enhancement themes

Enhancing practice

Integrative assessment

Blending assignments and assessments for high-quality learning

Guide no 3

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Preface

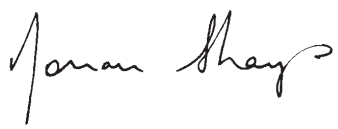
The approach to quality and standards in higher education (HE) in Scotland is enhancement-led and learner-centred. It was developed through a partnership of the Scottish Funding Council (SFC), Universities Scotland, the National Union of Students in Scotland (NUS Scotland) and the Quality Assurance Agency 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 enhancing HE 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 on internal reviews is published by 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 on the information to be published by HEIs is provided by 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 and 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, and 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 HE.



Norman Sharp
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Blending assignments and assessments for high-quality learning

Enhancement Themes Guides to Integrative Assessment, no 3

The starting point for this Guide is why it might be important not only to assess students' progress and performance by a variety of means, but also to consider what combination or **blend** of assignments and assessments in a course or programme of study might be optimal. The Guide goes on to explore what considerations might shape how assignments and assessments can be blended, highlighting examples and case reports from a cross-section of subject areas and course settings.

Striving for an effective blend of assignments and assessments, it is suggested, is a key aspect of an **integrative** approach to assessment, ie one in which the many and various strands of assessment come together in a coherent way that addresses the desired goals.

The other three Guides in the **Integrative Assessment** series focus on *Monitoring students' experiences of assessment, Balancing assessment* of *and assessment* for *learning*, and *Managing assessment practices and procedures*. All four Guides can be freely downloaded from the Enhancement Themes website: www.enhancementthemes.ac.uk/themes/IntegrativeAssessment

Introduction

To modern eyes, how students were assessed a bare half-century ago may look rather limited and repetitive, perhaps even austere. Assessment then, could largely consist of a succession of relatively uniform essays or reports followed by a diet of end-of-year or final written exam papers, performance in which was the decisive determinant of students' progression to a subsequent year of study or, ultimately, of the class of degree with which they graduated. But the intervening years have seen a remarkable diversification of assessment, laying before present-day university teachers and their students a smörgåsbord of possible approaches to assessing students' progress and performance.

Although these approaches to assessment span the gamut of exams, tests and coursework assignments, they are at their most expansive in coursework, where even a decade ago it was possible to find documented examples of nearly one hundred different types and sub-types of assignments in Scottish higher education (Hounsell et al 1996; Hounsell 1998; Hounsell and McCulloch 1999), and a similar pattern of profusion in Australian universities (Nightingale et al 1996). Yet to focus only on assessment methods risks giving insufficient acknowledgement to the many dimensions of variation in assessment which underlie, or sit alongside, any particular method. Figure 1 attempts to convey the richness of these dimensions, by indicating the wide array of learning opportunities they can open up for students.

Figure 1 Assignments and the learning opportunities they offer

Emerging opportunities for students	Examples of assignments and assessment
• To learn how to communicate information and ideas in other than the written word, by presenting their work orally or in mixed-media form, in front of a 'live' audience of their tutor and fellow students.	Seminar, poster, video, video conferencing or other multimedia presentations.
• To develop a 'sense of audience', by gaining practice in how to communicate information and ideas to individuals and groups beyond their lecturers, tutors or fellow students.	Talks to school pupils learning the same subject; a report to a community on a project or initiative; a guide for the public.
• To gain experience of working on set questions and problems under pressure, but with more time to reflect or to consult notes and other resources, and/or less reliance on memory than under traditional exam conditions.	Take-home exams; open-book tests or exams; seen questions; taken-when-ready tests.
• To learn how to prepare for, plan, implement, analyse and report on a substantial inquiry, experiment, survey or investigation which pushes at the boundaries of their understanding within a subject area or discipline.	Major and extended projects or dissertations.

