

**RESEARCH AND TEACHING: CLOSING THE DIVIDE?
REPORT OF AN INTERNATIONAL COLLOQUIUM**

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Introduction

1. The relationship between staff research and student learning has become an important issue for higher education in many countries, even in some where the relationship has in the past been seen as unproblematic. This report is an account of an international colloquium on the subject, with participants from nine countries besides the UK. The report is aimed not only at those who attended the event but also at anyone interested in the subject, particularly from a systemic or institutional perspective.
2. The report is in three main parts:
 - background to the colloquium;
 - summary of main discussion;
 - conclusions: issues and questions to be explored.
3. Feedback from colloquium participants has confirmed the value to be gained from the exploration of these issues on an international basis. The UK Research and Teaching Group will be contacting colloquium participants and other organisations with some proposals as to how this might be taken forward.

Background to the Colloquium

4. The colloquium was organised by the UK-based Research and Teaching Group, a group of colleagues with a common interest in the relationship between research and teaching. The membership is given on the colloquium website (http://www.solent.ac.uk/r&t_conference). The colloquium was sponsored by the Southampton Institute, the University of Southampton, the Higher Education Funding Council for England, the Teaching and Learning Research Programme of the Economic and Social Research Council, the Higher Education Academy and City University.
5. The declared purpose of the colloquium was:

to achieve a better understanding of the relationship, if any, between teaching and research in higher education, and to identify the policies that will enable that relationship to be enhanced particularly for the benefit of student learning but also for academic staff and the intellectual life of the university.
6. The colloquium therefore had a dual focus: an enhanced understanding of the relationship or relationships between staff research and student learning, and an identification of what needs to be done to improve the relationship. Accordingly, the first day was chiefly devoted to a discussion of what is already known about the relationship through research and scholarship, whilst the second day concentrated on the policy implications, though interestingly there was a good deal of overlap.

7. The questions which the colloquium was specifically asked to address included:
- What does existing international research, scholarship and practice tell us about the relationship, or relationships, between research, teaching and scholarship?
 - Is there a “divide” to be bridged?
 - How can students as well as teachers and researchers benefit from the relationship?
 - How can students be enabled to acquire research attitudes and skills?
 - How can the student experience be enhanced by research active staff?
 - How can any detriments from staff research activity be minimised?
 - How can academic staff themselves benefit from the relationship?
 - What are the policy implications of the international research evidence for government funding and evaluation systems, institutions, and disciplinary communities, including academic departments?
 - How, if at all, do the various national and state systems deal with these issues, and with what success?
 - What policies should we be developing to exploit the link at each level?
 - What policies should we be abandoning or modifying?
8. Colloquium participants are listed in Annex A. The colloquium papers are listed in Annex B. All presentations were based on papers circulated in advance. Other presentation materials are given in Annex C. Annex D is a copy of the colloquium programme. The colloquium papers are also available to download from the colloquium website http://www.solent.ac.uk/r&t_conference. Readers who were not at the colloquium may wish to refer to the papers as they read the report.

Day One Presentations

9. In his opening keynote **Roger Brown** described the origins of the UK group, and explained how the relationship had moved up the policy agenda in the UK in recent years. He suggested that in attempting to understand the relationship, there were at least eight variables that needed to be taken into account: the approach to research being adopted in a particular case; the kind of environment in which students were learning; student learning motivations; the approach to the curriculum; the definitions of knowledge being used; the academic discipline; how staff were motivated to do research; and how the

relationship was managed. He feared that unless those responsible for running the system at each level – department, institution, national or state system – began to take the matter more seriously, the potential benefits would be lost. There was therefore a powerful case for those concerned about the relationship to be able to articulate the conditions that were necessary if these benefits were to be realised.

10. **John Hattie** reminded the colloquium that the burden of his work with Herb Marsh was not that there was no link between research and teaching in the mind of the individual academic but there was no evidence of the effects of this thinking in the outcomes, of either teaching or research. We should certainly be aiming to integrate the two activities but this required a conscious effort: the relationship has to be **constituted**, it is not automatic. So far, most of the research that had been conducted on the subject had been at the individual and departmental level. We now needed to ask: what would it mean to be a staff or student member at an institution where the two activities were integrated? What would institutional or governmental policies to create such institutions – where the most valued people were the best researchers **and** teachers – look like? This was a research issue for which appropriately collected and dependable evidence around properly formulated questions was essential.
11. **Barbara Zamorski** contrasted the theory and the reality of the claim that a university curriculum could be research-based. There were various ways in which this could be done ranging from students gaining knowledge from recent staff research through to student engagement in research projects. Yet research showed that students generally have a poor understanding of the university as a site of inquiry. Students, and even some staff, needed to be informed or reminded of the nature of the university environment and about the difference between research and teaching **and** be given the resources to enable them to participate in such activities. However, the financial pressures on both institutions and students could make this more difficult in future whilst the cause of widening participation would not benefit if the increased resourcing gap between different kinds of institutions meant that only a relatively privileged set of students enjoyed the full benefits of a “true” university education.
12. **Carol Colbeck** proposed a cybernetic systems model as a means of understanding the relationship, where a distinction was made between antecedents (national and academic contexts and faculty characteristics), academic processes (including those that linked research and teaching), and learning and research outcomes. We needed to know more about each of these components and how they interacted. As regards antecedents, however, it was clear that there were certain disciplines where the ability to secure external research funding meant that staff could afford to pay less attention to policies specifically designed to regulate or reward faculty teaching. As regards processes, the extent and means of faculty integrating research and teaching also varied by discipline. As regards outcomes, there was evidence for example from several North American medical schools that inquiry- or problem-based approaches were both a means of integrating research and

teaching and led to better student learning. Overall, we needed more systematic and widespread assessment of faculty work as an integrated whole to determine to what extent and how links between research and teaching enhance the quality of research, improve student learning, affect faculty use of time and vary across disciplines and types of institution.

