

Enhancing practice

Research-Teaching Linkages: enhancing graduate attributes

Business, Management, Accountancy and Finance

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Business, Management, Accountancy and Finance

Professor Mary Malcolm
University of Abertay Dundee

Preface

The approach to quality and standards in higher education (HE) in Scotland is enhancement led and learner centred. It was developed through a partnership of the Scottish Funding Council (SFC), Universities Scotland, the National Union of Students in Scotland (NUS Scotland) and the Quality Assurance Agency for Higher Education (QAA) Scotland. The Higher Education Academy has also joined that partnership. The Enhancement Themes are a key element of a five-part framework, which has been designed to provide an integrated approach to quality assurance and enhancement. The Enhancement Themes support learners and staff at all levels in further improving higher education in Scotland; they draw on developing innovative practice within the UK and internationally. The five elements of the framework are:

- a comprehensive programme of subject-level reviews undertaken by higher education institutions (HEIs) themselves; guidance is published by the SFC (www.sfc.ac.uk)
- enhancement-led institutional review (ELIR), run by QAA Scotland (www.qaa.ac.uk/reviews/ELIR)
- improved forms of public information about quality; guidance is provided by the SFC (www.sfc.ac.uk)
- a greater voice for students in institutional quality systems, supported by a national development service - student participation in quality scotland (sparqs) (www.sparqs.org.uk)
- a national programme of Enhancement Themes aimed at developing and sharing good practice to enhance the student learning experience, facilitated by QAA Scotland (www.enhancementthemes.ac.uk).

The topics for the Enhancement Themes are identified through consultation with the sector and implemented by steering committees whose members are drawn from the sector and the student body. The steering committees have the task of establishing a programme of development activities, which draw on national and international good practice. Publications emerging from each Theme are intended to provide important reference points for HEIs in the ongoing strategic enhancement of their teaching and learning provision. Full details of each Theme, its steering committee, the range of research and development activities as well as the outcomes are published on the Enhancement Themes website (www.enhancementthemes.ac.uk).

To further support the implementation and embedding of a quality enhancement culture within the sector - including taking forward the outcomes of the Enhancement Themes - an overarching committee, the Scottish Higher Education Enhancement Committee (SHEEC), chaired by Professor Kenneth Miller, Vice-Principal, University of Strathclyde, has the important dual role of supporting the overall approach of the Enhancement Themes, including the five-year rolling plan, as well as institutional enhancement strategies and management of quality. SHEEC, working with the individual topic-based Enhancement Themes' steering committees, will continue to provide a powerful vehicle for progressing the enhancement-led approach to quality and standards in Scottish higher education.



Norman Sharp
Director, QAA Scotland

Contents

	Foreword	2
1	Executive summary	3
2	Introduction	5
3	Graduate attributes and the role of research	7
3.1	Enhancing teaching through Knowledge Transfer Partnerships (KTP)	7
3.2	Examining the development of management theory	9
3.3	Graduate attributes associated with research-teaching links in BMAF	11
3.4	Applying researched practice to the development of research skills	14
3.5	Combining generic skills and specialist knowledge to develop research practice	16
3.6	Preparing for consultancy research with 'live' case studies	17
4	Managing curriculum design and delivery	20
4.1	Stimulating research interest and practising research process	22
4.2	Making research relevant	24
4.3	Attributes as curriculum outcomes and processes	25
4.4	Engaging learners in a research specialism	27
4.5	Teaching as an active researcher	29
5	A profiling framework for curriculum design and management	31
5.1	Models and orientations of business activity	31
5.2	Research-teaching links within the curriculum: drivers and impacts	32
5.3	Curriculum outcomes	34
5.4	Profiling framework for enhancing the research-teaching link	35
6	Recommendations	37
6.1	Enhancing teaching practice	37
6.2	Enhancing curriculum design and management	37
6.3	Enhancing the future role of research in BMAF provision	38
7	References	40
8	Appendix: List of institutions surveyed/interviewed	43
9	Acknowledgements	44

Foreword

This Enhancement Themes project - Research-Teaching Linkages: enhancing graduate attributes - has over the last two years asked institutions, departments, faculties, disciplines, staff and students to reflect on the intended outcomes of HE, and has examined how links between research and teaching can help develop 'research-type' graduate attributes. The 'attributes' in question are the high-level generic attributes that are necessary to allow our graduates to contribute to and thrive in a super-complex and uncertain future where the ability to question, collate, present and make judgements, quite often with limited or unknown information, is increasingly important; key attributes, it is argued, that are necessary for our graduates to contribute effectively to Scotland's civic, cultural and economic future prosperity.

The Enhancement Theme adopted a broad, inclusive definition of research to embrace practice/consultancy-led research; research of local economic significance; contributions to the work of associated research institutes or other universities; and various types of practice-based and applied research including performances, creative works and industrial or professional secondments.

The Enhancement Themes comprise one sector-wide project and nine disciplinary projects: Physical sciences; Information and mathematical sciences; Arts, humanities and social sciences; Health and social care; Business and management; Life sciences; Creative and cultural practice; Medicine, dentistry and veterinary medicine; and Engineering and the built environment. The aim of the projects was to identify, share and build on good and innovative practice in utilising research-teaching linkages to enhance the achievement of graduate attributes at the subject level. The sector-wide project comprised an ongoing discussion within and between Higher Education Institutions, involving staff and students reflecting on and exploring research-teaching linkages, how they can be structured and developed to achieve 'research-type' attributes, and how students are made aware of the nature and purpose of these in order to fully articulate and understand their achievements as graduates.

Research-Teaching Linkages: enhancing graduate attributes has provided the sector with a focus for reflection on the nature and outcomes of HE - along with the opportunity to develop a rich array of resources and supportive networks to add to the student learning experience and enable our graduates to contribute effectively to Scotland's future.

Professor Andrea Nolan

Chair, Research-Teaching Linkages: enhancing graduate attributes
Vice-Principal Learning and Teaching, University of Glasgow

I Executive summary

The role of research in Business, Management, Accountancy and Finance (BMAF) teaching and learning is critical to the development of graduate attributes related to individual careers and regional economic futures within a knowledge economy.

Both the evidence base generated through research, and an approach to decision-making in particular contexts that is based on a rigorous analysis of available evidence, are critical to the BMAF learning experience, and the development of graduate attributes associated with knowledge development and enquiry. The importance of learner engagement in research projects (with 'research' defined broadly, to include consultancy activities) is also generally recognised as a significant factor in developing employable graduates.

'Soft skills' associated with collaborative, investigative and strategic organisational decision-making are important to the development of high-level graduate attributes, and engagement with research process provides an invaluable context for that development. Issues of ethical and professional practice also arise through contextualised practice in a range of research-related contexts.

This report describes in detail these key characteristics and priorities of research-teaching links within BMAF and presents a range of possible approaches to sustaining and enhancing the research-teaching link, at the levels of individual academic practice, module/unit development and delivery, and programme and subject management. Its findings are based on a series of consultations with deans and heads of department, programme managers and lecturers in BMAF subjects, contextualized within frameworks provided by the existing and emerging literature on research-teaching links in higher education more generally.

The report concludes that the research-teaching link is strong across the BMAF subjects, and broad in application. Three factors interrelate to generate a range of implementations within a broadly agreed primary role for provision: that of developing graduates with attributes directly related to their planned careers as practitioners within a knowledge economy. These three factors are:

- the definition of research (that is, the range of outputs and processes it includes)
- resources (that is, the availability of a research-base)
- curriculum (that is, the role of provision and the disciplinary, organisational and external [professional] influences on the design and management of curricula).

The role of formal academic research in teaching and learning practice varies across programmes, departments and institutions, although the inclusion of formal research training in developing an awareness of the requirement for analytical rigour and evidenced argument is agreed to be important. But, the focus on research as the basis of current practice, and as the basis of determining and developing individual and organisational practice, is particularly strong across BMAF subjects.

As a basis for developing evidence-based practice as well as advancing the BMAF knowledge base, research is broadly defined to include direct investigation of current practice as well as the examination and development of theory, and of the principles on which practice is more broadly based. Reasons for the particular importance ascribed to

applied research within teaching and learning relate directly to the challenges of schools in their core role at the interface between institution and business, including:

- learner interest in, and commitment to, developing skills and practices associated with non-academic target careers
- a preference for applied research projects as a vehicle for modelling and practising processes aimed at developing the graduate skills and attributes that employers value
- questions about the value in practice of a traditional research approach which does not deal with the final part of the knowledge puzzle, that is, establishing 'what works' in practice
- the greater availability of applied research project opportunities for learners at a range of levels (particularly honours and master's levels)
- the availability and accessibility of the applied research model as a reference point throughout the school's academic community, where resource constraints and/or institution-level research strategies that target niche research strengths not including the BMAF subjects may limit the impact of 'pure' academic research on provision
- practical difficulties in resourcing large modules/units based on individual and often highly specialist academic research
- increased opportunity for learners to generate and progress applied research projects that link with the interests and research-focused activities of academic staff.

The challenges of designing research into the curriculum are structural rather than conceptual, and relate to the management of multiple and often multidisciplinary contributions to a consistently developmental approach to the development of graduate attributes. At the end of this report, a profiling framework is provided to support the processes of evaluating and enhancing practice in linking research and teaching within and across BMAF subjects at various levels of provision management (that is, department, programme, subject and module/unit).

Due to this focus (within BMAF subjects) on graduate attributes directly and immediately applicable to a knowledge economy, the case studies of research-teaching practice, the profiling framework and the recommendations for enhancing research-teaching links are likely to be of interest and use in other subjects seeking to strengthen the explicit links between the profile of their graduates and their futures within a knowledge economy.

2 Introduction

It is generally accepted that the activities of teaching and research operate within increasingly separate economies (for example, Delanty, 1998 and Naidoo, 2005). Career advancement for individual academics is still largely achieved within a research economy, participation in which may divert attention and effort from an enhancement-led approach to teaching and learning (Starkey and Tiratsoo, 2007, p 115). At the same time, university teaching operates in a higher education market in which there is an increasing emphasis on industry and career-specific outcomes (for example, Neave, 2006, p 64).

The extent to which the policy and funding drivers that produce this divergence impact on the work of particular departments and subject groups within BMAF will vary according to the strategic response of individual institutions to their dependence on particular funding streams. The development of niche research strategies (Hazelkorn, 2005), for example, may or may not support the development of research capacity in departments whose primary institutional role may be that of delivering income-generating teaching of various types. However, for the Business Schools examined by Starkey and Tiratsoo (2007), the challenge of meeting demands for academic research, consultancy and teaching has all but overwhelmed their collective capacity to deliver quality in any one sphere.

In this context, integrating the activities of teaching and research more effectively offers a key to enhancing the quality of each in turn, within the academic lives of individual staff members and the learning experience of students, as well as in the reputational development of departments and their activities in each area.