• To review in a systematic way how effectively they have learned, and so identify and remedy strengths, gaps and misconceptions in their knowledge and understanding.	Computer-based self-testing using multiple-choice questions and other forms of online tests.
• To acquire expertise, in carrying out everyday academic/study tasks, in the use of applications of information and communications technology (ICT) which have become well established in professional, commercial and industrial workplaces.	Spreadsheets; bibliographic and other databases; slide and poster design software; project planning; web design; online surveys.
• To become more accomplished at systematically documenting (and reviewing what can be learnt from) observations, experiences, reflections and insights when engaged in an ongoing task or activity.	Project, fieldwork, placement, studio or laboratory diaries; reflective logs; portfolios; workbooks.
• To develop skills in the progressive interchange, debate, reformulation and refinement of information and ideas online.	Contributions to a web/bulletin board or online forum, and comments on/responses to others' contributions.
• To become more adept within a subject area at writing in different forms, formats and 'genres', and mastering the distinctive requirements and conventions associated with these.	Designs or proposals; book reviews; case reports or case studies; web pages; journal articles; newspaper/ magazine/newsletter articles.
• To take a more active role in an aspect of assessment, and so enhance their capacity to review and apply criteria for assessment, to judge the quality of their own and others' work, to give constructive feedback, and to reflect on how that work might be improved in consequence.	Peer feedback on assignments; self-evaluation of a presentation; peer-generated criteria on a community project; peer-marked laboratory reports.
• To gain a better grasp of the benefits and challenges of working collaboratively and cooperatively, while also gaining insights into how others tackle questions, define problems, organise tasks, or communicate ideas.	Group problem-solving; joint book reviews; team presentations; role-plays; collaborative projects and exhibitions.
• To learn how to review, reorganise, polish and enhance ongoing work in response to periodic feedback from others (eg lecturers, tutors, student peers, experienced professionals, a sample audience).	Ongoing designs, proposals or plans; draft-and-revise assignments; dissertation chapters; patchwork texts.

As Figure 1 suggests, one of the benefits of that prodigious diversification of assessment lies in a greater freshness of challenge, helping to stretch and refine what today's students know, understand and are able to do. Another stems from greater alertness to what will be expected of these students in their working lives beyond graduation, as can be seen in efforts to devise and set tasks which both meet academic requirements and mirror the fast-evolving demands of the modern workplace and the pull-and-push of advances in information technology.

But there is another substantial benefit of diversification and one which is of most interest here. It enables consideration of how best to mix and match or blend assignments and assessments - ie selecting and combining options so as to achieve the best possible fit with contemporary goals, needs and circumstances in a given course and subject setting. In other words, blending of this kind is not just combining inputs or options, or mixing traditional and innovatory approaches - as it can mean in 'blended learning' (Mason 2005; Boyle 2005) - but doing so with particular purposes in mind.

In this Guide, four such purposes are explored:

- blending to achieve a high degree of match or **alignment** between approaches to assessment and the learning outcomes being pursued
- blending for **inclusivity**, aiming to address differing student needs and aspirations
- blending to promote and support **progression** in the evolution of students' understanding, skills and other capacities
- blending to weigh considerations of both **quality** and **economy**.

In the sections which follow, each of these purposes in blending assessments is examined more fully and, where appropriate, illustrated by examples from everyday practice in a range of subject areas.

Blending for alignment

In contemporary frameworks for course design and development, what typically occupies centre-stage is the identification of 'intended learning outcomes' (Otter 1992): what students know, understand or are able to do as a consequence of the set of learning activities and experiences represented by a module, course unit or programme of study. How these learning outcomes interconnect with assessment has been lucidly described by Norman Jackson (2000):

> Module outcomes predict the learning that students will have demonstrated when they have completed the curriculum unit. These learning outcomes relate directly to the assessment methods and criteria used to evaluate performance. Module outcomes are connected to academic standards through explicit assessment criteria and the evidence students provide of learning. Assessment criteria guide students on the quality of work expected in order to achieve the necessary standard and help academic staff to judge the extent to which the outcomes have been achieved. The actual standards of achievement are embodied in marks, grades and performance statements.
>
> (Jackson 2000)