13. **Jane Robertson** argued that it was cardinal to understand the language and terminology being used. This would to some extent reflect the person's perspective and the view taken by them of knowledge and how it is created. These appear to vary largely on a disciplinary basis. Beliefs about the nature of knowledge affect the "spatial" relationship between research and teaching, with a weaker relation in science contexts at one "end" and an integrated relation in humanities contexts at the other. This in turn determines the student's position in the scholarly community, more peripheral and less participative in some disciplines and vice versa. Besides encouraging and enabling a cross-disciplinary dialogue, we need to explore what is happening with the "relation" in the spaces where disciplines interact. We should also be cautious of policies for connecting or separating research and teaching which ignore these vital differences of language and perception.
14. **Lisa Lucas** drew attention to the impact of research evaluation and funding policies for linking research and teaching in institutions. In the United Kingdom the periodic evaluation and funding of research through the Research Assessment Exercise (RAE) has led to differentiation at both institutional and local levels, this being reinforced by the narrow definition of research involved. By contrast in The Netherlands funding and evaluation of research are separated. The activities of research and teaching are to some extent distinguished at institutional level (university and non-university institutions of higher education). But a new system of funding research institutes and programmes means that collaboration across institutions is being encouraged, to the benefit of both research and teaching. Hong Kong has followed the British approach of linking evaluation and funding of research, but has deliberately adopted a much broader notion, to include integration, application and teaching on the Boyer model. It also assumes that all staff are engaged. However, whilst this has raised awareness of the issues it has not yet resulted in parity of esteem at either local or institutional level, and it may be that we shall have to accept that different kinds of institutions will excel at different kinds of research or scholarship.
15. Drawing inter alia on a forthcoming study of academic staff conditions in Europe **Egbert de Weert** noted a number of developments which could increase the divide. However, an **organisational** separation – whether at institutional or local level – need not necessarily be conclusive. On the one hand, an integrated model does not guarantee a close relationship as in Germany. On the other, integration can be attempted through the association of research institutes and universities (France), the development of new and more flexible staffing models that allow for more freedom in the relative proportion of these task components for each individual academic (Netherlands), or the creation of new staff roles with a bridging function ("lectors" in non-university institutions in The Netherlands). Overall, rather

than take the relationship for granted, the aim should be to define meaningful connections by considering where and how research can be beneficial for the educational purposes of HE institutions.

Discussion – Feedback from Groups

16. The group reporting on the relationship at the level of the individual academic identified three main sets of issues: potential levers for change, careers and rankings. There was a need to focus on the curriculum – both programmes and assessment – as a coherent whole to achieve deep learning through a research-type process, for which a deep understanding both of the subject and of the appropriate research methods was a pre-requisite. Career paths needed to be flexible to reflect the range of demands being made on staff over a professional lifetime (“the overflowing plate” – see the presentation by Gene Rice on Day Two). International rankings of institutions had to include teaching as well as research: the alternative would be for research to increasingly be done in research institutes (the unravelling of the university by default).
17. The group considering the impact on student learning and the student experience considered whether research-based learning necessitated a research environment. On the one hand, research-based learning could be seen as a pedagogy, about getting students to think rather than reproduce. On the other, research-based learning could be said to be about reorganising the university as a curriculum site with the implication that students, even undergraduates, were admitted to the research culture. In either case there were practical limitations on the extent to which research-based learning could operate (though these might vary by discipline). The group also acknowledged that there was no single shared understanding of “research”, yet the view of what constituted research activity would have a bearing on what it was that students could participate in.
18. The group looking at departmental and disciplinary cultures asked what was intended by “integration” and how might it vary across disciplines. What principal difference might there be? What disciplinary cultures are there and how might these change? How can we help practitioners to bring research and practice together? As regards the differences in discourse, a mapping of research and practice and the relationship between them would be helpful. Suggestions for grounding the link included: by linking research and practice, you can improve student learning and motivation; you can improve the quality of research including the posing of questions; integration can be used as a means of acculturation into higher education, engaging students in a love of learning and asking of questions.
19. The group focussing on the level of the system drew attention to the importance of funding mechanisms for influencing the relationship. Other key issues were the definition of research adopted for purposes of evaluation (and funding) and the redressing of inequalities of prestige and status eg the fact that sabbaticals are generally intended for research. Underlying the discussion was a fear of differentiation at institutional level and the risk that many

academics could be working in “teaching only” institutions, as opposed to the belief that all universities should have an overarching culture of inquiry that fosters both research and high quality learning.

