Maintaining research-mindedness in Scotland's universities in a time of sector-wide change

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Introduction

The core messages from the original work undertaken as part of the research-teaching linkages Enhancement Theme between 2007 and 2009 still stand. Examples of good practice which attempt to engage the students in research-like or research-actual environments continue to be generated across the Scottish sector. Central to the success of these initiatives is the continued relevance of the following points (drawn from the original Enhancement Theme's materials).

- Student engagement with research processes as well as research-based content within programmes of study can benefit staff and students alike.
- In terms of encouraging engagement in enhancing research-teaching linkages, there are a few 'optimum' conditions that ideally need to be in place within the institutions:
    1. buy-in from academics that students are capable of becoming active collaborators in research during an undergraduate degree
    2. recognition on the part of students that research-mindedness is not just about up-to-date research outlined in intended learning outcomes and disseminated through lectures, but about a way of becoming a critically reflective learner in a manner relevant to a given discipline
    3. adequate sustainability planning from the course design stage onwards, especially succession planning if the focus of implementation has been around a champion, sufficient capacity and resource to cope with the impact of changing the students' and staff's experiences, commitment to long-term funding, and the capacity to develop ways to measure and demonstrate impact
    4. an institutional culture which supports academics to innovate in their teaching practice in a way that brings the links between the range of their research, broader disciplinary research (their own or that of others) activities, and their students closer in a manner that encourages students to become 'researchers'
    5. a quality assurance process that actively encourages whole programme planning as well as component course design.
- External conditions such as the division of funding into two strands, one for research and the other for teaching, and the attitudes of research funding bodies play a significant role (see Brew, 2010). It is likely that changes to funding systems in the UK will have an impact, although there is uncertainty around what the impact might be. Current questions relate to managing the finances in terms of perceptions around the cost-benefit ratios linked to learning at different levels in the range of institutions that make up the Scottish sector.

A key lesson from the Research-Teaching Linkages Enhancement Theme is that **enhancement works very effectively when done through the disciplines**. Indeed, an emerging observation subsequently has been that for some institutions the situation where 'enquiry' was equated with 'research' was problematic as it did not seem to allow for disciplinary research differences. Where the general, non-discipline-specific notion of 'enquiry-based learning' has been conflated with enhanced research-teaching linkages, this has given rise to:

- a degree of ambiguity around what is actually meant among academic staff and students alike, which in turn makes a consensus around aspects of teaching and other forms of 'buy-in' difficult (on the difficulties of consensus see Wright, 2005)
- a growing awareness that different types of enquiry need to be enhanced in particular ways to improve the outcomes of research-teaching linkages (see Spronken-Smith and Walker, 2010).

Ways of thinking, subject-appropriate learning activities, and the cultural context of discipline-specific knowledge generation and dissemination are variable enough to mean that **notions of research-teaching linkages are most effective when they emerge from within the disciplines in institutions, whether these are configured research-intensive or not, rather than when introduced as part of a wide-scale, externally imposed, centralising educational agenda**. The Research-Teaching Linkages Enhancement Theme's focus on disciplines responded to this, producing subject-oriented approaches to inform course and programme redesign for institutions with diverse approaches to the concept of research-teaching linkages.

The difficulty with these observations is that enhancement in such a context is not understood in a uniform way across a given university campus, let alone the whole of the Scottish higher education sector. This should not, however, detract from the argument that the Scottish sector is strong because it is at one and the same time diverse and interdependent. The four pillars of the sector in Scotland (ancients, Robbins institutions, post-1992, and the specialist institutions) operate to form a nation-wide higher education culture in which the value placed on research-mindedness is high, but in which the means to that end is institutionally unique.

With this in mind, there are three additional strands to the Research-Teaching Linkages Enhancement Theme:

- flexible provision, coherence and progression
- opportunities for building research-mindedness through civic engagement
- the changing nature of the research environment.

Flexible provision, coherence and progression

Where students have a wide range of options within a programme, mapping the student pathway through a whole degree in terms of their research attributes becomes an enhancement imperative. Without such a comprehensive mapping, the sense of disciplinary and interdisciplinary coherence, as well as progressively becoming research-minded, is difficult to achieve.

Implementation decisions for enhancing research-teaching linkages should ideally include **staff and student collaboration** in answering the following programme design questions.

- What will the overall structure of the programme be in terms of when to emphasize what and when to include what in relation to developing research-mindedness?
- What will the impact of the answers to the first question be in terms of how intended learning outcomes are drawn up for the whole programme, as well as the component courses of that programme?

- What aspects of the research experience will be embedded within the programme, run alongside the programme, or be totally separate to the programme (but encourage meaning-making back in the programme of study)?
- Should there be common elements that develop progressively through each year of a programme?
- What elements might need to be unique to a given year?
- How will coherence be encouraged both in terms of progression from year to year and meaning-making between different courses in the face of flexibility of provision?

Research-mindedness and civic/community engagement

As an institution's definition of and capability in research becomes more explicitly linked with its civic or community engagement role, there are opportunities for students to learn and engage in the arts of both knowledge transfer and what is termed 'knowledge mobilisation' with respect to their development as researchers. These relationships with a given university's wider environment (be that on a local or an international scale) also expose the students involved to work-related learning.

Knowledge mobilisation is variously defined but has three central elements:

- the creation of knowledge
- the use/application of knowledge
- the processes that connect knowledge creation and use.

As a concept it is distinguished from knowledge translation, which is considered in terms of the translation of knowledge through transmission to knowledge users outside of the original knowledge production context (see further: Hynie, Jensen, Johnny, Wedlock and Phipps, 2011).

