 3 students on an Environmental Studies degree at the University of Sunderland in small research groups to work in collaboration with Sunderland City Council's Local Agenda 21 personnel, and other local environment and development agencies.
Source: Hughes, P, Blair, D, Clear-Hill, H, and Halewood, C (2001) Local sustainability and LA21: a vertically integrated research, learning & teaching activity, Planet, 2, 5-7

Main Processes for Involving GEES Community

- Invitations through listserv messages and direct contact with colleagues through face-to-face meetings, emailing, and telephone calls requesting case studies
- Department-based workshops on facilitating the linkage
- Presentations at GEES conferences

Students at University College London interview staff about their research
Describes a project used in the first-year curriculum that requires students to interview a member of staff about their research as a possible model to link research and teaching in the university. Through a critical evaluation, which draws upon responses canvassed from students and staff, the value of the project is assessed and its scope for application within other institutions suggested.
Source: Dwyer, C (2001) Linking research and teaching: a staff-student interview project, Journal of Geography in Higher Education 25(3), 357-366

Disciplinary Understanding of Linkage

- Emphasis in GEES focuses on practical ways of involving students in research, particularly through fieldwork and group projects
- Growing interest in problem-based learning as an approach which involves student in research

A Problem-based Learning Approach to Teaching Research Methods in Geography at University of Canterbury, New Zealand
This geography research methods course focuses on research methods and the problem-based learning approach in which the students learn about research by being fully engaged in the research process. The items of assessment all involve research skills and the use of peer assessment mimics the professional research world. The use of research problems devised by an external agency adds extra motivation for the students. Students are enthusiastic and stimulated by the approach.
Source: Spronken-Smith, R (2003) Case Study, LTSN-GEES Web site

Advice to Others Developing the Linkage in their Subject Community

- Emphasise the range of ways in which linkages may occur
- Use your contacts to collect a range of specific examples of the ways in which linkage is made within your community
- Take every opportunity to discuss with your community ways in which student learning may be enhanced by developing the linkage

Students in Australia work with staff on a geological mapping project
Staff and students at Canberra College of Advanced Education have jointly been working on a regional geological mapping project in southeastern Australia since 1985. Integration of teaching and research has resulted in educational and financial benefits and has also produced a new atmosphere of cooperation and achievement for the department as a whole.
Source: McQueen, K G, Taylor, G, Brown, M C B and Mayer, M (1990) Integration of teaching and research in a regional geological mapping project, Journal of Geological Education, 38, 88-93

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Further Information

LTSN-GEES Teaching and Research Linkages Project
Web Site: <http://www.gees.ac.uk/linktr/linktr.htm>

Linking Teaching and Research in Hospitality Leisure Sport and Tourism

Main deliverables (available via our website):

- A Resource guide which provides a summary of and links to information relating to the nexus – designed to provide information in a quick and easily accessible form to those wishing to find out more
- Reports which outline two detailed case studies undertaken in order to investigate the current opinions of both academics and student concerning the nexus – designed to provide an insight into current staff and student perspectives regarding the nexus
- A series of case examples which illustrate the range of current practice in linking teaching and research within hospitality leisure sport and tourism education – designed to provide practical examples of teaching practice which support and enhance the link between teaching and research

Advice to Other Subject Centres

- It is a topic which is currently of particular relevance and certainly of interest to academics and students – grasp the nettle!
- E-Learning offers new possibilities to develop teaching practice, create resources and enhance the link between learning and teaching. These possibilities need to be investigated evaluated and promoted.