This project focuses on the potential for enhancement of teaching and learning through the integration of teaching and research. It examines current issues in the research-teaching nexus in BMAF, and establishes a significant pedagogic basis for sustaining and enhancing the link between research and teaching, at all levels in the contemporary provision of BMAF subjects. Evidence of current practice is drawn from a series of seven interviews with deans and heads of departments/schools (including those with specific subject responsibility as well as heads of business schools more generally), and interview and written responses provided by six associate deans/heads of teaching and learning, as well as review of printed and web-based information relevant to BMAF provision in Scotland. A list of participating institutions is provided in the Appendix. Approaches to enhancing the research-teaching link are considered, and case studies of current practice, provided by academics from various subject specialisms and institutions are given, illustrating a range of ways in which research can be embedded in teaching practice.

A profiling framework is also developed, by applying previously published frameworks to the specific circumstances of BMAF practice and provision, for use in evaluating the coverage and consistency of research-teaching links. It offers programme teams, subject groups, and individual module/unit leaders a structured approach to designing and/or evaluating research within the curriculum by examining practice, planned or current, in terms of key aspects of the research-teaching link emerging from current literature and BMAF practice. Most importantly, it offers a means by which individual practice, and the

contribution of individual modules/units, can be evaluated in the context of programme-level aims and outcomes, and departmental strengths and strategies, to ensure that practice across a selected unit of analysis is consistent, and its contribution to delivering and shaping provision maximized. Items included in the profiling tool are also incorporated throughout the report, as discussion points, to provide opportunities for individuals and teams to reflect on their own current and planned practice in light of issues raised and discussed. A summary, and recommendations for linking research and teaching in BMAF, conclude this report, along with suggestions for further examination of current and potential practice in developing the research-teaching nexus.

3 Graduate attributes and the role of research

The fields of business and management on the one hand, and of accountancy and finance on the other¹, can be classified as 'professional' subjects, in so far as they are directed towards practice that has a specific purpose, within which knowledge is contingent, its value and application dependent on circumstance and on the skills and competencies of the individual professional (Squires, 2005). It is therefore generally recognized that BMAF subjects must maintain a level of currency appropriate to this professional orientation, if they are to provide significant career opportunities to graduates. This places a particular responsibility on business schools² to maintain strong and dynamic links with the world of professional practice (see, for example, case study 1). They may do so in various ways: disseminating their research to practitioners; engaging practitioners in the delivery of programmes and thereby the development of next-generation practitioners; and engaging learners in the world of practice and its challenges (for example, in projects and placements) throughout their studies.

3.1 Enhancing teaching through KTP

Case study 1: Enhancing teaching through Knowledge Transfer Partnerships (KTP)

Institution: University of the West of Scotland
 Subject: Business and management
 Level: Various

Summary

Knowledge Transfer Partnerships (KTP) enable the transfer of knowledge between businesses and universities, colleges, or research organisations. They are partly Government-funded and aim to strengthen the productivity, competitiveness, wealth creation and economic performance of the UK. The KTP programme has also provided an excellent opportunity for academic staff to integrate the research aspects of their role with their teaching activities, enhancing the relevance of teaching and thereby also the motivation and skills of students.

Background

Involvement in KTP projects with a range of diverse companies in both the private and social economy sectors provides academic staff with regular opportunities for

¹ Disciplinary differences between accountancy and business/management, with finance varying in position(s) between the two, are such that the four component subject areas within this report will be referred to in various combinations throughout this report, reflecting the particular similarities and distinctions at issue.

² The terms 'school' and 'department' are used, largely interchangeably, throughout this report, reflecting variation in institutions' structures, in which, for example, accountancy and finance provision may or may not be located within a 'business school', and economics may be co-located with one or more BMAF subjects.

engagement with senior management over a sustained period. Ongoing and regular access to senior management in organisations is formally recorded in meeting minutes, contemporaneous notes, presentations and formal reports.

Process

Case study materials can be developed based on this information, and the currency and relevance of learning materials enhanced significantly as a result. Students place particular value on the availability of information related to local organisations. But it is also the case that the materials developed for teaching and learning combine organisational information from various functions and units, and thus apply academic content in a more integrated format than is necessarily possible within formal curriculum and delivery structures.

At the same time, KTP projects provide learner opportunities for highly relevant and challenging project-based research activity. These opportunities are especially valuable because they are based on regular contact with the firms involved, and this facilitates collaboration in drafting the scope of the research activity. This avoids research activity that is either too mundane to be appropriately developmental or beyond students' current skills and knowledge.

The success of this activity is evidenced in the advanced knowledge of business and management practice gained by students who benefit from KTP-based learning materials, and the additional research skills and knowledge acquired by those who are directly engaged with projects and the production of formal client reports. This, in turn, has led to some graduates going on to work as Associates on KTP projects, in turn generating more project work for subsequent cohorts of students.

Outcomes

Student feedback has demonstrated a high level of satisfaction with the enhanced level of reference, within teaching materials, to the challenges and actions of local firms, and the opportunity to maintain interest in the development of particular projects and firms over time.

Further information

Further information is available from James B Johnston, Declan Bannon and Charles Burnell, email: jamesb.johnston@uws.ac.uk.

The emphasis on high-level graduate employability in BMAF informs the link between research and teaching, through research activity that is demonstrably focused on contemporary practice, through the engagement of learners in applied research, and through an emphasis throughout the curriculum on the development of an evidential basis on which professional practice, in a range of contexts, can be established and developed. This focus on application and practice, confirmed by Brew as a feature of research-teaching links in BMAF subjects (Brew, 2006, p 42), is linked to the broader Humboldtian tradition of research, and research-informed teaching, as processes of disinterested enquiry, through recognition of the requirement for critical professionals, capable of shaping as well as acting within a 'super-complex' future (Barnett, 2000). See, for example, case study 2.

3.2 The development of management theory

Case study 2: Examining the development of management theory

Institution: University of Abertay Dundee

Subject: Management

Level: SCQF 9

Summary

This case study models the practice of linking teaching and research, within conventional taught subject modules. The module aims and learning outcomes focus on confrontation with, and very guided application of, research skills in a bounded context. A key purpose is to stimulate students' interest in undertaking their own research. This case study outlines how the combination of a case study, relevant academic research and the tutor's own research and research data can be packaged as a sequence of learning activities inside a standard module devoted to the changing nature of contemporary work organisations and employment relations. The vehicle for this exercise is the psychological contract.

Background

The psychological contract is a theoretical framework with a rich research literature, primarily quantitative but also qualitative. The concept has a clearly sequenced research history, with stages and shifts in focus reasonably straightforward to communicate and discuss with students. Its popularity, its 'lay person appeal' and its contested relevance make it a suitable vehicle for students to examine the changing dynamics of the contemporary employment relationship, and to relate any general observations to their own work experience, either past or current.

The framework thus lends itself to discussion of the evolution of theoretical concepts through research, and to the practical application of a (research-based) framework to students' own experience. From that basis, the framework also lends itself to stimulating students' own interest in conducting some 'hands on' research themselves, in however a modest way.

A set of linked learning activities can be developed to exploit these opportunities. These learning activities are initiated through lectures that introduce the concept, its evolving history, and the accentuation of ever-increasing diversity in typologies, increased focus on more diverse variables and the move towards ever greater differentiation. This is the springboard from which students are encouraged to recognise a 'need for further research'. Lectures provide the basis for tutorials, which consist of small-group case study analysis, resulting in a formal presentation, feedback and action plans for further research.

Process

Stage 1

Lectures 1 and 2 introduce the concept of the psychological contract, its evolving history and ever-increasing differentiation of perspective; examine the main research approaches (quantitative, survey), the rationale for these and their limitations.

In tutorial 1, students work in small groups of four to five and conduct a peer-learning check to establish clarity of context. Small groups are then tasked to pool their work experience to define their psychological contracts. They are briefed to identify both similarity and diversity, and to focus on how they believe their psychological contract was formed.

The purposes of this task are as follows:

- to identify gaps in understanding of the nature and purpose of the concept
- to reflect on work experience and relate a research-driven theoretical concept to that experience - this should illustrate the practical utility of organisational research in a fairly 'personalised' way
- to home in on key dimensions of the psychological contract as presented in lectures, as students are guided, through tutor feedback, to recognise contingencies, but also opportunity for generalisation, and, more specifically, focus on how perception forms the contract
- to present findings formally (the role of the tutor as facilitator is vital here as their knowledge advantage is required to draw out the main learning points).

Stage 2

For tutorial 2, student preparation is required, as follows:

- familiarisation with a case study
- familiarisation with a research article identified by the tutor.

The focus of this tutorial is the analysis of a case study written by the tutor describing (with some elaboration and disguise) a real organisation in which she has conducted research. The case study brief contains the relevant detail under the heading organisational change and transformation, and also includes qualitative data gathered by the researcher/tutor. It is supported by the research article to the extent that both feature 'typical' contemporary organisations in transition from manufacturing to service base.

The process of case study analysis is guided and requires:

- identification of psychological contract issues from 'primary data evidence' in the case study text, with reference also to research as introduced in lectures
- organisation of these issues around the framework; approach and conceptual topics presented in the research article; identification of best on-site research method to explore critical issues further; formulation of a practical action plan for the HR director; and the formulation of research questions for a consultant researcher the case company is likely to appoint.

Formal presentations are delivered by spokespeople for each group, and the tutor presents feedback, drawing out links between the case and research as required.

Stage 3

The tutor summarises the class output and presents their own research findings to the class. The tutor may include provocative hypotheses or any other cues to prompt audience reaction and critique.

Outcomes

The learning outcomes achieved through this sequence of activities are as follows:

- an understanding that research is not disconnected from the experience/organisational contexts with which students are familiar
- an understanding that research is evolving, as frameworks are explored in changing contexts
- an understanding that research requires the interpretation of primary data
- an ability to link empirical reality and research, and vice versa
- an ability to interpret organisational reality through a research-led lens
- practice in developing further research questions.

Further information

Further information can be obtained from Dr Sabine Hotho (Senior Lecturer in Management and Communication), Dundee Business School, University of Abertay Dundee, email: s.hotho@abertay.ac.uk.

3.3 Graduate attributes associated with research-teaching links in BMAF

Understandings of the particular attributes promoted by research-teaching links are relatively consistent across the surveyed BMAF communities, and linked closely to the value of current evidence in fast-changing fields of practice, and the engagement of learners in the process and practices of research. A range of attributes consistently associated with the implementation of a research-teaching link cohere around notions of research as a basis for informed practice, research as knowledge development, and research as enquiry, and are listed in figure 1.

Graduate attributes associated with research-teaching links in BMAF
<p>Research as the basis of practice:</p> <ul style="list-style-type: none"> ● a knowledge of professional practice that is current and underpinned by evidence.
<p>Research as knowledge development:</p> <ul style="list-style-type: none"> ● the ability to evaluate and synthesise arguments and evidence ● an awareness of the limits to argument (for example, assumptions) and conclusions (for example, generalisability) ● practical understanding of formal research methods ● the ability to analyse and manipulate data of various types and from a range of sources ● the interpretation of quantitative and qualitative data to construct models and hypotheses amenable to testing and verification.