One of the most influential models for thinking through an outcomes-based approach to course design is to be found in the work of John Biggs, and particularly in what Biggs calls **constructive alignment** (Biggs 1996, 2003). From this perspective, a course is viewed as a teaching-learning system which functions effectively when learning outcomes ('objectives' in Biggs' model) are of an appropriately high quality, and the key components or elements which make up the system - one of which is assessment - are working in close harmony with each other:

> In aligned teaching, there is maximum consistency throughout the system. The curriculum is stated in the form of clear objectives, which state the level of understanding required rather than simply a list of topics to be covered. The teaching methods are chosen that are likely to realise those objectives; you get students to do the things that the objectives nominate. Finally, the assessment tasks address the objectives, so that you can test to see if the students have learned what the objectives state they should be learning. All components in the system address the same agenda and support each other.
>
> (Biggs 2003)

Achieving a good degree of alignment between assessment strategies and intended learning outcomes, however, may not be straightforward, and especially since it is rare to start with a baggage-free hold. Whether the aim is to plan an assessment scheme for an entirely new course or to reconfigure assessment in a well-established one, there may be subject traditions to take heed of, faculty or university-wide practices to accord with, and perhaps also the expectations of a professional accrediting body to be accommodated. Any or all of these marker posts may be invoked by colleagues and peers in coming to a judgment about the appropriateness of a particular method of assessment in a given course setting.

These considerations notwithstanding, there are two broad arguments in favour of blending assignments and assessments to maximise goodness-of-fit with learning outcomes. The first of these is on grounds of **complexity**. Typically, any given course unit or module will set its sights not on one

learning outcome but on three or four (perhaps more), and it is extremely unlikely that a single means of assessment can be identified that would be equally well aligned with all of these learning outcomes (see, for example, Ramsden 2003; Newble 1998; Rust 2005). Take, by way of illustration, a course unit where the intended learning outcomes include analytical or interpretive skills on the one hand, and breadth of knowledge on the other. Coursework assignments such as mini-projects, case reports or reflective essays could be a fruitful means of nurturing the former, but would need to be combined with a rather different method of assessment (short-answer questions in an exam paper, say) in order to capture the latter.

The second and interrelated argument is on grounds of **complementarity**, and is underpinned by compelling evidence of the unintended consequences or 'backwash' effects of assessment on what and how students learn (Newble 1998; Boud 2000; Biggs 2003; Ramsden 2005). From this standpoint, it is crucial to consider not only what particular method or technique might be highly desirable in order to assess a given learning outcome, but also what less welcome side-effects it might have - and how these could be mitigated by blending the technique concerned with another that could act as a counterweight, offering complementary strengths and limitations. Evidence on the use of multiple-choice questions (MCQs) provides a good illustration. In research by Scouller (1998), for example, MCQs tended to be perceived by students as calling for relatively low-level learning outcomes and the adoption of a surface approach which favoured memorisation over understanding, while those students who had taken a deeper and more analytical approach in preparing for the MCQ exams actually performed less well. In the students' essay assignments, by contrast, a deep approach was much more likely to be seen as appropriate, and those who had used a surface approach did less well.

Another example is found in a report of efforts to introduce MCQs into the end-of-module examinations in undergraduate first-year economics (Reimann and Xu, 2005). It was envisaged that the new MCQs would sit alongside a series of short-answer questions (SAQs) which had featured in previous examination papers in the module. Concerns that the introduction of the MCQs might have a deleterious effect on the overall quality of the students' learning, however, were successfully addressed in two ways. First, there were efforts to review and strengthen the SAQs, with the aim of ensuring that these set the students appropriately challenging problem-solving tasks. Secondly, the students were systematically briefed and prepared for what the complementary assessments would entail.

Below is a range of other case examples of blending assessments for alignment.

A veterinary science teacher at the University of Sydney has used an innovative assessment task in a large neurophysiology class to encourage students to adopt deep approaches to learning. He modified the way students were assessed in the past (multiple choice and short answer questions) by introducing an open-book test with questions based on real-life situations, to change students' ways of learning and perceptions of what is 'really important' to learn. In consequence, learning outcomes improved for the whole class.