As a framework it has thus been used to understand student internships with community organisations in which students build their research capacities and through which community organisations become part producers in new knowledge (see further: Phipps and Shapson, 2009). As a way of thinking about enhanced research-teaching linkages it also ties into ideas of research-mindedness that place a premium on:

- innovative thinking approaches
- managing projects to completion
- developing individual and collective ambition and drive to respond proactively and creatively to perceived questions or problems both in the disciplines and in the world which the disciplines seek to inform.

In these approaches knowledge mobilisation, as an intrinsic aspect of enhanced research-teaching linkages, responds to the perceived need for Scottish graduates to be able to resolve a range of unforeseen as well as foreseen futures (for an Australian perspective on this, see Brew, 2010).

Managing equity of opportunity here is, however, not without its difficulties.

Changing nature of the research environment

Much of the literature on research-teaching linkages relates to a refocusing of teaching away purely from research as content to research as offering, through its processes, an effective environment in which students can develop a range of attributes. As the nature of how research itself is produced adapts the ways of enhancement might themselves need to respond accordingly.

This is particularly the case in two areas:

1   the rising recognition that global and disciplinary dilemmas often need interdisciplinary responses
2   the impact of new technologies on researchers and the networks in which they function.

Impact of global and disciplinary dilemmas on what we teach

One of the areas in which research-teaching linkages have a special place is the transnational reach of research activity. In this sense, scholarly activity, that which informs what we teach, is generating new demands in terms of what needs to be learned by students. In this, interdisciplinary ways of thinking and inter-professional ways of working are coming together in research in processes that could ultimately affect **how as well as what** academics teach. Curriculum questions connected to enhanced research-teaching linkages thus turn to:

How can undergraduate and postgraduate programmes alike be designed to encourage students' learning to work effectively together across disciplinary cultures to solve problems that go beyond the typical boundaries of the traditional subject areas?

Answering this involves changing assessment processes as well as learning opportunities in general. It also involves academics facilitating the students to manage more explicitly the interactions between:

1   the need for discipline specialism, at the same time as
2   acquiring communication approaches that allow for interaction with each other outside of both those specialisms and their original cultural context (this is of particular importance if the stress on internationalising the student body continues).

The changing activities of researchers might provide a model for how academics should think about this in terms of research-teaching linkages. As research clusters are formed which offer cross-disciplinary and cross-geographical boundary working, models of formal and informal learning networks already seen within the world of research may be equally applicable to undergraduate experiences.

Impact of technology on how, where and when we teach

It is noticeable in much of the literature on research-teaching linkages that the impact of technological advances and the role of these in research processes is only glossed over. As technology plays an increasing role in how knowledge comes to be generated, disseminated, and stored, the possibility of more flexibility in how, where and when research-teaching linkages will be made will change. Perhaps of most relevance currently is the need to develop strategic approaches to research-teaching linkages that enable students to use informal research networks officially within their formal education systems - that is, to find ways of linking these networks formally into programme learning experiences (see Bradwell, 2009).

Arguably, this requires academics to share the activity of knowledge creation with others within an online learning community. It does not lessen the need for disciplinary expertise on the part of the academics, but it does require adaptations to how this expertise is used. Such a shift is from research-teaching linkages in which students 'engage at an arm's length with the experts' to research-teaching linkages in which the focus is peer-to peer collaboration and partnership (see Conceição, 2006; Hanson, 2009; Sharpe, Beetham and de Freitas, 2010). At a more pragmatic level, it will involve academics generating opportunities for students to develop attributes in a manner that allows them to act and interact online through activities that resemble similar processes to those in which academics are engaged (see Roach, Blackmore and Dempster, 2001).

In such a situation the core research-teaching linkages curriculum questions become:

- How should we manage processes related to learning in virtual, digital and physical environments in such a way as to improve student engagement in cultivating research-mindedness at the same time as growing digital literacy?
- How can we as teachers compensate for the loss of physical or traditional space in a manner that:
  1 enhances the quality of learning for new generations of students, and
  2 continues to allow for the growth of robust and/or original contributions in and across the disciplines in which they study?

References

Bradwell, P (2009) *The Edgeless University: why higher education must embrace technology*, London: Demos

Brew, A (2010) Imperatives and challenges in integrating teaching and research, *Higher Education Research and Development*, volume 29, issue 2, pp 139-150

Conceição, SCO (2006) Faculty Lived Experiences in the Online Environment, *Adult Education Quarterly*, volume 57, issue 1, pp 26-45

Hanson, J (2009) Displaced but not replaced: the impact of e-learning on academic identities in higher education, *Teaching in Higher Education*, volume 14, issue 5, pp 553-564

Hynie, M, Jensen, K, Johnny, M, Wedlock, J and Phipps, D (2011) Student internships bridge research to real world problems, *Education and Training*, volume 53, issue 1, pp 45-56

Phipps, D and Shapson, S (2009) Knowledge mobilisation builds local research collaborations for social innovation, *Evidence & Policy: A journal of research, debate and practice*, volume 5, issue 3, pp 211-217

Roach, M, Blackmore, P and Dempster, J (2001) Supporting High-Level Learning through Research-Based Methods: A Framework for Course Development, *Innovations in Education and Teaching International*, volume 38, issue 4, pp 369-382

Sharpe, R, Beetham, H, and de Freitas, S (eds.) (2010) *Rethinking Learning for a Digital Age: How Learners are Shaping Their Own Experiences*, Oxon: Routledge

Spronken-Smith, R and Walker, R (2010) Can inquiry-based learning strengthen the links between teaching and disciplinary research? *Studies in Higher Education*, volume 35, issue 6, pp 723-740

Wright, M (2005) Always at Odds?: Congruence in Faculty Beliefs about Teaching at a Research University, *The Journal of Higher Education*, volume 76, number 3, pp 331-353

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