Research as enquiry:

- the ability to generate, progress and deliver a research project
- project management skills: Self-management, initiative, perseverance
- the capacity to address and respond to a brief
- application of creativity and knowledge to structured and unstructured problems
- understanding of ethical research practice in a professional context.

Figure 1: Graduate attributes associated with the research-teaching link in BMAF

The attributes defined in relation to research-teaching links in BMAF correspond well with those identified for consideration within the research-teaching enhancement project. The one significant point of divergence relates to the definition of specific postgraduate-level attributes. While these are associated strongly with postgraduate programmes in accountancy and finance and in academically-focused postgraduate programmes in business and management, they are also developed, albeit to different levels, at undergraduate level (and in non-specialist postgraduate programmes). The attributes identified for BMAF are related to those proposed as generally applicable to higher education, within the research-teaching enhancement theme in figure 2.

Research as the basis of practice		
Enhancement theme attributes (undergraduate)	Enhancement attributes (postgraduate)	BMAF graduate attributes
critical understanding informed by current developments in the subject		a knowledge of professional practice that is current and underpinned by evidence
Research as knowledge development		
Enhancement attributes (undergraduate)	Enhancement attributes (postgraduate)	BMAF graduate attributes
an awareness of the provisional nature of knowledge, how knowledge is created, advanced and renewed, and the excitement of changing knowledge an ability to apply a systematic and critical assessment of complex problems and issues an ability to deploy techniques of analysis and enquiry (familiarity with advanced techniques and skills)	conceptual understanding that enables critical evaluation of current research and advanced scholarship	the ability to evaluate and synthesise arguments and evidence practical understanding of formal research methods the ability to analyse and manipulate data of various types and from a range of sources the interpretation of quantitative and qualitative data to construct models and hypotheses amenable to testing and verification

Research as a project		
Enhancement attributes (undergraduate)	Enhancement attributes (postgraduate)	BMAF graduate attributes
an ability to identify and analyse problems and issues, and to formulate, evaluate and apply evidence-based solutions and arguments originality and creativity in formulating, evaluating and applying evidence-based solutions and arguments understanding of the need for a high level of ethics, social, cultural, environmental and wider professional conduct	originality in the application of knowledge the ability to deal with complex issues and make sound judgements in the absence of complete data	the ability to generate, progress and deliver a research project project management skills: self-management, initiative, perseverance the capacity to address and respond to a brief application of creativity and knowledge to structured and unstructured problems understanding of ethical research practice in a professional context

Figure 2: Mapping of BMAF graduate attributes onto research-teaching project attributes

This focus on research-related attributes associated with enquiry process and evidence-based practice is critical to the longevity of graduate skills in conditions of continuous and rapid change in which the acquisition and practice of tools and frameworks over the course of a programme or stage might otherwise represent a short-term approach to delivering contemporary knowledge (Edmunds and Richardson, 2005). Furthermore, research engagement provides a context for the development of a range of additional skills, related to leadership, management, team-working and communication (see IoD, 2007), at various study stages (see, for example, case study 3), and appropriate to more complex and contingent circumstances than is otherwise practicable.

There is, therefore, an emphasis, at undergraduate level, on the application of knowledge to contemporary practice (see, for example, case studies 4 and 5). At postgraduate level, a distinction must be drawn between programmes aimed at the development of practising managers, and those designed with a primarily academic focus, and, in line with QAA subject benchmark statements³, between those offered to different learner cohorts. Within MBA programmes, which are designed for experienced managers from a range of subject specialisms, there may be a significant requirement to 'cover the basics' in the various subjects that constitute 'business administration', while more specialist master's level programmes (for example, MLitt and some MSc programmes) assume a relatively advanced prior understanding of research fields, and may specify outcomes more closely associated with advanced academic research.

³ Subject benchmark statements published by QAA can be accessed at www.qaa.ac.uk/academicinfrastructure/benchmark

3.4 Applying researched practice to the development of research skills

Case study 3: Applying researched practice to the development of research skills

Institution: Aberdeen Business School, The Robert Gordon University

Subject: Business

Level: First year undergraduate

Background

Professional Skills (BS1107) is a foundation module studied by first-year undergraduate business students each year. It introduces study skills and transferable skills with research application, including presentation, project management and team-working skills, and time management techniques.

Each tutorial group is divided up into teams of between four and six students and these teams are tasked with preparing an assessed presentation, as a team effort. Presentations take place mid semester and form 25 per cent of the overall module assessment. Tutorials tend to be focused on developing the academic themes discussed in the accompanying lectures. Comparatively little tutorial time is therefore allocated to helping students work as a team and plan their presentations and an initial coaching session is therefore particularly useful, with coaching offering 'a collaborative solution-focused, results-orientated and systematic process in which the coach facilitates the enhancement of work performance, life experience, self-directed learning and personal growth of the coachee' (Anthony Grant, University of Sydney, 2000, from www.associationforcoaching.com, accessed 07/01/2008).

Process

The objective of the initial coaching session was to facilitate each team's organisation of meetings, planning time and deadlines, and their consideration of what needed to be achieved, and by whom in preparation for the formal presentation.

Standard coaching techniques were used. Students were asked to visualise a timeline, starting at the present day and finishing one week after the presentation (for reflection). A note taker was appointed, and the other team members identified incremental steps in preparing the presentation, discussing what needed to be done, by when and synchronising calendars to schedule meetings. Objectives for each of those meetings were identified, as was location. The role of the coach here was to listen actively, to summarise the discussion and keep the team focused, asking appropriate questions and allowing team members the time to think through and agree their responses, but emphatically not offering explicit advice or solutions. By the close of session, each team had developed its own unique plan.

A second coaching session was offered to, and taken up by, all teams, with the objective of reflecting on the presentation and team experience and responding to formal feedback on their performance. (Reflective practice forms part of the personal development component of this module.)

Outcomes

This project has applied research findings on coaching to teaching practice in turn informing that research, and developing students' research-related skills of project planning and management.

Coincident with these sessions, students completed a Thinking Styles questionnaire and there is currently a proposal to continue coaching in the second semester, offering individual, and continuing, follow-up to the output of these questionnaire results. A second development of this initial project will concentrate on individual coaching for international postgraduate students.

Further information

Further information can be obtained from Linda Jenkins (Lecturer and Learning Enhancement Coordinator), Aberdeen Business School, email: l.r.jenkins@rgu.ac.uk.

However, even in those departments and programmes that define parts of their provision most explicitly and consistently in relation to academic research fields, it is acknowledged that the community of practice for which the majority of teaching activity in BMAF subjects is preparing its learners is that of professional practice. In addition, for graduates whose primary impact is likely to be on the knowledge economy, and the world of business or related professional practice, the learning environment is productively and necessarily shaped by a range of applied formats as well as formal academic research.

Discussion point 1

What are the key attributes of graduates in your department/programme/subject/module?

Do they relate primarily to the development of practitioners within a knowledge economy, or members of a scholarly community?

How closely do the identified attributes relate to the research-teaching attributes identified in figure 1?

Does the total attribute set position research-related attributes as additional to, or embedded within, other outcomes and attributes within the curriculum?

What do the answers to the questions above suggest is the importance of attributes linked to research, relative to other generic and specialist attributes?

3.5 Combining generic skills and specialist knowledge to develop research practice

Case study 4: Combining generic skills and specialist knowledge to develop research practice

Institution: University of St Andrews

Subject: Management

Level: Undergraduate (honours)

Summary

Engaging students in live consultancy work within the voluntary sector encouraged them to apply their knowledge of theory and management practice to the specific conditions and requirements of a particular sector. It also allowed them to examine how practising managers construct links between management research and organisational practice, and to develop, within a specialist context, the generically applicable research skills of analysis, application and presentation.

Background

In 2005-06 the School of Management's module Managing Voluntary Organisations was the winner of a SALTIRE award that provided funding to support an initiative in which senior honours students were given the opportunity to engage in 'live consultancies' of local voluntary organisations.

This enabled students to examine the relation between theory and practice through first-hand research of the particular challenges of managing organisations in the voluntary sector. This not only enhanced their intellectual and practical skills through applied research, but also developed their specialist knowledge of the UK voluntary sector. It also enabled students to understand the similarities and differences between voluntary organisations and organisations in the commercial and public sectors.

Process

As preparation for the live consultancy the module engaged students in critical reading of the academic literature underpinning studies in the management of voluntary organisations. Students were also encouraged to read articles written by practising managers and published in leading voluntary sector management magazines. Senior managers and volunteers, selected for their ability to synthesise academic theory and practice, were also invited to speak and respond to student questions, offering first-hand accounts of how academic skills and understanding can be applied to the resolution of practical problems and the exploitation of strategic opportunities.

The live consultancy itself involved students spending one day on placement with their allocated voluntary organisations. During their placement, they engaged directly with executive and operational level staff and volunteers. They were also given access to in-house literature such as strategic plans, annual reports and accounts.

After this, students presented a strategic analysis of their particular organisation, through a summatively-assessed written report and a formatively-assessed oral presentation made to executive managers.

Outcomes

Learner response to this initiative has been extremely positive, with students describing the experience as 'a great opportunity...to relate certain aspects of management theory to practice', and 'to put into practice theory learnt not only in this module, but also in other classes such as Organisational Behaviour', in a placement that demonstrated 'how organisations are run in real life settings and not through text book theory'.

Further information

Further information (including a logbook detailing how the live consultancy was developed and implemented) is available at:

www.st-andrews.ac.uk/management/undergraduate/MN4266index.shtml

Contact details: Dr Eleanor Burt (Senior Lecturer), The School of Management, University of St Andrews, email: eb19@st-andrews.ac.uk.

It is, perhaps, this dual focus that positions business schools simultaneously in two lines of critical fire, the first claiming that business school research is 'too abstract and irrelevant to the needs of practising managers' identified by Ivory et al (2006, p 8), the second that its focus on applied approaches to issues in business and management practice reduces the competitive standing of business and management in particular, within formal research (for example, DfES, 2006, p 8 and CIHE, 2006, p 13).

3.6 Preparing for consultancy research with 'live' case studies

Case study 5: Preparing for consultancy research with 'live' case studies

Institution: Glasgow Caledonian University

Subject: Strategic Information Management

Level: Postgraduate (taught)

Summary

The primary aim of the PgD/MSc Management of Information Systems (MIS) is to prepare individuals to be operationally effective in their specialist subject area, as contemporary managers of information systems.

The Strategic Information Management module precedes the MSc applied consultancy project phase, which focuses on the links between student learning, applying theory and consultancy activity, and the interplay between theory and practice. The module is designed to equip students with the conceptual, theoretical and practical skills required to support and inform modern organisations in responding to new business/organisational opportunities available through the strategic, tactical and operational exploitation of information, systems and information systems.

