

Linking Teaching and Research

Issue 9: Spring 2004

Designing a Curriculum That Values a Research-Based Approach to Student Learning

Alan Jenkins
Oxford Brookes University

"Universities need to set as a mission goal the improvement of the nexus between research and teaching.The aim is to increase the circumstances in which teaching and research have occasion to meet" (Hattie and Marsh, 1996:533).

For many of us the links between teaching and research are what distinguishes higher education. For staff their identity and their motivations are profoundly shaped by their commitment to research in their discipline. Perhaps these links are seen as so self-evident as not requiring analysis or formal discussion? The research evidence cautions us that positive teaching/research links are not automatic. This article sets out strategies that individuals and course teams can use to examine their current courses and strengthen teaching/research connections to benefit student learning.

Three linked issues make it imperative to formally consider these issues:

- There is strong research evidence that questions the often presumed close connection between staff research and teaching quality (Hattie and Marsh, 1996).
- Governments in the UK and elsewhere are selectively using that research evidence to justify policies that, in effect, create 'teaching only' institutions/departments.
- There is research evidence that the UK Research Assessment Exercise has resulted in some institutions/departments making a structural separation between teaching and research (Jenkins, 2000; McNay, 1999).

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Inside LINK 9:

- Pleasure By Learning (PBL)
- Embedding Research in the Curriculum
- Student and Staff Perspectives on Linking Teaching and Research
- Making Learning Cool!

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In my view, teaching and research need to be reshaped so that they connect in productive ways. This requires actions at a whole range of levels from the individual academic to the national system, and indeed international disciplinary communities (Jenkins et al, 2003). Such actions need to start at the level of the individual teacher and course team and build on the insights of Brew and Boud (1995:272) that 'teaching and research are correlated when they are co-related'. One way to achieve this is to 'exploit further the link between teaching and research in the design of courses' .

Much of what I propose here is generic to staff in all disciplines. But as other articles in this publication demonstrate, there are particular issues regarding Hospitality, Leisure, Sport and Tourism. As a specialist in higher education my sense of those that are more particular to your subjects include:

- What is the particular nature of research in your subjects? Thus you might want to consider the applied nature of research relevant to the subjects.
- What do students expect? Do they expect a curriculum that is explicitly research-based?
- What motivates them to take your courses and study hard?
- Will those with a strong employment focus immediately see the benefits of research?

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LINK is the newsletter of the Learning and Teaching Support Network (LTSN) for Hospitality, Leisure, Sport and Tourism. It is published in the Spring, Summer and Autumn of each year and has a theme for each edition. If you would like to contribute to LINK, or suggest a theme for a future issue, please contact ltsn@brookes.ac.uk

I don't think these questions should deter you from explicitly linking teaching and research - but they may shape how you design effective links that meet the concerns of your subjects and the culture and needs of your students. I will now focus on the generic advice.

Formulating design principles

How might we develop a set of principles that will guide us in designing a curriculum that seeks alignment between the cultures and practices of the teacher-researcher and the learning experiences and processes of students? One approach is to draw on examples of existing good practice, as included for example in this publication. For example the Contemporary Issues module described by Levent Altinay (page 28) describes a curriculum strategy to connect the cultures and practices of teacher-researchers in a department with the learning experiences and processes of students.

In my view, this example reveals a basic principle, in that the connection between (staff) research and student learning does not occur incidentally: it needs to be explicitly designed into a course. Furthermore, the nexus between the teacher as researcher and the curriculum needs to be introduced at an early stage of the course. In many courses this connection is only central at the time students complete their final year dissertation or thesis.

Curriculum strategies for developing students as stakeholders in research

The task facing course teams whose view of 'quality teaching' is one that relates closely to staff research is to make undergraduate students feel that they are stakeholders in the learning process through research enterprise. This is a good way of exploring evidence-based professional practice which is central to a large range of undergraduate courses, and many at postgraduate level.

Designing the curriculum to focus on what students do

Biggs (1999; 2002) draws the distinction in any teaching and learning system between what the teacher does to promote students' learning and what the students do to learn. While the research evidence on the value of staff research to student learning is problematic, the benefits to students through involvement in research and enquiry is not in doubt. The central message for course teams is to focus on the student experience of appreciating, using and doing research. Below are brief descriptions of the views of four of the current researchers/scholars in this area, all of which direct us to focus on what students do as learners, and how teachers teach and design courses.

Ron Barnett (2000:163) argues that universities need to be reformulated to help students and society deal with 'supercomplexity'. He sees teaching and research as 'activities [that] are separate and distinct and are not to be confused. However... institutions [and] their students, have a right to expect that their lecturers are engaged in research ... the issue is whether lecturers adopt teaching approaches that are likely to foster student experiences that mirror the lecturers' experiences as researchers.'

Angela Brew (1999:299) sees 'the relationships between teaching and research (as) dynamic and context driven'. The contexts include whether research is seen as an objective product or as a process of enquiry, and whether teaching is seen as transmission of what is known or an exploration. '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' (1999:298).

Lewis Elton (2001:43) agrees that there 'may well be a positive link [between research and teaching] under particular conditions'. These he sees less in terms of the outcomes (eg. published papers by 'research active' staff) than in the extent to which students learn through some form of student-centred or enquiry-based approach.

Marcia Baxter-Magolda (2001) sees involving students in research and research-like activities as supporting them in developing more sophisticated 'ways of knowing' of conceptions of knowledge. In a research study of an intensive undergraduate summer research programme she concluded that students who took part became more confident as learners and more capable of thinking independently. Her research suggested that more complex assumptions of knowledge stemmed from participating in a mentored, independent research experience and she sees such research as

validating what she describes as 'constructive development pedagogy [in which] teachers model the process of constructing knowledge in their disciplines, teach that process to students, and give students opportunities to practice and become proficient at it' (Baxter-Magolda, 1999:9).

Guiding principles for curriculum design

The way that course teams seek to apply these research perspectives in curriculum design will of course vary by staff views and disciplinary concerns. There is no one way of making effective links and developing courses that support students' understanding of, and ability to 'do' research. However, sharing course structures and examples will help course teams and disciplinary communities decide what they consider appropriate. This is a central aim of the project funded through the LTSN Generic Centre on Linking Teaching and Research in the Disciplines (<http://www.brookes.ac.uk/genericlink/>).

The suggestions on course design that follow build on the insights of current pedagogic research on the nexus. They are very much work in progress and will benefit from critical analysis and discussion, and testing out through discussions within departments and discipline communities. They will need to be supported by actions at department level that support staff in developing the links between teaching and research. Here again, we need to share and discuss what is seen as effective practice. But the central argument is that there is much that individual staff and course teams can do in the design of a course to promote the 'teaching/research nexus'.

Curriculum strategies for linking teaching and research at the level of the module/course - The Explicit Curriculum

- Develop students' understanding of the role of research in their discipline;
- Bring out current or previous research developments in the discipline;
- Develop student awareness of learning from staff involvement in research;
- Develop student understanding of how research is organised and funded in the discipline/institution;
- Develop students' abilities to carry out research/consultancy in their discipline;
- Support students' learning in ways that mirror/support the research/consultancy processes in the discipline;
- Assess students in ways that mirror/support the research/consultancy processes in the discipline (for example, by requiring students to submit their work according to the style of a journal);
- Provide training in relevant research/consultancy skills and knowledge;
- Develop student involvement in staff research/consultancy.

In Conclusion

In the UK and elsewhere academics have to confront the intentions of many governments to restrict research funding to the few. This must be resisted - in particular as students and the wider society will fail to benefit from a genuine higher education. As academics we have to take some or much of the responsibility for this view that teaching and research can be decoupled. For too often we have failed to ensure effective teaching/research synergies in our courses and in practices within departments and institutions. This article has focused on what individual staff and course teams can do to strengthen teaching/research connections. The other articles in this issue provide examples of practice in Hospitality, Leisure, Sport and Tourism.

For a list of references associated with this article see <http://www.hlst.ltsn.ac.uk/resources/link9/references.html>.

New Approaches to Embedding Investigation and Research in the Curriculum at Sheffield Hallam University

Howard Lyons and Kevin Nield
Division of Leisure and Food Management
Sheffield Hallam University

For some years the Division of Leisure and Food Management has had a dissertation module within its final year undergraduate provision. This module has been optional on most routes and has suffered from its 20 credit point length: to be consistent with other 20 credit point modules, it had a word length of only 7,000. As a consequence it was difficult for many students to develop a topic in depth, for weaker students there was a lack of rigour, and the module itself had inadequate academic underpinning.

In an attempt to deal with these problems the leisure and food programme is moving in the next academic year from a 20 credit dissertation to a 40 credit project. This is very ambitious and is one-third of the total credits for the final year. Although this initiative has been welcomed by both staff and externals, it was soon recognised that this move would not be without difficulties of its own.

The first of these problems is the sheer scale and diversity of the operation. The leisure and food programme includes 17 differentiated named routes in hospitality, tourism, leisure, events, and food. As with the outgoing programme, work may be undertaken in relevant areas of science, social science and the humanities. This implies that there is a huge range of acceptable research methodologies and methods; in fact the programme is a microcosm of the work of a university.

Additionally, the varied needs of the students have to be considered. The outgoing programme was limited to a conventional research based dissertation; the new programme is much more ambitious in scope. It accommodates both research and consultancy strands, which may be presented as three forms of written output: dissertations, reports and publishable articles for specified refereed journals.

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The consultancy projects require an underpinning of consulting skills to mirror those in research. A major departure from past practice is that a student may now present a consultancy report, rather than appending a short consulting report to what was typically a case study based research project. This is more satisfactory, as the (single) case study research method is open to abuse by students who often fail to fully grasp the sophisticated concepts of theory building or testing. Often the case studies that have been produced in the past have been descriptive, anecdotal and lacking in the rigour required for a research-oriented upper second or first class honours. This lack of rigour in case study research has been somewhat counterbalanced by the practitioner insights which have been of good quality, and the recommendations in the work that have sometimes been worthy of high grades (but not within the context of a traditional dissertation).

Assessment of the existing dissertation has been three fold:

1. Dissertation proposal - weighted 10%
2. Student log and reflective log - jointly weighted 10%
3. Dissertation manuscript marked according to a grid - weighted 80%

These three elements will remain in the new project, although the assessment instruments will differ. The project proposal will be a more robust defence of the proposed work, and there will be a stronger linkage between the proposal and the final work. This contrasts with the present course where at the moment the student provides a proposal as evidence that s/he knows how to create a feasible research proposal, irrespective of whether they will pursue the work.