Taylor R, Using an open-book examination: Assessment methods for large classes, *Assessing Learning in Australian Universities* online materials
www.cshe.unimelb.edu.au/assessinglearning/04/case20.html (last accessed 18 December 2006)

In the MSc in Interprofessional Studies at the University of Wales Institute Cardiff, an aligned assessment strategy has been devised for a core module. Eschewing traditional methods of assessment, this novel assessment blend is based on a group task comprising a group portfolio, a joint presentation, an individual essay, and a peer review. Both students and external examiners have consistently evaluated the learning and assessment as valuable and tailored to students' needs.

Connor C (2005) An aligned assessment to promote learning about collaboration between health and care professionals, *Learning and Teaching in Higher Education*, 1, pp 98-101

In developing a new degree programme in healthcare at the Hong Kong Polytechnic University, the concern was to move away from the assumption (prevalent in the existing diploma course) that students were firmly wedded to spoon-feeding and regurgitation. The new curriculum design followed a more student-centred strategy that emphasised independent learning and fostered a search for meaning and understanding, and both teaching-learning and assessment strategies were extensively modified to seek greater alignment. The blend of assessment devised for the new programme aimed to make less use of written, knowledge-based tests and exams, putting the accent on more varied forms of coursework that would also yield better feedback. Empirical evidence is presented of a shift in the students' approaches to studying.

McKay J and Kember D (1997) Spoon feeding leads to regurgitation: a better diet can result in more digestible outcomes, *Higher Educational Research and Development*, 16.1, pp 55-67

The Course for History Implementation Consortium (Chic) project worked with 14 UK history departments as well as with departments of design, English, health and religious studies to support collaborative, inclusive learning which integrated online and face-to-face delivery. An important focus of the Chic project was the use of ICT to help align assessment as well as teaching and learning, with the aim of promoting students' critical use, understanding and application of source materials.

Hall R (2002) Aligning learning, teaching and assessment using the web: an evaluation of pedagogic approaches, *British Journal of Educational Technology*, 33.2, pp 149-158

A book chapter by Karen Hinett includes a discussion of specimen assessment schedules devised in the School of Law at Brighton University. The schedules provide a means of mapping a range of types and forms of coursework and examinations against the intended learning outcomes of the course units offered.

Hinett K (2002) Diversifying assessment and developing judgement in legal education, in Burridge R et al (eds), *Effective Teaching and Learning in Law*, London: Kogan Page, pp 60-61

The Odense University College of Engineering has begun a revision of all curricula, focusing on the principle that all curricula should foster deep approaches to studying and provide students with opportunities for active learning. Assessment is perceived as having a key role to play. All teaching-learning and assessment activities must be aligned with the course aims.

Kirstensen H and Sorensen B (2004) An example of how assessment relates to practice when student learning is the main principle for creating curricula, *European Journal of Engineering Education*, 29.2, pp 203-209

At Griffith University's Gold Coast campus, assessment in a large-enrolment introductory marketing course was redesigned to give greater emphasis to conceptual understanding and generic skills. Greater alignment was achieved through a combination of ongoing progress tests, a multi-phase team project and a final exam.

Harrison-Hill T (2001) The use of feedback in the organisation of a large class, *Teaching Large Classes: Case Studies*, Austrailian Universities Teaching Committee Project, Teaching and Development Institute, University of Queensland
www.tedi.uq.edu.au/largeclasses/pdfs/CaseStudy-11_Hill2.pdf (last accessed 18 December 2006)

As part of a final-year research project in the Department of Biosciences at the University of Kent, students not only carry out an extended study 'on a topical, controversial or poorly understood area of science', but now also prepare for and communicate their findings in local schools as part of National Science week. Schoolteachers contribute to the marking of the presentations, which are assessed alongside the written dissertations. The latter aims to ensure that the students achieve a depth of knowledge comparable to that of the more traditional laboratory-based project, while in the former they learn 'to communicate science effectively to a general audience'.

Lloyd D (2006) Final-year projects in science communication, *Centre for Bioscience Bulletin*, 18, p 11
www.bioscience.heacademy.ac.uk/ (last accessed 18 December 2006)

An illustration is given of how intended learning outcomes have been matched to teaching-learning and assessment activities in a course unit on Basic Clinical Skills in Medicine. This forms part of a wider discussion, informed by research findings, of the design of assessment strategies.