Academics' engagement in consultancy is often perceived to inform and enrich the curricula and students' learning, and help students to achieve their personal and professional goals. Consultancy engagement, and the relationships and insights that emerge, can add value to students' learning, in this case providing an opportunity to develop, sharpen and enhance key graduate skills of problem formulation, engagement with key theoretical concepts and core constructs investigated, and augment their

understanding of how theory, practice and policy all intertwine and interplay - all set within a real, live, complex and changing environment.

Background

Within the applied consultancy project, students gain significant and executive-level access to investigate an emergent/existing problem faced by the organisation, in their role as professional consultants tasked with diagnosing issues and designing practicable solutions for the consideration of senior management. The outcomes of this investigation are presented in the style of a consultancy report that also meets university requirements for the award of an MSc MIS, for those students who undertake this mechanism for their learning as opposed to a more traditional thesis.

To help prepare students who might wish to undertake an applied consultancy project, the Strategic Information Management coursework allows students to 'role play' the consultancy process with an organisation. The module is delivered through formal lectures and problem-based enquiry activities, along with supplementary reading, opportunities for personal reflection, online e-activities and student poster sessions.

In addition to the Strategic Information Management module, students undertake a Research Methods and Information Management Consultancy module, which develops students' understanding of, and competence in applying, research skills, approaches and frameworks (philosophies, methodologies and methods), and their knowledge of key consultancy frameworks.

Process

A Strategic Information Management 'role-play' problem-based case study task was set within the National Health Service (NHS) Ayrshire and Arran's e-health and knowledge management department. This consultancy scenario, offered to enhance students' learning, was only possible due to an ongoing relationship between the academics and NHS Ayrshire and Arran, which has involved consultancy, knowledge transfer and social engagement. The organisation is seeking innovative ways of developing e-health and knowledge management to enhance the service offered to patients. This complex and demanding organisational context provided students with a challenging and realistic assignment.

Students acted as consultants working for a well-respected global company specialising in providing Information Technology/Information Systems (IT/IS) consulting services for a range of both public and private sector organisations. Their client was the Director of E-Health and Knowledge Management of NHS Ayrshire and Arran Health Board. The consultancy brief was to evaluate NHS Ayrshire and Arran's Information Management and Technology Strategy (IM&T Strategy) in terms of both its process and outcomes, and to highlight ways in which the strategy could be developed and enhanced for the future.

This brief required the students to reflect on the issues surrounding strategic information management in healthcare by evaluating NHS Ayrshire and Arran's IM&T Strategy. They considered the strategy in terms of its 'fitness for purpose' given the organisation's strategic goals and targets, some of which are set locally and others nationally. All corporate material was provided by NHS Ayrshire and Arran, which included strategy documents, the policy and strategic direction for NHS Ayrshire and Arran and access to operational and capital budgets.

The students were required by the 'consultancy brief' to develop a presentation to be pitched at executive level. Students also prepared a supporting written narrative account explaining and justifying their thinking, and their use and application of theory. This narrative had to give a robust defence and justification of their evaluation of the strategy, including their decisions and recommendations regarding the strategic alignment of existing technologies to the IM&T Strategy, and any suggestions made on the introduction of a range of 'newer' technologies to improve the delivery of health care. Two students were selected to present their work to the client, with the rest of the cohort acting as an informed audience, to reflect on those students' insights and Mr Wright's views, comments and feedback.

Outcomes

This challenge provided students with the opportunity to develop a range of transferable skills, in particular their reflective, analytical, and problem-solving skills, their evaluative and commercial/academic writing and presentation skills, and their ability to operate within a complex, highly political and sensitive area such as the NHS.

Bringing this 'good healthy dose of reality' to student work has been one aspect of an ongoing, mutually beneficial relationship between academics in the Division of Strategy, Innovation and Enterprise and practitioners at NHS Ayrshire and Arran, with both parties working in partnership, and in collaboration, on a range of initiatives. Future students will also benefit as the Strategic Information Management teaching team are hoping to repeat the format of the coursework, especially given the recently published new E-health strategy for the whole of the NHS in the UK.

Further information

Further information can be obtained from Dr Kevin Grant (Senior Lecturer) and Dr Peter Duncan (Lecturer), Division of Strategy, Innovation and Enterprise (SIE), Caledonian Business School, Glasgow Caledonian University, email: kevin.grant@gcal.ac.uk and p.b.duncan@gcal.ac.uk.

Among academics and managers, while the instrumentalism manifest in the EFMD Corporate University Learning Group's assertion that 'there is little space today for learning that will never have an application in the workplace' (EFMD, 2001 p 49) does not hold, there is, nonetheless, significant overall agreement on the reputational and pedagogic value of research undertaken to enhance professional practice and organisational performance within a knowledge economy. Thus, the definition of research across BMAF subjects is broad, including the investigation of issues related directly to the enhancement of business, management and professional practice, as well as of those raised by the contemporary published knowledge base, and is fundamental to all areas and levels of provision.

Discussion point 2

What constitutes an appropriate definition of 'research' in relation to the graduate attributes you have already defined?

4 Managing curriculum design and delivery

Evidence of practice in the BMAF subjects indicates that generic attributes are a learner experience. None of the treatments indicated by Barrie (see figure 4, p 26) are definitively indicated or precluded by that practice. Across departments, programmes and subjects, there is evidence of all four implementations suggested by Barrie's framework, with the proviso that there is no indication that approaches to curriculum structure and composition that position the development of attributes as 'additional elements' reflect the relative unimportance of graduate attributes to either the research-teaching link or to curricula more generally.

Discussion point 3

What guidance on linking research and teaching in your department is offered by institutional and departmental strategies and policies?

Additional drivers and constraints within the curriculum, its purposes, its approval and accreditation, and/or its resourcing, are more relevant to structural outcomes, exerting significant impact on the shape and character of curriculum. Similarly, all of the designs identified by Griffiths (2004) and expanded by Healey (2005), are evidenced in BMAF practice (see figure 3).

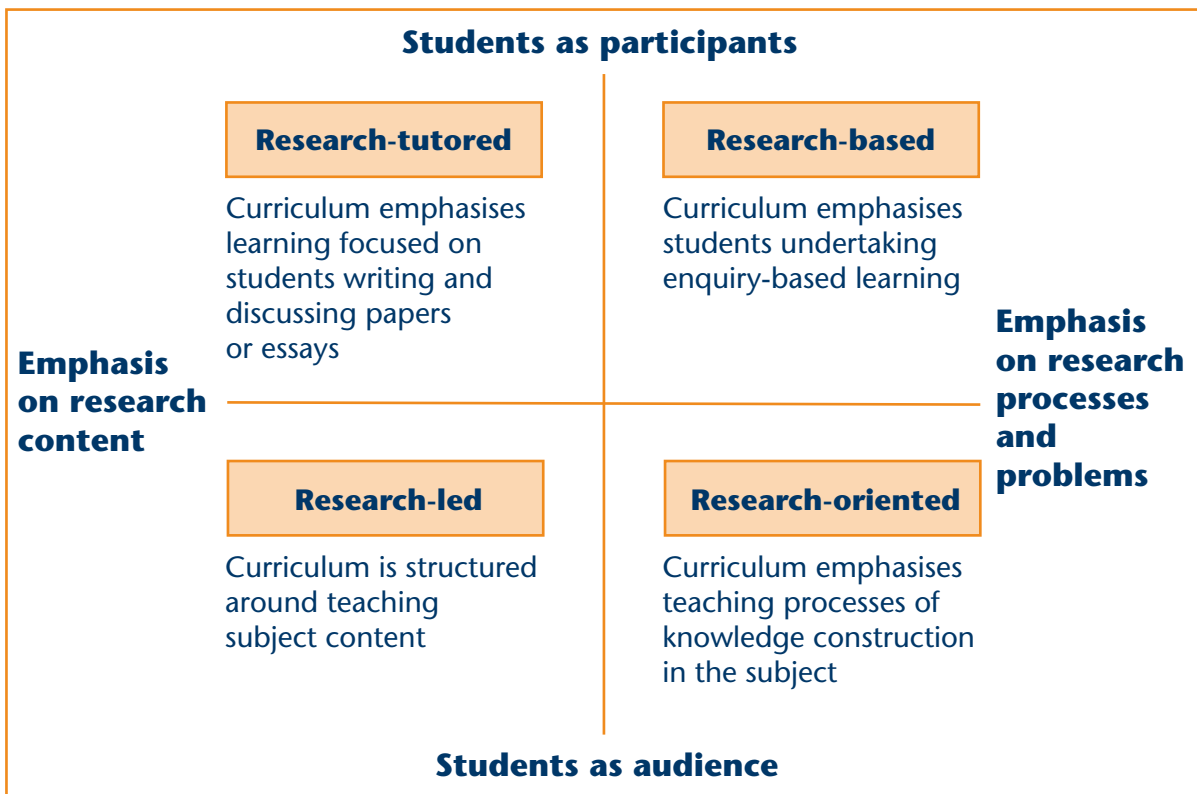


Figure 3: Curriculum design and the research-teaching nexus (from Jenkins et al 2007)

Within a particular programme curriculum, individual modules/units may reflect one or more of Healey's design principles. Although the research-tutored approach appears rare within taught programmes (outside dissertation and project units), its extension to include peer learning (see Rubin, 2006) and peer tutoring (see Falchikov, 2001) makes it viable more broadly across the curriculum, while at the same time supporting learners' development of an extended range of evaluative skills.

Examples of these designs, their outcomes, and details of the implementation in practice, are provided in the case studies included in this document. These demonstrate the significance of the research-teaching nexus in BMAF, and offer interesting and innovative examples of practice that can be adapted and applied across subjects, programmes and stages (the subjects and levels specified in each case relate to the particular implementation described in each case).

The practice illustrated in the case studies confirms the significance of research-related attributes in BMAF as indicators of deeply ingrained approaches to building knowledge and enhancing professional practice, and of the opportunities that teaching integrated with research process and practice offer to capitalise on 'unpredictable, yet highly desirable... "learning moments"', in which broad conceptions of learning and its associated outcomes can flourish (Hussey and Smith, 2003).

The structure and pervasiveness of the research-teaching link in practice is influenced (at undergraduate level in particular) by a series of factors related to the structure and organisation both of subject and programme provision, and of a department's academic community. The extent to which, for example, the research-teaching link is structured around the research of academic staff varies considerably across the BMAF community. Departments may reflect priority research activities within their teaching provision by shaping and identifying that provision on the basis of research specialism at programme and/or sub-programme level. Overall award titles may reflect specific departmental research interests and strengths, as may individual curriculum units. Where a more outcome-based approach to the development of programme curricula is adopted, the management of unit contributions to the programme may be complicated by a matrix structure in which subject leaders and curriculum managers combine their efforts to design and manage the inputs of individual subject specialists.

Disciplinary differences and institutional policy are identified by deans and heads of department as significant influences on the integration research knowledge and skills within the curriculum. There is recognition, for example, of the need to develop underpinning knowledge and skills at early stages of study, in areas of accountancy and finance (both within business and management provision, and in specialist provision) as a basis for the acquisition and application of more advanced techniques at later stages of study. A similar concern for the acquisition of fundamental techniques and concept impacts on the provision of economics within BMAF subjects and limits the extent to which teaching at the early stages of study is likely to be explicitly and directly research-informed or research-oriented, although there is substantial evidence across such subject areas of a consistent linkage between knowledge and practice in these areas (see case studies 6 and 7).

