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Assessment

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Preface

The approach to quality and standards in Scotland is enhancement-led and learner-centred. It has been developed through a partnership of the Scottish Higher Education Funding Council (SHEFC), Universities Scotland, the National Union of Students in Scotland (NUS Scotland) and the Quality Assurance Agency for Higher Education (QAA) Scotland. 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, supporting learners and staff at all levels in enhancing higher education in Scotland drawing 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 the higher education institutions themselves; guidance on internal reviews is published by SHEFC (www.shefc.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 higher education institutions is provided by SHEFC (www.shefc.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, which is facilitated by QAA Scotland (www.enhancementthemes.ac.uk).

The topics for the 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 developing a programme of development activities, which draw upon national and international good practice. Publications emerging from each theme are intended to provide important reference points for higher education institutions 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 various enhancement themes, a new overarching committee has been established, chaired by Professor Kenneth Miller (Vice-Principal, University of Strathclyde). It will have the important dual role of keeping the five-year rolling plan of enhancement themes under review and ensuring that the themes are taken forward in ways that can best support institutional enhancement strategies. We very much hope that the new committee, working with the individual topic-based themes' steering committees, will provide a powerful vehicle for the progression of the enhancement-led approach to quality and standards.

A handwritten signature in black ink, appearing to read 'Norman Sharp', with a stylized flourish at the end.

Norman Sharp
Director, QAA Scotland

Enhancing practice: Assessment

Professor David Lines, The Robert Gordon University and Dr Colin Mason, University of St Andrews

A series of workshops and scoping studies provided a focus for much of the Scottish higher education's work on the enhancement theme of Assessment. Five key issues emerged, along with suggestions as to ways in which each might be tackled. Needless to say, there was an extent of overlap. The key issues were as follows.

1 The need to avoid over assessment and find ways to reduce the assessment load

The following alternatives might be helpful as a means of addressing these issues:

- the use of alternative methods, such as self and peer-assessment
- a close inspection of assessment instruments to ensure that specified learning outcomes are only assessed once
- a substitution of summative assessments for more formative ones
- the application of long, thin modules that require end-of-session examinations rather than at the end of the first semester
- the use of 'synoptic' end of year tests, which have the additional advantage of reducing the tendency for students to see learning in bite-sized chunks.

2 The need to redress the balance between formative and summative tasks with the former to be increased at the expense of the latter

There was a widespread belief that a major step forward for assessment practices will be to provide more opportunities for students to learn from their mistakes through, for example:

- the progressive weighting of assignments so that at the start of a course the summative element is a relatively small proportion compared to the formative, to a situation at the end where the proportions are reversed

- the use of computer-aided assessment (CAA), which was seen as an unthreatening environment for students and one that can provide instant, high-quality feedback
- the application of self and peer-assessment, which are ideal for formative purposes
- the development of personal development planning (PDP), which offers an opportunity to embed the notion of an ongoing process, using a variety of sources as evidence, including formative assessment tasks.

3 The need to provide effective student feedback and develop methods for improving its quality

Inevitably, some of the proposals discussed for dealing with this issue overlapped with the first two outlined above. These included:

- various forms of CAA, which should include automated, instant feedback for incorrect answers
- personal response systems which can be deployed in lectures and other large-group teaching situations
- classroom assessment that can be incorporated during staff-student contact times
- self and peer-assessment might include feedback comments on the strengths and weaknesses of assignments.

4 The need to ensure that there is a better match between teaching, assessment and learning outcomes

Although the above principle, based on constructive alignment, is well known across the sector, there is sometimes a tendency to assess that which is easy to assess rather than the explicit intended learning outcomes. The use of portfolios and processes such as PDP may force a revision of positions, along with the use of a variety of tests and other tasks that reveal competence or capability, but which might be considered unconventional. These might include:

- the use of oral presentations and teamwork
- directly engaging students in the design and application of the ways they are to be assessed.

5 The need to develop and implement innovative assessment techniques

Innovative techniques can be used to reduce the assessment load or to switch from summative to formative tasks; they can offer better and quicker feedback and they can provide an improved match between teaching, assessment and learning outcomes. It is important, however, to remember that:

- efficient practice is not necessarily effective practice and vice versa
- a careful selection of methods is required to achieve an optimum balance
- what may be innovative in one discipline is well-established practice in others and so a rounded view must be taken.