Newble D (1998) Assessment, in Jolly B and Rees L (eds), *Medical Education in the Millennium*, Oxford: Oxford University Press, pp 131-142

In the Faculty of Health and Human Sciences at Thames Valley University, a range of assessment methods were designed for a new nursing degree geared to problem-based learning (PBL). The assessment methods were chosen to be congruent with the PBL curriculum outcomes.

Young G and Marks-Maran D (2002) But they looked great on paper, in Schwartz P and Webb G (eds) *Assessment Case Studies, Experience and Practice from Higher Education*, London: Kogan Page, pp 106-113

Further illustrations of how a focus on high-quality learning outcomes were aligned to a blend of assessment methods can be found in *Learning to Teach in Higher Education*, (Ramsden 2003) with case examples presented from courses in anatomy, interior design, animal science, art history, social statistics and literary studies that feature at various points in the book.

Blending for greater inclusivity

The most recent research on alignment has highlighted an important student dimension which merits fuller consideration. Course design, it is suggested, needs to take account not only of how well assessment and teaching-learning approaches are aligned to learning outcomes, but also how well they are attuned to, or 'congruent' with, the backgrounds and aspirations of an increasingly diverse student population (Hounsell et al 2005). As far as integrative assessment is concerned, in other words, too great a reliance on particular forms or techniques of assessment, or the use of a relatively narrow range of these, can be more advantageous to some students than to others, and thus may be a potential source of inequity.

For example, many traditionally qualified students embark on undergraduate study already familiar with the kinds of task they will be expected to undertake in coursework, tests and exams (since they obtained a good A-level or Higher grade in the subject concerned and studied at a school with a long history of preparing students for university entry). Yet other students entering university by less conventional routes or from more disadvantaged backgrounds may have no such fund of experience to draw upon and so struggle to find their feet in their first year. Could an assessment scheme be considered fair if it had the effect of enabling the traditional entrants to shine without having to stretch themselves, while leaving the non-traditional entrants toiling to make up the gap between themselves and their peers? And what might be the consequences of an extended game of catch-up for the motivation and commitment of some non-traditional students?

In a similar vein, where for instance students' talents were most in evidence in teamwork or when they communicated what they had learned orally, an assessment scheme that rewarded only individual performance and written expression would not enable them to play to their strengths, while perhaps privileging those whose talents had the opposite profile. As is argued by Howard Gardner, well known for his seminal work at Harvard University on multiple intelligences, an assessment initiative that took account of contemporary research findings:

> should be sensitive to development stages and trajectories [..]; should recognize the existence of different intelligences and of diverse cognitive and stylistic profiles, and it should incorporate an awareness of these variations into assessments; it should possess an understanding of those features which characterise creative individuals in different domains.
>
> (Gardner 1999)

It is against the backdrop of considerations such as these that there have been growing attempts to blend assignments and assessments in ways that more directly address and engage with student diversity. Below are some case examples and initiatives which have been identified in the course of the Integrative Assessment project.

Two case studies are discussed - one from the humanities, the other from engineering - in which lecturers aimed to craft assessment strategies that could help to develop students' autonomy as learners, in a context of increasing student diversity. The approaches adopted made use of formative and summative self-evaluation activities, as well as providing students with opportunities to gain experience of assessing the work of their peers and giving feedback to one another.

Sambell K, McDowell L and Sambell A (2006) Supporting diverse students: developing learner autonomy via assessment, in Bryan C and Clegg K (eds) *Innovative Assessment in Higher Education*, London & New York: Routledge, pp 158-168

At Birkbeck College, the assessment approach followed in a new biological sciences module is tailored to the needs of the part-time students taking the module. The main goals have been to help to instil a steady pace of study and provide opportunities for focused revision and deep learning. The core element is computer-based assessment, but in combination with lab reports, short written tests and short question sets. The results of an evaluation of the assessment strategy suggest that it has succeeded in its goals.

