Assessment—an ASKe position paper

Please note: sections 3 and 4 of the original version of this paper do not appear in this web version, since they contain material that is Brookes-specific and therefore confidential.

Introduction

This paper has been produced by ASKe to set out the Centre for Excellence's views on the current state of assessment in the sector as a whole and in Brookes in particular. The paper draws on a wide body of literature and research studies to examine the overall assessment situation. Diagnosis and evaluation of the situation at Brookes is based on the generic literature as well as on studies conducted at Brookes. We also draw upon detailed knowledge and experience of Brookes held by members of ASKe. From all this data, the paper seeks to distil key issues and sets out the premises which underpin our analysis. Finally, rather than setting out recommendations, the paper proposes a range of ideas and actions. The intention is to support the University in addressing assessment issues and to assist in plans for future development. The paper is offered with a view to engaging ASKe in a possible process of change whereby Brookes might begin to address longstanding difficulties in this area.

The paper has been divided into four sections–

1. The assessment situation
2. Key premises from the literature on assessment
3. The Brookes situation
4. Proposals

1. The assessment situation

The 2006/7 National Student Survey (NSS) has yet again confirmed that students' experience of the assessment process is the aspect about which they are least satisfied. A staff survey could well yield a similar level of dissatisfaction. The Burgess Report has highlighted major concerns about assessment practice and identifies problems with some of the underpinning assumptions on which assessment processes are based. Of course, this is not new information since research into assessment has been telling the same story for some time. Assessment is seen as

> *"the Achilles' heel of quality*" (Knight, 2002a, p.107)

Given its importance, it is a matter of urgency that assessment is addressed in a way that acknowledges the multiplicity of inter-related issues and concerns. What is needed is a long-term, sustainable resolution lest the current state of dissatisfaction continues or even deepens.

2. Key premises from the literature on assessment

This section is based on established ideas in the assessment literature, including work carried out by ASKe. It distils what we see as fundamental 'truths' which underpin good assessment practice.
Premises are numbered but their order does not signify relative importance. Indeed, one of the points made in this paper is that assessment is complex and that all elements are inter-related. However, premises are listed to establish the key ideas that underpin the sections on how ASKe interprets these ideas as exemplified within Brookes and ASKe proposals for future planning.

One overall premise supports most of the subsequent statements. That is,

Assessment is central to the student learning experience

Premise 2.1: Assessment is central because it frames student learning

Given the central role assessment plays in the work of the University, both to accredit and to stimulate learning, it is unsurprising that students' expectations concerning assessment are high.

> *"Assessment is at the heart of the student experience"*
>
> (Brown & Knight, 1994, p.1)

It has been confirmed, time and time again, that students regard assessment as the most important aspect of their course and, consequently, use it to guide and frame their learning.

> *"Assessment defines what students regard as important, how they spend their time and how they come to see themselves as students and then as graduates"*
>
> (Brown et al, 1994, p.7)

This concentration on assessment contrasts with a far broader view of the student learning process which underpins much of the guidance on how to design, manage and deliver courses. In guidance on the latter, aspects other than assessment often feature prominently. Biggs, in a number of pedagogic papers and over several decades, has proposed *constructive alignment* as the foundation for sound course design. Constructive alignment, it is argued, ensures structured learning. Biggs' model sets out the interdependence of learning outcomes, teaching (i.e. learning methods) and assessment, with all three 'aligned' as equal partners in a design triumvirate. In practice, however, one aspect of the model—i.e. teaching methods—is habitually privileged over the other two. In addition, a fourth element, an intense interest in defining content, is added and further pushes assessment into the background. Nevertheless, Biggs' model has now largely been accepted across HE in the UK and internationally. It has encouraged an emphasis on clarity through explicit learning outcomes, coherence of design and an apparently transparent student learning experience.

The results for assessment are less obvious. Constructive alignment demands that assessment allows the assessor to judge whether, and the degree to which, the learning outcome has been achieved by the student. Yet though proposed as a key element, assessment has historically been considered unproblematic and frequently treated as a

'bolt-on' when courses are designed (e.g. *'This course needs an assessment—shall we have an exam or two essays?'*). The result undermines Biggs' intention and goes counter to the place of assessment in the students' learning experience.