Plenary Discussion

20. The first question raised was how far there was a common set of values: should our values perhaps be unpacked and stated more clearly? In this context the notion of different means of inquiry might be a way round some of the definitional problems. Another speaker drew attention to the increasingly diverse student voice. What were students’ expectations of us as teachers, of the conditions under which they were studying, of what they wanted from teaching? We should recognise the link between research and **learning**. Reference was also made to the paradox that some school or college students were doing project work that ceased when they came to university!
21. Reference was then made to evidence that more than 2,000 Oxford University students not only value being taught by research active staff, but that those who value it most highly were more likely to have higher quality learning outcomes. This study, for one context, shows direct relations between the research environment as perceived by students and the quality of student learning outcomes. While the percentage of students who feel they benefit from such contact may vary between institutions with differing research activity, relations between those who experience it more strongly and higher quality learning approaches are still likely to be found. Another speaker asked whether we should simply be responding to what students wanted? Students should be challenging their economic, social and political (and educational) environment, not accepting it. Integration of research and teaching was a challenge to an environment that commodified higher education and pushed the core activities apart.
22. The question was not what students wanted but what their perceptions of the learning environment were, and how their view of what they wanted tied in with those of faculty. The debate should be about learning outcomes not student satisfaction. We ought to make students want what we think they should want (ie inquiry-based higher education). But should we select some students for the experience, given that research topics often require quite a lot of resource? It might be that students could be assisted if we could identify the benefits from research to learning and career success, allowing for disciplinary differences. Another speaker said that it was important to have experience of the **failure** of inquiry.
23. The discussion then returned to the view that before deciding on the relationship between research and teaching, we should say first what it was that we wanted to do. A lot of the comments being made were retrospective yet our concern should be for future students rather than current ones. What was the future of higher education to be? What would it be like if we could bring research and teaching together? What kind of higher education and what kind of institutions would this produce? The need to be creative was highlighted. One speaker asked what it was that was “core” about the

university? It might be that both research and teaching would “leave” and that what would remain would be the assessment and accreditation of learning. Another speaker pointed out that the relationship between research and teaching was not seen as problematic in his country. Instead of trying to solve these problems, perhaps we should try to keep them alive as it was a way of keeping the dynamics of higher education. He suggested we should ask ourselves what kind of contradiction between research and teaching benefits academic life? Another speaker agreed that we were too trapped in our own time. We should be thinking about how to create a diversity of institutions, some of which would enjoy the reputation that elite institutions currently enjoy. We needed in fact to have a different notion of a top class university.

24. Reverting to the individual academic, it was suggested that we should abolish the myth of the academic “superman”. In future there would be separate groups of teachers, supervisors, curriculum leaders, consultants, contract researchers, project managers, grant writers etc. Work-based learning, longer studying times, recurrent lifelong learning, greater internationalisation, a more differentiated university system and closer integration with other post-compulsory provision could be added. One speaker pointed out that if there were pressures now, shouldn’t we look at these pressures and do something about them? Another speaker put forward the idea that it would be useful to work out what defined a “good” university and how that would change in the future. It was suggested that the relationship between research and teaching was what made higher education distinctive and we needed to look at ways of resourcing the different segments. Another speaker emphasised the increasingly shorter cycles of knowledge so that what students needed now was the skill to learn: they could not keep going back to university. Yet mass higher education hampered such learning: people were now doing doctorates in Germany in order to obtain at postgraduate level the experience they should have had at undergraduate level.
25. A number of references had already been made to the “broader impact” work associated with the National Science Foundation in the United States (see the presentation by Judith Ramaley) but it was queried whether this would be sufficient to create a “new faculty” particularly in disciplines where there was an “ontological disconnect” between the two activities. Another speaker said that we had to bring the conversation back to students, the present ones were too docile. It was also necessary to take account of cyberspace as an alternative universe: we might not be talking a language that students understood, the students were not necessarily who we thought they were. One speaker wondered which skills the next generation would have? What about in 30 years’ time? Another speaker suggested that if we lost the research and teaching nexus, we would lose skills for the next generation.
26. Historically the universities had arbitrated on the status of knowledge yet in subject areas like engineering industry influences on the curriculum were increasingly important. Another speaker emphasised the need for us to have reflexivity in how we ourselves approach the research and teaching issue: we should be aware of the kind of research we were doing and the underlying values. Another speaker emphasised the tension between understanding the

relationship and changing it. What was the relationship with students? How could we engage with students as equals? How could we stop treating students as students? Another speaker wondered what the real role was for departments in encouraging the link between research and teaching? Why should we automatically think the link between research and teaching should be subject to separate evaluative processes?

Day Two Presentations

27. Opening day two **Gene Rice** took “learning” as a necessary starting point, something which only takes place if teachers are learners as well. We needed to take a comprehensive view of the forms of “scholarly inquiry” including community-based research and service learning, and to avoid funding and evaluation policies that particularise them. We also needed to appreciate that the creation of knowledge is no longer a one-way street where knowledge only flows out from the academic community. At the same time we should appreciate the dilemma of the “overflowing plate”: the contrast between the assumptive world of the academic professional and the additional and conflicting demands being made on them. Hopefully, a “collaborative” culture will bring together and succeed the “collegial” and “managerial” cultures that are currently in opposition to one another. The academic load had to be “unbundled” so that it is increasingly unlikely that the research/teaching link will occur at the level of the individual, as opposed to “networks of learning”.
28. **Judith Ramaley** described the National Science Foundation’s mission and outlined a number of the policies and programmes that aim amongst other things to integrate research and education. Some of these are aimed at undergraduate students, some at faculty, some at institutions. If one wanted to achieve integration, a good opening was to use terms that themselves achieved this. One such notion was that of “engagement” whereby research and scholarship are defined and conducted collaboratively with the community (rather than on its behalf), and where research, teaching and service are reframed as discovery and learning conducted in an engaged “mode”. This involved shared goals and agendas; agreed upon definitions of success that were meaningful both to the university and to community participants; building on the strengths of all the partners; some pooling and leveraging of university resources and public and private funds provided by other participants; and some resultant increase in the capacity and competence of all the parties concerned.
29. **Angela Brew** raised a series of questions about the relationship. Why should one want to develop it? Should education be teacher- or student-focussed? How should teaching and learning be developed? How should we now progress the development of the relationship? Were we talking about measurement or vision? Was it sufficient to develop policies, or should we not also be tackling structures and systems? Also, the initiatives seemed to be coming from the teaching rather than the research side. Internally there were separate structures for research and teaching in many institutions. It was a misnomer to suggest that only “research intensive” universities could provide

research-based teaching: many of the best examples of integration known to her came from institutions that were not “research intensive”. There were also major employment issues: researchers buying themselves out of teaching, casualisation. Were students part of the academic community or was there a kind of “apartheid” where they were not trusted to participate in research communities or communities of practice?