4.1 Stimulating research interest and practising research process

Case study 6: Stimulating research interest and practising research process

Institution: Glasgow Caledonian University

Subject: Finance

Level: Master's

Summary

Creating an inclusive knowledge environment of mutually reinforcing scholarship has several dimensions. In this practice, the subject taught is closely aligned to the lecturer's research interests into the efficiency of financial and alternative asset markets, and publications co-authored by the teacher are used to stimulate discussion, analysis and reflection on both the subject matter and the research process that underlies the content.

Students are required to undertake investigation that links the research ideas from the published papers with a critical appraisal of the efficiency of a developing financial market of their own choice.

The lecturer in turn is able to reflect on the oral and written contributions of students, and this, in turn, generates further research avenues both for the lecturer and for those students who undertake dissertations in this subject area.

Process

Students are organised into small groups and given a research paper to review. They prepare a short presentation that analyses the methodology used and what they perceive as the main ideas to emerge from the paper. They also have to demonstrate their learning from this process by showing how it applies to a developing country's stock market. Constructive peer-to-peer criticism of each student's interpretation of the article is encouraged.

The students are then required to write an essay that formalises their understanding of the theory of efficient markets and allows them to appraise more critically the existing literature. Students receive written feedback on their individual work, and there is also plenary discussion of both the process and outputs of this exercise. During this discussion, students are encouraged to specify both their specific and their more general learning and to consider how to present this as outcomes in their CVs.

Outcomes

The use of the research papers within the context of the above process helps to develop subject specific skills outcomes such as 'to be able to critically evaluate contemporary theories of finance and appraise their significance and relevance in an international context', as well as more generic transferable skills such as the ability to examine critically the viability of real data. The process also contributes to the enhancement of oral and written presentation skills. Many students continue to develop their knowledge of financial markets by opting to undertake dissertations in this area. On this basis, graduates can then provide evidence of interest and proficiency in financial theories and applied knowledge, and should also be able to communicate this knowledge to potential employers effectively and persuasively.

Overall, this method of incorporating research into teaching is an enjoyable way (for both student and lecturer) to interact and explore issues in a participative context.

Further information

Further information is available from Heather Tarbert (Senior Lecturer), Division of Accounting, Finance and Risk, Glasgow Caledonian University, email: h.tarbert@gcal.ac.uk.

In this respect, these subjects demonstrate features of 'hard applied subjects' (see Healey, 2005, p 68), or 'well-established, hierarchical subjects' (Neuman, 1992, p 167), in which, according to one Economics specialist, the initial stages of study require 'a body of facts, a body of established modes of reasoning and problem-solving' (Robertson, 2007, p 547), and the direct influence of research on curriculum and teaching practice is stronger at the more advanced levels of study.

Similarly, in business and management programmes constructed on the basis of disciplinary and technical prerequisites established in the early stages of undergraduate study, explicit research-teaching links may be postponed until later, more advanced stages. In these circumstances, there may be a significant step change in pedagogy between programme stages that represent foundation study and those considered 'advanced', and learner transition between the two may require specific support associated, inter alia, with a parallel step-change in the requirement for a research-based approach to learning. On the other hand, those undergraduate programmes designed more or less comprehensively on a broad social science model are more likely to incorporate, from early stages onwards, the study of a range of perspectives and frameworks, and thus provide a more favourable context for a comprehensive and explicit research-teaching linkage.

Broad disciplinary differences, between business and management on the one hand, and accountancy and finance on the other, are reinforced by the professional orientation of the latter. Although the BMAF subjects can be classified broadly as professional in focus, differing degrees of curriculum freedom are evident between programmes that are designed to lead to professionally accredited status and those that are not. For example, the study of accountancy and (to some extent) finance may be geared towards chartered professional status, where business and management programmes generally are not. Undergraduate and postgraduate programmes in business and management are accredited by various professional bodies (for example, Association of MBAs and the Chartered Management Institute), but graduation does not, in these areas, constitute or lead to a formal licence to practice.

4.2 Making research relevant

Case study 7: Making research relevant

Institution: Napier University

Subject: Accounting

Level: SCQF level 9

Summary

Undergraduate students face a range of challenges when undertaking independent research projects for the first time, in particular:

- what will I research?
- which sector/business will I focus on?
- how should I undertake the research, in particular, primary research?
- who should I contact for my primary research?

The level 9 module Management Accounting Applications was designed to meet a number of objectives, including:

- making students appreciate that accounting research is relevant to the business world - it isn't just an arcane academic activity of interest to a few individuals
- providing a springboard to the honours year, in particular, the dissertation module.

Students who go on to an honours year will find the dissertation module less daunting since they have to produce a structured, mini-dissertation for this module. They will also appreciate that research is a fundamental aspect of business, not just something done by academics or, in the case of a dissertation module, 'done to' students by academics!

Background

Research groups were formed in the first class session and research topics, selected by the module leader from the module syllabus, were allocated to these groups. Research topics were not covered in classroom teaching or included as specific questions in the case study exam. The business sector selected for research was food and drink and the target audience for students' research was members of the Food and Drink Federation (FDF), which has approximately 300 members.

While each group was randomly allocated more than 40 companies from this trade association, groups were also encouraged to contact other suitable companies outside the FDF. Each group had to prepare a management report comprising of a series of standard sections for 'senior management' then present that report, with a question and answer session, to these managers.

Process

The first three weeks of module delivery were concerned principally with providing an introduction to research methods and helping students create a research aim and objectives. Groups were advised to allocate tasks amongst the group, review material created by other group members, and meet on a regular basis, both physically and online - students are using wikis this year to assist this process.

Students were supported throughout the research process, particularly as they encountered critical stages in that process. Each group, for example, obtained feedback in respect of the questionnaires they constructed to obtain primary data. A key point emphasised to groups was the importance of creating a questionnaire that would obtain information from users and non-users of a particular technique.

The average survey response rate was in line with that normally achieved for management accounting research and only one group did not obtain primary data. However, this provided an important learning opportunity in relation to research management and that group was asked to consider the reasons why no responses were obtained. Interestingly, the group that made the greatest effort to obtain named contacts obtained the highest number of responses. The exam contained a question that asked students to reflect on the research process.

The principal issue faced in other cases was working as a group. Group working is rarely without problems but it reflects a reality that most students will face in their working lives. However, only one group was unable to maintain its initial membership - the student expelled from that group was given an alternative piece of coursework.

Parallel with their own research, students were taught by lecturers able to draw on their own research for a number of the topics covered in this module. Students could therefore see the practical value of the very research in which they were simultaneously engaged.

Further information

Further information is available from Grahame Steven (Lecturer and Teaching Fellow), School of Accounting, Economics and Statistics, Napier University, email g.steven@napier.ac.uk.

4.3 Attributes as curriculum outcomes and processes

This distinction has implications for the scope and nature of the research-teaching links in each area. In accounting in particular, accreditation exerts significant impact on the higher education curriculum (where other accrediting bodies, such as the Law Society of Scotland, focus to a greater extent on the quality of provision as evidenced by staff profile etc). Similar restrictions may also affect subjects such as marketing, in which accreditation or exemption from professional examinations is available to programmes that meet outcomes aligned with those of vocational and professional qualification structures (for example, the Chartered Institute of Marketing). Yet in these, as in other areas, learners place a particular value on tasks that challenge their ability to apply knowledge and techniques to areas of 'real-world' activity (see Karns, 2005), and BMAF practitioners offer examples of effective practice in this area (see Clapton, 2003). Thus the selection of research-informed subjects of study, based on specific areas of research expertise within a department, can be restricted at early undergraduate stages, and in such circumstances, maintaining a close and consistent relation between research and teaching at accreditation-bearing levels is challenging. It may even be counter-productive in the context of programme outcomes and learner expectations at those study stages in which learners expect, above all else, to develop foundational skills and techniques as a basis for more advanced study.

Thus, no single model for constructing research-teaching links within the curriculum of BMAF subjects emerges from current practice. A range of views are evident, across subjects, programmes and departments, on how pervasive the research-teaching link needs to be to deliver on attributes associated with graduate employability. Individual departments and programmes adopt different approaches to structuring the development of research-associated attributes, in some cases attributing their development to specified courses/modules, in others embedding that development more broadly within curriculum, with differing views on appropriate starting points (by Scottish Credit and Qualifications Framework (SCQF) level) and pace of development constituting further dimensions of difference.

This variation reflects Barrie's (2007) examination of generic attributes as both outcomes and processes underpinning curriculum design, in which he identifies attributes as either 'additive' and a 'transformative in relation to programme outcomes', and as 'supplementary' to, or 'integrated' within, the subject curriculum (see figure 4).

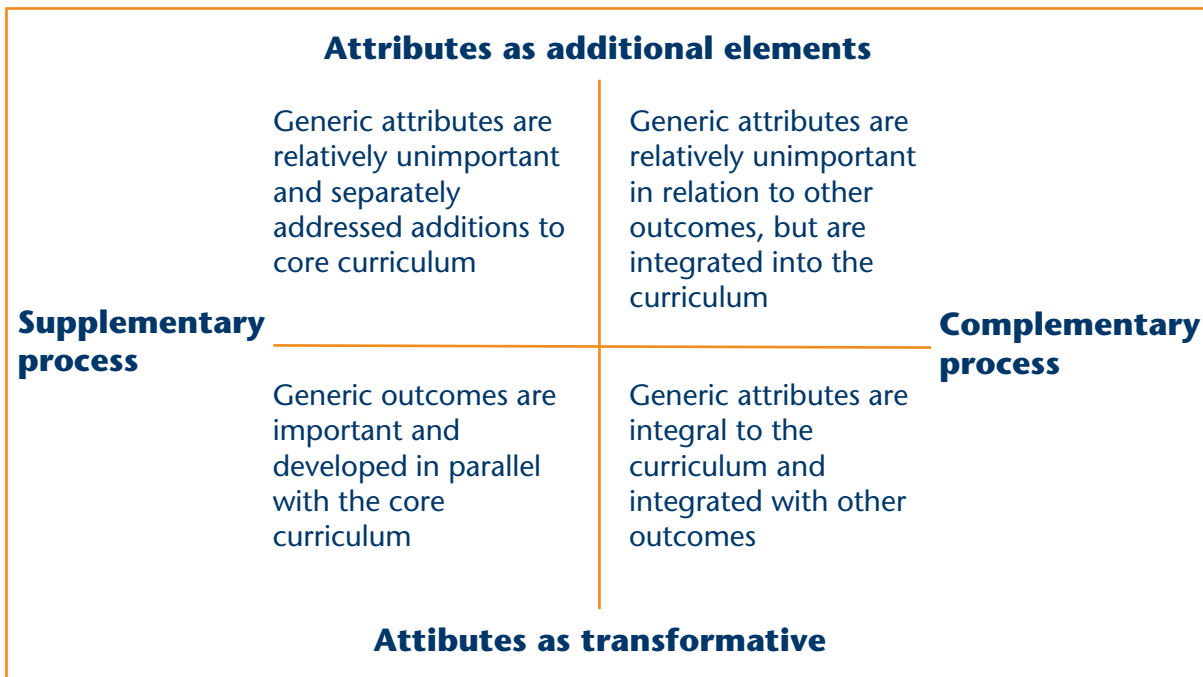


Figure 4: Attributes as curriculum outcomes and processes (adapted from Barrie 2007, p 452)

While a dual focus on academic and practitioner enquiry supports the broad definition of research that includes significant outputs of consultancy and knowledge-transfer activity, it has also been identified as contributing to current challenges facing business schools in the recruitment, retention, and development of academic staff with the skills and experience to support that link (Ivory et al, 2006). In addition, the requirement, at departmental level, to focus both on formal academic research and on a range of knowledge transfer activities, to provide a learning experience informed by, and directed towards, a practitioner community (as well as generating income from that community) creates resourcing issues that are in turn of consequence to the research-teaching link. While departments may seek to recruit at least a proportion of its academic community on the basis of their capacity to operate effectively in the reputation-enhancing and fund-securing area of formal academic research, if the focus of BMAF teaching and learning activities is directed significantly and explicitly towards the development of

practitioners, there is, for deans and heads of department, also the challenge of sustaining engagement with contemporary practice in professional fields.