The use of student logs will be further developed within the context of the newly developed student progress and development files. They will provide an effective tool to monitor and assess everything from the ability of students to plan their work and manage their time, through to their interactions with supervisors.

The range of acceptable outputs from the project means that the previous marking grids will need considerable development. There is still a question as to whether a single marking grid will suffice for dissertations, reports and articles, or whether three new grids will be required. Further, as the new module is twice the number of credits, it is necessary to differentiate the criteria or level of achievement required within a criterion from the existing grid. This is being developed within the context of marking criteria that exist and are already in use for postgraduate dissertations.

Of the many drivers towards a 40 credit unit, one major consideration has been efficiency. The present module is about five times more expensive to deliver than other units. Strategies to improve this efficiency are partly addressed by doubling the credits, as long as contact time is not equally inflated. With all students

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now being required to undertake a project (potentially about 400 students) the supervisory issues are great, as are the opportunities. Staff have their own research skills, but may need to supervise outside of their area of strength. Hence, a qualitative researcher in, say, hospitality may need to supervise quantitative work also in hospitality. Similarly, quantitative workers in food may need to supervise qualitative work in their industry.

To meet these needs, a programme of staff development is being created and implemented. For example, we have identified the needs of a qualitative supervisor in setting up a quantitative project, and developed some training materials. As part of the School's teaching and learning conference, instruction in the use of SPSS is now incorporated on an ongoing basis. If a survey (say) is well conceived and executed, a student may then capitalise on more expert support in analysing data using an appropriate statistical package.

The use of this expert support is devised within the context of a new approach to supervision generally. Each student will be allocated a supervisor, much as we all have a NHS General Practitioner. The subject teams (hospitality and tourism; food; leisure) will be the equivalent to the GP Practice, and a student may have an appointment with any member of the practice. Some students will need to be referred to a specialist (from any subject team) for either an individual consultation (eg. on using a particular statistical technique) or to a group clinic (eg. on using techniques best learned in a group, such as running a focus group). The use of such a system requires an appropriate IT system (such as those found in healthcare), where any authorised user may read relevant documents on prescribed work and actions.

The project has been prepared for throughout the course and is seen as the culmination of an 'investigation' or 'research' strand of the undergraduate courses that has been developed from the first year. In the first year, students are introduced to the concepts of literature and academic writing through an investigation skills module that runs through both semesters. This work is

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progressed in year two through a module that focuses upon approaches to research. This then progresses to the project module. In total fifty credits are dedicated to this strand in the first and second years.

Key to our learning is that the project module is subject to constant development and evolution. In addition to the need for constant improvement in quality and meeting stakeholder needs, there is also a changing environment. The student community changes with regard to skills, knowledge and expectations, as do the expectations of supervisors, external examiners, employers and the university. Hence, the current 20 credit module has evolved considerably in the past ten years. The 40 credit module represents a major development from the current dissertation, and it will continue to evolve, within the context of student choice available through the options for research and consulting projects, dissertations, reports or articles as end products.

Although this article can only be a report of work in progress, we have learned two very valuable lessons. The first is that when implementing a change of this magnitude, planning and time for planning, has been essential. The second is that a change on this scale requires the co-operation of all staff, and this requires an ongoing and targeted programme of staff development.

Making Learning 'Cool' - A Case Study Intervention in Enquiry-Based Learning

Mike Snelgrove, Greg Dainty and David Botterill
Welsh School of Hospitality, Tourism and Leisure Management
University of Wales Institute, Cardiff

International research into the links between teaching and research has shown that in order to effect strong links, management intervention is needed at institutional, departmental, award, and module levels. In order to achieve student learning that incorporates both research-based subject knowledge and an understanding of how knowledge is created in the subject disciplines, strategic and operational interventions must be made. The Welsh School of Hospitality, Tourism and Leisure Management (WSHTLM) has explicitly sought to develop its research community and manage the connection between teaching and research in order to inform and enhance a suite of hospitality, leisure and tourism higher education programmes. Intervention strategies to create the nexus of teaching and research are evident in the WSHTLM strategic plan and the case study presented here describes an operational intervention at Level 1. This represents a new and radical intervention designed to progress enquiry-based approaches to learning across the levels of the diploma and undergraduate awards of the School.

Since 1992 the School has supported staff to become research-active and operational interventions over the past five years have typically sought to imbue Level 3 modules with 'new' discipline-based research knowledge. This rather conservative approach was argued on the basis that only Level 3 students could benefit from such approaches. We found that it was successful in motivating some students to engage with research-based learning but for many it came too late in the learning process. Furthermore, because the students had not been invited into an exploration of how discipline-based knowledge is created prior to Level 3 their 'critical' skills were under-developed. This strategy also implied that knowledge about subjects is only imparted from module tutors to students in a 'teaching' environment. We are now arguing that early exposure to the processes of knowledge creation in the subject disciplines at Level 1 is needed, so that students can more effectively exploit the learning opportunities afforded by research-based teaching and Enquiry-Based Learning (EBL). We are also acutely aware of the need to galvanise the diverse first year student community around a core experience that differentiates the university learning experience and makes learning 'cool'.

The Case Study - Research Methods

The inclination to be passive and the expectation of being spoon-fed in their learning seem to be growing trends among our students. This poses increasingly serious problems to lecturers, as employers' expectations of graduates are that they will develop critical thinking skills and become self-directed learners who take ownership of their own knowledge acquisition.

It was decided that an operational intervention was needed that addressed the development of independence in learning; to create a research and enquiry-led culture as the benchmark by which students could judge their own learning behaviour and activity, and within which lecturers could locate their own research-led teaching. It was also decided that this module should take place as soon as possible in the students' university careers so that it would feed into and be built upon by all subsequent learning. The vehicle chosen for this was the Research Methods module at Level 1. The module had traditionally addressed basic transferable and research skills from essay writing to basic statistics, but in piecemeal fashion, each component being discrete and culminating in a 'workbook' assessment that emphasised this separateness. In itself, it achieved the desired outcomes by imparting specific skills; however, it did not address the need to 'join up' these components in such a way as to create a context within which students could locate subsequent academic activity, neither did it work towards the creation of an academic culture or atmosphere which would drive an ongoing process of enquiry and research.

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In 2003/4 a module was developed to capitalise upon the principles of EBL. The principles were that the module should: challenge and encourage debate; reward students for identifying areas of ignorance, and for formulating and implementing strategies for resolving that ignorance; enable individual students to be part of and contribute to a research group; and expose learning processes that are iterative.

In many ways, the module retained many of the components from its previous incarnation, but has fundamentally changed the learning context in which they are delivered and their application, particularly with regard to the assessment method.

The assessment was rewritten to be challenging and enquiry driven, the students being required to undertake a group research project. Each group comprises three or four students and chooses 'blind' a topic to be researched that is unique to that group and has a direct relevance to their area of study (or at least to the process of study itself). The research topics were developed by staff and reflected their own areas of teaching, interest and/or research, but were deliberately kept loose so that students would need to go through a process of deconstructing and reconstructing the topic into a formal research question. Examples are "Do hotels in Cardiff meet the basic requirements of disability access legislation?" and "Is Cardiff well served by its leisure centres?" One hundred topics were needed (for 380 students), so this was no small development task in itself. In brief, the assignment requires each group to progress the research project along a predefined path, each task along that path suggesting a course of action, but leaving it to the group to explore the nature of that task and apply it to their particular circumstances; identifying what they don't know - both in terms of the topic and the method - and using the resources of the module (lectures, seminars, drop-in 'surgeries', group tutorials, electronic resources) and the wider university to learn, evaluate as a group, apply, and move on to the next stage.

The research culminates with an assessment based around the presentation of a research poster. Each member of the group has to take ownership of an element of the poster (rationale, planning and method, data collection and analysis, results, interpretation of results) and is assessed upon its content. There is then a brief group and individual 'defence' of their research via a group presentation and individual viva which gives the assessor the chance to see if all group members have been involved in the other areas of the research as well as their own. Thus, the assessment has been deliberately designed to challenge students in a way that forces them to confront their inclination to be a passive receiver,

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turning them into active and enquiring learners. The module is supported by extensive electronic resources (via Blackboard) that students can use to augment their research enquiry. This provides a flexible and accessible space where students and staff can share resources available at anytime and in anyplace (the Martini factor). It achieves more than just a document repository, as it provides a module forum where interaction can take place via a moderated discussion board, where students can engage with the module at a time, and in a way that suits their lifestyle and skills sets. It helps to mitigate resource issues and absence problems, and facilitates the requirement for pro-action.

Challenges of this approach

This is the first year that the new module has run, and it is proving to be a challenge to everyone. From an administrative point of view, simple things, like getting 380 first years into groups has been a nightmare - regardless of prescriptive group membership selection. The 'fluid' nature of new course enrolment, coupled with a disinclination amongst members of large student groups to find each other, means that some groups are beginning to settle down only by week 8. There is also the old 'chicken and egg' syndrome: the EBL focus of the module requires a proactive standpoint; however, if some students never take those first proactive steps at the very beginning, then there is a chance that they will fall by the wayside. It never ceases to surprise the module leader how quickly some freshers adopt a strategy of disengagement. This may be a blessing in disguise. Perhaps the challenges of this module will quickly identify those students who need closer scrutiny and attention.

From a student perspective, the characteristics of subject communities are becoming more visible more quickly. The student body encompasses tourism, leisure and hospitality students. On the whole, the hospitality and tourism students seem more open-minded in their understanding and conceptualisation of their areas of study, and respond to the wide range of research topics accordingly. The sport and leisure students seem much more focused upon the sport aspect of their study and less willing (happy?) to explore wider leisure topics. Challenging them to broaden their horizons in this module could therefore pay dividends in their future studies and in the way that they are able to perceive research.

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This example illustrates the crux of the problem, which is that making learning cool is not simply a matter of changing teaching and administrative practices at module level, but rather changing the culture of learning and teaching within the School. This will inevitably create tensions between those staff and students who are more comfortable with a 'tablets of stone' version of teaching and learning, and those staff who champion enquiry-based approaches. A teaching and learning environment that is developed upon enquiry and research-based principles requires that staff are no longer regarded as the sole arbiters of knowledge. Changing the culture will mean that students cannot expect that staff will always provide the answers, and this may cause them to disengage with learning unless they are inducted into this new culture effectively. Additionally, academic staff may be uncomfortable with a teaching and learning culture where students are

expected to pose questions that they, the staff, do not know the answers to. This is of course highly problematic in the context of a culture change that requires commitment to the process from all parties in order to be successful.