Disciplinary Understanding

- The multi-disciplinary nature of hospitality leisure sport and tourism subjects creates a complex arena due to the different modes of enquiry adopted within the different disciplines often involved in subject courses.
- There is concern that students are not undertaking sufficient reading within their studies and are also increasingly relying upon internet resources in their research. Strategies that 'bring alive' research for students and enhance the link between teaching and research may encourage increased use of credible resources.
- As a result of widening participation activities, and a more diverse student body, there is currently debate regarding:
 - the most effective time and way in which to incorporate research methods within programmes. For example, the inclusion of research methods courses in the 1st year of study to ensure that students engage with research methods at the beginning of their course.
 - the adoption of an inquiry based approach to learning in 1st year programmes which may be restricted by the need to ensure a common knowledge base in core theories and concepts.

Ways in which links have been made in teaching and research within hospitality leisure sport and tourism subjects include:

- A course which requires students to apply economic theory to manage a portfolio of fantasy shares within their studies. This has engaged students in actively researching companies and applying theory within a business context.
- A course which has enhanced the way in which research methods is delivered by embedding a phased programme through core modules beginning in year one studies.
- A course which increases discussion about research amongst students by facilitating discussion on current research projects and feedback between undergraduate and postgraduate students.
- A course which increases familiarity by students of staff research by incorporating activities which require students to review staff profiles and publications within their study.
- A course which encourages discussion between staff and students on current staff research topics through staff leading student research related to their own specialist research area.
- Research at one university has shown that students identify staff that are teaching about their personal research area as being the most exciting.
- A number of courses, particularly at masters level, involve students applying theoretical knowledge in live consultancy industry projects.

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Linking Teaching with Research in English

English entered this project at a late stage and is therefore concentrating on constructing an intensive case study on the design and practice of an unusual and exciting taught Masters award at King's College, The University of London (English Department).

The Case Study

In 2001, King's launched their new Masters course on 'Shakespeare in Performance' in collaboration with The Globe Theatre, London. This course is not unique in its partnership with a theatre company, but is distinctive in that the theatre company has employed a full-time academic (Dr Gabriel Egan) partly to run the course.

The MA concentrates on Shakespeare's dramatic texts, and the manner of their performance in the Globe theatre. It is heavily informed by two forms of scholarly research, and by high-tech electronic resources. The course is run by Professor Ann Thomson, editor of the New Arden Shakespeare (the most authoritative versions of Shakespeare's texts made available for students), and is therefore informed by the field of textual scholarship, in which students have to engage. It is simultaneously concerned with the performance place of the Globe itself, and students are also continuously concerned to explore the archaeological dimensions of performance in Shakespeare's period.

In addition, they are required to engage in the active participation of performance themselves (while not being 'actors') in order to explore the 'live' dimensions of Shakespeare's theatre. The particularities of this (known on the course as 'workshopping') are most important, since this is not simply a matter of bringing a dramatic text to life, but doing so in relation to the space of the Globe itself, and by direct reference to the artefactual evidence which is informing our understanding of how plays were produced in Shakespeare's time (for example, stage directions - or evidence thereof - prompt sheets and other related ephemera).

While most Masters students are always going to be involved with the cusps between undergraduate education and more specialist research practice, this course explores those boundaries in particularly interesting and unusual ways. Scholars editing new versions of Shakespeare's texts, for example, have used this course and its procedures as a laboratory for the testing out of theories of performance. In this sense, the students taking the course are not merely in continuous contact with the primary sources of research investigation, they are active participants in the research process itself: they are, in fact, producing research evidence. This work is also informed and supported by Dr Egan's expertise in electronic technology, most notably the latest development of the construction of a virtual Globe on the screen which is able to model the use of the space in relation to the dramatic texts.

The further value of profiling this project, we believe, lies in its capacity to draw diverse fields of research practice together, and moreover, combine them with advanced technologies, and (through the Globe Theatre) the public (i.e. non-academic) engagement with Shakespeare. The programme cannot be duplicated therefore, but it offers an unusual model for the bringing together of these elements that might be followed elsewhere.

Advice to Other Subject Centres

English is a research-intensive subject, and it has the capacity to produce a series of examples of how research is informing and inter-relating with teaching; equally, some focus on work of this kind will have appeal for our subject community, and thereby, heighten the profile of teaching while simultaneously offering examples of good practice. Other subject centres of research-intensive subjects may consider this also applicable.