Discussion point 4

What constitutes research activity in your department/subject group/individual practice?

How consistent is this definition of research practice with research as defined by the graduate attributes identified earlier?

For while, in conditions of unconstrained resources, a business school might attract staff with significant expertise in teaching and learning (itself a diverse field, including undergraduate and executive education, and generalist, specialist and professionally accredited programmes at a range of levels), as well as in research, and in professional practice, it is more likely that UK business schools will need to create academic communities combining the contributions of staff with particular strengths in one or two of these areas. Evidence of practice in BMAF suggests that while the outputs of research activity may be variously and distinctively classified, research process is considerably more flexible, and more integrated at the point at which it impinges on teaching and learning practice (see case study 8).

4.4 Engaging learners in a research specialism

Case study 8: Engaging learners in a research specialism

Institution: University of St Andrews

Subject: Management

Level: Various

Summary

Scenario thinking has gained significant ground since its commercial birth in the 1960s, and involves the careful building of stories about how potential futures might evolve. It is one of the significant domains of research in the School of Management, University of St Andrews, with over 100 scenario studies to its credit since 1988. On this basis, undergraduate and postgraduate modules in scenario thinking have been developed to enhance student understanding of the complexity of organisational environments through the use of scenario planning. They are innovative, research-led modules that transfer cutting edge academic knowledge to students by combining the theory and practice of developing and using scenarios to assist strategy and public policy development. Scenario methodologies are many and require multi-disciplinary input ranging from history, social anthropology, ethics, political economy, law and global affairs amongst others.

Background

The Scenario Thinking modules are project-based, research-led courses where groups of students are taught a methodology for integrating political, economic, socio-demographic, technological, legal and environmental data in order to produce a set of scenarios. Scenarios, unlike forecasting methodologies, are used not to predict the future, but to deepen understanding of uncertain and complex organisational environments.

The theoretical introduction to scenario thinking is delivered through lectures designed to cover a number of themes including analytical techniques for strategic planning in uncertain environments, the history and evolution of the scenario planning approach, the various methodologies for developing scenarios, and using scenarios for strategic planning and public policy development. The students are also expected to engage in individual independent study, reading a wide range of academic and practical literature on scenario planning.

Process

Students are then allocated to groups and allocated a live 'client'. Clients generally come from public and private sector partners of the university. Student groups spend several intensive weeks collecting and collating data on their clients' industry. The students draw on a triangulated methodology pioneered at St Andrews that includes archival, single interview and group interview research. Once the data-collection phase of the module is completed, students participate in an intensive two-day scenario-building workshop facilitated by experts in this subject from among the university's academic staff. At the end of the workshop, the students' clients are invited to attend sessions in which the scenario outputs from the workshops are presented. Following this, students are expected to produce reports of a professional standard for their clients.

Outcomes

The learning outcomes from the research-led scenario thinking modules include a deepening understanding of the complexity that characterises contemporary organisational environments, highly developed research skills, and rigorous analytical techniques. They are exposed to many of the research developments in scenario planning theory and method, such as the application of diagnostic techniques for de-biasing perceptions of history, made by academics at the University of St Andrews. Indeed, students are often the first exponents of these emerging techniques and act as a test bed for refinement of the final product. Students also experience, within a controlled setting, the pressures inherent in the management of live projects. They enhance their communication and teamwork skills, and learn how to develop strategies for real-world organisations, combining theory and practice.

Further information

Dr Brad MacKay, School of Management, University of St Andrews,
email: rbm2@st-andrews.ac.uk. Professor Peter McKiernan, School of Management,
University of St Andrews, email: peter@st-andrews.ac.uk.

However, the challenge posed by these parallel demands to the maintenance of research-teaching links is substantial, in that a potential three-way segmentation of the academic workforce necessary to meet a range of stakeholder expectations complicates the task of sustaining a comprehensive and consistent research-teaching link within an individual subject group or department. Issues of research resource, as well as those of curriculum design and management, are thus also likely to impact on the particular approach adopted within a department or programme.

Learner access to a department's most active researchers at all levels provides an important incentive for research engagement, offering what Neuman (1994, p 336) identified as 'closer contact with the more intangible, tacit aspects of knowledge and learning' - important opportunities to witness the processes, drivers and challenges of

research activity and the impacts of its output (see case study 9). But it is largely because, in the BMAF subjects, the definition of research adopted is relatively broad and includes the documented outputs of knowledge created in a range of professional activities (see Brew's 'integrating' definition of scholarship [Brew, 2006, p 28]), that complementary processes, in which graduate attributes are developed through subject knowledge across an entire programme, remain viable (see figure 4).

One approach to dealing with a requirement to maintain significant levels of engagement in a range of activities including teaching informed in various ways by research, is that of organising research-related activity thematically. This grouping of staff around research-supported themes, allows programmes and, to some extent, individual modules/units, to reflect a group's research interests even though all staff involved in teaching may not be directly or equally engaged in specific projects within that theme.

Discussion point 5

How good is the overall match between your research resource and the objectives of provision identified earlier?

Does this indicate that research related attributes should be integrated throughout the core curriculum or developed as a supplement to it?

Managing the integration of research and teaching across subjects and programmes represents a significant challenge for the academic community in BMAF. Disciplinary and departmental traditions, institutional structures (including, for example, faculty entry systems, in which students study a range of subjects before selecting their major field), professional body requirements, and institutional and external expectations of business school roles complicate the research-teaching link in BMAF subjects. Thus, while there is substantial commitment among individual academics and departments to the importance of research in delivering a learning experience appropriate to the attributes required of contemporary graduates, and significant evidence of the impact of research on teaching within individual modules (see case studies), managing that commitment and practice across the curriculum remains a challenge. The profiling framework in the next chapter has been developed to offer a framework for examining and enhancing aspects of the research-teaching link within and across curriculum components.

4.5 Teaching as an active researcher

Case study 9: Teaching as an active researcher

Institution: University of Abertay Dundee

Subject: Marketing

Level: Various

At its most fundamental level, research informs teaching through a lecturer's ability to make available to students the most up-to-date information and explanations of current concepts. This is particularly important in rapidly changing and emerging fields; without a research-based approach to introducing and enhancing such subjects, a curriculum can become out of date very quickly.

In a subject such as relationship marketing, which is itself based on customer research and focuses on adding customer and organisational value, two-way communication,

encouraging of feedback and the creation and development of sustainable customer retention and loyalty, a research-informed approach will also engage students in examining and perhaps applying contemporary data analysis techniques. Thus, in this particular case, learners' subject knowledge is developed through their increasing ability to evaluate, apply and interpret research techniques in a business context.

At the same time, academic research practices, such as synthesising theories and evaluating academic journal articles, can be taught as 'lived experiences'. In the teaching of subjects other than the one that is the particular focus of an individual academic's research, being research-active supports a research-based approach to subject content and to its critical analysis. It encourages a different approach to curriculum - one in which research questions, rather than subject content, form the focus of investigation and reflection. It also discourages a perception of related curriculum subjects, within, for example, a marketing programme, as self-contained entities without cross-reference, mutual implication, or cumulative impact on organisational performance.

Beyond the classroom, for an individual academic, research activity not only ensures knowledge of current theories and practice in specific fields but also provides the opportunity to attend conferences and to discuss with colleagues from other institutions and countries both subject-related matters and teaching practices, the problems students may encounter with particular aspects of a subject, and the approaches that have been tried and found effective (or not) in supporting their developing knowledge. Being an active researcher within an area in which you teach (even though it may not be the only area you teach, or the subject you teach to a particular group of students) allows a lecturer to develop as a facilitator of learning, more responsive to the challenges of independent learning, and to the academic problems and issues they encounter throughout a learning process that mirrors your own research activity.

Undergraduates and postgraduates at the dissertation stages of their studies will benefit particularly from the advice of a research colleague who knows and has probably recently experienced the barriers to successful completion of a research project and can offer guidance on getting students through the difficult, isolated stages of academic research at undergraduate and postgraduate levels. Completing a piece of individual research - whether at undergraduate or at postgraduate level - is a challenge of formal and informal dimensions, the formal aspects being the research processes of analysis, evaluation and structure and the informal aspects including the emotional aspects of that same process at its various stages. Who better to understand and advise than one who knows and lives the same challenges?

Further information

Further information is available from Jason Turner, Lecturer in Marketing, Dundee Business School, University of Abertay Dundee, email: j.turner@abertay.ac.uk.

5 A profiling framework for curriculum design and management

There is substantial evidence from BMAF academics and managers that subject and programme-level decisions are critical to establishing a comprehensive and consistent research-teaching link in any of the outcome-process combinations identified by Barrie (2007). To support the activity of curriculum design and planning, and consistent links between this and module/unit design and planning, the following paragraphs outline a framework for relating attributes and outcomes directly to processes of curriculum design and management.

5.1 Models and orientations of business activity

Ivory et al (2006) differentiate four broad areas of business school activity, on the basis of the balance of research or teaching focus they reflect, and their predominant impact (characterized as 'scholarly' or 'organisational'). These areas (shown in figure 5) are:

- professional school teaching-focused activity, aimed at the improvement of management and leadership capacity
- knowledge economy research-focused activity focusing on the commercialisation and application of developing knowledge
- liberal arts teaching-focused activity, developing managers with a critical approach to their own practice, business practice, and the social role of business
- social science research-focused activity to develop knowledge within formal academic research frameworks.

