

Key findings

A number of key findings emerged from the Research-Teaching Linkages Enhancement Theme. These included:

- wide ranging good practice and evidence of research-teaching linkages throughout all levels of the undergraduate curriculum
- increasing focus at institutional level and at departmental/school level on explicit statements of graduate attributes
- less evidence of structured approaches to developing research-teaching linkages, both horizontally and vertically across the curriculum
- little evidence of student involvement in, or knowledge of, the process or purpose of linking research and teaching.
- the increasing need for reward and recognition structures that value research-teaching linkages as providing a process-based environment of learning, rather than just privileging research productivity. Ideally, this needs to be reflected more directly in the staff promotions criteria of institutions.

Outputs from the Enhancement Theme

The Research-Teaching Linkages Enhancement Theme produced a number of outputs throughout its lifetime. These include:

- a framing tool for analysis of research-teaching linkages and development of graduate attributes at institution, faculty/department and course/curriculum level
- an audit tool to gain some understanding of the degree of readiness of an institution in terms of its awareness and capacity to embed research-teaching linkages within curricula
- a sector-wide report covering institutional activities in the development of research-teaching linkages and the achievement of 'research-type' graduate attributes
- a series of disciplinary reports covering research-teaching linkages across the nine discipline areas
- a range of presentations/resources.

Recommendations

The Research-Teaching Linkages Enhancement Theme produced a large repository of reports covering nine broad discipline areas and institutional strategic discussions. These reports resulted in a number of broad recommendations:

- consider how to best develop explicitly a structured approach to developing research-type attributes across the curriculum
- develop linkages vertically from year 1 to honours level, as well as horizontally across different courses
- develop and align assessment processes that take cognisance of the learning environment associated with linking research and teaching
- articulate to students the value and activities of the research environment as a learning environment
- engage and inform students about the purpose and potential graduate outcomes arising from research-teaching linkages
- ensure student course evaluations assess awareness of development of research-type attributes
- align more creatively disciplinary research and undergraduate learning
- develop mechanisms to evaluate progress
- integrate developments across the institution to relieve 'initiative fatigue' commented on by many staff, for example, personal development planning, research-teaching linkages, graduate attributes, assessment
- increase status and recognition of first year teaching.

Further information

Full information on the Research-Teaching Linkages Enhancement Theme is available at: www.enhancementthemes.ac.uk/themes/ResearchTeaching

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Research-Teaching Linkages: enhancing graduate attributes

Key findings and recommendations
2009

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Introduction

During the period 2006-2008 the Scottish Higher Education sector, which comprises 20 higher education institutions, considered the topic of enhancing graduate attributes through research-teaching linkages as part of the Scottish Enhancement Themes. The Enhancement Themes aim to enhance the student learning experience in Scottish higher education by identifying specific areas (Themes) for development. The Themes encourage academic and support staff and students to share current good practice and collectively generate ideas and models for innovation in learning and teaching. They are a key element of the Quality framework in Scotland (www.qaa.ac.uk/scotland/qualityframework).

Aim of the Research-Teaching Linkages Enhancement Theme

The purpose of the Enhancement Theme was to identify and share examples of how institutions, through their teaching and learning environment, and their policies and processes, actively develop 'research-type' attributes to graduate level and beyond, through utilising research-type activities. This was achieved through sector-wide debate and discussion informed by international advisers.

A wide view and definition of what is meant by research was adopted, including:

- discovery-based research
- practice/consultancy-led research
- research of local economic significance
- various types of practice-based and applied research, including:
 - performances
 - creative works
 - industrial or professional secondments.

www.enhancementthemes.ac.uk

The Theme had two main strands of work, summarised below:

Institutional strand

- cross-sectoral institutional discussions exploring strategy in respect of research-teaching linkages
- how research activities are used to support the achievement of research-type graduate attributes
- the ways in which institutional strategies are informed by and inform faculty or subject-level developments and ideas
- practices to share across the sector.

Discipline strand

- centred on how disciplinary communities can best ensure that the disciplinary research activities support the student learning experience in ways that can enhance learner achievement of research-type graduate attributes. There were nine cognate discipline areas and individual reports can be accessed at the Enhancement Themes website. A disciplinary overview report summarises the outcomes from all reports.

What do we mean by 'research-type' graduate attributes?

Graduate attributes are the 'skills, knowledge and abilities of university graduates, beyond disciplinary content knowledge, which are applicable to a range of contexts' (Barrie 2004). For the purpose of the Enhancement Theme, research-type graduate attributes are summarised below. An extended list can be found at the Enhancement Themes website.

Graduate attributes

Critical understanding.

An awareness of the provisional nature of knowledge, how knowledge is created, advanced and renewed, and the excitement of changing knowledge.

An ability to identify and analyse problems and issues.

An ability to formulate, evaluate and apply evidence-based solutions and arguments.

Originality and creativity in formulating, evaluating and applying evidence-based solutions and arguments.

The value of research-type graduate attributes

The graduate attributes which derive from well-structured research-teaching linkages are critical for economic growth. In a knowledge society, all graduates will be researchers throughout their careers. They will engage in the production and integration of knowledge, in the derivation of meaning from complexity, and will be prepared through their approaches to learning to adapt to the complexities and uncertainties of the future.

The nine disciplines of the Research-Teaching Linkages Enhancement Theme

Work was conducted across nine discipline areas of the Enhancement Theme:

- Health and Social Care
- Business, Management, Accountancy and Finance
- Physical Sciences
- Arts, Humanities and Social Sciences
- Medicine, Dentistry and Veterinary Medicine
- Life Sciences
- Engineering and the Built Environment
- Information and Mathematical Sciences
- Creative and Cultural Practice

Findings across the disciplines

Work across the nine discipline areas indicated broad similarities in how research and teaching are linked, as well as distinct profiles and approaches.

Central to all disciplinary teaching is a commitment to relate research to student learning through a range of mechanisms. Clear approaches to research as a learning process are evident in the cultural and creative practice disciplines. In the arts, humanities and social sciences, exposure of students to rich and diverse styles, approaches and ways of thinking provide an effective framework for learning. Across the broad range of sciences, problem solving has been adopted in a range of formats to promote development of research-type graduate attributes. In the professional practice based disciplines, although curricula are governed to a large extent by professional bodies, research-type attributes match well to those required for good practice.