More detailed information, along with possible ways of addressing each of these challenges, can be found later in this report and in the main publication that includes all the case studies and workshop directors' reports. They are available at www.enhancementthemes.ac.uk and in printed form.

General introduction

The enhancement themes initiative was launched in autumn 2003 as part of the unique, collaborative approach to quality that is being undertaken in Scotland. It forms one of the five pillars of the Quality Enhancement Framework that has been developed by a partnership SHEFC, QAA Scotland, Universities Scotland and the student body. The main aim of the enhancement themes is to support the sector in improving the student experience in Scottish higher education (HE) by focussing on certain areas identified by the partners as being in need of further development and enhancement. The first two Themes were Assessment and Responding to Students Needs.

This paper summarises the main outcomes from the work on Assessment, including possible ways of addressing the challenges identified, as well as matters that merit further work and reflection. It is intended that this paper, in conjunction with the individual workshop

reports and case studies, will provide the sector, subject groups (eg HE Academy Subject Centres and Heads of Department groups), student and support services groups, and appropriate professional and statutory bodies with a valuable resource that will enable the important issues raised to be handed over and taken forward, as appropriate.

The Assessment theme

In autumn 2003, a steering committee drawn from across the Scottish HE sector, including students, as well as representatives from the HE Academy and officers from SHEFC, QAA Scotland and Universities Scotland, was established under the chairmanship of Professor Simon van Heyningen, University of Edinburgh. The membership is listed in Annex A.

The Steering Committee was charged with developing and implementing a sector-wide programme of work on Assessment. Following discussion within the Steering Committee and consultation across the sector, a number of sub-topics were identified as priority areas.

One major topic which the Steering Committee commissioned work on was reviewing the UK honours degree classification system and investigating what other systems were adopted by other countries. The report, written by Jane Denholm (Critical Thinking), was followed up by a seminar in May 2004 to discuss these issues and finally a discussion paper was issued in October 2004, which summarised the Steering Committee's findings and raised various issues for further debate. The work of the Steering Committee has fed into, and been cited by, the recently published findings of the English Measuring and Recording Student Achievement Scoping Group¹.

¹ In October 2003, Universities UK, the Standing Conference of Principals and the Higher Education Funding Council for England set up a group, chaired by Professor Bob Burgess, to review the recommendations from the English Higher Education White Paper relating specifically to recording student achievement issues. The findings were published in November 2004 and, at the time of writing (May 2005), a UK-wide group, also chaired by Professor Bob Burgess, has been set-up to investigate these issues further.

The remaining topics were, it was felt, sufficiently self-contained, yet of universal interest across the sector, to justify running a series of eight workshops from January to June 2004. Each workshop was jointly organised and facilitated by QAA Scotland and a director, drawn from across the Scottish HE sector. The workshop sub-topics are listed in Annex B.

The workshops themselves were deliberately structured to involve and engage colleagues, as well as providing high-level input from renowned thinkers and writers on assessment. As a result of the format it was possible not only to benchmark practice in Scotland against international standards but also to establish networks across institutions and allay any feeling of isolation among assessment pioneers.

Although each of the workshops had a particular focus, it was soon apparent that there were common issues that applied to all. Another, rather more pleasing thread, was the clear evidence that not only are large numbers of academics across Scotland confronting these challenges in order to improve the quality of teaching and learning, but also, in many areas, domestic universities are at least on a par with best practice worldwide.

The section that follows outlines the five key issues that emerged from discussions between practitioners at the one-day workshops and some possible ways in which each may be addressed. Inevitably they overlap to some extent and readers will recognise both the totality of the challenge in improving assessment in HE and the applicability of solutions.

Key issues

Avoiding over assessment and finding ways to reduce the assessment load

It is accepted that a number of factors have conspired to increase the number of assessment tasks students are required to complete. With some exceptions, such as medicine, there has been large-scale modularisation of the HE curriculum. One of the effects of this

change has been the fractionation of learning into bite-sized chunks, which for students at least, is one of its great attractions, because it appears to define 'learning limits'. Quite apart from academic considerations, however, the downside is that at least the same level of assessment has to be undertaken now which previously would have occurred over a much longer period. The result is a significant increase in assessment load for students and marking load for staff.