30. Introducing the NSF-supported Center for the Integration of Research, Teaching and Learning, **Bob Mathieu** said that a high proportion of faculty across the system were trained in research universities: these were the teaching universities for higher education. So one had to get at the products of the graduate school as potential agents of change. Treating teaching in science, technology, engineering and maths as research was a means of getting researchers interested in education, as well as a legitimate activity in its own right as a means of improving student education in these disciplines by treating the improvement of teaching as itself a research question. It was important to emphasise that these activities were led by faculty with influence and research credentials, not by educational developers. This was vital for credibility; to paraphrase John Wright, “you need to meet the faculty where they are at”.
31. **Caroline Baillie** advanced the hypothesis that scientific knowledge could be the bridge between research and teaching. There was a dissonance between the academic’s approach as a researcher, which treated scientific knowledge as negotiable and uncertain, and their approach as a teacher, which might see scientific knowledge as a single truth that could be “taught” without negotiation. This dissonance could be overcome through a process which began with a community of researchers determining the basic units of knowledge that students might want to learn in the course of a degree in that particular specialism. The second step was to bring into the undergraduate course some of the important aspects of the knowledge negotiation process, the learned behaviour of scientists after graduation. In her own research this involved interactions between researchers in materials science and art students. The researchers ended up with a better understanding of their research as a result of exposing their findings and assumptions to colleagues from a very different disciplinary background. This approach might be more widely replicable.
32. **Alan Jenkins** said that the notion of the individual academic as researcher/teacher as the key to the link had now effectively gone. Instead we should see the student experience as the unifying concept and focus. Whilst multi- and interdisciplinary work was of increasing importance, the discipline based department was still the core academic unit and the nature and possibilities for a closer relationship were shaped by disciplinary cultures and practices. However many discipline-based staff still had a limited understanding of the complexities, something that was not assisted in the UK by the RAE. To help redress these issues he argued for many more national or state-funded discipline-based projects to explore and strengthen teaching/research connections, supported by generic advice and resources, of the kind that had already developed to some degree in Australia, America and

Britain. These might be reinforced or supplemented by international disciplinary projects to look at ways of building or strengthening the relationship in the disciplines concerned.

Discussion – Feedback from Groups

33. The group discussing the policy implications at the system level felt that differentiation at institutional level had to be avoided as did funding and evaluation policies that took no account of potential links. Another constraint was how research and teaching were currently organised. A lecturer accreditation model which regarded teaching as an activity in itself could also be unhelpful when what was needed was to envisage the future contexts in which research, learning and teaching will take place and the likely professional demands on academics. Actually or potentially more positive mechanisms were the NSF initiatives and, in the UK, the proposed Centres of Excellence in Teaching and Learning. Language was important: in some countries it was “research and teaching”, in the US it was “research and education”. This shaped the discourse differently as did the “teaching as research” model. In any event, evidence was needed to show how integration benefited student learning and why funding should be directed towards this.
34. The group looking at the policy implications for institutions drew attention to the realities of international comparisons which often required competitiveness in either teaching or research. At institutional level the policy issues included: focussing on mission and purpose, preparing future faculty, ensuring that faculty had sufficient understanding to be able to teach at a deep level, and faculty roles and rewards including the future concept of the professoriate. This in turn raised the question of where the necessary leadership would come from, at both institutional and local level, and possible mechanisms. The latter might include some form of performance related pay or financial incentives for teaching initiatives and plans at every level as at the University of Sydney.
35. The group focussing on the policy implications for the disciplines distinguished between established disciplines, new and emerging disciplines, and interdisciplinary communities. There were other drivers and barriers, for example funders who were focussed on the disciplines and institutional structures though interdisciplinary research centres might be a possible way forward. Reward and recognition policies were crucial. Interdisciplinarity could apply to teaching organisation and character as well as to research. Finally, the student perspective was important. Students got bits and pieces which they were expected to integrate. We should make the messiness of research clearer through our teaching hence the need for negotiation with students.

Plenary Discussion

36. The first question raised was why we were limiting the benefits of the link to teaching. Should we not also stress the scope for improving research, for example by students suggesting research questions or bringing new perspectives to bear? The benefits to students had been empirically

established, perhaps what was needed now was to theorise the link better, done in a way that didn't simply seem self-serving. Another speaker felt that if we couldn't convince students all was lost. Teaching and research links were only a means to an end, not an end in themselves. The ultimate purpose had to be to make teaching exciting. Both teachers **and** students had to benefit. Hence the importance of staff development which was difficult because most academics were actually quite content with their teaching.