Rayne R C and Baggott G K (2006) Using frequent computer-based assessment to 'set the pace' in a first-year bioscience module, in Stefani L, *Effective Use of IT: Guidance on Practice in the Biosciences*, The Higher Education Academy, Centre for Bioscience www.bioscience.heacademy.ac.uk (last accessed 18 December 2006)

A flexible assessment system was introduced in a course in the Faculty of Business, Economics and Law, University of Queensland, to address concerns about failure rates, which were felt to be associated with the complexity of the course content and the diversity of the student body. The system adopted consisted of a compulsory final exam (60% at least), an optional mid-semester exam (25%) and five computer-managed learning exercises (15%). Students could choose from various combinations of one or more of the three forms of assessment, and their best score was used in allocating a grade.

Asafu-Adjaye J (2001) Flexible assessment in a business course, *Teaching Large Classes: Case Studies, no 2,* Australian Universities Teaching Committee project, University of Queensland www.tedi.uq.edu.au/largeclasses/case_studies_frameset.html (last accessed 18 December 2006)

In the History Access Course at Trinity College Dublin, a set of 'hot potatoes' MCQs was developed and made available to students on the course's website using WebCT. The course leader, Dr Patrick Geoghegan, wanted to combine the existing assessment mix with a means by which the students could test themselves in a non-intimidating way that could be fun. The aim was to give the students confidence in their note-taking skills, while also enabling them to monitor their own progress without the assessment being formal and summative, as an assigned essay or unseen exam would be.

Geoghegan P M (2006) 'Hot potatoes' formative assessment, in *Every Student Matters' Activities for Engaging and Widening Participation in Higher Education: A Preliminary Collection*, Higher Education Academy Ireland http://elearning-events.dit.ie/diversity/CaseStudy_results_list.asp?reference=12 (last accessed 18 December 2006)

An experienced biosciences lecturer at the University of New England in Armidale, New South Wales, reviews the range and mix of assessment methods that would be suitable for first-year undergraduate science courses with large and diverse student intakes, and suggests what guiding principles (including resource implications) should underpin choice 'from a multitude of options'.

Quinn F (2005) Assessing for learning in the crucial first year of university study in the sciences, in McLoughlin C and Taji A (eds), *Teaching in the Sciences: Learner-Centered Approaches*, New York, London, Oxford: Food Products Press/Haworth press, pp 177-197

The 'Towards Learning Creatively' project focuses on assisting lecturers in the area of hospitality, leisure, sport and tourism to develop a more diverse range of inclusive assessments that are better attuned to the needs of students with dyslexia. The project is a collaboration between Southampton Solent, Oxford Brookes and Bournemouth Universities.

Jackson C (2006) Towards inclusive assessment, *Educational Developments* (SEDA) 7.1, pp 19-21

In the Lifeplace Learning modules designed by the Department of General Academic and Professional Studies at Glasgow Caledonian University, assessment is entirely open and tailored to students' needs and interests. While students generally opt to demonstrate their achievements through well-established assessment methods such as essays and reports, these have been combined in some cases with videos, practical demonstrations, unseen tests, posters, project boards or oral presentations.

From a case description provided by Margaret Blair, Department of General Academic and Professional Studies, Glasgow Caledonian University
www.learningservices.gcal.ac.uk/cllc/index.html (last accessed 18 December 2006)

In a class of mixed-ability engineering students at the University of Hong Kong, fundamental concepts are taught fully in class, while higher-level content is noted. Students are encouraged to study the textbook for higher-level content, which is assessed in the 'bonus' section of a test, with questions structured so that students can actually learn as they address them. Further learning occurs when the bonus questions are discussed.

Chan H P and Mok Y F, 'Learning-through-assessment': assessment tasks that challenge more accomplished students, in Carless D, Joughin G, Liu N F et al, (eds) *How Assessment Supports Learning: Learning-Oriented Assessment in Action*, Hong Kong: Hong Kong University, pp 107-109

A case study describes the approach to assessment followed in an honours degree at the University of Northumbria where children and childhood are major themes for enquiry. The students concerned are non-traditional entrants with very varied prior learning experiences. A variety of assessment activities (especially of a formative kind) have been introduced to help the students to become more skilled at self-monitoring their academic work.