Main Deliverables:

- A brief published report on the history of the course's development, concentrating on the ways in which the different combinations (academe, theatre company, educational technologies) have been brought together;
- An account, with links, of how this programme's development is situated in relation to existing and developing practice elsewhere;
- A student account of their experience on the course, with particular regard for their understanding of the links between research and teaching;
- Examples of how the workshop activity is producing new research evidence;
- Visual displays of some of the primary sources (e.g. early books, texts, theatrical ephemera etc.);
- If possible, video clips from The Globe's extensive video archive of life professional performances;
- Visual materials detailing the course's concern with the nature of the text (e.g. *Hamlet*);
- Browsing facility of other course elements, and if possible, the virtual Globe;
- Video clips of live teaching/performance in the Globe space;

All outcomes will be published on our website.

In addition our web pages will include further details, with links where appropriate, of other models of linking research and teaching in English, and some discussion of the paradigms in which this relationship operates. A review essay, or summary, of the project will also be published on the website and in the Subject Centre Newsletter.

Disciplinary Understanding

In its academic practice, English as a discipline has taken very little interest in the scholarship of learning and teaching, and there is scant evidence of the possibility of such interest being excited for a while yet, although this field is gradually establishing itself in the broader realm of the Arts and Humanities. However, there has always been a vigorous interchange between research in English and curriculum innovation, and the case study chosen illustrates this while also indicating how research/teaching boundaries are being rendered less distinct.

" We found little evidence to suggest that synergies between teaching and research were managed or promoted at departmental or institutional level... There were some attempts to manage teaching and research workloads in departments, partly to allow more time for research. Some strategies may be having the unintended consequence of driving research and teaching apart for some staff." J.M Consulting (2000, 36). " Interactions Between Research, Teaching, and Other Academic Activities" : Report for HEFCE, J.M Consulting Bristol.

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Linking Teaching and Research in Medicine

The LTSN-01 involvement in the Linking T&R project consists of a literature review of the established medical education journals to be delivered by Sept 2003 and gathering of data from medical schools that represent the breadth of approaches to education. This poster presents initial data gathered by semi-structured interviews. Based on the data gathered in these, a short questionnaire will be sent to a sample of schools to solicit opinions from a range of teaching staff.

Medicine: a research-centred education

Within medical education, there is a general acceptance that students must be exposed to the principles and methods of research, including evidence-based medicine (EBM) which is defined often as *" the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients. This practice means integrating individual clinical experience with the best available external clinical evidence from systematic research"*. (Sackett et al., BMJ, 1996, 312, pp.72-3)

All medical schools teach, in some fashion, approaches to EBM and topics taught include searching for and choosing relevant literature from databases, critically appraising the literature, understanding research design and exhibiting professional responsibility in translating findings into considered practice.

Further, all medical schools will have some students that will do an intercalated degree that involves taking an extra year of study to complete a research-based project. In the schools interviewed, generally about 15% of students in any given cohort would follow this path. However, the 'research-led' medical schools (about 4 of 31) require all students to carry out a significant research project leading to a BSc, which means an additional 6th year when compared to the typical medical programme.

Also, all medical schools offer Special Study Modules and many of these are research based. These modules are generally 4-6 weeks, some as long as 11, and students will carry out or contribute to a project, under supervision. These can range from clinical studies, to basic microbiology, to building Web resources.

These are institutional policies signed up to by the medical schools and codified in handbooks and curriculum documents. The GMC and the benchmark statements concur that these skills are an essential part of a medical education.

While this looks like a rosy picture in which all students are at a minimum required to acquire the skills of finding and analysing research, and some go much further into independent research, there are some underlying issues that came out in interviews that raise some interesting questions for other disciplines.