37. We had nevertheless to press on because the issue affected student learning: the student experience and intellectual development. Here a lot of the evidence so far had been about student **perceptions**, perhaps the work of Baxter Magolda on student intellectual development was relevant. More generally we had to reclaim the university for intellectual inquiry.
38. This raised the issue of how we become academics. The research apprenticeship involved a PhD with a teaching role added towards the end. Why not a dual apprenticeship with each informing the other? We had to shift the academic identity. Another speaker extended this to embrace professional employment and work. Professional practice was another identity in many applied disciplines. Society was a stakeholder, it wasn't just students. Nor should we assume that students had had or were having a uniform experience. Researchers were the ultimate learners: how could we harness our own learning for the benefit of student learners? Such scholarship had to extend to management as well. We needed people to have the ability to think about and explain how (and why) they do what they do, and not just **what** they do. A further comment was that if we separated research into research institutes many researchers would leave universities altogether because they valued students and wished to continue to teach. Another speaker commented that whilst there was now genuine interest in the issue, the research/teaching relationship was only on the policy agenda because of shrinking resources for research.
39. The question was then raised why we would want research and teaching to be together. It was argued that previous research had used the wrong measures: student ratings, staff publications. Instead we should be looking at student engagement in research and scholarly approaches to teaching, which did not necessarily correlate with ratings or publications. We had to get at student learning and we had to look at measured outcomes.
40. One speaker said that she had hoped that there was a correlation at the more research intensive end though it might not be linear. But surely a certain amount of research activity was needed at the "low" end in relation to teaching? What could be the quality of teaching where no research was being done? Another speaker said that the issue was not the link between research and teaching but how to have an effective and engaging relationship with students. Access to a research environment might be one thing here, but the links between research and teaching had also to cover process and content. The links had to concern the research process; in the short term one might divorce research content but in the long term this would be negative. Another way of putting it was to ask what was the minimum level of scholarly

engagement that staff needed in order to help students have engaged learning? Should it not be a key requirement that every student had a project/dissertation as part of their undergraduate curriculum?

41. One speaker said that she had identified a number of research questions to take away: the effects of research-based learning on student learning; understanding better how students perceive research; more about the broader impact of staff research; how to explore the relationship as an academic community; how to relate this to students; what was the relationship between this and the teaching/research relationship; disciplinary differences; what if you didn't carry out the link? Different patterns of institutional change that promoted or retarded the link; the minimal level of research engagement in linking; how to understand the nature of knowledge in relation to teaching and research; why the correlation **was** zero. There was so much that we did not know. "What do we mean by research?" might be added. Moreover some previous work reflected a particular research paradigm.
42. Another speaker asked: what was the kind of teaching that led to good learning and what had research to do with strengthening learning from inquiry? How could the various kinds of learning that go on in higher education institutions assist one another? This could include traditional academic roles so that the mix at the individual level could still be supported if the necessary resources were available.

Cliff Allan

43. Speaking on behalf of the new UK Higher Education Academy, Cliff Allan said that the new organisation would have an important role to play in facilitating the debate, conducting or commissioning research, and perhaps working with overseas partners. It could also look at the language being used. Clearly, faculty rewards needed to be addressed and the importance of continuing professional development was also registered. At the same time there seemed no reason in principle why an NSF style approach should not be reflected in the RAE. There were many issues here for the Academy to engage with.

Andrew Pollard

44. Speaking on behalf of the Teaching and Learning Research Programme (TLRP) of the UK Economic and Social Research Council, Andrew Pollard said that the zero correlation point would not go away. So we needed to look at what **should** happen. We needed to study the conditions, factors, circumstances that produced better outcomes, with an appropriate characterisation of the relevant theoretical concepts. The cybernetics model might be one way forward here. There were three TLRP projects dealing respectively with the relationship between learning outcomes, on the one hand, and course design, social and organisational cultures, and disability on the other. National circumstances were highly relevant. We shouldn't forget purposes and values, what kind of higher education we wanted to see. Finally,

there needed to be coherent strategies at the different levels in the system. The TLRP was willing to work with other groups and organisations to this end.

Final Remarks

45. **Roger Brown** thanked all those who had contributed to the Colloquium including the many colleagues who as well as the presenters had posted papers on the website. He repeated his thanks to the colloquium sponsors. He concluded by thanking the colloquium organisers, particularly Lilian Winkvist and Hanna O'Shea from Southampton Institute, for ensuring that the colloquium had run so smoothly and wished everyone a safe journey home.

Colloquium Conclusions

Issues and Questions

46. In his paper Egbert de Weert stated “the debate is to find meaningful connections rather than taking the connection for granted”. There seemed to be a measure of agreement on the part of colloquium participants on the following:
- i. strengthening the relationship between staff research and student learning should be an important policy objective for higher education;
 - ii. whilst national circumstances vary, there are common questions about the relationship that make a comparative approach useful as a way of approaching the issue, hence there is support for a continuing international discussion;
 - iii. to improve our understanding of the relationship we need both more and better theories about it and more and better evidence in relation to those theories;
 - iv. the vital importance of definitions, language and perceptions, including especially disciplinary language and perceptions, in trying to make sense of people's views about the relationship;
 - v. a preference for forms of higher education that are enquiry-based, and a strong doubt as to whether higher education that is not enquiry-based can be regarded as “higher education”.
47. On the basis of the discussion, the following are amongst the key questions that a future research agenda should address:
- i. what kinds of student learning do we wish to promote in future? What kinds of learning outcomes do we wish to see?
 - ii. what role can and should staff research play in creating such learning?

- iii. what should we be doing to facilitate this contribution?
- iv. similarly, how can student learning contribute to the improvement of staff research? What should we do to assist this?
- v. bringing i to iv together, what are the main ways in which student learning and staff research can be linked, and what are the implications for both activities that result?
- vi. what are the appropriate policies to be adopted at institutional and national/system levels?
- vii. how can we get greater student engagement in these issues?
- viii. what kinds of enquiry are we ourselves conducting when we frame and explore these questions?