Can we make learning cool? If we can convince our students and ourselves that researching, defining and developing knowledge is a vital part of our programmes, and, that we are all central to this process - then we have a chance. Ultimately there are many initiatives like the one described above that can be designed and implemented, but there are no easy answers or quick fixes. The process of integrating research and teaching and moving towards a genuine culture of enquiry-based learning needs a long-term strategic approach if it is to be given any chance of succeeding.

The Research Gateway

Leigh Robinson and Tess Kay
Institute of Sport and Leisure Policy
Loughborough University

The Research Gateway has been developed to provide online assistance for students who are doing research projects in the areas of Hospitality, Leisure, Sport and Tourism. The project, funded by the LTSN, has two phases. First, generic web-based materials for supporting student research have been developed, resulting in the Research Gateway. The second phase of the project will be to evaluate the effectiveness of the Gateway in the support of student project work. This article reports the first phase of the project.

The Research Gateway is currently available to undergraduate and postgraduate students studying Sports Science and Sport and Leisure Management at Loughborough University. Students access the Gateway via the University's intranet - 'Learn'. Once the second phase of the project is completed, it is intended that the Research Gateway will be disseminated to a number of other institutions for further evaluation.

The Research Gateway is broken into nine sections:

- **Section one:** Welcome to the research community! This provides an introduction to the Research Gateway and establishes the rules of using it (see below).
- **Section two:** Introducing the research process. As the title suggests, this section provides an overview of the research process, highlighting the main parts of a research project.
- **Section three:** Getting started. This section shows students how to turn their initial ideas into a viable research project. It also provides detailed information on how to write research proposals.
- **Section four:** Literature reviews. This section not only aims to help students to see the role and purpose of a literature review, but also provides links that help them to develop the skills needed to critically appraise what they are reading.

- Section five: Methods and data collection. As could be expected, this section contains the greatest number of links to website material. The section covers the principles of research design, methods of data collection and methodological reporting.
- Section six: Results Analysis. This section outlines the relationship between results, analysis and discussion. It also provides material on how to handle evidence once it has been collected. Finally, it highlights the best way of presenting material.
- Section seven: Discussion. Although a key aspect of the research process, very little was found on how to discuss the results of research. The material that was identified and is contained in this section outlines the role of discussion in research and provides information on how to structure a discussion section of a research report.
- Section eight: Conclusions. Again, relatively few online resources were found on writing conclusions and those that were, focus on the role and structure of such sections.
- Section nine: Final writing up. The section links students to websites that provide information on how to produce a complete report. It also links them to material on writing in 'good English' and the technical skills of research reports, such as plagiarism and referencing.

Each section of the Gateway is broken into five parts. The first part explains the purpose of the section and outlines the skills that students will need to complete this part of their project. The second section explains what the associated links cover, while the third outlines the most effective way to use the links. These two sections allow students to evaluate whether they need to access the links and/or which links they should access. This is an attempt to prevent students from accessing everything and being swamped with information!

The fourth section contains a 'checklist' to help students produce each part of their research project and for some students this may be the most helpful part of the Gateway. For example, the checklist for Literature Reviews will not only remind students to check that they have used relevant literature, but will also remind them to present that material appropriately and to reference correctly. The final section contains links to the material that is available on the web for their use. This section provides direct access to the websites, but more importantly, contains editorial commentary on the perceived value of the website and on how to best use the material.

The rules of the Research Gateway

The Research Gateway is intended as a resource to support the existing institutional arrangements for project supervision and student guidance. It is not intended to replace the role of supervisors. To ensure that this point is clear there are 'health warnings' in every section of the Research Gateway. An excerpt from the Gateway, in the box below, shows how the rules are communicated.

1. **LOCAL RULES RULE!** The Gateway is: a universal, generic resource. Your research is: a specific piece of work being carried out to meet the detailed requirements of your institution. The timescale, word-length, content, structure, scope and scale of research **MUST** meet the '**LOCAL RULES**' for your research. Only use the Gateway to help you do what your institution requires you **to do**.

2. SUPERVISORS RULE TOO! Your supervisor is your primary source of support, guidance and advice on your research. S/he is likely to have had previous experience of successfully supervising student research to meet your institution's requirements. S/he will also make sure you adhere to any special conventions in the academic discipline within which you are working - for example, differences in the way in which researchers in sports science present their findings, compared to those researching sociology of sport or hospitality management. Your supervisor is more important than the Gateway! The golden rule is: supervisors always, always overrule the Gateway.

3. THE GATEWAY COULD BE A DANGEROUS PLACE! - in the sense that:

- The Gateway is big: there are current links to more than 1000 pages and more will be added. None of you need this much information!
- The Gateway is diverse: similar issue to above - whole sections in the Gateway are going to be completely irrelevant to your research. Don't get swamped: use the Gateway selectively!
- The Gateway is unstable: the webpages it links to may disappear. If you find something of extreme value, try to print it out at the time, or to save it as an electronic copy. It may not be there next time. Don't lose something you need!

Evaluation of the Research Gateway

The second phase of the project, incorporating an evaluation of the usefulness of the Gateway has just begun. This will be carried out via two methods. First, all students doing research projects will be surveyed at two stages of their research project. The first survey has recently been completed and the second will follow their submission of projects in April. The second survey will be followed by focus groups to investigate the findings in more detail. In addition, staff will also be consulted about the perceived value of the Research Gateway to them as a supervisory tool.

Initial results suggest that, on the whole, the Research Gateway is useful for students, primarily as a means of finding out information to avoid asking 'stupid questions'. In addition, many students have used the links provided on literature reviews. Most students, however, have only visited the Gateway once. This may be due to work on projects being left until the second semester; however, some students have commented on the overwhelming quantity of information available.

There have also been some technical problems. First, it is difficult to return to the Gateway itself from the external websites and additional bookmarks need to be added to assist with this process. In addition, all of the links on the version accessed by undergraduate students broke, rendering the Gateway virtually useless. This is a potential ongoing problem and at present is being addressed by relying on student reporting. Interestingly, this problem has not occurred on the identical Gateway accessed by postgraduate students!

At this stage it is too early to determine the value of this project to students studying Hospitality, Leisure, Sport and Tourism. However, given the quantity and quality of research material that exists online, it is difficult to see how a Gateway that allows this material to be accessed will not be of value. The extent of this value will be established in the second phase of the project.

The Research Gateway will be made available on the LTSN for Hospitality, Leisure, Sport & Tourism website soon.

Watching the Detectives: Using Contextualisation Methods to Facilitate the Teaching of Research-Orientated Subjects within Higher Education

Neil Robinson

School of Food, Consumer, Tourism and Hospitality Management, Manchester Metropolitan University
Crispin Dale

School of Sport, Performing Arts and Leisure, University of Wolverhampton

Introduction

The HE environment has experienced much change and development over recent years, with issues surrounding innovative teaching techniques and student-centred learning becoming key to the development of higher education. With this in mind, HE institutions need to consider new approaches to seminar and lecture based teaching, ensuring that teaching methods are made more dynamic with increased use of innovative teaching methods to better aid student understanding and comprehension. This article reviews the role of macro contextualisation, with particular reference to the teaching of research-orientated subjects to undergraduate students, and reviews the merits that such an approach offers.

Traditional approaches to teaching large student numbers have often advocated a didactic style. This style gives little opportunity for student interaction and discussion, with over-emphasis on micro issues that attempt to simplify tourism, rather than viewing the subject from a macro perspective. Academics such as Jafari and Ritchie (1981) have advocated this latter approach with emphasis upon viewing tourism in relation to other academic subject areas.

With the adoption of semesterisation and objectivisation (a term used by the authors to describe the teaching of a module following a strict set of objectives/learning outcomes), academics often find themselves hard pressed to fully ensure that students are conversant with, and have a robust understanding of, the philosophical and theoretical issues that underpin the subject matter. This 'teaching by numbers' approach in many cases merely acts as a checklist, and it could be argued that student learning and philosophical understanding are therefore, at best, under-developed. This is not to say that students are any less able than students of previous decades, but as academics we need to ensure that we are delivering material which challenges and develops the students' ability to view tourism within a wider academic context. This is particularly the case when teaching research methods.

Teaching research methods

Common to a number of undergraduate programmes is the increasing tendency for Level 1 and 2 students to be exposed to a research methods module, which acts as a pre-requisite to the final year dissertation. This approach has worked successfully in ensuring that students are prepared for the rigours of the final year dissertation, and also creates the opportunity for preliminary research to be gathered during the summer vacation, upon completion of the second year. However, creating and sustaining student interest can be problematic.

We have all looked longingly into the eyes of our undergraduate audience seeking desperately to identify a common cause of interest, which can then be used within the lecture to create group cohesion and interaction. When teaching research methods this can be especially difficult. Although a very valuable module, ensuring that all students fully benefit and understand the key components can be problematic as the subject matter is complex, and can be daunting to all but the most 'academic' of students. This is further compounded by student preconceptions of the subject. Consequently, students can become resistant to learning the subject before they have even entered the classroom. With this in mind, various learning strategies have to be embedded to enhance the learning experience and transferability of the subject matter to areas of student interest. This view is further reinforced by a recent small scale focus group carried out by one of the authors. This research indicated that one of the biggest turn-offs for students was the lack of contextualised examples which students can relate to, and use to gain an holistic overview of the macro tourism environment. The following offers some examples of how this can be achieved.

Introducing the topic

It is important that any introductory session is sufficiently informative without reinforcing any negative perceptions of the subject amongst the student group. The introductory session begins by informing students of the merits of studying research methods and the benefits which are achievable. These are three-fold; to facilitate successful completion of the dissertation; to enable comprehension and understanding at Level 3; and to enable the student to become skilled in the process of data collection and analysis.

The purpose of the introductory session is to create interest by establishing a link between a traditionally 'dry' module associated with assessing consumer attitudes and the wider world of research. As a precursor to the remaining classes the lecturer is given artistic licence to develop the students' interest further. For example, using visual imagery is an effective way of stimulating interest in the subject matter and informing the student of reasons why the development of a professional academic style to research is paramount. Figure 1 illustrates the utilisation of slides which contextualise research within a global capacity.



Figure 1: Examples of images used to increase student interest in research

Further pictorial slides can be used to direct students to a number of websites to further enhance and stimulate interest in research phenomena (as illustrated in Figure 2).



Figure 2: Using images to direct students to further reading

These examples tap into the students' immediate understanding of the subject matter by contextualising research methods to examples they can empathise with. They also empower the student to seek out further information on topics where research is crucial for investigating the truth.