> *"From our students' point of view, assessment always defines the actual curriculum"* (Ramsden, 1992, p.187)

We also note another but related distortion in course design, i.e. an emphasis on class contact time that implicitly equates time with learning. However, recent studies such as the recent Gibbs research quoted in THES (see below) look at students' actual experience.These studies confirm that formal contact hours cannot be directly equated with student effort, with effectiveness of learning, or with depth of learning. In contrast, assessment patterns may well inform us about all three.

> *"Assessment patterns may be a much better predictor of student effort than teaching patterns. Students may skip classes and may not prepare well for classes but they make sure that they submit the necessary assignments"*
>
> (Gibbs,THES, 28 Sept 2007, p.6)

Premise 2.2: Assessment must focus on learning rather than on marking and measurement

Primarily, assessment needs to motivate and challenge the learner. It needs to stimulate learning and provide feedback. In addition, at certain points, assessment must also test achievement, accredit learning, and provide evidence to satisfy measures of quality. These complex and interdependent purposes can be (and often are) at odds with each other. At best, this will lead to tensions and, unfortunately, attempting simultaneous achievement of several purposes can mean that one purpose actually negates the other. It is perhaps this confusion over purpose which contributes to an over-emphasis on summative assessment. It could also explain the frequent failure of assessment to measure the the high-level learning appropriate to the sector because of the emphasis on reliability of marking rather than learning.

> ***"****Even when lecturers say that they want students to be creative and thoughtful, students often recognise that what is really necessary, or at least what is sufficient, is to memorise"*
>
> (Gibbs, 1992, p.10)

It is often the case that when assessment is considered, in the literature or amongst our colleagues, the focus is on marking. This is arguably because assessment is seen primarily as an instrument of measurement rather than of learning. It is unsurprising that marks receive so much attention: students have a lot riding on their results; staff have a high level of responsibility as arbiters and keepers of standards. But this intense focus on marking has perhaps led to a reduced emphasis on the other aspects of assessment which underpin the success of assessment as a vehicle for learning.

The debate often centres on whether assessment is *for* learning or *of* learning. Equally, the literature and our own colleagues try to clarify the relationship and balance between the two perspectives. Resolving whether a particular assessment activity is designed to encourage the student to learn or whether it is designed to judge whether learning has occurred seems to be fundamental to improving students' experience of assessment.

Clearly, as already stated, assessment must play all the roles, including accreditation and quality assurance, but without a strong commitment to assessment's role *for* learning, there is a danger that this role will be lost. Many would argue that measurement and accreditation *of* learning generally takes priority and will continue to do so, to the detriment of the students' learning and satisfaction.

Premise 2.3: A key reason for assessment failing to support learning is ineffective feedback

"action without feedback is completely unproductive for the learner"
(Laurillard, 1993, p.61)

As already stated, this paper follows a previous submission to Learning and Teaching Committee on feedback research which highlighted students' engagement (or lack of it) with feedback. To reprise the points of the previous paper, engagement with feedback is most effective where:

- the purpose of the feedback is clear;
- feedback is provided where students can use it in future work;
- the feedback accounts for the transfer of tacit as well as explicit knowledge about standards and disciplinary knowledge;
- and the student perceives some sort of relationship with the marker.

This paper allows us to place those findings in the wider context of the assessment process and to reiterate the key importance of learner engagement with assessment. Where feedback is ineffective and none of these characteristics are evident, then learning will be equally ineffective.

Premise 2.4: Assessment is complex

This paper has already alluded to assessment's multiple purposes and its many roles in the students' learning experience. Each element warrants consideration in its own right. Yet focussing on any one element in isolation (whether that be assessment design, or ensuring support for learning, or concentrating on fair and reliable marking processes, or trying to enhance students' engagement with feedback) could be to the detriment of the overall process. Managing a complex issue such as assessment demands an integrated approach as well as one that takes account of the context in which assessment takes place.