What Kind of Student Learning?

- 48. There is an increasing understanding that the most rewarding forms of learning are those where students do not merely acquire and reproduce information but actually transform information and ideas in terms of their own previous knowledge and understanding: this is sometimes known as “deep” or “strategic” as opposed to “surface” or “apathetic” learning. There is also a growing appreciation that the approach to learning is the result of interaction between the student and the teaching and learning environment: this includes different methods of teaching and assessment as well as the environment as such. There may be parallels between the student’s deep learning approach and the process of academic research.

What Role for Research?

- 49. The issue then is what role can and should staff engagement in research (understood here to cover all forms of scholarly inquiry and not just “research” as conventionally understood) play in promoting such learning? What difference does or can it make to specific aspects such as content knowledge, skills, the application and integration of knowledge and attitudes towards future learning? What evidence is there about these questions? How can the best use be made of the knowledge that researchers have including knowledge of appropriate research techniques?
- 50. The colloquium suggests that amongst the key variables in exploring these questions are the discipline or field of study, bearing in mind the fact that a significant proportion of academic work is now multi- or interdisciplinary; the type of institution, department or programme (academic, professional etc); the definition(s) of knowledge held by the researcher; the approach being taken to research eg “broad” or “narrow”; and the student’s learning motivation. The ways in which academic staff experience “research” may also be a significant factor. In assessing the results, it is important not to rely simply on student perceptions of learning. Finally, it will be necessary to take account of the

increasing variety of approaches to curriculum delivery including web-based learning.

How Can the Research Contribution to Student Learning Be Facilitated?

51. The colloquium suggests that a starting point is to reclaim the university as a site of scholarly inquiry, and to communicate this role, and the underlying values, to students (and staff). Attention should be given to the appropriate “formation” and training of academic staff. Whilst it may not be realistic to expect every faculty member to be a teacher-researcher, all staff should be encouraged to be aware of the importance and the ways in which scholarly inquiry can contribute to student learning in their discipline or area of practice. This in turn indicates that a crucial part in facilitating the relationship must be played by disciplinary communities or academic communities of practice in universities.

How Can Student Learning Contribute to Staff Research?

52. Much of the literature on the relationship is about the benefits of research for teaching. Similarly at the colloquium there was much less discussion about how the contribution of student learning to staff research and inquiry can be facilitated. It was however suggested that, as a minimum, we should avoid policies or environments which effectively separate out student learning from staff research.

How Can Research and Teaching Be Linked?

53. “Research can be incorporated into the design of educational experiences for all students, not just those who can be accommodated on a research team or in a field or laboratory research project” (Judith Ramaley). Academic staff already spend some proportion of time on activities that integrate research and teaching. The colloquium papers indicate many activities through which research and teaching can be linked (see in particular Brew, Colbeck, Hattie and Marsh, Healey, Katkin, Mathieu, Ramaley and Zamorski).¹ Of particular interest are activities such as undergraduate research that can be seen as both research and learning. Problem-based learning is another means of linking research and teaching that appears to have benefits in terms of student learning. Staff and student experiences of “knowledge negotiation” might also be a means of bridging the gap.

What Policies?

54. Whilst much more needs to be known about what institutions can actually do to create real and beneficial linkages, it seems clear that many existing data collection, evaluation and reward systems retard rather than promote a positive relationship. Similarly, with the notable exception of the National Science Foundation (and to a lesser extent the Hong Kong RAE), national policies for promoting research appear to damage the relationship. Means need to be

¹ See also Jenkins and Zetter (2003). Cf Cousin, Healey, Jenkins et al (2003), Jenkins et al (2003).

found of valuing the relationship so as to strengthen both student learning and staff research.

Staff and Student Engagement

55. One participant commented that many of those who had studied the relationship had a disciplinary background in education. The colloquium might have benefited from greater involvement by faculty with other disciplinary perspectives. Similarly, in spite of the organisers' attempts, only one of the colloquium participants was a student. Greater efforts should be made to involve students in discussion of the issues surrounding the relationship and potential learning benefits from staff engagement in research.

Reflexivity

56. Finally, as an academic community, we need ourselves to be aware of the kinds of intellectual (and moral) process which we are going through when we explore questions of the kind raised at the colloquium. What methodologies are appropriate? What kinds of evidence? What kinds of conclusions?