The workshops provided some alternatives that might be applied in order to address these issues. They include the use of alternative assessment methods, such as self and peer-assessment; a close inspection of assessment instruments to ensure that specified learning outcomes are only assessed once; and a substitution of summative assessments for more formative ones.

Structural solutions are also possible, such as long, thin modules. These can be especially effective for first year students, because they require end-of-session examinations rather than at the end of the first semester. Another possibility, along similar lines, is the use of 'synoptic' end of year tests, which have the additional advantage of reducing the tendency for students to see learning in bite-sized chunks.

Redressing the balance between formative and summative tasks with the former being increased at the expense of the latter

There is widespread acceptance of the educational value of formative assessment as a way of improving learning. However, the reality is that on the one hand students tend not to value anything that 'does not count', and on the other that modularity and other structural factors have conspired to squeeze out formative tasks in favour of summative ones.

The provision of predominantly summative assessments clearly directs and motivates students' approaches to learning. This is because students see summative assessment as 'high stakes' or 'high risk'. To them, their future employment or further study opportunities may depend upon the marks or grades obtained in summative tests. Thus, even if there is space within one module for formative tasks, if a student is required to work towards summative

assignments in another, the formative will invariably be neglected. Therefore, if assessment practices are to improve, a major step forward will be to acknowledge the need for changes in attitude and behaviour by both staff and students, and in particular to provide more opportunities for students to learn from their mistakes. This means engaging more in formative (assessment) learning tasks.

Strictly formative assessment provides non-threatening, 'low stakes' assessment practice, often rich in feedback (to correct misunderstandings) and feedforward (suggestions for improvement). Furthermore, because students know that their errors will not count against them when a final grade is being assigned to the module or unit of learning, they are more likely to be open and unafraid of making mistakes.

The tension between formative and summative assessment has been exacerbated more recently because modularisation has forced more summative assignments to be scheduled over shorter learning periods, often depriving students of opportunities for learning from previous assessments. Furthermore, in order to achieve 'efficiency', continuous assessments or coursework assignments, which may in the past have been used formatively, are now used for summative purposes.

The possibly damaging effects of mixing formative and summative assessments may be partially offset by the creative use of progressive 'weighting' of such assignments that nevertheless still 'count'. This may still encourage students to adopt strategic approaches to maximise their marks, but the 'fear of failure' will necessarily be reduced, especially at the early stages, thereby enabling formative feedback to be fed into the educational process.

Other solutions to the formative/summative issue are inevitably the same as those suggested for over assessment. Computer-aided assessment, for example, is seen as an unthreatening environment for students and one that can provide instant, high-quality feedback. Self and peer-assessment are sometimes seen as too bold to be used in a summative context, but are ideal for formative purposes. Personal development planning offers an opportunity to embed the

notion of an ongoing process, using a variety of sources as evidence, including formative assessment tasks.

Providing effective student feedback and developing methods for improving its quality

One of the major impacts that a shift from summative to formative assessment may have, will be the need to provide more prompt, helpful and timely feedback. Summative tasks are often conventional examination papers that require careful and time-consuming marking, perhaps by several people, hence the speed of feedback can be very poor and may focus the student's mind almost exclusively on the mark, rather than any developmental comment. In addition, it is often the case that students, who are only interested in the mark or grade, frequently ignore feedback or feedforward comments on summative assignments. To counter this tendency, students can be supplied with written feedback on summative assignments and the mark or grade withheld until after a period of reflection. However, there is a need to progress beyond such sleights of hand if there is to be a fundamental change to formative learning and greater use by students of feedback on their work, be it written or verbal, given by tutors or indeed, by their peers.