A further constraint on effective management of assessment processes can arise from the impact of structures, rules, systems and resourcing models. These both shape its management and add to the difficulty of predicting the consequences for any one decision. The result can be that apparently simple decisions produce unwelcome outcomes in unforeseen ways, such as that allowing only one assessment per module reduces the opportunity for the staged assessment that supports student engagement with feedback (FDTL case study).

It is likely that problems with assessment and student dissatisfaction reflect longstanding issues which arose because of just the sort of decision-making described in the previous paragraph. Decisions were perhaps made in respect of one issue in isolation and the

overall result was unsatisfactory. Certainly, instead of turning to the growing literature on assessment and devising actions in tune with the complexity of the topic, many in HE continue to act in the kinds of ways noted by Powell and Butterworth over forty years ago, when they labelled British university assessment as *"a product of incoherent thinking and of ignorance of published empirical studies"* (Powell & Butterworth, 1972, p.1).

The interdependency of the aspects of assessment means that simple solutions to assessment problems are rarely appropriate or sustainable. It is essential to acknowledge this complexity and to consider assessment needs holistically.

Premise 2.5: Assessment of high-level and complex learning is under threat

> *"The pressures of increased student numbers and the growing demands of QA procedures has changed the nature of assignments and tests, making them less open ended and less likely to foster a deep and thoughtful approach to studying"*
> (Gibbs cited in Bryan & Clegg, 2006, p.21)

Assessment practices are subject to a number of pressures that impact on their ability to promote and measure the high-level learning that should be central to higher education. For example, pressures caused by growth in student numbers have been partially absorbed through the economies of scale of larger class sizes and through reduced class contact. However, equivalent economies of scale in assessment have been hard to find. This inability has generally not been acknowledged, nor has the impact of assessment (delivered within this new, constrained context) on the level of student learning. Other reactions have also influenced the link between assessment practices and learning. For example:

- a search for efficiencies has led to adoption of assessment methods of limited validity such as multiple choice exams;
- moves to adopt an increasing range of learning outcomes (especially to meet employability agendas) have been relatively successful but the necessary innovations in assessment methods or allocating necessary resources to use them have been less forthcoming (Knight, 2002b);
- an increase in the variety of assessments has not been matched by ensuring students have the opportunities they need to practice using this variety (Gibbs & Dunbar-Goddet, 2007);
- complex course structures and bureaucracies often require time for administration rather than time for assessment (Yorke, 2001);
- poor or absent staff development can mean that staff continue to adhere to traditional assessment methods (Raven, 1991; Gibbs & Coffey, 2004).

> *"The types of assessment we currently use do not promote conceptual understanding and do not encourage a deep approach to learning… …Our means of assessing seems to do little to encourage them to adopt anything other than a strategic or mechanical approach to their studies"*
> (Newstead, 2002, p.3)

> *"it even seems to be some sort of achievement in higher education if deep approach scores do not decline"*

(Kember, 1997, p.147)

Premise 2.6: Assessment standards are under threat

The focus on assessment *of* learning, as outlined earlier, is aligned with pressures to concentrate on marking and grades. This, in turn, puts markers under pressure to achieve high levels of consistency and reliability in their marking. Often, this leads to assessment design and marking practices that focus on reliability rather than on validity (and, of course, learning).This skewed focus distorts marking, and the issue is compounded by those problems inherent in marking itself.

There is a false (but widely held) view that marks are a systematic and consistent reflection of the quality of students' work (indeed, the system depends on it!). In reality, many studies document that marking systems are an unreliable means for grading student work (see, for example, Hartog & Rhodes, 1935; Laming 1990; Newstead & Dennis, 1994; QAA, 2006). Nevertheless, the belief that standards are safeguarded by traditional assessment processes continues to prevail, largely because the system has 'worked' for so long and because 'traditional' equates with 'tried and tested'. However, there is little evidence that reliability is greater for traditional assessment methods. Experienced markers are no more reliable than those new to the role, according to many studies, and indeed our own work with new markers shows they tend to refer to criteria and shared marking guidance more assiduously than do their experienced colleagues (Price, 2005).

