**Challenges faced when using research-led learning**

***A briefing note***

1. **Introduction**

This briefing note is intended to outline some of the difficulties that arise when using research-led learning, indicating possible responses. We address three specific areas of challenge: course design, assessment and staffing.

We focus on learning that involves students engaging in research or in aspects of the research process, rather than on other forms of research-led learning (e.g. research methods courses or curricula based around research interests of staff). These latter forms of research-led learning are often taught in more traditional formats, and in such cases pose fewer demands.

1. **Course design**

* Undertaking research or an aspect of a research process usually involves students in additional work compared to courses that rely on lectures.

**Response 1 – Allow for the full demands of the course when setting its (credit) size**

Institutional regulations require programmes to be consistent with the requirements of the *Framework for Higher Education Qualifications in England, Wales and Northern Ireland*, which indicates that judgements on the volume of credit are determined primarily by the amount of learning necessary to achieve the intended outcomes. While the coverage of the syllabus may be comparable to a module taught on traditional lines or the word-length of the assessment tasks may be comparable, credits are determined rather by the amount of learning needed to achieve the intended outcomes. Learning that is based around a process of research thus often ocurs in relatively large modules (or in non-modular programmes takes up a relatively large part of the programme). Evidence may need to be gathered to justify that additional demands are placed on the students in specific settings.

**Response 2 – Restrict the number and scope of required tasks, and the associated resources and support**

Tasks involving research often require significant initial familiarisation, development of related skills, knowledge of the procedures needed to locate information, familiarity with equipment, and so on. The demands increase significantly where research is carried out in authentic settings. When group is involved, then extra time is required to coordinate the activities of the group members. Such considerations need to be taken into account when establishing what is required of students.

* Research processes are often extended in nature, making them difficult for students to pursue within a modular programme.

**Response – Make use of large modules, or pre-requisites and co-requisites**

A range of responses are possible to the challenges of pursuing extended processes within a modular system.

1. Larger modules may be advisable to allow sufficient time to complete an inquiry, or to ensure that student work is appropriately recognised.The largest allowed size of a module on an undergraduate programme within the university is 30 credits, although typically one might expect to wait until the third year of a programme before asking students to pursue an enquiry that is extended so fully.
2. It may be possible to complete an initial stage of an investigation within one module, while a second stage is completed within a further module. In this case the initial module will be required as a pre-requisite for the second module. Each module must obviously retain its own distinct identity, with separate learning outcomes, assessments and so on. It should also be possible for one to proceed to the second stage of the investigation with only limited success in completing the first stage. This may, of course, limit the extent to which this course design strategy may be employed.
3. **Assessment**

* Standard examination formats do not fit with the processes employed in research-led learning.

**Response 1 – Adapt the format of the examination paper**

One can adapt the format of an examination paper to ensure it provides an appropriate assessment of the intended learning outcomes.

1. If student learning is based around a scenario, as in problem-based learning, then examination questions can reflect this as well, with question(s) following the statement of a scenario.
2. If student learning involves collation of information from a range of sources, then a select number of sources could be provided for use during the examination. An open book examination provides another variation on this theme.
3. Questions can require students to provide an answer that is illustrated by a specific piece of research they have recently carried out.
4. Some of the examination questions can be released a certain time in advance so that students have time to complete further research, with unseen follow-on questions requiring further analysis.

**Response 2 – Employ alternative assessment formats**

Research-led learning is often suited to assessment by coursework, as research typically results in specific outputs (whether reports, papers, artefacts, performances, etc).

Possible alternative forms of assessment include online assessment, group assessment, patchwork texts, portfolios, personal accounts, presentations, posters and reports. (See the briefing note on assessment for further ideas.)

There are no institutional restrictions on the proportion of the assessment for a module that may be completed through coursework (although requirements are in place around the expectations for dissertations on masters degrees). But colleagues may need convincing that the assessment remains suitably demanding or that you have included controls to ensure that the work is the student’s own.

* It may be difficult or undesirable to assign a grade to student work, but it remains important that students fully complete the task(s) entailed.

**Response – Employ course or attendance requirements.**

A ‘course requirement’ is a condition that a student must meet in order to pass an assignment or module, or to be eligible to take an assessment. Typically a student would be required to complete a piece of coursework or to participate in a process, but the coursework would not formally assigned a grade/percentage.

All assessment methods employed here at the university should ‘provide students with the opportunity to demonstrate the achievement of the learning outcomes being assessed, whether at programme level or module/element of programme level.’ (*Code of Practice on Assessment* (COPOS) 3.3). Course requirements should thus be clearly linked to the intended learning outcomes on the module. The university has not otherwise developed formal guidance on the use of course requirements.