Innovative, research-informed and efficient ways of providing fast, quality feedback do exist eg various forms of CAA; personal response systems; classroom assessment and self and peer-assessment. Specific use of information technology in online assessment emphasises not only the increased efficiency of using computer-based assessment, but also the provision of automated feedback for incorrect answers. Such CAA - with feedback for learning - could be used more freely, including deploying virtual learning environment quiz tools, which research suggests students find increasingly engaging. Such tools can utilise question databanks for formative purposes, and, as an incentive to learners, the same database can also be drawn on for use in summative assessments.

Furthermore, immediate (personal) response systems can be deployed in lectures and other large-group teaching situations to check

knowledge and understanding instantly, as well as, for the lecturer, providing feedback on the effectiveness of their own teaching. 'Classroom' formative assessment could be incorporated during staff-student contact times, so that 'required' problem solving based tasks or short notice mini-presentations are designed into the teaching session, with feedback from tutors and peers provided instantly.

Student collaboration and sharing should be promoted. Peer marking, including feedback comments on strengths and weaknesses of assignments, either on drafts or even final submissions, should assist learning for an eventual summative assessment or at least provide feedforward for the next one. Openness to this type of approach may reduce the incidence of apparent or covert student collusion.

Ensuring a better match between teaching, assessment and learning outcomes

Research shows that correct curriculum alignment can change surface to more lasting, deep learning. The critical factor is the correct alignment between teaching, assessment and learning outcomes. However, while both the phrase and the principle of constructive alignment are well known across the sector, there remains a suspicion that theory does not always match practice. For instance, there is sometimes a tendency to assess that which is easy to assess rather than explicit learning outcomes. One way around this issue is to use a variety of tests and other tasks that reveal competence or capability, but which might be considered unconventional. Using oral presentations and teamwork as part of the teaching/learning process and then assessing the students on their performances fall into this category.

More unconventional still is the notion of directly engaging students in the design and application of the ways they are to be assessed. This is a practice that is not commonplace, and yet the importance of assessment to both parties surely demands some kind of dialogue. Although the explicit declaration of learning outcomes in a module or programme is likely to better define the most appropriate assessment

task to determine whether students have acquired new knowledge or understanding or developed a particular skill or set of skills, there is the potential danger of being over-prescriptive and thus restricting the range of learning with which students might engage. There is still an issue of how students present longer term, implicit learning outcomes, including personal learning and learning how to learn. It may in the end be the use of portfolios and processes such as PDP that will force a revision of positions and attitudes and if that happens surely all will benefit.

Developing and implementing innovative assessment techniques

As with all the categories, this one has no unique boundaries. Innovative techniques can be used to reduce the assessment load or switch from summative to formative tasks; they can offer better and quicker feedback and they can provide a better match between teaching, assessment and learning outcomes. It is therefore self-evident that innovative assessment techniques offer both staff and students new possibilities to better judge both teaching and learning. However, the introduction of innovative assessment methods is not simply about choosing a different way of doing things or saving staff time, instead the driver must be because the particular innovation is best suited to what students are being asked to learn. It is important to remember that what is efficient may not be effective and vice versa and, therefore, that a careful selection of methods is required to achieve an optimum balance. It is also worth noting that what may be innovative in one discipline is well-established practice in others and so a rounded view must be taken.

From the case studies and discussion sessions at the workshops, there is ample evidence that new techniques are being tried and used successfully across the Scottish HE sector. There are those in the sector who argue that there are substantial institutional or managerial barriers to their introduction, and while this may be the case in some institutions (or departments within institutions), it is clearly not stifling innovation in others. It is important to point out, however, that perceived barriers to change are just as obstructive as real barriers.

Being innovative not only requires boldness, it also takes time, which includes not only that required to learn the new technique but also to evaluate, and if necessary, change it. In the end, however, this can be seen as an investment that will repay the extra effort. For example, writing challenging and appropriate multiple-choice questions for CAA is a lengthy process but it will be worthwhile, since the database will become a valuable resource for some years to come. Nevertheless, finding the time is not easy, as many delegates to the workshops explained. Competing tasks are often seen as being as either equally or indeed more important than innovations in teaching, learning and assessment. The most quoted example of such competition was the need to research, but managerial demands and larger classes containing students with ever widening abilities, were also part of the equation.