Perhaps in reaction to the studies just quoted, the quest for absolute reliability remains a popular topic for discussion and effort at all levels of education. Knight (2002b) sees negative consequences in that he questions whether devotion at the altar of reliability has clouded our view of validity and complex learning. Our own work confirms other negative effects, specifically that the quest for consistency and reliability in marking is to the detriment of the effectiveness of feedback. For example, the use of anonymised marking systems implemented to reassure students of greater objectivity actually reduces the likelihood of engagement with the marker's formative feedback. This is because student engagement depends, to a large extent, on the relational dimension between student and marker (for more on this point, see http://mw.brookes.ac.uk/display/eswaf/Home).

This section (2.6) and the previous one (2.5) detail how pressures (and the consequences that flow from attempts to mitigate them) can contribute to the adoption of 'safe' approaches to assessment. Such 'safety' may be understandable, but the result is an assessment culture that is unable to engender deep approaches to learning or to adequately assess complex learning. It may take considerable thought and reflection to identify assessment for complex learning in particular which is challenging and fit for purpose.

Premise 2.7: Assessment standards reside in academic/professional communities

In the drive for transparency in assessment the sector has sought to make assessment standards explicit through the use of devices such as learning outcomes, benchmark statements, level descriptors and assessment criteria. Work undertaken by ASKe in

examining the sharing of assessment standards has highlighted the role of staff and student involvement in learning communities to support students in understanding assessment standards. A model has been developed that identifies four approaches to clarifying standards for students. An explanation of the model is set out elsewhere, but in summary it can be said that most educational institutions regard the production of explicit assessment standards as sufficient to communicate and achieve a common view of standards. Whilst we would agree this is a necessary part of the process, it is not in itself sufficient. Where students (and staff, particularly new staff) are actively engaged with the assessment standards their understanding is quickly enhanced and a common view more readily developed (O'Donovan et al, 2004; Gibbs & Coffey, 2004). Engagement can be enhanced through structured activities, but the ideal is to cultivate a stronger inclusive community of practice providing students and staff with a richer, more involved learning experience in which tacit understandings can be transferred through informal as well as structured activities.

A fundamental finding of the seminal research of Astin (1997) is that the key predictor of student academic success is student involvement fostered by student/student interaction and student/staff interaction. This finding is corroborated by a more recent international study of research-intensive academic departments with excellent teaching ratings. This showed high levels of student involvement to be the one common feature of all the departments studied (Gibbs, 2007). Greater involvement in learning communities serves to clarify expectations, not only about assessment but more broadly about the nature of learning and its processes.

Joint enterprise, mutual engagement and shared resources are the key aspects of successful and strong communities (Wenger, 1998). Such communities have a clear and shared focus about their purpose and activities. Given assessment's integral relationship with the methods and outcomes of learning, it makes sense for the community to be focused on enhancing student learning as a whole while recognising the significant role that assessment plays within this holistic view. Staff and students need to work together to create meaningful learning and assessment opportunities. Where there is a strong commitment to particular pedagogic models there is evidence of tighter alignment between outcomes, learning methods and assessment, probably deriving from a clear purpose, from shared understanding of how the learning takes place, and from commitment by all to the methods used.

Some institutions have adopted institution-wide approaches and radical pedagogies in line with these ideas, for example: Maastricht's problem-based curriculum (www.unimaas.nl/); Alverno's assessment as learning curriculum (www.alverno.edu); and Harvard's case study approach (www.hbs.edu/). In these institutions both staff and students buy in to a complete package where the role of assessment is unambiguous and there is strong commitment to the culture and community.

Premise 2.8: Learning is more effective when students understand the assessment process

Learning in a structured environment is underpinned by students' understanding of the assessment standards and processes used by the disciplinary community into which they are being inducted. However, higher education has traditionally overlooked the need to develop students' understanding of the assessment process and, until relatively

recently, has also overlooked developing students' understanding of the assessment standards. This neglect could either arise from a belief that students have prior experience of assessment and therefore already understand the process or from a belief that understanding assessment is part of their learning—they must work it out for themselves. However, a number of projects suggest that we should rethink this.