Sambell K, Miller S and Hodgson S (2002) Let's get the assessment to drive the learning, in Schwartz P and Webb G, *Assessment: Case Studies, Experience and Practice from Higher Education*, London: Kogan Page, pp 137-143

Blending to facilitate and promote progression

In *The Democratic Intellect*, George Davie reports the evidence given by Professor Buchanan in 1837 to the Scottish Universities Commission:

> Are you able to see a marked and sensible progress in the generality of students?' - Very marked and very delightful progress. Towards the end of the session, my duty becomes extremely pleasant. In the earlier months, they overcome what is difficult in acquiring habits of composition. One proof of the advantages of regular exercises (essays, etc) is that sometimes young men who have made no progress until February or March suddenly start forth and compete for the highest honours in the class.
>
> (cited in Davie 1961)

Nowadays, happily, undergraduate students are neither exclusively male nor necessarily young, but they may still struggle to acquire 'habits of composition' and their teachers continue to embrace the advantages of 'regular exercises'. Increasingly, however, assignments and assessments are being blended with the aim of facilitating and accelerating progression, ie so that it is proactively built-in. In other words, the intention is to combine assessments in ways that have the potential to assist students to learn more rapidly, or in greater depth or scope, than would otherwise be the case.

Two possible approaches to designing-in progression can be found in one of our companion guides, *Balancing assessment* of *and assessment* for *learning*. One approach is to give an added boost to the learning potential of an existing assignment or assessment through more active student involvement in generating or interpreting feedback comments. Another is to use feedforward to make a particular assessment more 'recursive', so that students have an opportunity to improve a draft or retake a test. But progression can also be fostered through combining different assignments or assessments, whether through blending within a particular course unit, or (as in the first of the case examples below) blending that extends across course units or years of study.

The School of Engineering and Technology at Deakin University provides an example of a carefully designed, strategic assessment regime that is well integrated with teaching and learning goals. In the first year, Dr Stuart Palmer has used assessment as a foundational tool to establish students' study habits and skills, while by the fourth year assessment tasks have evolved to reflect the world of professional practice and to allow students to demonstrate their integration of knowledge and skills. The careful weightings also underscore the value attached to particular assessment tasks.

Palmer S (2000) Authenticity in assessment: Reflecting professional practice, *Assessing Learning in Australian Universities* online material
www.cshe.unimelb.edu.au/assessinglearning (last accessed 18 December 2006)

At the University of Stirling, students following a Scottish Credit and Qualifications Framework level 7 course were given the opportunity to self-assess their submitted work, comparing their marking with that of their tutor and subsequently discussing the feedback on a one-to-one basis to ensure mutual understanding on the part of tutor and student around the learning and assessment process. This facilitated the development of self-assessment, critique and reflection.

Saich G, *360 Degree Feedback, Student Enhanced Learning through Effective Feedback* online case
www.heacademy.ac.uk/assessment/ASS047D_SENLEF_360Degree Feedback.doc (last accessed 18 December 2006)

In the Hong Kong Institute of Education, computer-supported teamwork has been used in a third-year Fashion Design module. The approach engages students with key issues in a subject over a period of time through online discussion, and provides them with experiences of social creativity. Peer assessment has also been used within the BlackBoard virtual learning environment, both within groups and among groups.

Ma W W A (2006) Assessing creative teamwork using ongoing peer critique, in Carless D, Joughin G, Liu N F et al (eds) *How Assessment Supports Learning: Learning-Oriented Assessment in Action*, Hong Kong: Hong Kong University press, pp 87-91

A team led by David Nicol at the University of Strathclyde is exploring how information and communications technology can support formative assessment processes and the development of self-regulation in large first-year classes. Two case studies are reported in this journal article. In one, a pilot study in a first-year psychology course, the online discussion tool WebCT is being used for supportive peer discussion of three set questions. A key design feature is that the questions become progressively more difficult, students proceed from an individual to a group response, and a model answer (but not tutor feedback) is provided at successive points. In the second example, in mechanical engineering, an electronic voting system (EVS) is integrated into teaching in a form that engages students in a continuous cycle of tests, feedback and retests while enabling the tutor to pinpoint and remedy significant areas of student misunderstanding.