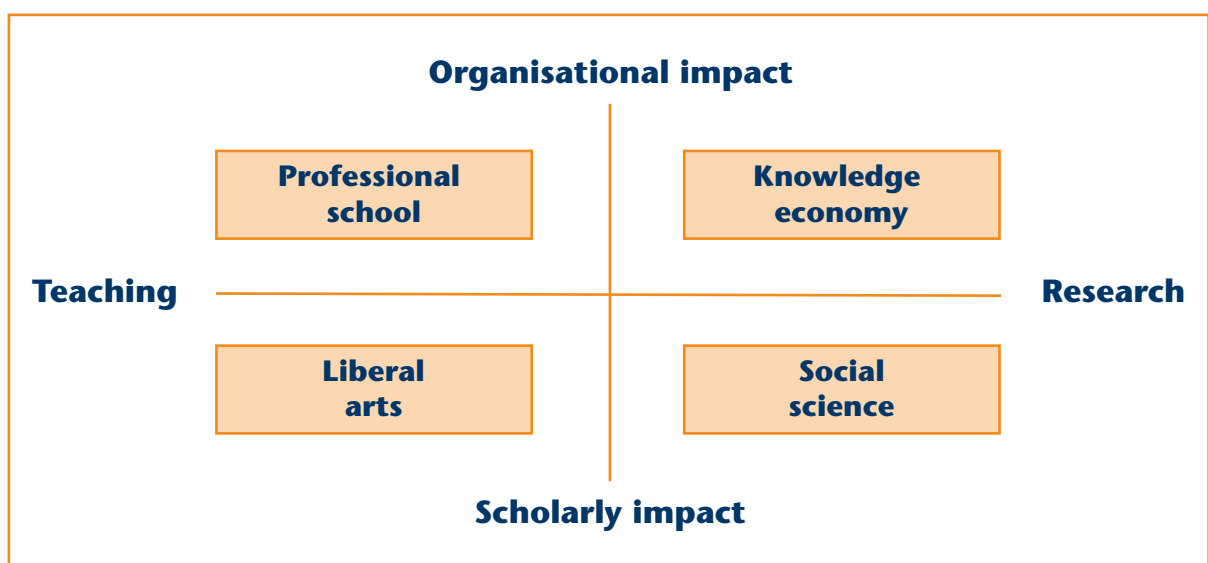


Figure 5: Models and orientations of business activity (Ivory et al, 2006, p 15)

This matrix offers an analytic framework - there is no suggestion that any individual school will, or should, occupy a single position on the matrix of activities, and no acceptance by deans that this would be a strategy. It does seem to accurately reflect practitioner perceptions of a differentiation in practice between research focused on the development of knowledge within formal and scholarly research frameworks (the 'social science' approach), and research directed towards the practical application of emerging findings (the 'knowledge economy' approach, in which new knowledge that may or may not emerge from the school's own activities in 'social science' research, is commercialised through consultancy and entrepreneurial activity).

The differentiation of teaching activities into a 'professional school' approach (in which teaching and learning is focused on the development of management practice and is therefore of organisational impact), and a 'liberal arts' approach (in which the target impact of teaching is the development of critically reflective members of, and commentators on, the professional community) is less well supported. Few departments would accept that the development of management or other professional practice in higher education is separable from the development of critically reflective practitioners or the requirements of the knowledge economy. Equally, while scholarly and organisational impacts remain significant and distinctive drivers of research activity, the latter constitutes the primary driver of teaching and learning activity and development among the Scottish institutions investigated within this project. Thus, the 'teaching' side of the matrix seems rather less satisfactory as a reflection of BMAF practice than the 'research' side.

A more significant complication is the clear overall focus of departmental teaching activity on the development of graduates with significant personal and professional prospects within a knowledge economy, and with the skills and attributes essential to the implementation and subsequent development of knowledge-based innovations that may or may not originate in universities (Gibbons, 1994) and are far broader in character and application than the traditional scientific outputs of scientific research and development that underpin more restricted definitions of 'innovation' (NESTA, 2006).

This generally accepted context for BMAF provision, in its various forms, undermines the entirely separate existence of 'professional school' activity distinguished from that within a 'liberal arts' model by both Schibrovsky et al (2002) and Ivory et al (2006). Integrating teaching with research, both as a 'strong condition' of teaching for supercomplexity (Barnett, 2000, p 163), and as a model of a deep approach to learning as knowledge building (Brew 2006), is essential to that focus. The knowledge economy, in other words, demands a degree of research-teaching integration not represented by the 'professional school' position as a function of organisationally-directed teaching activity. And in this, BMAF provision in higher education differs more markedly still from the 'vocational education model' as defined by Schibrovsky et al (2002) and offered in other contemporary learning contexts, formal and informal.

5.2 Research-teaching links within the curriculum: drivers and impacts

Identifying the knowledge economy more specifically as the alternative area of impact to that of scholarship reflects more accurately perceptions of impact among the BMAF community. Identifying the two primary drivers of curriculum design emerging from across the BMAF subject areas - resources and outcomes - constructs the second axis illustrated in figure 6 below. Resource-based curriculum design constructs programmes

and their component stages from the available research specialisms of staff, while an outcomes-based approach takes as its starting point the specific knowledge, skills and attributes ascribed to particular professions and roles. Neither design approach assumes a particular definition of research within the research-teaching link, although an increased emphasis on formal academic research would be likely in programmes aimed at extending and replenishing the community of academic scholars.

Outcomes and drivers are likely to be decisively influential in shaping research-teaching links within institutional and disciplinary contexts, and figure 7 characterises the programmes likely to emerge from combinations of outcome zone and design basis derived from the views and practice of BMAF academics and managers.

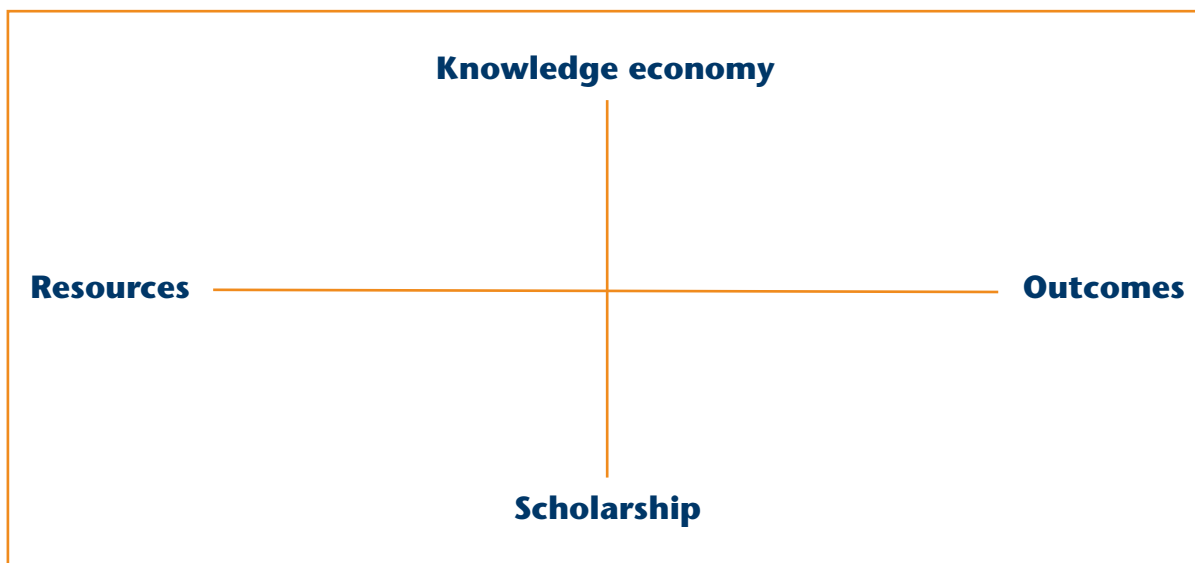


Figure 6: Research-teaching links within the curriculum: drivers and impacts

A resource-based approach to curriculum formation draws directly on the academic reputation of a department and its individual members. Learners are reassured by the presence within their departments of study of subject leaders, particularly those working in areas claimed by schools as those of their particular strength and focus - an aspect of the 'academic reputation' identified by Briggs (2006) as a discrete and significant factor in undergraduate student choice. Programme structures, and teaching and learning strategies at various levels, may reflect a focus on the development of practitioners in departmental priority areas that coincide with priorities within the economy ('relevant specialism') or on fellow researchers ('community of practice'), and thus primarily service either the knowledge economy or the scholarly community. But, because the research expertise of staff generates the overall design of the curriculum in either case, the expression of cumulatively developed outcomes (including those associated specifically with the research-teaching link) is likely to be relatively generic, and shaped by the research strengths of the department as a whole and those of its individual members.

An outcome-based approach, on the other hand, starts the design process with the specification of outcomes required by a programme (that is, by its target cohorts and their career orientation) and, where relevant, its accrediting bodies. The requirements of a knowledge economy on the one hand (for 'professional practitioners'), or of scholarship on the other (through 'research training'), are likely to be differentiated clearly and expressed relatively specifically, forming as they do the starting point of

programme design. The attribution of outcomes to research-teaching links in particular is likely to vary, incorporating a broader definition of 'research' in relation to knowledge-economy outcomes than in relation to scholarship. Emphasis on the specific value of graduate attributes in these particular contexts is likely to presume no particular coverage or implementation of research-teaching links, but to specify graduate skills in 'enquiry', 'problem-solving', and 'analysis' linked to activities characteristic of one or other outcome zone.

Discussion point 6

Which is the primary driver shaping provision in your department - available research resources, or target learning outcomes?

5.3 Curriculum outcomes

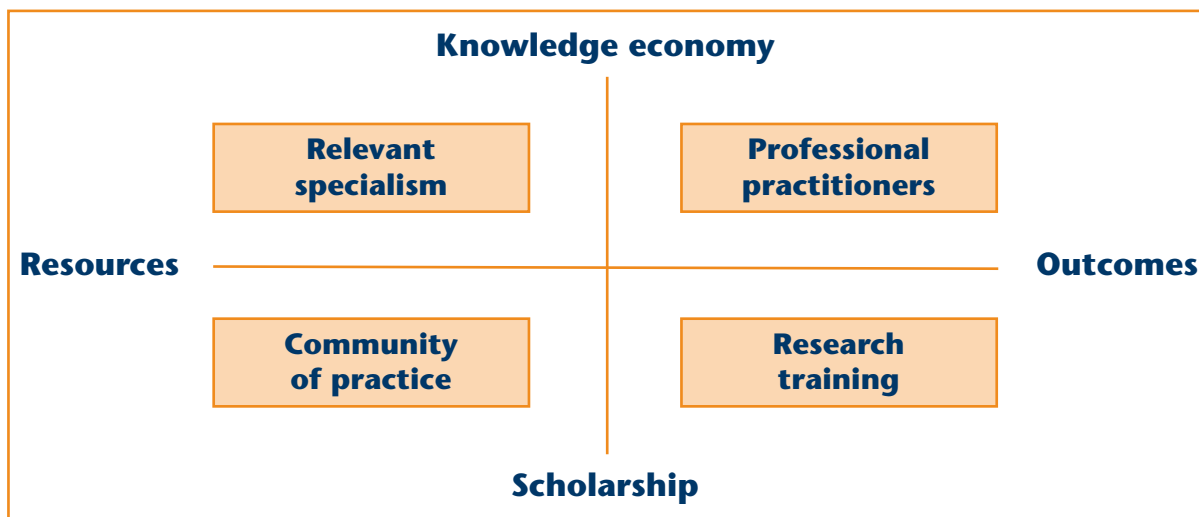


Figure 7: Curriculum outcomes

Combining the key dimensions identified in figures 6 and 7 with the approaches identified by Barrie (figure 4) and Healey (figure 3), and the particularity of research definition in BMAF, it is possible to generate a simple profiling framework that is applicable at a range of levels in evaluating teaching and research linkage in BMAF. The purpose of such a profiling tool is not to identify a single pattern of provision as universally applicable or preferred, but rather to support departments and subjects in identifying their characteristic approaches and practices, in ensuring that all aspects of the research-teaching link are considered in curriculum design, and in creating a consistent link between programme, subject and module/unit practice.