Unravelling the links of T&R? Comments from the trenches

Interviews were held at 5 schools with deans of teaching or their equivalent. The schools included one new school, one research intensive school, and three established schools, all in pre-1992 universities.

Here are some comments from these interviews which will be anonymous in the interest of encouraging candid discussion:

About research enthusiasts as teachers

- Some staff teach about their own research, but this is often inappropriate for 1st and 2nd year level; they do it because it is easier than teaching core material; the research active staff are often useless at teaching, so we scramble around to find something they can do, and we end up offering Special Study Modules, in a way, to integrate their research skills into the curriculum, *not* because we think it is the best thing to do.
- In the words of one dean, "Core curriculum links to faculty research are non-existent, the teaching shouldn't be distorted by particular research interests and we explicitly decided that it should *not* be linked... In English, you teach Romantic Poets because you have an expert. In medicine, if you only teach what your research strengths are, you would produce an incompetent doctor."
- There are many very highly motivated researchers who do little teaching; they don't *want* a link between them.

About students

- Our students are good at 'hard science', but not so good at 'evidence-based practice'; students tend to identify most with clinical practitioners who, frankly, don't use EBM all that much
- Intercalated degrees are often seen as 'not useful' on CVs, except in the few research oriented schools; students are often discouraged from doing them
- Research away days and research seminars rarely involve students

About funding

- RAE is pushing teaching and learning apart; in the new medical schools, there will be no RAE money at all – if you have no chance of being 5*, why even attempt research at all?
- The expansion in medical student numbers has not actually created more resources for teaching; the extra money is, in reality, going to expanding research; deans won't discuss this because the universities would oust them, or as one said, "If I were closer to retirement, I'd write the paper."; estimate is that if the actual resources *given* for teaching *went* to teaching, for example, the staff-student ratio would increase by 4 times (e.g. 1:32 would become 1:8)

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Linking Teaching and Research in Law

Main deliverables

- establishment and development of a set of web pages relating to the project
- surveys of individual law schools to establish current practice in linking research and teaching
- development of criteria of effective practice against which to identify useful case studies and examples
- collection and dissemination of case studies and examples through a range of media

Main processes

- **Working with law schools**
- As part of our departmental based activity we are taking the opportunity to explore understandings of the link between teaching and research, to collect examples of current practice and to develop criteria by which effective practice may be identified. This has been a useful way for the Centre to understand the various contexts in which legal education is delivered and the processes behind the development of the curriculum.
- **Publications**
- We have recently published *Developing reflective practice* authored by Karen Hinett, Education Developer at UKCLE, which explores approaches to nurturing the higher order skills set out in the law benchmark statement. This publication has been disseminated to our key contacts across the UK and has been very well received.
- **Awareness raising**
- Information about the project has been disseminated through our newsletter, *Directions*, the monthly e-bulletin and through publicity at events.
- Articles and commentary about the link between research and teaching have been written for legal education bulletins and newsletters.
- The link between teaching and research has been introduced as appropriate across the range of UKCLE activities.
- This has been a necessary strand in our strategy but not as successful in terms of generating clear 'outputs' as the individual or departmental engagements.

Case Study

Research on a prescribed case study LLB module Background

This module is being developed in the School of Law at the University of Birmingham. It is a 30 credit optional level 3 module on the LLB programme. It incorporates several forms of flexible learning into the Law School curriculum including: (a) the use of a multifaceted case study of a politically and/or legally controversial episode as the focus of study (b) the use and assessment of collaborative teamwork (c) embedding reflective learning into a module.

Outline of the module

Building on modules studied at stages 1 and 2, seminars examine the nature of legal scholarship and methods for designing a research project. Working with primary and secondary material arising from a case study of a multifaceted legal, social and political episode, each student then

- Devises a project design
- Receives formative peer assessment on the project design
- Provides formative peer assessment to another student's design

Aims of the module

- To provide research-led teaching at undergraduate level and introduce undergraduates to the values and skills of research.
- To establish a learning environment in which students are required to take responsibility for their intellectual development.