ANNEX A

COLLOQUIUM PARTICIPANTS

Mr Cliff Allan	Learning and Teaching Support Network, UK
Dr Caroline Baillie	Queen's University, Canada
Dr Liz Beaty	Higher Education Funding Council for England, UK
Dr Paul Blackmore	University of Warwick, UK
Mr Richard Blackwell	Higher Education Funding Council for England, UK
Dr Rosanna Breen	NHS University, UK
Prof John Brennan	Centre for Higher Education Research and Information, UK
Dr Angela Brew	University of Sydney, Australia
Prof Reva Brown	Oxford Brookes University, UK
Dr Roger Brown	Southampton Institute, UK
Dr Angela Clow	University of Westminster, UK
Dr Carol Colbeck	Pennsylvania State University, USA
Mrs Roz Collins	Southampton Institute
Prof Grainne Conole	University of Southampton, UK
Dr Glynis Cousin	University of Warwick, UK
Prof Rob Cuthbert	University of the West of England, UK
Prof Vaneeta d'Andrea	City University, UK
Dr Egbert de Weert	University of Twente, The Netherlands
Prof Abdelaziz Elbayoumi	University of Qatar, Qatar
Prof Lewis Elton	University College London, UK
Mr Michael Fennell	Institute of Education, UK
Mr Nigel French	N&S Consulting Services, UK
Prof Van Gore	Southampton Institute, UK
Prof Ken Gregory	Southampton Institute, UK
Dr Nick Hammond	Learning and Teaching Support Network, UK
Dr Lydia Hartwig	Bavarian State Institute for Higher Education Research and Planning, Germany
Prof John Hattie	University of Auckland, New Zealand
Prof Mick Healey	University of Gloucestershire, UK
Mr Paul Hill	Times Higher Education Supplement, UK
Mr Paul Hubbard	Higher Education Funding Council for England, UK
Prof Alan Jenkins	Oxford Brookes University, UK
Dr Wendy Katkin	The Reinvention Center, USA
Dr Carolin Kreber	University of Alberta, Canada
Dr Wendy Leeks	Southampton Institute, UK
Dr Lisa Lucas	University of Bristol, UK
Prof Robert Mathieu	University of Wisconsin-Madison, USA
Prof Lynn McAlpine	McGill University, Canada
Prof Kate McLuskie	University of Southampton, UK
Ms Hanna O'Shea	Southampton Institute, UK
Prof Andrew Pollard	University of Cambridge, UK
Prof Michael Prosser	University of Sydney, Australia
Dr Judith Ramaley	National Science Foundation, USA
Dr Ann Read	Southampton Institute, UK
Dr Eugene Rice	American Association for Higher Education, USA
Dr Jane Robertson	University of Canterbury, New Zealand
Prof Stephen Rowland	University College London, UK
Ms Colleen Slagter	Ministry of Education, New Zealand
Dr Voldemar Tomusk	Open Society Institute, Hungary
Prof Keith Trigwell	University of Oxford, UK

Dr Jussi Välimaa
Prof Leslie Wagner
Prof Bill Wakeham
Prof Mary Watts
Ms Su White
Ms Lilian Winkvist
Dr Barbara Zamorski

University of Jyväskylä, Finland
The Higher Education Academy, UK
University of Southampton, UK
City University, UK
University of Southampton, UK
Southampton Institute, UK
University of East Anglia, UK

ANNEX B

COLLOQUIUM PAPERS

Baillie, Caroline, *Negotiating Scientific Knowledge* (Queens University, Kingston, Canada) [Word document]

Brew, Angela, *Closing the Gap between Teaching and Research at An Institutional Level: A Case Study* (The University of Sydney, Australia) [word document]

Brown, Reva, *Why Link Your Personal Research and Your Teaching?* (Oxford Brookes University, UK) [Word document]

Brown, Reva, *Do They Mean Business? A Reflection on the Purpose of the University* (Oxford Brookes University, UK) [Word document]

Brown, Roger, *Revised keynote speech* (Southampton Institute) [Word document]

Colbeck, Carol, *A Cybernetic Systems Model of Teaching and Research Production: Impact of Disciplinary Differences* (The Pennsylvania State University, USA) [Word document]

de Weert, Egbert, *The Organisational Determination of the Teaching and Research Nexus* (University of Twente, The Netherlands) [Word document]

Elton, Lewis, *Response to DfES Research Report 'Review of the Academic Evidence on the Relationship between Teaching and Research in Higher Education'*, (University College London, UK) [Word document]

French, Nigel, *The Higher Education Teaching/Research Nexus: The Hong Kong Experience*, (N&S Consulting Services, UK) [Word document]

Hattie, John, *Synopsis of the New Zealand Performance Based Research Fund*, (University of Auckland) [Word document]

Hattie, John and Marsh, Herb, *One Journey to Unravel the Relationship between Research and Teaching* (University of Auckland and University of Western Sydney, Australia) [Word document]

Hartwig, Lydia, *The Integration of Teaching and Research in Contemporary German Universities*, (Bavarian State Institute for Higher Education Research and Planning, Germany) [Word document]

Healey, Mick, *Linking Research and Teaching in Geography and Related Disciplines: Enhancing the Benefits for Student Learning* (University of Gloucestershire, UK) [Word document]

Jenkins, Alan, *Supporting Undergraduate Research (in the UK) An Outline Proposal*, (Oxford Brookes University, UK) [Word document]

- Jenkins, Alan, *Going with the Disciplinary Grain: Nudging, Confronting and Colliding; and Then Cruising along in Tandem*, (Oxford Brookes University, UK) [Word document]
- Katkin, Wendy, *Making Research-Based Learning the Standard: Three Years after the Boyer Commission Report* (The Reinvention Center, USA) [Word document]
- Lucas, Lisa, *Linking Research and Teaching: the Significance of Research Funding and Evaluation Policies*, (University of Bristol, UK) [Word document]
- Mathieu, Robert, *Teaching-as-Research: A Concept for Change at Research Universities*, (University of Wisconsin-Madison, USA) [Word document]
- McAlpine, Lynn, *How Might The Research on Doctoral Education Inform Our Understanding of the Relation between Teaching and Research?* (McGill University, Canada) [Word document]
- Prosser, K., Ramsden, P., Middleton, H., Martin, E., Trigwell, K., *Research Active Academic Staff Experiences of Teaching, Understanding Subject Matter and Research* (University of Sydney, Victoria University, Oxford University) [Word document]
- Ramaley, Judith, *Policy Implications at the National Level in the United States* (National Science Foundation, USA) [Word document]
- Ramaley, Judith, *The Integration of Research and Education* (National Science Foundation, USA) [Powerpoint presentation]
- Rice, Eugene, *Rethinking Scholarship and Engagement: The Struggle for New Meanings* (American Association for Higher Education, USA) [Word document]
- Robertson, Jane and Bond, Carol, *Many 'Ways of Being': Variation in Experiences of the Research/Teaching Relation* (University of Canterbury and University of Otago) [Word document]
- Southampton Institute, *Advanced Scholarship at Southampton Institute: A Definition and Strategy* [Word document]
- Southampton Institute, *Advanced Scholarship Strategy* (Southampton Institute, UK), [Word document]
- Southampton Institute, *Definition of Advanced Scholarship* [Word document]
- Southampton Institute, *Indicative List of Advanced Scholarship Activities* [Word document]
- Välilmaa, Jussi, *On Teaching and Research and the Dynamics of Higher Education* (University of Jyväskylä, Finland) [Word document]
- Zamorski, Barbara, *The Impact on Student Learning/The Student Experience*, (University of East Anglia, UK) [Word document]