Thus the framework provides a basis on which a departmental research-teaching strategy might be developed. It could also be used to design research-teaching links into a programme (and its component years/stages), and to evaluate curriculum development and practice against departmental strategy and programme design. At the level of individual practice, it could be used to review and strengthen the articulation of modules/units with programme design specifications, and as a framework for the enhancement of teaching and learning.

In particular applications, it might identify disjunction or imbalance, for example where students are positioned throughout a programme mainly or only as a research audience,

where programme specifications and outcomes reflect a more participative learner role. Equally, it might reveal a distinct but unexploited potential in research-teaching practice, and/or opportunities missed because of over-emphasis on either outcomes or research resources as the primary curriculum driver, or structural issues in the curriculum such as inconsistency of approach across subjects, and/or the absence of a clear and supported line of development across programme years/stages.

For example, an undergraduate business studies programme designed on the basis of outcomes related to graduate careers as practitioners in a knowledge economy might be profiled, using this framework, with process focus in which learners are positioned as participants in enquiry-based research. However, the supplementary implementation of that process in practice (perhaps ring-fenced as research methods training followed by a dissertation) may indicate that a significant proportion of the programme curriculum reflects no comprehensive link between research and teaching. On this basis, the articulation of modules/units with programme outcomes would need to be reviewed and enhanced to deliver the 'learning in research mode' (Elton, 2005) consistent with programme-level specification.

Alternatively, at a particular (probably early) stage of the same programme - one in which a number of individual subjects have positioned their development of fundamental principles, and where those initial stages of subject study are likely to rely on textbooks as authoritative guides to standardised curriculum (Richardson, 2004) - it might be found that curriculum design had diverged from the overall programme intention and design. Questions might, on this basis, be raised in relation to the contribution both of that particular study stage to the achievement of programme outcomes, and of the particular subjects to the integrative treatment of research-related attributes specified at programme level.

Profiling is, thus, a preliminary stage in the evaluation, and the design or enhancement of links between research and teaching, and the function of the profiling framework is to identify issues and raise questions, supporting reflection on practice, rather than to prescribe a particular approach. Yet its availability at planning and review stages, for use at a range of levels (department, programme, subject and module/unit), may usefully prompt further analysis of the research-teaching nexus as a contributory factor to the design and delivery of research-teaching strategies and their curricular implementations.

Once the framework has been applied, the responses can be evaluated for consistency within and across the three stages, to establish, as a basis for the development and/or enhancement of provision:

- the role and significance of research-related attributes within the curriculum
- the role of research outputs and processes in developing those attributes
- the contribution of specific aspects of practice to the overall development process.

5.4 Profiling framework for enhancing the research-teaching link

Profiling framework

In the first two stages of this framework, issues raised in the discussion points throughout this report are compiled for further consideration. At stage three, the options for curriculum design and management are considered.

Stage one: identifying attributes and outcomes

- 1 What are the key attributes of graduates in this department/programme/subject/module?
- 2 Do they relate primarily to the development of practitioners within a knowledge economy, or members of a scholarly community?
- 3 How closely do the identified attributes relate to the research-teaching attributes identified above (figure 1)?
- 4 Does the total attribute set position research-related attributes as additional to, or embedded within, other outcomes and attributes within the curriculum?
- 5 What do the answers to questions 1-4 suggest is the importance of attributes linked to research, relative to other generic and specialist attributes?
- 6 What constitutes an appropriate definition of 'research' in this context?

Stage two: designing research into the curriculum

- 1 Which is the primary driver shaping this provision and any associated award - available research resources, or target learning outcomes?
- 2 What constitutes research activity in your department/subject group/individual practice?
- 3 How consistent is this defined research practice with research as defined in stage one of this framework?
- 4 What guidance on linking research and teaching is offered by institutional and departmental strategies and policies?
- 5 How good is the overall match between the research resource identified at this stage and the objectives of provision established in stage one?
- 6 Does this evaluation indicate that research-related attributes will need to be integrated with the core curriculum or developed as a supplement to it?

Stage three: planning and managing the research-teaching link

- 1 To what extent, and where, does the syllabus draw directly on research and how is this research basis evident in its description?
- 2 Where, and to what extent, do learners adopt the roles of research participant and of audience?
- 3 Does the learner's research role progress appropriately within the curriculum towards the defined attributes?
- 4 Does teaching and learning practice support an enquiry-based approach to knowledge?
- 5 To what extent are formal research methodologies applied within the curriculum?
- 6 Is core curriculum knowledge developed through research process?

Figure 8: Profiling framework for enhancing the research-teaching link

6 Recommendations

6.1 Enhancing teaching practice

With an overall emphasis on the roles of BMAF graduates in the knowledge economy, it is important to maintain a role for research within the curriculum that is closely and consistently linked to the motivations and expectations of contemporary students of BMAF and their future employers and/or organisations.

To support the deployment of research in developing the graduate attributes, the following approaches to individual teaching practice are recommended:

- provide opportunities for learners to practise decision-making based on evidence from a range of sources, in the context of situations that reflect the realities of business and organisational practice, and raise issues around the consequences of decisions and aspects of professional and ethical practice (for example, case studies 1 and 9)
- engage learners in projects in which they work with active researchers, and gain an understanding of their approaches and priorities and the challenge and the achievement of research, encouraging learners to explore and formulate their own research interests (for example, case studies 4 and 8)
- situate learning in its various research contexts at all stages of study, to provide opportunities for application of fundamental, as well as more advanced, knowledge and skills, encouraging learners to develop an understanding of provisionality and complexity from the start (for example, case studies 2 and 5)
- adopt a pervasively enquiry-based approach to subject knowledge, developing learners' abilities to think creatively, and to formulate questions and challenges as well as to resolve them (for example, case studies 6 and 9)
- design projects in which learners encounter all aspects of research including project planning and management, flexibility in adapting to emerging situations, and managing collaborative processes and multiple contributions (for example, case studies 1 and 4)
- encourage learners to articulate the skills and attributes they are developing through their engagement in research, to enhance their confidence understanding of their own career and personal potential, in the short and longer terms (for example, case study 3)
- work with partner organizations to devise projects that extend opportunities for engagement (for example, case study 9).

6.2 Enhancing curriculum design and management

Such is the breadth of programme provision across BMAF, along with the varying requirements of component disciplines, institutional policies and accrediting body regulations, that the structure of the research-teaching link will vary according to context.

The following recommendations are noted for departments, subject groups and programme teams, in designing and managing the research-teaching link:

- identify the breadth of faculty research strengths and activities as this is an essential initial step in linking academic expertise and specialism with the specific purposes of programme provision
- ensure that research-related attributes are developed consistently across modules/units and stages - this will require careful structuring of research within the curriculum, across subjects and study stages
- manage the links between modules/units and the overall curriculum design and delivery - this is essential to implement the links between research and teaching articulated in strategies, policies and programme specifications
- disseminate research findings, their implications, and their teaching relevance, extensively, in order for teaching teams to thoroughly exploit the potential of research activity to support the development of graduate attributes
- evaluate aspects of the research-teaching link, facilitated through use of the profiling tool above (figure 8) to:
 - evaluate the links between research and teaching throughout the curriculum
 - strengthen the structures and processes that inform the development of graduate attributes
 - explore options for designing and managing the integration of research and teaching
 - enhance the contribution of individual academics and modules/units to the overall curriculum design.

6.3 Enhancing the future role of research in BMAF provision

The immediate practical challenges facing the BMAF community in linking research and teaching and learning are primarily structural and relate to:

- **the challenge of coverage:** Where are the research 'cold spots' in provision, at subject level and in individual programmes? And what is the impact on the learning experience of their continued existence alongside established and innovative practice in linking research and teaching?
- **curriculum management:** With individual commitment and ingenuity driving the research-teaching link at module/unit level, how, and how effectively, is the developmental trajectory (that is, the consistent development of intellectual and practical skills, and of an understanding of the processes and purposes of research) designed, managed and monitored across modules/units and throughout stages of study?

A number of additional issues have also emerged from this review as prospective areas for further investigation, in support of enhanced future practice. They are:

How best to construct for learners a productive and lasting relationship between academic research and practice.

On the evidence of this project, that relationship is currently constructed largely as one of mutual verification in contexts of application. How might we develop this to establish for graduates a relationship between the two that will encourage them to sustain their engagement with both, in ways that will enhance their own continued learning, and knowledge development more generally.

How the areas of ethical and professional practice are incorporated most effectively in the curriculum.

Current practice, as described here, develops ethical and professional understanding through engagement with projects in specific subject areas. In light of enduring concerns about ethical and moral values in business, investigation of the impact of a range of curriculum interventions and syllabus positions (explicit or otherwise) might be useful (see, for example, Starkey and Tiratsoo, 2007, pp 79-82 and p 97).

How research methods training should develop to support contemporary enquiry.

Where research methods training is formally associated with advanced stage project or dissertation study, the more extensive embedding of research practice and enquiry more generally, throughout the curriculum, is likely to require earlier consideration of a broader range of research methods, as proposed by Booth and Harrington (2003).

How best to ensure that continued learning, beyond graduation, operationalises the graduate attributes.

A focus on practice and application emphasises the use of a range of tools and frameworks that must themselves be subject to evaluation, refinement and/or rejection. How do we ensure that graduates have developed not only a current tool set, but also the ability to evaluate the derivation and standing of such tools, such that they will also be in a position to evaluate future trends and developments, avoiding susceptibility to fad and fashion? (See, for example, Scarbrough and Swan, 2001.)

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8 Appendix: List of institutions surveyed/interviewed

Aberdeen Business School, The Robert Gordon University

Dundee Business School, University of Abertay Dundee

Department of Management, University of Glasgow

Management School and Economics, University of Edinburgh

Napier Business School, Napier University, Edinburgh

School of Accounting and Finance, University of Dundee

School of Management, University of St Andrews

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