Nicol D (in press) Laying a foundation for lifelong learning: case studies of technology-supported assessment in large first-year classes, *British Journal of Educational Technology*

In the School of Life Sciences at Keele University, second-year lectures on nerve, muscle and endocrine physiology included formative tests, on which students received feedback within 24 hours. This was followed up by weekly summative testing on the same material, but utilising a proportion of the same questions. Over a three-year period, students' reported study hours during the module increased significantly over their normal study time, and summative test scores were significantly higher. Students approved of the novel learning regime, but only when supported by lectures.

Chevins F (2004) Lectures replaced by prescribed reading with frequent assessment: enhanced student performance in animal physiology, *Bioscience Education Electronic Journal* www.bioscience.heacademy.ac.uk/journal/vol5/beej-5-1.htm (last accessed 18 December 2006)

At Northumbria University, a module on popular writing had been summatively assessed at the end of the second semester by means of an extended essay, but it was found that students were embarking on preparatory work on the extended essay too late, to the detriment of their learning. The module was therefore redesigned to include compilation of a reading dossier (which included notes made for and during seminars, as well as notes on primary and secondary reading), submitted alongside a draft essay proposal. Feedback and dialogue between tutor and student concerning the extended essay improved, and students gained fuller opportunities to practise and refine the thinking and analytical skills called for in the summative assessment.

McDowell L and colleagues (2005) Developmental assessment, in *Assessment for Learning. Current Practice Exemplars from the Centre for Excellence in Learning and Teaching*, MARCET, Northumbria University, Red Guides, no 11, p 8
www.northumbria.ac.uk/marcet/(last accessed 18 Decemeber 2006)

Blending for economy and quality

Finally, there is the challenge of squaring the quality/economy circle - that is, of weighing the desirable against the affordable and feasible. This has long been a familiar issue in higher education (see, for example, Anderson et al 2003) even though we often think of it as one that besets the modern university in particular. But in the case of assessment, it can reasonably be argued, there are contemporary considerations that come into play in devising an assessment blend that will optimally square the circle. Most obviously, declining unit resources combined with rising student numbers over the last two decades have brought a relative reduction in assigned coursework and opportunities for interaction in tutorials and practicals, combined with higher marking and commenting workloads for staff (DfES 2003; Hounsell, in press). Against this background, it becomes all the more important that every assignment and assessment that goes into the blend 'punches its weight': in other words, it contributes significantly either to the quality of learning or to economy of outlay, and any potential downsides can be offset by another ingredient in the blend. In some few happy instances, of which peer feedback is the most obvious example, there can be gains in quality without significant cost (Hounsell, in press).

Furthermore, each new possibility that opens up as a consequence of the diversification of assessment can have set-up as well as ongoing costs that need to be reckoned with. Computerised multiple-choice tests of the kind discussed earlier, for example, can offer considerable long-term savings in time and effort, especially for large-enrolment courses, but may be costly to devise and launch (see, for example, Gahan 2001; Quinn 2005). Conversely, extended projects or portfolio assignments may be quick and relatively straightforward to introduce, but then continue to call for individualised support, supervision and marking of a far from negligible kind.

And lastly, we also need to weigh carefully what the likely implications of a given assessment blend might be for students. What will be required of them, within what time-span and calling for what resources? What prior knowledge and skills will they be called upon to display and deploy? What support and feedback will they be able to take advantage of? And how can they expect to benefit, in terms of the advancement of their learning and their academic progress? These questions need to be addressed because in today's higher education, where many students have caring responsibilities and most are combining a part-time job with studying for a degree, it would be inappropriate to act as if blending assessment cost-effectively had significance only for staff and institutions.

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Additional resources

For further information and additional resources, please look at Blending assessment on the Enhancement Themes website: www.enhancementthemes.ac.uk/themes/IntegrativeAssessment

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