Course requirements should ideally be linked to assessment that is graded, whether as an appendix that must be cited, as text to be integrated into a graded piece of work, or in preparing students to complete a further task or answer an examination question. In such cases it may be possible to incorporate the course requirement into the assessment criteria for the subsequent piece of work. This essentially involves the staging of summative assessment.

Guidance on the use of attendance requirements is best sought at Departmental, School or Faculty level.

* Existing assessment criteria may not adequately take into account the range of student work completed.

**Response 1 – Employ assessment criteria that take into account the varying demands faced by students**

Authentic settings usually introduce a range of factors that make the tasks involved more demanding for students, but students should not be disadvantaged in assessment because of the particular circumstances they had to face. Adapt the criteria to allow scope for different underlying tasks, whether grading how well students have responded to the unpredictable demands of the authentic setting or the initiative that they were able to show in a more standard setting where few additional demands were present. One example assessment criteria is as follows, although grade descriptors are also be desirable:

* Either (a) Responded appropriately to challenges that emerged within the research setting, or (b) Exercised initiative in extending the scope of the specified task.

Appendix A of COPOS contains general guidance on the marking criteria to be employed for projects.

**Response 2 – Employ different sets of assessment criteria**

It may be challenging to assess both desk-based research (e.g. a literature review) and processes set in an authentic professional setting with the same assessment criteria. Consider devising different sets of assessment criteria for the main settings.

Where different assessment criteria are employed one might resaonably argue that different assesment methods are in use. COPOS (3.6) states: ‘It is permissible to offer a choice of different types of assessment within a module only if the learning outcomes of the module can be shown to be demonstrable by all the proposed assessment options. Where options for assessment within a module are available these must be approved as part of the approval process for the module. It is not permissible for alternative assessment arrangements from those approved for the module to be made available on an individual basis.’

1. **Staffing**

* Learning based around research requires significant levels of supervision from members of staff.

**Response 1 – Use PhD students, contract researchers, technicians or other professionals**

Research-intensive departments usually involve people other than academic staff. We see PhD students, contract researchers, technicians and others. It may be possible to make use of these colleagues as teaching assistants or in other support roles, given their own expertise in conducting or supporting research. While the available time of such colleagues is still limited, it is important to remember that they may receive other benefits, as in assessing whether they wish to pursue an academic career or in forming their identity as a researcher.

Support should be offered to these colleagues if they are asked to supervise research or student work related to aspects of a research process, ideally with initial training on the need to facilitate rather than direct student work, opportunities to socialise with colleagues engaged in similar roles, and so on.

**Response 2 – Require students to conduct research in groups**

The time demands on members of staff are moderated when students work in groups rather than on an individual basis. Group work is also usually desirable in that it makes students articulate the challenges involved and allows them to support each other in carrying out the work. The capacity to work within a group is furthermore an important skill for employability.

Group-work is particularly suited to research that requires the completion of a number of different tasks or that necessitates students taking on different roles. And it is ideal in cases where the students in the group bring with them different forms of expertise that are required by the task (e.g. interdisciplinary group work that draws on the different discipline-bases of the students involved, language learning where native and second-language speakers are paired together). (See the separate briefing note on students working in groups.)

* Colleagues are either not used to students engaging in research or are unwilling to make the necessary adaptations to their teaching.

**Response 1 – Make a convincing case within the department**

Colleagues need compelling reasons to adapt their practice, and thus any decision to make greater use of research-led learning should be carefully judged at the departmental level. Student recruitment may be an issue: programmes that involve extensive use of research-led learning are often seen as more attractive by potential students, improving the levels of recruitment of high calibre or international students. Or a professonial body may be pushing for students to master a range of skills and capacities that are best developed through experience of research.

A number of clear also reasons exist at institutional level for departments to give serious and substantive consideration to a greater use of research-led learning. The university’s strategic plan envisages an intellectual environment in which teaching and learning is driven by research excellence; and, in one of only four comparable points, the recent institutional audit (March 2009) from the Quality Assurance Agency indicated:

It would be desirable for the University to: continue to give serious consideration to developing and supporting models of integration between research and teaching across the full range of its curricula, exploiting the results of good initiatives elsewhere and the considerable innovative practice within the University as demonstrated by some of its staff (paragraph 29).

**Response 2 – Ensure effective socialisation around research-led teaching**

If teaching is viewed simply as an isolated activity then colleagues may still find it difficult to overcome the many challenges that one faces when seeking to employ research-led learning. Good practice already developed by colleagues can make a significant difference, as can constructive discussions about potential ways forward or about what works well in the given disciplinary context.

But the sharing of ideas and good practice is unlikely to occur of its own accord when discussions between colleagues focus most naturally on research or on shared administrative tasks. If any significant increase in the uptake of research-led learning is to result, then a range of triggers will be required, whether roles, structures, events, scheduled discussions or so on.

Dr Peter Kahn, Educational Development, Centre for Lifelong Learning

September 2009