Each student individually carries out their research project and writes an essay and reflective account of the process by which the project was formulated and an assessment of the extent to which the project has met its objectives. Each student is expected to work independently with a high degree of learner autonomy.

In the final phase of the project, students are required to work collaboratively as a team to devise a strategy for disseminating some or all of their research output during the module in a format appropriate for a non-academic audience (e.g. policy makers in government, members of the general public or a professional group). The group produces a document explaining the strategy and may annex to it any actual or proposed output (e.g. a briefing document, letter to the press, draft article for a magazine or newspaper, plans for a website etc.)

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Disciplinary understanding:

In general – see the point about local variations in understanding and practice below

- The word 'research' is confined to an activity undertaken by academics, relating to their subject specialism. Being a researcher is integral to their academic identity and defines their status within their area of subject specialism. The outcomes of their research is drawn upon in their teaching, but the process is not.
- Students are not viewed as 'researchers' or even co-explorers in the higher education context, and the potential of the research process for enhancing student learning is not, generally, recognised (at least explicitly).

Advice to other subject centres:

- Beware of adopting one general approach to linking teaching and research. Work with departments – research and teaching cultures vary from institution to institution and understandings and practices therefore vary.
- Appealing to academics in their role as researchers and making explicit how their expertise in this area can translate into enhancing student learning is a useful 'way in' for the subject centres – particularly to the old universities.

Linking Teaching and Research in Health Sciences and Practice

Main deliverables:

- Published article in a peer reviewed journal outlining and discussing the links (or lack of them) between teaching and research within the Health Sciences and Practice disciplines. The paper will be based upon over 20 in-depth telephone interviews with members of the Health Sciences and Practice constituency.
- 3,000 word report to the LTSN Generic Centre based on the above.
- Part of the Health Sciences and Practice website dedicated to the Linking Teaching and Research project
- Between 6 and 10 case-studies demonstrating different ways in which the links are being forged within different disciplines and departments.
- The setting up of a special interest group by members of the constituency to further explore the teaching-research nexus.

Main processes:

- Inviting Subject Advisers and Key Contacts to participate in telephone interviews. An effort has been made to select interviewees from as broad a range as possible from our 26 different disciplines and across the 4 different UK countries. Two thirds of those approached so far have agreed to be interviewed.
- Inviting interviewees or other interested members of the constituency to carry out case-studies. Case studies have been particularly sought in areas where research active staff are using their own research to inform their teaching either at an individual level or a departmental level. Most of those approached have at least agreed to consider doing a case-study.

Advice to other subject centres:

- There is a need to develop an understanding of the context in which links are, or are not, being made within the subject disciplines and to address the constraints that staff may be under, before any steps are taken towards trying to enhance the teaching-research nexus.
- By engaging teaching staff in discussions about the linking of teaching and research the area becomes more visible and more public. The motivation to set up a special interest group by members of the Health Sciences and Practice constituency shows how there can be positive 'natural' spin-offs.

Disciplinary understanding:

- In the Health Sciences and Practice disciplines there is either a requirement, or at the very least, a widespread recognition of the need to prepare graduates for evidence-based professional practice. In some disciplines the evidence-base is well developed (i.e. nursing) and in others it is still at a rudimentary stage (i.e. complementary medicine). In large part, this is reflected in the extent to which curriculums are evidence-based.
- The extent to which teaching staff are research active varies considerably between different disciplines and between different institutions within the same discipline. Most members of the Health Sciences and Practice community are encouraged to carry out research, but this is often in their own time. Occasionally they are actively supported in their research endeavors and given time out from their teaching commitments. The link between staff research activity and teaching is however more tenuous and often non-existent, although in one department there is an example of the link being actively managed and promoted. Staff in this department are given time out from teaching to conduct research, have to keep research portfolios and monitor how they integrate their research with their teaching.
- Staff are under severe time constraints as they have to keep their clinical skills up to date and on top of their teaching duties are often required to spend a certain amount of time each week in the clinical setting. This is one of the main reasons that some disciplines and departments choose not to promote staff research.