Conclusion

The workshops were widely praised by delegates and the sector generally. They brought together individuals who might otherwise not have met and forged informal links, not just between colleagues in different institutions, but also across subject boundaries. It was quickly apparent, given the huge demand for places at the workshops, that individuals do worry about assessment issues, mainly because they genuinely care about their students and want to do a professional job. They are also conscious of the need to match their in-depth theoretical subject knowledge with that centring on pedagogy.

Unsurprisingly perhaps, it was also quickly apparent that many assessment issues are common across the sector and it was stimulating to see how much innovation is currently being practised. Sharing practice was one of the major benefits of the workshop series.

The injection of external speakers was of considerable value, even if some of their contributions did little more than reassure the audiences that no great gaps exist between what is going on in Scotland and what is happening in the rest of the world. Refreshing too was the number of 'home grown' talents, who spoke knowledgeably and

Enhancing practice

passionately about their assessment activities and demonstrated the practical benefits of engaging with assessment in this way.

That the Assessment workshops provided an excellent focus for one of the first enhancement themes cannot be questioned, however, the challenge now is what lies beyond. The creation of an active website is clearly one way, but more tangible objects, such as a journal or other published output, are likely to reach a wider audience, especially among the technophobes. From 2005 onwards, the new enhancement methodology of a more flexible, five year plan supported by a systemic theme, as well as topic-based ones, offers the possibility of further in-depth work. Indeed, formative assessment has already been chosen as one of the new 'mini' themes for 2005.

What has already been achieved is the highlighting of a crucial area in teaching and learning and facilitating the encouragement and support of quality enhancement in this area across the sector. By prompting reflection, debate and action, there are already students across Scotland who are receiving direct benefit from this work and the workshops. There can be little doubt that in the future the difference to the student experience of many more will be positively enhanced as a result.

Annex A - List of Steering Committee members

Professor Simon van Heyningen, University of Edinburgh (Chair)

Professor Richard Byrne, University of St Andrews

Mr Duncan Cockburn, student participation in quality scotland (sparqs)

Professor Bob Craik, Heriot-Watt University

Professor Morag Gray, Napier University

Mr Win Hornby, The Robert Gordon University

Dr Sarah Mann, University of Glasgow

Ms Alison Ryan, The Open University Students' Association

Professor Brenda Smith, The Higher Education Academy

QAA Scotland officers

Dr David Bottomley, Dr Alastair Robertson, Ms Elizabeth Anderson

Annex B - List of Assessment workshops with associated weblinks and workshop directors

Workshop 1 Streamlining assessment - how to make assessment more effective and more efficient

www.enhancementthemes.ac.uk/defaultpage121c0.aspx?pageID=140

Workshop Director: Professor David Ross, University of Abertay, Dundee

Workshop 2 Using assessment to motivate learning

www.enhancementthemes.ac.uk/defaultpage121c0.aspx?pageID=141

Workshop Director: Dr Andrew Eadie, Glasgow Caledonian University

Workshop 3 Constructive alignment of learning outcomes to assessment methods

www.enhancementthemes.ac.uk/defaultpage121c0.aspx?pageID=142

Workshop Director: Professor Mike Osborne, University of Stirling

Workshop 4 Developing a variety of assessment methods, including self and peer-assessment

www.enhancementthemes.ac.uk/defaultpage121c0.aspx?pageID=143

Workshop Director: Professor David Lines, The Robert Gordon University

Workshop 5 Assessing online

www.enhancementthemes.ac.uk/defaultpage121c0.aspx?pageID=144

Workshop Director: Dr Hamish Macleod, University of Edinburgh

Workshop 6 Issues of validity, reliability and fairness

www.enhancementthemes.ac.uk/defaultpage121c0.aspx?pageID=145

Workshop Director: Ms Pamela Flanagan, Royal Scottish Academy of Music and Drama

Workshop 7 Improving feedback to students (link between formative and summative assessment)

www.enhancementthemes.ac.uk/defaultpage121c0.aspx?pageID=146

Workshop Director: Dr Bob Matthew, University of Glasgow

Workshop 8 Assessing personal transferable skills

www.enhancementthemes.ac.uk/defaultpage121c0.aspx?pageID=147

Workshop Director: Dr Colin Mason, University of St Andrews