ASKe has shown that students' assessment performance can easily be improved through supporting their understanding of assessment tasks and criteria (Rust et al, 2003). A parallel FDTL-funded project entitled 'Engaging students with assessment feedback' has shown that devoting resources to feedback which students receive after they have submitted is less effective than offering it before the they submit. Pre-completion feedback allows students to clearly see where and how they can use the feedback to improve, thereby stimulating their engagement with the feedback. Resources devoted to post-completion feedback may be better allocated to feedback before submission to allow feedforward opportunities.

Students' understanding of, and engagement with, assessment and feedback processes also depends on the extent to which there has been a focus on building relationships between staff and students. Although such input is likely to be facilitated by a lower staff/student ratio it is not the only approach, as demonstrated by the Open University's ability to create rich staff/student interactions and a feeling of belonging for large numbers of students studying at a distance.

Premise 2.9: 'Over-assessment' is a meaningless term

It is often claimed that there is a problem of 'over-assessment' in the system. Solving over-assessment is portrayed as the key to resolving many, if not most, of the ills surrounding assessment. The over-assessment argument often hinges on the balance between summative and formative assessment. For many, the distinction between summative and formative assessment is clear: summative assessment generates marks and regulates whether students can pass through a specific boundary when moving towards accreditation. Formative assessment, on the other hand, gives students information about how their learning is progressing. In this kind of binary view of assessment, over-assessment results from tipping the balance too far towards summative assessment.

As with all issues raised thus far, achieving a balance between summative and formative assessment requires complex, contextual thinking. There are several conflicting issues and there is no straightforward way of reconciling them. These issues include:

- **Student time** in balancing summative and formative

If, as already argued, assessment plays a primary role in driving student learning, then to do so it must capture students' time and effort. Without students' time and effort, no learning will take place (Gibbs & Simpson, 2004) but harnessing both becomes increasingly challenging. A recent HEPI study (Sastry & Bekhradnia, 2007) estimated that students needed around 30 hours per week of study to achieve the learning outcomes set for full-time HE study. They were found to spend less, and in some cases considerably less, than the 30 hour minimum, something that many have been aware of

for some time. Summative assessment has been used in many institutions to ensure time on task but with the consequent effect of students adopting strategic approaches to their learning (Gibbs & Dunbar-Goddet, 2007). However, reducing summative assessment to address fears of over-assessment without any other compensating initiative might have the consequence of further reducing students' study time.

- **Staff time** in balancing summative and formative

Summative assessments are often considered to be more resource-intensive (than formative) because of the administrative workload required to verify and record the results. However, summative assessment, by definition, does not have the resource-intensive requirement to provide rich formative feedback. Therefore the impact on staff time of a change in balance between summative and formative assessment is not clear, and a shift from summative to formative assessment cannot be presumed to lead to a reduction in resources required, or even to be resource-neutral.

- **Student engagement** in balancing summative and formative

It is disappointing but undeniable that many students need to be cajoled into undertaking learning activities and, usually, the 'cajoling' takes the form of marks. Many formative assessment tasks are allocated a proportion of the summative marks to ensure students undertake the work. It is difficult to see how, in mass higher education systems where anonymity is relatively easy to achieve, a formative feedback system could be devised that included ways to identify disengaged students by other means. There are systems which are able to achieve this, but only within small staff/student ratios. This means a student who is not engaging with the work can easily be identified and follow-up action taken.

- **High-stakes assessment** in balancing summative and formative

As the amount of summative assessment is reduced, so its stakes are raised. Less assessment means more high-stakes assessment. Many students find high-stakes assessment very stressful and high-stakes assessment, by definition, is very likely to have a negative impact on progression rates. In addition, high-stakes assessment leaves fewer opportunities for students who need to 'recover' their position. It offers little flexibility in meeting the needs of a diverse student body. For all students, high-stakes assessment must be supported by appropriate preparation for students in terms of practice, formative feedback and time (Yorke, 2003).