Applying abstract research paradigms

Getting students to understand the broad research paradigms can be just as challenging. Traditionally a hard nut to crack, an understanding of paradigmatic issues is crucial if students are to appreciate the underpinning frameworks of research. Again, such issues are often best understood and contextualised when related to a subject which students are familiar with. An example of this is illustrated in Figure 3 where broad research principles are applied to the popular television programme, *The X Files*. This application of knowledge assists the student in the transferability of the subject matter to examples that they can easily relate to.

<p>Types of research (1)</p> <ul style="list-style-type: none"> ■ Positivist research ■ The belief that only true knowledge is scientific ■ Attempts to apply scientific methods in the research process · Associated with testing, measuring & quantifying · X files = Agent D. Scully is a medical Doctor who only really believes in positivist research (can be tested and proven each time, e.g. water boils @100c) 	<p>Types of research (2)</p> <ul style="list-style-type: none"> ■ Interpretive / phenomenology research · Associated with social surveys · Observing people in a particular environment · X files = Agent Fox Moulder believes in interpretive / phenomenological research (can't always be tested / proven e.g. the presence of something large in Loch Ness)
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Figure 3: Application of research principles to The X Files

Using visual clues

Often visual clues from the pool of students within the lecture room can also be a means of locating a subject of common interest. For example, students frequently wear t-shirts which indicate their musical tastes. This common interest was used to apply research techniques to the concept of measuring the carrying capacity of a destination. Having ascertained from a number of the students' t-shirts that they were devotees of the Manchester pop band The Stone Roses, a discussion took place regarding the social and physical impacts of large visitor numbers on the poor infrastructure provision at Spike Island (the venue for a Stone Roses concert circa 1990 - see Figure 2). Thus, students were able to understand the importance and inherent problems of researching visitor demand and the techniques that can be applied in doing so. This simple example enabled the attention of the students to be maintained, and their understanding of the subject matter to be enhanced.



Figure 2 - Contextualisation of social and physical impacts

Conclusion

This article has identified a number of examples, which relate to the increased use of contextualisation in classroom teaching. The aforementioned examples offer suggested ways in which student learning can be stimulated and enhanced. Such approaches have proven to be successful and have been positively commented upon in end of module student questionnaires. As class sizes increase and core modules become more generic across academic subjects in Schools, the benefits associated with increased contextualisation will become more apparent. Furthermore, in the search for new and innovative ways of enhancing the student experience, particularly where modules are complex and difficult to understand (such as research methods), the use of interesting and informative contextualisation methods becomes paramount for lecturers and session leaders alike.

For a list of references associated with this article see <http://www.hlst.ltsn.ac.uk/resources/link9/references.html>

Using a Model of Linked Teaching and Learning Conceptions for Curriculum Design at the Hotelschool The Hague

Erik Jan van Rossum, Hotelschool The Hague, Netherlands
Rebecca Hamer, RAND Europe, Netherlands

Teachers perceive teaching in essentially different ways, these vary in the extent to which teachers take the students' experiences and views into account, and how they view the student-teacher relationship. In an earlier study, Fox (1983) asked teachers in higher education what teaching meant to them, this resulted in five theories about teaching. The first two are categorised and are described as:

1. **Transfer theory:** teaching is aimed at transferring 'knowledge' from the teacher to the student. The preferred method is lectures and transfer failure is ascribed to the recipient's attitude.
2. **Shaping theory:** the student is seen as 'raw material' that is moulded to fit a predefined model. Teaching entails demonstrating the 'correct way to solve a problem' and providing students with similar problems to solve in that way.

The next two are more complex:

3. **Travelling theory:** teachers see themselves as 'local guides', travelling together with students through a well-known country of knowledge. Exploring the 'countryside' is a personal activity of the student. The teacher, as expert and guide, monitors the student's progress and provides feedback on their personal development.
4. **Growing theory:** personal development is even more important. The focus is the student's growth as a person, the subject and teaching method only have meaning if they contribute to this growth process. Here teaching is seen as nurturing the student's 'mind garden,' and teachers assume the role of inspirer.

Within the latter two theories, students are actively contributing to their own learning process, whereas the students' contribution in the first two theories is minimal. Fox suggests a fifth theory where the role of the student and the nature of the teacher-student relationship remain unclear:

5. **Building theory:** teaching is building a conceptual structure, focusing on relationships rather than on separate elements. Teachers provide the blueprint, and the extent to which students actively contribute to the learning process defines whether this theory is a developed or a simple one.

Similar conceptions of good teaching have been found in numerous studies into teacher thinking in past decades. These conceptions can be interpreted as discrete positions on a continuum running from a completely teacher-dominated relationship, to the other extreme where the teacher is more subservient to the student's personal growth.

Säljö (1979) identified five categories that reflect student thinking about learning:

1. Increase of knowledge
2. Memorising
3. Acquisition of facts, procedures which can be retained and utilised in practice
4. Abstraction of meaning
5. Interpretative process aimed at understanding reality

Although Säljö does not explicitly see these learning conceptions as positions on a continuum, he does recognise that learning conceptions seem to be sequential and 'that conceptions 3, 4 and 5 seem to involve an increasing degree of awareness of the fact that the concept of learning is complex and that it can be given various interpretations'.

In our opinion, there should be a sixth learning conception - self realisation - which is very similar to the teachers' growing theory discussed above. Here the learner plays a more important role than in the previous categories. This is typified by the view that 'learning is living and living is learning' and learning is growing, and growing is a condition for a meaningful existence.

The student and teacher perspectives of learning and teaching have been linked in the diagram below. This shows that there are similar views between teachers and students regarding teaching and learning. The overlap between the views of teachers and students about the teaching-learning process has significant consequences for curriculum design, and the training of teachers.

	Student thinking on teaching and learning				Parallel views on teaching
	Student Role	Learning Conception	Teaching Conception	Teacher Role	
1	Passive recipient	Increasing knowledge	Lectures (well structured and detailed)	Explains and structures everything clearly	Baby food manufacturing
2	Student as recipient takes some responsibility	Memorising	Clear, captivating lectures, with some opportunity to ask questions	Provides clarity, is captivating, and allows some student involvement	Transmitting structured knowledge (acknowledging receiver)
3	Student becomes more responsible in the T&L process	More than memorising (eg application later)	Highly interactive teaching (up-to-date lectures and clear assignments)	Involves students actively in the T&L process	Interaction and Shaping
4	Active participant	Understanding the subject matter	Tasks and assignments	Coaches and facilitates understanding	Facilitating understanding and building expertise
5	Student pursues personal development	Understanding reality (personal)	Dialogue teaching	Gives room to and stimulates personal development	Travelling with equals
6	Autonomous learner	Growing awareness (self realisation)	Method-independent, as long as it's not 'preaching'	Inspires	Nurturing the mind garden

Table 1: A model of students' views on teaching and learning, including the parallel views of teachers on teaching

Previous research has shown that the majority of fresher students in tertiary education expect fairly passive learning and prefer strongly teacher-dominated teaching environments. However, society in general has quite different expectations of graduates, in particular a large value is placed on their ability to solve realistic problems and their capability to demonstrate logical and critical thinking. The teaching challenge in hospitality higher education then, is the construction of a curriculum that will foster this student development.

In 1997, the Hotelschool The Hague introduced a new curriculum to meet this challenge, coining the term 'enterprising learning' to give it a recognisable identity for teachers and students. The curriculum is organised in three stages and since implementation, enterprising learning is developing its own identity for each stage with regard to teaching method, the nature and quality of assignments, and assessment methodology. The model proposed in Table 1 is used as the blueprint for curriculum development.

The first stage focuses on the operational side of the hospitality industry, and strives for an end learning conception at level 3. To stimulate the development from (mainly) learning conception level 2 to level 3 above, teaching is organised around interactive lectures, in which the students are challenged to think for themselves and ask questions. The assignments relate strongly to practical hospitality subject matter. The 'shaping' perspective identified above describes this level well.

Stage two focuses on the students acquiring insight into managerial knowledge and decisions, and applying this to realistic problems, preferably hospitality related. As this stage is designed to encourage development towards learning at level 4, assignments are more complex, and assessment focuses on constructive application. The teacher assumes more of a coaching role to 'build up' understanding.

At stage three personal development is the central theme. This stage focuses on a development to learning conception level 5, and the students are involved in three main activities; a strategic case, a graduation project and a management internship. The teaching environment emphasises a counselling and guidance approach, giving the student ample space to make choices and to determine their own development. The assignments are formulated and elaborated by the students themselves, and the assessment increasingly focuses on the personal views of the student. Ideally teachers see themselves as 'local guides' travelling together with the students through a landscape of real life assignments.

For a list of references associated with this article see <http://www.hlst.ltsn.ac.uk/resources/link9/references.html>

Pleasure By Learning*

Ita Coghlan and Lucy Horan
School of Hospitality Management and Tourism
Dublin Institute of Technology

What is Problem-Based Learning (PBL)?

"How can I get my students to think?" is a question asked by many lecturers, regardless of their discipline (Duch, 2002). PBL is an instructional method that challenges students to 'learn to learn', working cooperatively in groups to seek solutions to real world problems. A group of students - usually between six and eight - are asked to work together to find a reasonable solution to a problem which should be based on real-life situations and is usually written by the lecturer/facilitator. These problems are used to engage students' curiosity and initiate learning within the subject matter. PBL encourages students to think critically and analytically, and to find and use appropriate learning resources.

Why consider PBL as a learning tool?

What motivated the authors to introduce PBL was the ever increasing body of disciplinary knowledge building up in folders and files. PBL shifts the focus from the content to the learning process itself. When this happens learners realise they are not required to skim the knowledge of the discipline, but are instead encouraged to make judgements about what information is appropriate to solve the problem.

The PBL experience adopted on the leisure management programme

Attendance at a PBL introductory course at the Dublin Institute of Technology, facilitated by John Cowan from Heriot Watt in the summer of 2000, led one of the authors to introduce an element of PBL into a year-long leisure industry studies module in the year 2000/1. Students began to focus on learning as an ongoing process and particularly the ability to source and apply appropriate learning resources. The experience was generally positive: the new approach appealed to both the students and the facilitator, though the novelty began to wear thin when it was realised that a PBL module without its own problems was really expecting too much. Nonetheless, it was very rewarding to see evidence in the form of texts and journal articles brought by the students to the PBL workroom.

When questioned about this novel approach by the faculty careers advisor, who already delivered modules using PBL, it was decided to write some leisure-industry related problems**. Thus, a small PBL careers module (six contact hours) was integrated into the existing leisure industry studies module. Having discussed the practicalities of using PBL with a colleague, problems were written and developed for year two of the experiment. However, the second year of implementing PBL was not a success and the student evaluations confirmed this. On reflection, the introduction of problem scenarios without due emphasis on the learning process was the issue. Prior to the new academic year, the author attended a course delivered by Wim Gijselaers from the University of Maastricht. The support and networking during those few days was responsible for the continued delivery of the module using PBL. Year three of PBL, as always with a new cohort of first year students, was more rewarding. It was decided to spend much more time on group dynamics initially and here the text by David Jaques (2000), in particular, was invaluable.