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Linking Teaching and Research in the Built Environment (Project LINK)

<http://www.brookes.ac.uk/LINK>

This is an associated project funded through the Fund for the Development of Teaching and Learning (Phase 3). This project has been investigating the link between teaching and research since 2000. It is due to finish in September 2003.

Main deliverables of the project

A web site of resources on linking teaching and research which includes the following (all now available on the project website):

- guidelines on linking teaching and research, which although they come out of the built environment disciplines are generic;
- list of change strategies and processes which can be used to enact the link. These strategies are prescribed at three levels: departments/subject groups, institutions and national/international disciplinary communities. Also included on the website are examples of where they have been employed by the four institutions involved in Project LINK;
- teaching resources portfolio of examples of practice in linking teaching and research in the built environment;
- publications on linking teaching and research which have been produced by the project members;
- bibliography of publications in the discipline on linking teaching and research.

Main processes

- This is a specific project involving four institutions as consortium partners (Oxford Brookes, Sheffield Hallam, University of the West of England and University of Westminster) and five additional institutions as cascade partners (University of Newcastle, Napier, University of Gloucestershire, Heriot Watt and Bolton Institute).
- Wider dissemination into the built environment disciplines and cognate and non cognate disciplines has been through presentations at discipline, LTSN and staff development conferences and workshops.
- An international conference aimed at the built environment is to be hosted by the project in September 2003 in Oxford.

Disciplinary Understanding

- The different knowledge-base of disciplines impacts on both the methods and the characteristics of the way teaching and research are integrated. Thus vocational and professional areas like the built environment are more likely to be research-based rather than research-led. Professional practice and accreditation bodies tend to put more emphasis on the skills and aptitudes for using the findings of research than on the expertise to conduct research. They also place greater emphasis on the application of research-based knowledge than on research as a process of inquiry and knowledge development.
- Project LINK shows that the Built Environment is a fertile subject area to explore the complex relationship between teaching and research. Its multi-disciplinarity and the diversity of the subject matter highlight:
- contrasting modes of research: social sciences (e.g. planning) and the application of conceptual research; design subjects (e.g. urban design and architecture) and the application of abstract inquiry; technical subjects (e.g. construction and real estate management) and research as problem solving inquiry;
- different conceptualisations of the activity and purposes of research and how it is communicated: from research as knowledge creation (e.g. research creating social and economic constructions of urban processes and dynamics) to research as knowledge application (e.g. policy evaluation for government);
- different roles of research in the student learning experience and skills development (e.g. research-led or research-based learning, individual or group skills).

Case Study

Planning Implementation (undergraduate module at the University of the West of England)

The module consists of a lecture course, seminars and a role play project. In the lecture course, different understandings of implementation are explored both in theory and by using case study examples drawn from the SPECTRA project. This is a multinational project, funded by the European Commission, to look at how systems of spatial planning have embraced principles of sustainability. The different understandings of implementation are described by researchers involved in the project, and emphasis is placed on two contrasting examples of implementation:

1. the masterplan approach illustrated by Emersons Green in North Bristol, and
2. the opportunistic and incrementalist approach illustrated by the siting of the IKEA store in East Bristol.

The seminars enable students to explore and share the material from an extensive reading list. The role-play project focuses on the New Deal for Communities project in Barton Hill, known as Community at Heart. The project has been the subject of monitoring by the Faculty's Cities Research Centre. A researcher from that centre introduces the project and introduces contacts from the Community at Heart team. Students study the scheme and visit it gaining a variety of insights into the varied interest groups involved. With the benefit of this knowledge students role-play the implementation of the regeneration of this area, taking on the role of a particular interest group. The project culminates in a reflective essay in which students consider the different understandings of implementation gained through studying the module.

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