Zamorski, Barbara, *The Role of Scholarship and Research in Teaching and Learning in Higher Education* (University of East Anglia, UK) [Word document]

ANNEX C

OTHER PRESENTATION MATERIAL - LIST OF POWERPOINT PRESENTATIONS

[Baillie, Caroline, *Negotiating Scientific Knowledge* \(Queen's University, Canada\)](#)

[Brew, Angela, *Closing the Gap between Teaching and Research at An Institutional Level: A Case Study* \(The University of Sydney, Australia\)](#)

[Brown, Roger, *Keynote Speech* \(Southampton Institute, UK\)](#)

[Colbeck, Carol, *A Cybernetic Systems Model of Teaching and Research Production: Impact of Disciplinary Differences* \(The Pennsylvania State University, USA\)](#)

[Lucas, Lisa, *Linking Research and Teaching: the Significance of Research Funding and Evaluation Policies* \(University of Bristol, UK\)](#)

[Mathieu, Robert, *Teaching-as-Research: A Concept for Change at Research Universities* \(University of Wisconsin-Madison, USA\)](#)

[Ramaley, Judith, *The Integration of Research and Education* \(National Science Foundation, USA\)](#)

[Robertson, Jane and Bond, Carol, *Many 'Ways of Being': Variation in Experiences of the Research/Teaching Relation* \(University of Canterbury and University of Otago, New Zealand\)](#)

ANNEX D

COLLOQUIUM PROGRAMME

Wednesday 17 March 2004		
pm	Arrival of overseas delegates	
	Taxi from Winchester Train Station to Marwell	
15.00	Check in at Marwell Hotel	
18.45	Pick up by coach at Hotel	
19.30	Pre-dinner drinks	
20.30	Dinner for overseas delegates, planning group and Bill Wakeham (VC, University of Southampton) at the University of Southampton Staff Club	
22.30	Pick up by coach for return to Marwell Hotel	
Thursday 18 March 2004		
08.00	Breakfast for those who have stayed at Marwell during Wednesday night.	
09.00-09:50	Coffee and registration, Forest Suite	
09:50-10:20	Introductory keynote speech	Roger Brown
10.20-10.50	The relationship at the level of the individual staff member	John Hattie
10.50-11.20	The impact on student learning/the student experience	Barbara Zamorski
11.20-11.50	Coffee/Tea	
11.50-12.25	The impact of departmental and disciplinary cultures	Carol Colbeck/Jane Robertson
12.25-13.00	The management of the relationship including systems which do not see the issue as problematic	Lisa Lucas/ Egbert de Weert
13.00-14.00	Lunch in Zavanna Restaurant	
14.00-15.00	Group discussion in syndicate rooms a) The relationship at the level of the individual staff member b) The impact on student learning/the student experience c) Departmental and disciplinary cultures d) The management of the relationship including systems which do not see the issue as problematic	Chair/Rapporteur Vaneeta d'Andrea /Reva Brown Lewis Elton/Glynis Cousin Alan Jenkins/Grainne Conole Keith Trigwell/Wendy Leeks

15.00-15.30	Coffee/Tea	
15.30-16.00	Groups to report back in Forest Suite	
16.00-17.00	Main points emerging	
	Free time [Delegates can check into rooms from 15.00]	
19:00	Drinks reception in the Forest Suite	
19:30	Colloquium Dinner in the Forest Suite	
	After dinner speech	Liz Beaty
	Friday 19 March 2004	
08.00	Breakfast and check out of rooms [Check out before 11.00]	
09.00	Coffee	
09.30-10.00	Keynote speech on policy implications	Eugene Rice
10.00-10.30	The implications at the level of the national systems	Judith Ramaley
10.30-11.00	Coffee/Tea	
11.00-11.35	The implications at the level of institutions	Angela Brew/Bob Mathieu
11.35-12.10	The implications at the level of disciplinary communities	Alan Jenkins/Caroline Baillie
12.10-13.30	Lunch in Zavanna Restaurant	
13.30-14.30	Group discussion in syndicate rooms a) The policy implications at the level of the national systems b) The policy implications at the level of institutions c) The policy implications at the level of disciplinary communities	Chair/Rapporteur Lewis Elton/Glynis Cousin Vaneeta D'Andrea/Reva Brown Alan Jenkins/Grainne Conole
14.30-15.00	Coffee/Tea	
15.00-15.30	Groups to report back	
15.30-16.30	Plenary	Cliff Allan/Andrew Pollard/international reflector
16:30	End of colloquium	
16.30	Coach to take delegates to Winchester train station	

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