The second priority was to establish the problem-solving process in the operation of the groups. Learners were encouraged to examine all the ideas that came to the group when a problem was first encountered. Then the actual facts relating to the problem were established. Learning issues were subsequently identified. This process enabled the students to go away and research independently in order to narrow the gaps in their knowledge between the problem and the solution. Typically students are curious about the problem outlined and may consult general management texts and specific leisure publications. Library online resources are increasingly used together with contacting actual leisure businesses. Learners also draw on their own experience and knowledge as customers of leisure facilities.

Staff feedback

A survey of staff in the School of Hospitality Management and Tourism was conducted to gain opinions on the use of PBL. This showed that overall, staff felt that students are very positive towards PBL.

All respondents but one were aware of the existence of PBL delivery methods in use in the school, with 41% using PBL as a teaching technique for 25% of their weekly lecture load. As a teaching tool PBL is used across a wide variety of groups from Certificate through to Masters level, from first year to final year, in groups as small as four students right up to forty students, across hospitality, tourism and leisure courses.

An interesting feature of the survey was the fact that 85.7% of those using PBL had no training in the methodology; however 42.8% had participated as a student in a module delivered through PBL. Only one lecturer using PBL had no exposure to this form of learning prior to implementing it in the classroom.

The following table is a summary of the responses from staff, ranked in order of importance, when asked to list the advantages and disadvantages of using PBL.

Advantages	Disadvantages
Problems motivate learners	Students have little exposure at 2 nd level to PBL
Learning is student-focused	Facilitation demands a lot of skills
Participants learn independently outside the classroom	There is a lot of group administration work
Students benefit from working in groups	Small group work (6-10 learners) is uneconomic
Lecturers become facilitators of learning	Solutions can be very diverse

Student feedback

Student participants were asked in the spring of 2003 to evaluate their experience of solving leisure industry related problems. Below are the results of that survey.

Positive	Not so positive
Teamwork	Group size (6) too large
Individual research	Attendance at group meetings
Group research	Moderation of effort
Interaction with peers	Places to meet
Ground rules	Deciding on solution
The whiteboard process	Time to research
Finding solutions	Access to resources

Challenges

Large groups pose considerable challenges and the most immediate solution is to split a class group of, for example, 48 into 8 sub-groups (Macdonald, 2002). Ideally, eight facilitators would be required. In reality, what happens in this School is the lecturer becomes a floating facilitator, and this can be very demanding. In other institutions more advanced students are firstly trained in group facilitation methods and then facilitate in the sub-groups. These students gain credits for their efforts.

Flexible accommodation is also desirable as the tiered lecture theatre does not lend itself to effective group communication and facilitator rotation. Flat rooms with movable tables and chairs are ideal and the authors recommend a high ceiling with groups of 20 or more as the activity and consequent noise level can be high. Whiteboards with copying facilities are great for reproducing group work quickly for individual members. Alternatively A4 sheets with carbon paper works too.

Many learners are not familiar with the notion of, or have forgotten, how to learn for themselves. Pre-third level learning is generally focused on state examinations where surface learning is assessed primarily. A group of new students therefore have to come to terms with all that college life throws at them as well as one or a number of modules where they are asked to take direct responsibility for their own learning. This hurdle is surmountable when the focus is on learning rather than content, content, content.

Without doubt, PBL encourages learners to seek out information appropriate to the problems posed. This form of learning can be highly rewarding for both students and staff. Participants in PBL often bring this enquiry learning to other modules where they can use the group dynamic skills and learning processes to great effect.

If readers are practicing PBL, or indeed want to get started, please feel free to contact the authors: Ita Coghlan (ita.coghlan@dit.ie) and Lucy Horan (lucy.horan@dit.ie).

* 'Pleasure By Learning' is the title of a conference to be hosted by the Tecnologico De Monterrey in Mexico June 13-19, 2004, details from <http://www.cem.itesm.mx>. Accessed 5/12/03

** Sample problems can be viewed in various disciplines at the following address, hosted by the University of Delaware, <https://www.mis4.udel.edu/Pbl/> (the site is password protected, but on application a free personal password is created for interested individuals)

Acknowledgements

We wish to acknowledge the co-operation of our colleagues in the School of Hospitality Management and Tourism, many of whom responded to a questionnaire, the results of which support this article.

For a list of references associated with this article see <http://www.hlst.ltsn.ac.uk/resources/link9/references.html>

Resource Guides Wanted

Our Resource Guides make up one of the most popular areas of our website, providing a concise but essential guide to the best resources for teaching within particular topic areas. We now have a wide spread of guides available, but we are still looking for more authors, particularly in aspects related to hospitality, leisure and tourism.

To see the guides already available, go to:
http://www.hlst.ltsn.ac.uk/resources/resource_guides.html

If you have an idea for a guide that you would be interested in writing, please contact us at ltsn@brookes.ac.uk. We pay £500 for every guide published.

Linking Teaching and Research in Hospitality, Leisure, Sport and Tourism: Exploring the Student Perspective

Fiona Jordan
School of Sport and Leisure
University of Gloucestershire

Introduction

The potential benefits and drawbacks of linking teaching and learning and research activities have been the subject of an ongoing debate from as far back as the 1960s. There are both proponents of linking teaching and research and those who are less convinced that the value of these linkages has been sufficiently proven. In the preface to the recently published text *Reshaping Teaching in Higher Education: Linking Teaching with Research* (Jenkins et al, 2003), Brew comments that 'the drive to bring teaching and research closer together is perhaps one of the most significant developments in thinking about teaching and learning in higher education in recent years' (2003:ix). Undoubtedly, the current climate of uncertainty resulting from the publication of the Robert's Report and the Government's White Paper, 'The Future of Higher Education' has served to draw attention to this issue. Rather than contributing further to the national debate, however, this piece focuses on the value of enhancing the 'teaching/research nexus' (Neumann, 1994) as perceived by students in Hospitality, Leisure, Sport and Tourism (HLST). Some practical suggestions about how we might link teaching and research for the benefit of HLST student learning are also put forward.

The ideas presented here are drawn from two related projects undertaken within the University of Gloucestershire (UoG). The first of these was a collaborative, internally funded project exploring the experiences of students on taught undergraduate and postgraduate programmes across the University (Healey et al, 2003). This was followed up with small group discussions with HLST students as part of a project funded by the LTSN for Hospitality, Leisure, Sport and Tourism, which in turn, contributed to the LTSN Generic Centre project investigating links between teaching and research in the disciplines. The purpose of these discussions was to explore positive and negative experiences of research and consultancy as recounted by students and to investigate the various ways in which research and consultancy had been (or might be) integrated into teaching and learning activities. For a full version of the report resulting from this project please go to:
http://www.hlst.ltsn.ac.uk/resources/linking_glos.pdf

'Real world' research

Research by Brew (1999) has suggested that one of the potential difficulties in linking teaching and learning and research activities is confusion concerning which activities can or should be regarded as relevant research and scholarship for the purposes of supporting teaching. She concludes that 'using research and scholarship as models for university teaching highlights the importance of preparing students to solve unforeseen problems; teaching them to be open to changing their conceptions of the world; encouraging collaborative learning including the replication of publication practices and peer review; the integration of personal issues within courses of study, and developing students' professionalism' (1999:1). These ideas have particular relevance for the teaching of students on vocational courses in HLST. In the student discussion groups, industry-linked research and consultancy undertaken by staff was considered to be of great value in enhancing student learning. Hospitality and Tourism students in particular expressed keen interest in acquiring up-to-date knowledge of industry trends and the professional world of work through hearing about staff research. Sport and Leisure students were especially enthusiastic about consultancy projects, particularly those undertaken with sporting bodies.

The positive aspects of incorporating the results of research and consultancy within the learning experience were associated with lecturers keeping in touch with the 'real world'. Students felt that they benefited most from 'active' engagement with staff research and consultancy. Examples of how this could be achieved included: a member of staff bringing in a consultancy report for students to use as a case study; problem-based learning using projects in which staff had previously had involvement; students participating in 'live' project work with HLST organisations as a result of staff research or consultancy.

Students as researchers

The Research Methods module was highlighted as a particularly appropriate place to hear about staff activities beyond teaching. In some instances, students expressed surprise that staff seemed reticent to talk about their own research, almost as if it was boasting. From the student perspective they were keen to hear more about staff activities beyond the university and were interested in all facets of staff research and scholarship. Generally, the discussion groups highlighted the level of student interest in those who teach, not just in terms of the outputs of research, but also in relation to the processes of research and the experiences of members of staff undertaking research.

When asked about their definitions of 'research' and 'consultancy', students defined these terms broadly and often in relation to their own experiences, as exemplified in this quote: 'you really do it in every module if you really think about it, don't you?' Those students who were most positive about the value of incorporating research and consultancy into teaching and learning activities were those who believed themselves to have been actively involved in developing their own research skills as a consequence. The dissertation or live project in particular appeared to be one area where HLST students were very aware of staff research interests and felt that such knowledge enhanced their learning experiences and research skills. The majority of the HLST students interviewed in this study considered their awareness of staff research and consultancy to have been primarily developed during their final year. A significant challenge in developing linkages between teaching and research therefore appears to lie in raising students' awareness of research and consultancy early in their programmes of study.

The most effective ways of utilising staff research and consultancy knowledge in teaching and learning were considered to be:

- Encouraging students to develop and apply their own research skills with independent project work;
- Allowing students to see the actual difficulties of researching as well as the tangible outputs;
- Drawing on staff experiences of the process of research and consultancy work to inform student learning;
- Linking research and consultancy with relevant businesses or professional bodies where possible;
- Incorporating research and consultancy outputs into practical lecture tasks (such as asking students to evaluate a particular piece of work).

Benefits of staff involvement in research and consultancy

The findings of this research indicated that students experienced significantly more benefits than drawbacks in being taught by staff involved in research and consultancy. Major benefits identified by HLST students were:

- That their understanding of the subject had been improved;
- That staff involved in research/consultancy were more interesting and thus stimulated students to learn;
- That their awareness of methodological issues had been improved;
- That they had a greater appreciation of the problems faced by consultancy clients;
- That they felt more motivated to pursue postgraduate study/research themselves.

Overcoming potential drawbacks of staff involvement in research and consultancy

Only a minority of students believed that staff involvement in research and consultancy had had any negative impact on their learning experiences. They offered a number of practical strategies for minimising negative impacts of staff involvement in research and consultancy, such as:

- All staff members having regular student appointment slots clearly indicated well in advance and incorporating drop-in slots for which students do not have to make prior appointments;
- Enhancing electronic contact between staff and students;
- Setting up regular dissertation meetings for the entire period of the study at the first meeting;
- Giving students as much information as possible about why staff are not available to see them.

Raising awareness of research

Practical suggestions offered by students to help increase their general awareness of staff research included:

- Lecturers making use of their own outputs and publications (whether texts, articles or consultancy reports) within classes;
- Using various modules as a means to introduce staff research interests to students. For instance, having a lecture where a number of members of staff from a particular subject area just come in and say a little about their particular area of interest might encourage students to approach these staff for more information;
- Use of noticeboards as a means of publicising research events and outputs;
- A compilation of staff research and consultancy CVs could be made available as an easily accessible electronic resource publicised in module and field guides;
- Some form of student-friendly newsletter detailing the most recent research/consultancy/scholarship activities of staff and relevant forthcoming activities.

The findings of these small-scale studies indicate that there are indeed potential benefits to HLST students of enhancing the links between teaching and research.

For a list of references associated with this article see <http://www.hlst.ltsn.ac.uk/resources/link9/references.html>

Linking Teaching and Research Resources for Hospitality, Leisure, Sport & Tourism (HLST)

The LTSN for Hospitality, Leisure, Sport & Tourism was one of the five subject centres to take part in the LTSN Generic Centre's project on Linking Teaching and Research in the Disciplines (see page 1 for more information about this initiative).

As part of our contribution to this project, a number of resources were produced within and for the specific context of our subject areas:

- Resource Guide on Linking Teaching and Research - prepared in the same format to other guides on our website, this highlights the major literature and resources in this area, including specific HLST resources
- Report on a focus group to identify issues related to engaging HLST students in research within their programmes of study
- Report on HLST students' perspectives on the links between teaching, research and consultancy (a version of this report is available on page 20)
- Report on perspectives from HLST staff on the links between teaching, research and consultancy

All of these resources are available at: <http://www.hlst.ltsn.ac.uk/projects/linktr.html>

Staff Perspectives on the links between Research and Teaching - A Pilot Study

Hazel Hartley
School of Leisure and Sports Studies
Leeds Metropolitan University

This article reports the findings of a small-scale project, funded by the LTSN for Hospitality, Leisure, Sport and Tourism. The aim of the project was to evaluate links between, and issues around, research and teaching in one department: the School of Leisure and Sport Studies at Leeds Metropolitan University. Eight research active staff engaged in teaching students took part in taped anonymous interviews addressing ten questions. This was followed by an examination of a random sample of 'documentary' sources, to identify the number of modules demonstrating clear links between research activity and the delivery of learning and teaching. Part one of this used a random set of 85 'module guides' across levels one, two and three. These were originally located in each module box for the QAA Subject Review of 2001. Each module guide identified: the history/context of the module, any teaching, learning and assessment innovations or projects supporting the module and finally, the direct support for learning and teaching from research, consultancy and staff development. It was the final section only which was used in this project. Part two of the document survey used a random selection of 60 current module schemes of work in the School, twenty from each of undergraduate levels one, two and three.

In the module guides from the 2001 QAA Subject Review, 75 out of the 85 sample module boxes contained evidence of research directly used in teaching. In the more current module schemes of work from 2002/2003, 15 out of the sample of 20 had clear links with research readings and research active staff. At level two, 16 out of 20, and at level three, 17 out of 20 displayed clear input from research readings and research active staff. These schemes of work are the materials given to students at the start of a module. Masters level modules were not included in the sample as staff indicated in the interviews that all modules at Masters level included direct links with research staff and materials.

In the interviews academic staff were asked, among other things, to discuss their opinions and concerns around the assumption in the 2002 Government White Paper, 'The Future of Higher Education', that the link between research and teaching was 'indirect'. Did this apply in this school? All staff interviewed challenged the assumption that the links were indirect, although this would depend on the narrow (RAE) and broader (QAA) conceptions of 'research' activity. Staff thought that students in the school benefited from being taught by a high percentage of staff who engage in research and consultancy activity and who teach students at all levels:

- 50% of the sample thought that the links between research and teaching were direct in at least 70% of the modules which they taught;
- 25% considered direct links were made in 90% of their modules;
- 25% were of the opinion that this could vary when they taught outside their research areas.

All staff thought that direct and indirect links were evident in, amongst other things, the contact between research active staff and students; the content and readings in modules; the staff seminars; the Centre for Leisure and Sport research activities and reports; school websites, and those of relevant professional, voluntary or campaigning organisations where staff research was applied, as well as media coverage of applied research and consultancy projects.

Staff interviewed also suggested ways in which to further enhance student awareness of staff research or formal/informal links between research and teaching. These included:

- More use of posters in corridors, noticeboards and classrooms, supporting dissemination of the Centre's research activities;
- Further use of staff research and consultancy profiles in marketing, course brochures and even at open days;

- A more systematic reporting and dissemination of conference reports, with referenced resources if possible;
- Encourage staff to use and order more conference proceedings and research-in-progress sources;
- Encourage staff to use more examples of their own research in lectures, as well further highlighting application of research to policy and not just practice;
- Allocation of time and resources to the development of student conferences and publications of appropriate student work;
- More student workshops beyond initial library induction on the independent use of online search tools and websites on research sources;
- Introduce students to a more systematic, themed approach to established subject research topics, prior to the submission of the dissertation proposal;
- A more systematic input of relevant research themes to the work placement reflection task and Accredited Prior Experiential Learning (APEL) claims, written by students.

Although traditionally, university structures tended to separate research and teaching, staff identified mechanisms where the direct contribution of research to teaching is included and could be further developed:

- Module and course teams;
- Annual reviews of courses;
- Academic subject groups developed in the school (which are considered very valuable in exchange and communication of research activity. However this could be extended between and not just within these groups);
- Annual staff appraisals (staff development model) and the accreditation process for ILTHE membership (both processes confidential);
- Periodic reviews;
- QAA Subject Reviews.

Staff in the interview sample found difficulty locating pedagogic research which was subject based, in the university structures and processes, although opinions on this varied. Most staff were of the opinion that it was located in Unit 68 Educational Studies and suggested that they felt under pressure to concentrate their bids, research and publications in meeting subject specific criteria. Others thought that the location did not really matter. They felt it was important to encourage collaboration across such university groups as the Unit 25 QAA subject group, RAE Units 69 Sports Related and 68 Educational Studies, the Teaching and Learning Research Group, the various principal lecturers, fellows and committees with responsibility for learning, teaching and assessment. This would assist in the identification and co-ordination of relevant pedagogic, subject-based research bids and activity.

Staff considered the links between research and teaching to be 'invaluable' and crucial in awakening student interest in epistemological debates and the application of research methods to their world of work/vocational contexts. The links inform policy, make 'issues out of cases' in support of equity, rights, legal and ethical concerns. It is motivating for staff and students to be engaged in and identified with cutting edge, current research and consultancy. They thought it brought the material alive for students and made it meaningful to engage with active researchers on the real challenges of the research, and encouraged students to think about the challenges of the research process. Research activity could also enhance equipment and facility provision, particularly in sport and exercise science, or physical activity and health areas.

Suggestions about the links between research and teaching and the experience of students learning about research, not already mentioned in interviews, included:

- Revisit the balance between the time spent on the application of research to student engagement in the research process, research methods and techniques, and the development of skills in writing and reporting research, and access to more examples of such student work.
- Further development of a long-term plan for staff sabbaticals extending beyond the usual RAE research brief, to research and staff development which link research with teaching and with industrial/vocational/managerial issues.

- Further integrate research into teaching and examine the balance between the application of research to policy, as opposed to practices across course and module contexts.
- More sharing of conference reports and further dissemination of the work of the large number of postgraduate researchers in the school.
- Continually revisit the pedagogic issues around the increasing diversity of the student population and their capacity to be intimidated or psyched out by 'research'.

Staff were very concerned about the possibility of HEIs being divided into 'teaching' and 'research' universities although the history of higher education in the UK had probably left a legacy of a sector which was still quite divided. Although acknowledging the importance of the political debate around the need for a focused and efficient approach to funding and managing research, such a division was viewed with concern. It was seen as unnecessarily hierarchical, elite, dangerous, demotivating for staff in both kinds of institutions, and likely to further marginalise emerging areas of excellence. Furthermore, it failed to recognise the integration of research and teaching, the use of research from other institutions, and the wide-ranging aims of universities.

The author would like to thank Mieszek Konrad for his invaluable assistance in taping and transcribing the interviews for this project.

Pedagogic Research and Development Fund 2003/04

In the last edition of LINK we invited proposals for our Pedagogic Research and Development Fund 2003/04. Having received 31 applications, requesting a total of more than £100,000, we were able to fund only a small proportion of the projects proposed. Thank you though, to all those who submitted a bid. Below are the projects that were selected for funding - more details are available on our website (<http://www.hlst.ltsn.ac.uk/projects/ltsnfunded.html>) and progress reports will be available during 2004.

Student Achievement: The Role of Emotions in Motivation to Learn - Emotional Maps

Colin Beard, Sheffield Hallam University

Enhancing Students' Career Management Skills

Angela Maher, Oxford Brookes University

Progressing from HN Qualification to Undergraduate Study in Hospitality and Tourism

Stuart McGugan, Queen Margaret University College (Edinburgh)

Learning Lessons from a Pilot Viva Style Assessment in Level 1 of Degree Programmes

Ben Oakley, University of Portsmouth and Andrew Adams, Southampton Institute

Identification of Preferred 'Learning Styles' and 'Approaches To Studying' in Students Studying Sports Related Programmes in Higher Education: Relationships to Academic Achievement and Implications for Successful Learning, Teaching and Assessment.

Dr Derek Peters, University College Worcester

Hospitality Foundation Degrees: Aligning Delivery Models with the Widening Participation Agenda

Conor Sheehan, Westminster Kingsway College

University Experiences and the Employment Environment

Mike Sleaf, University of Hull

Listening, Understanding, and Responding to the 'New' HLST Undergraduates (LURN)

Prof John Tribe, Buckinghamshire Chilterns University College

Research and Teaching Connections in Hospitality Management Education

Stephen Ball
Division of Food and Leisure Management
Sheffield Hallam University

Traditionally, research and learning have been the two core functions of higher education and inter-relating them has been a primary role of the university. However, in the early 1990s questions about the nature and value of any relationships between research, teaching and learning in the UK began to be asked. Since then, the debate has continued, as the work of Healey and Jenkins (2002) and Jenkins and Zetter (2003) demonstrates.

Current interest has been fuelled by changes in central funding policy, staff appraisals, the role of 'new' universities and the pressures created by the Research Assessment Exercise (RAE). Attention has intensified as a consequence of the recent government proposals to concentrate research in certain elite 'research institutions' and the debate surrounding what kind of institutions should be called 'universities'. These proposals have been criticised because of the need to use research to enhance scholarship or keep academics up-to-date with the subjects they are teaching, and therefore students up-to-date with subjects they are learning.

Support for the link between research and teaching has been longstanding and wide - see for example, Ball (1992) and Jordan (2003). However, while there are some who consider that research has a positive effect upon teaching (as it keeps teachers updated on new methodological approaches and on current developments in the discipline which are of theoretical or applied significance), amongst the negative effects cited is the view that research diverts attention away from teaching duties and hence, contact with students.

This article focuses on an empirical study investigating connections between teaching and research in hospitality management education. Some results of hospitality management academics' perceptions and views of any links are reported.

Background to the study

Some research has now been conducted related to hospitality management students, for example Jordan (2003). However, little has been heard from hospitality management educators. An exception is Thomas and Harris (2001) which is a single institutional and broader case study. Previous research has concentrated on how research can be incorporated into teaching and learning ie. the promotion of the research-teaching nexus. This is the first study to examine educators' perceptions and views of the research and teaching link across hospitality management provision within HE in the UK.

Overview of the research method

A survey questionnaire was used to collect data with sections on: the relationship between teaching and research; teaching and learning about research in the hospitality curriculum; research and students; and research and academic staff. After piloting, the questionnaire was issued by email in August 2003 to named Council for Hospitality Management Education (CHME) representatives at 28 UK institutions offering hospitality management. Responses were received from 16 institutions (57% response rate), of these 15 were usable and each country in the UK was represented. Of the usable responses, three respondents said they belonged to a research-led institution, six said they belonged to a teaching-led institution, and six that they belonged to a mixed research and teaching institution. Below are results from two sections of the survey: the relationship between teaching and research, and teaching and learning about research in the hospitality curriculum.

The relationship between teaching and research

When asked how they best described the link between research and hospitality teaching in departments, respondents' answers showed that:

- 93% said 'research benefits hospitality management teaching'.
- 13% said 'research and hospitality management teaching are at best very loosely coupled'.
- 53% said 'a positive causal relationship exists between effective undergraduate hospitality management teaching and high levels of research activity'.
- 0% said 'relationship between hospitality management teaching and research is costly and dysfunctional'.

When asked about the advantages and disadvantages of research upon hospitality management teaching all respondents identified at least one benefit of research on teaching, while 27% of respondents said there were no disadvantages of research upon teaching. The ways respondents believed research benefits hospitality management teaching were categorised according to content, students, process/staff and culture

Content benefits

- Questions industrial norms and accepted wisdoms
- Facilitates development of new subject knowledge and understanding for the curriculum

- Provides 'live' and exciting examples or case studies for teaching
- Updates teaching content and keeps it relevant and current
- Provides 'realities' and current approaches
- Underpins theory and adds intellectual depth

Student benefits

- Increases awareness of contemporary issues
- Helps development of research methods and data-handling skills
- Inspires an interest in research amongst students
- Removes the myth amongst students that 'someone' has all the answers
- Produces inquisitive graduates

Process/staff benefits

- Broadens subject knowledge of staff
- Reinforces credibility of staff in students' and others' perceptions
- Enables ongoing development of teaching staff in terms of research skills
- Provides networking opportunities with industry
- Provides conviction and interest and creates enthusiastic facilitators
- Gives the teacher authority
- Helps staff with project supervision

Culture benefits

- Creates an academic community where academic debate and critical thinking are the norm

Disadvantages of research to hospitality management teaching

Respondents offered a number of disadvantages:

- Research could be regarded as esoteric and irrelevant to students or industry
- May be too myopic
- Resource drain if not fully funded
- Involvement in research may lead individuals to shy away from other tasks - 'time theft'
- May create a two tier system of staff - the 'teachers' and the 'researchers'
- Danger that current emphasis on research leads to teaching being undermined, or seen as secondary
- Negatives in RAE panel report have not helped credibility of hospitality - this has spin offs for teaching

Teaching and learning about research in the hospitality management curriculum

According to respondents, an average of 46% of undergraduate units were underpinned by in-house research, with 64% of responses ranging from 40-80% of units. Fifty percent said underpinning occurs at all

levels, while another 43% said it occurs in the final year. According to the respondents, an average of 13% of undergraduate units focused on research training/methods, with responses ranging from 3-28% of units.

At least 25 different unit titles were provided.

Responses with regard to dissertations showed that:

- 93% of respondents offered a dissertation (compulsory for 87%)
- Only 20% of respondents stated it was the capstone undergraduate hospitality unit
- The expected word length varied from 6,000-15,000 with most saying 10,000 words
- 86% said students had total or some say in choice of topic
- Only 20% did not expect students to do primary research
- 77% said >50 % dissertations contained qualitative research
- 92% said <50% dissertations contained quantitative research
- Between 6 and 20 hours of staff time is allocated to the dissertation supervision of one student

Summary and concluding comments

Consistent with much other work, hospitality management academics in the UK describe research as being beneficial to hospitality management teaching. This research found that hospitality management academics believe there are many ways, related to content, process and students, in which research links with teaching. The research also found that research by hospitality management academics does underpin much teaching; especially in the final year of undergraduate courses. Teaching of research methods was also found to be widespread, and dissertations tended to be compulsory. However there are variations in staff expectations and practice, and student practices related to dissertations across institutions.

Not all the findings of this research are presented above. Results related to research and students and to research and academic staff have been excluded. Overall though, this study, including some of the above results, indicates that from a teaching perspective, research by hospitality management academics should continue to be encouraged, and opportunities should be pursued for sharing good practice in linking staff research to hospitality teaching, and for engaging hospitality management students in research.

For a list of references associated with this article see <http://www.hlst.ltsn.ac.uk/resources/link9/references.html>

This article was based upon a keynote presentation given by the author to the CHME Teaching, Learning and Assessment Conference hosted by Brighton University in November 2003. The conference theme was Teaching and Research - A partnership for Life! Copies of the presentation can be obtained by contacting s.ball@shu.ac.uk

Linking Teaching and Research in Practice at Masters Level

Levent Altinay
Department of Hospitality, Leisure and Tourism Management
Oxford Brookes University

This article discusses my experience of leading an MSc module, 'Contemporary Issues in International Hospitality and Tourism Management' for the first time at Oxford Brookes University. This module is resource- and tutorial-based, in that the course does not include formal lectures or seminars, and the students have access to an expert tutor and the resources available via the library.

Students are able to select a topic from a range of possibilities drawn from current areas of staff research which include marketing, finance, human resource management and strategic aspects of management. Staff identify specific questions which relate to their current research. For example, within marketing: the thematic area might be entrepreneurship, and an example research question might be 'What are the drivers for entrepreneurial success in hospitality and tourism enterprises?'

In essence, the students are required to develop and write an academic article which should demonstrate a good understanding of the research within their chosen topic area and a high level of analytical and evaluative skills. In order to support the development of their article, during the term students attend scheduled group meetings with the appropriate member of staff researching within their chosen thematic area. The assessment requires students to:

- Develop up to six analytical bibliographies relevant to their topic area;
- Write an academic article which conforms to current publishing conventions.

In so doing, the students must:

- Plan their own development to ensure that they meet the formal deadlines;
- Take responsibility for their own learning;
- Research and critically interpret secondary information;
- Be aware of and take into consideration, the international context of the hospitality and tourism industry.

The feedback received from the students about the module was generally positive. They were satisfied with the availability of resources, and specific comments related to the following:

Module delivery (eg. tutorials and materials)

Students found the module resource pack very useful and were satisfied with the range of options (thematic areas) offered to them. Their comments were positive with regard to the teaching team's supervision, support and encouragement. Overall, students thought that the module offered good experience of independent study, particularly in preparation for the dissertation. The areas of personal development identified by the students were self-management (including time management) and academic writing. They also indicated that they had gained useful ideas about their possible dissertation research topics. Some students thought that eight weeks was insufficient to produce an academic article and they would have liked more guidance about how to produce a piece of work in this style.

Assessment (coursework, examinations, feedback)

Students found the writing of the article very interesting and challenging. Writing the analytical bibliographies was seen to be interesting and good preparation for the article, but they found it difficult to identify the essence of the topic and produce the analytical bibliographies within what they defined a 'short' period of time.

Module leader's perspective

The module received constructive feedback from the students. They were willing to benefit from the advantages of being independent and active learners, for example, in identifying their own learning needs, managing their time and pace of learning, and enjoying an intellectual journey towards continuous learning and development. However, it is my opinion that self-disciplined and motivated students are likely to benefit most from this approach to teaching and learning.

It was also important to facilitate the learning needs of students who preferred more interactive teaching styles; these students were offered additional tutorials with the module leader. A key benefit was in the tutorials where staff were able to engage students in a continuous discussion about their personal research and the perspectives identified by the students which related to these. The result of this was that students tended to concentrate more on what was being researched, got more involved in discussions, were more reflective and developed a deeper understanding. Students' imagination and creativity were stimulated by discussion of industry-related examples and through the process of offering their ideas on their chosen topic directly to an expert in the field. My experience was also that this technique gave increased self-confidence to those international students who had a lot of ideas, but were hesitant to express them because of the fear of making 'naïve' comments in larger classes.

One important and final point about teaching this module is that it allows the teaching team to learn not only from the students, but also from other members of staff. Being in a multi-disciplinary team and working with different staff helped in a number of ways:

- It developed a better understanding about possible research areas / contemporary debates in other subjects.
- There was wider experience of working in a multi-cultural and multi-disciplinary environment.

A number of actions have been taken with regard to the delivery and assessment of the module based on the feedback received from the students and the teaching team. Next year, the module will be introduced during the previous term in order to give students time to do some preliminary research prior to the commencement of the module. This will give students more time to conduct their research, synthesise their ideas and write up their articles. There will also be a workshop on writing an academic article, and there will be only one assessment (the academic article). The analytical bibliographies will be used as learning tools by the students. It is anticipated that these changes will enhance the experience of the students and maintain the benefits to students of working with active researchers in investigating contemporary issues.

Linking teaching and research is a major advancement, reshaping the role of the lecturer. In today's teaching world, the lecturer is not only the repository of knowledge, but should play an important role as a knowledge navigator. Students' learning can be achieved through continuous support and assistance in how to carry out research, how to make sense of the data, and how to develop an argument or discussion. This calls for a shift on the part of lecturers, from being a mentor towards becoming a learning catalyst. This new role requires lecturers to maintain and enhance their research skills in order to keep in touch with the current debates in the literature and also involves questioning and engaging students about their learning needs. It is hoped that the module discussed here does just this.

The Higher Education Academy - Update

Following the recommendations of the Teaching Quality Enhancement Committee, the Higher Education Academy (HEA) was incorporated at the end of 2003 and is due to be launched in October 2004. The Academy will be a single, central body to support the enhancement of learning and teaching in higher education and will combine the current activities and functions of the Institute for Learning and Teaching in Higher Education (ILTHe), the National Co-ordination Team (NCT) and the Learning and Teaching Support Network (LTSN).

Professor Paul Ramsden, who is currently Pro-Vice-Chancellor (Learning and Teaching) at the University of Sydney, has been appointed as the Chief Executive of the Academy and will take up the post in August 2004. He is one of the leading international authorities on university learning and teaching. His academic work has influenced policies for enhancing university effectiveness both in the UK and in Australia, including the development of the Student Course Experience Questionnaire, an adapted version of which is used for the LTSN for Hospitality, Leisure, Sport and Tourism's annual student survey.

The LTSN subject centres will continue to exist in their present format and role and will be a core part of the Academy.

More information about the Higher Education Academy is available at: <http://www.heacademy.ac.uk>

Developing Dissertation Students' Statistics Skills: A Five-Step Plan

Dr Andy Lane, Professor Alan Nevill, Tracey Devonport and Andrew Horrell
School of Sport, Performing Arts and Leisure
University of Wolverhampton

The dissertation is possibly the most important and challenging module an undergraduate student has to complete. It usually has a larger weighting than other modules and lecturers stress its importance as a chance for students to show excellence. For students, the dissertation is an opportunity to explore an area or topic of their choice. We have conducted three comprehensive studies on students' experiences of using research methods to support completion of their dissertation (Devonport, Lane, Milton and Williams, 2003; Lane, Devonport, Milton and Williams, 2003; Lane, Devonport and Horrell, 2003). Our results indicate that data analysis is a major source of dissertation stress, and that many students feel overwhelmed by the complexity of data analysis. Students are unsure of which statistical test to use, how to complete an analysis on SPSS or MINITAB, and how to interpret an SPSS results print. Our challenge has been to research and improve student knowledge and usage of statistics (Lane, Hall and Lane, 2002; Lane et al, 2003). In this article, we share some of the findings from experience and research and propose a five-step tutorial guide for use by lecturers to assist students in their work with statistics.

The dissertation is possibly the most important and challenging module an undergraduate student has to complete. It usually has a larger weighting than other modules and lecturers stress its importance as a chance for students to show excellence. For students, the dissertation is an opportunity to explore an area or topic of their choice. We have conducted three comprehensive studies on students' experiences of using research methods to support completion of their dissertation (Devonport, Lane, Milton and Williams, 2003; Lane, Devonport, Milton and Williams, 2003; Lane, Devonport and Horrell, 2003). Our results indicate that data analysis is a major source of dissertation stress, and that many students feel overwhelmed by the complexity of data analysis. Students are unsure of which statistical test to use, how to complete an analysis on SPSS or MINITAB, and how to interpret an SPSS results print. Our challenge has been to research and improve student knowledge and usage of statistics (Lane, Hall and Lane, 2002; Lane et al, 2003). In this article, we share some of the findings from experience and research and propose a five-step tutorial guide for use by lecturers to assist students in their work with statistics.

The five-step tutorial plan can be used with students individually or in small groups. In the early stages, we encourage conducting tutorials in small groups. This not only helps the lecturer use their time more effectively, as general information is not repeated in individual tutorials, research also suggests that students feel isolated in the initial stages, and therefore group tutorials may alleviate this feeling. The five-step plan is explained to students during initial discussions regarding dissertation supervision. The supervisor will try to gauge the student's knowledge, aptitude and enthusiasm for learning research methods. It is essential that students have completed a research proposal and established a clear aim and research problem as it is only after this process that the tutorials outlined below can provide support to enable the student to analyse the data they will collect. It should be noted that some students could accelerate through these stages at a faster rate than others.

The first tutorial outlines the identification of appropriate statistical tests. Most undergraduate projects will involve either relationships (correlation, regression, multiple regression) or differences (t-test, ANOVA, MANOVA). We explore which test (differences or relationships) will be the likely option. For example, whether a student is interested in finding out differences between groups or changes over time.

At this first meeting students are informed of the resources available through the Wolverhampton Online Learning Framework (WOLF). Here students have access to a learning pack that includes online lectures, follow-up worksheets, multiple choice tests, relevant textbooks and statistical websites, some of which are excellent (eg. A New View of Statistics <http://www.sportsci.org/resource/stats/index.html>). Online systems are particularly useful for learning statistics as they encourage the reader to pick specific topics rather than browse aimlessly.

After the first tutorial, students are given two tasks to complete. The first is to read around the concept of normal distribution (which will involve re-reading lecture notes from previous modules), and working through materials on WOLF. The second task is to look at the procedure or data analysis section of journal articles that follow a similar design to their proposed study and to simply write down the statistical tests that the relevant studies have used. This enables students to develop and consider a list of statistical tests used, leading to each statistical test having a 'popularity' score for its use in the relevant literature. Students are encouraged to use the most commonly used statistical test as this facilitates accurate comparisons between findings from their study and the studies in the literature. Students then identify more information about the statistical test they are likely to use. It is hoped that at this point the student has at least an awareness of their chosen statistical test, even if they do not understand it in any great depth.

The third tutorial is where data analysis starts. Students have their data (or part of their data), and their hypotheses or hunches about the likely outcomes. The aim of this tutorial is to describe the data through a critical analysis of means and standard deviations for each variable. The student works at a computer using the statistical package while the lecturer provides support. Most students understand the concept of means and standard deviation scores relatively easily. If the research question, for example, investigates differences in anxiety between winning and losing athletes, the student establishes the mean and standard deviation anxiety scores for winners and losers. Comparing two mean scores is a relatively straightforward task. There is no need to find out probability values or test hypotheses at this point, but students do need to identify whether differences between groups are large or small. Encouraging students to focus on the size of the differences also encourages them to consider the practical value of the data. Students are encouraged to draw graphs to illustrate their findings and to fully explain differences between variables. Students tabulate their results and are shown examples of how to do this from a research paper that used a similar design.

The fourth tutorial involves inferential statistics. Students bring their results and describe what they say. The use of graphs makes it easier to see differences and to see whether those differences are large or small. Having identified the size of the difference between variables, they investigate whether this difference is significant or not. Worksheets that show how to use SPSS are provided, and there are also some excellent statistics books that make using SPSS a straightforward task (for example, Ntoumanis, 2001). The help package in SPSS also provides guidance and we encourage students to use this when they cannot work out how to do a test.

Although interpreting whether a test is significant only involves determining whether the p value is smaller than .05, students often struggle with this task, possibly believing it is more difficult than it seems. Once students are encouraged to engage with this process, they usually get the decision right.

The fifth tutorial involves interpretation of the results. Students start to examine their results with reference to findings reported in the literature. They are encouraged to list the studies that support and refute their findings. It is important that students then look to explore the reasons why there were differences between their findings and those reported previously. At this point, the student has completed the data analysis and is now engaging with the relevance of their findings to the literature they are reviewing.

We suggest that it is important to keep this process to five stages, even if students find the initial stages relatively easy. Embedding the knowledge from each tutorial and conducting work to enhance the quality of the study requires time for reading, writing and thinking. Attempts to go through several stages at one time typically result in students becoming too focused on statistical rather than practical significance. Concentrating on the practical significance before discussing statistical significance tends to lead to students showing a much better understanding of the results.

We think this approach is effective because it breaks down statistical tasks into manageable stages. Students build knowledge in short sequential chunks. The confusing aspect of data analysis is delayed until the fourth tutorial, by which time the student should be describing the practical significance of the study, which we believe is a welcome addition to most student dissertations. Progressing through the stages successfully builds confidence, and in spending time looking at the process of data analysis, students can see how it can be conducted and its relative importance to the project. Understanding the results allows students to engage in a meaningful discussion of these results, and this allows them to maximise the extensive reading and work they invest in the literature review.

In conclusion, the 5-stage tutorial plan is successful because:

- Students are given a clear plan of the tasks and skills that are needed.
- Statistical skills are broken down into small manageable tasks that are progressively more difficult.
- The recommendation that five stages are needed emphasises the difficulty of learning statistics.
- Students have the opportunity to tackle statistical tasks independently, but receive immediate feedback during tutorials to keep them on the right track.

For a list of references associated with this article see <http://www.hlst.ltsn.ac.uk/resources/link9/references.html>



Hospitality, Leisure, Sport & Tourism

LINK 10 - Diversity

The next issue of LINK will consider issues of diversity in relation to learning, teaching and assessment within our subject areas. Contributions are welcome in the following areas:

- Widening participation initiatives;
- Teaching / assessing students with disabilities;
- Teaching / assessing international students;
- Teaching / assessing diverse student groups;
- Case studies on issues surrounding diversity;
- Student support in light of widening access;
- Adding value to all students' learning in a diverse group
- or anything else which relates to the topic.

If you would like to contribute, please email ltsn@brookes.ac.uk

Useful Web Resources

Carnegie Academy for the Scholarship of Teaching and Learning (CASTL)

<http://www.carnegiefoundation.org/CASTL/index.htm>

Exchange 3: Linking Teaching and Research

<http://www.exchange.ac.uk/issue3.asp>

Linking Research and Teaching in Departments

http://www.ltsn.ac.uk/application.asp?app=resources.asp&process=full_record§ion=generic&id=257

Linking Teaching and Research in the Disciplines

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

Linking Teaching and Research Resource Guide

<http://www.hlst.ltsn.ac.uk/resources/linking.html>

Research-led Teaching and the Scholarship of Teaching

<http://www.itl.usyd.edu.au/RLT/>

The Boyer Commission on Educating Undergraduates in the Research University

<http://naples.cc.sunysb.edu/Pres/boyer.nsf/>

The Nexus Project

<http://cedir.uow.edu.au/nexus/index.html>

LTSN for Hospitality, Leisure, Sport & Tourism
Oxford Brookes University
Gipsy Lane Campus, Oxford, OX3 0BP

telephone:
email:
website:

01865 483899
ltsn@brookes.ac.uk
<http://www.hlst.ltsn.ac.uk>