- **Accrediting learning** in balancing summative and formative

Summative assessment measures achievement. Therefore, ultimately, the fairest and most important point for that measurement is at the end point of a programme when, it can be assumed, students can demonstrate their highest level of learning (assuming they have had sufficient time to prepare). The Burgess Report (2007) considered many inadequacies in current degree classification systems, including the fact that one final classification signifier (2.1, Third, etc.) inadequately reflects the range of achievements of students within and between classifications. In a modular programme, credits are 'collected' along the way, sometimes in a range of areas/subjects/disciplines. All collected credits contribute to the learning outcomes of the programme but measurement

may take place well before the end point of the programme. Thus, the system is forced to measure well before the end of the programme and to average marks for different parts of the programme. Interestingly, there is evidence (Rust, 2001) to suggest that far fewer summative marks are required (six in one study) than are currently generated to 'accurately' calculate final degree classification. However, if we are accrediting achievement of learning outcomes in named degrees we need to be assured that the qualification awarded reflects the achievement of the programme learning outcomes as a whole. Often, this is not the same as the sum of the component parts. It may be that summative assessment based on programme outcomes can provide a more accurate reflection of student achievement, allowing formative assessment to support learning.

To recap, balancing summative and formative assessment means addressing issues of staff and student time; ensuring student engagement; lessening the impact of high stakes; and addressing the consequences of accumulating credits. Given these considerable problems, it is difficult to see a satisfactory and sustainable simple solution. In many universities the distinction between formative and summative has become blurred with assessment tasks serving dual roles. However, Sadler points out the essential difference between the two:

> *"'Summative contrasts with formative assessment in that it is concerned with summing up or summarising the achievement status of a student, and it is geared towards reporting at the end of a course of study especially for purposes of certification. It is essentially passive and does not normally have immediate impact on learning."* (Sadler, 1989)

If, as Sadler suggests, the two are essentially incompatible, and if, as the previous sections argues, summative assessment largely eliminates the significant benefits of formative, then the dominance of summative results is probably what lies behind cries of over-assessment. If, on the other hand, assessment is for learning, then over-assessment is a meaningless idea—as long as the assessment tasks are calculated as an integral part of the allocated study hours. Changing the balance between formative and summative assessment would need to be supported by significant changes in other areas to support student study habits.

Premise 2.10: How the assessment environment is managed impacts strongly on the effectiveness of assessment

Any assessment process operates within a broad institutional environment, the importance of which should not be underestimated. A recent study (Gibbs & Dunbar-Goddet, 2007) looked at the impact of different assessment regimes on student learning. To do so, data was collected in three subject areas in three contrasting HE institutional environments, thus creating nine differing contexts (Discipline A in a pre-1992 university; Discipline B in an elite institution; Discipline C in a research-intensive institution, etc.). The study confirmed that institutional differences have a significant effect on the nature of the reigning assessment regime, which in turn impacts on student learning. The institutional differences were also more significant than differences between disciplines. In other words, it was less important that a student studied Engineering or Business or Nursing than that they studied in a university with a particular assessment regime.

The institutional environment is determined not only by the ‘visible’ formal structures such as course design, but also by the ‘invisible’ pedagogic culture(s) that predominate in an institution. Individuals, or even groups of staff, in an institution may champion and use effective assessment but they alone cannot change, or act as the only pillars supporting, a culture.The institution, however, is complicit in either supporting or challenging the culture through a range of mechanisms. As with any organisation, the culture is supported or destroyed by the institution’s ‘’cultural web’’ (Johnson & Scholes, 2002), involving leadership commitment, power and organisational structures, control systems, as well as a powerful underbelly of informal stories, symbols, rituals and routines often hidden ‘beneath the waterline’ of formal policies and processes. Examples of factors that might have a strong negative effect on assessment cultures include:

- the value placed on the scholarship of learning, teaching and assessment;
- the extent of risk that is tolerated and therefore how much teachers can challenge students through assessment;
- resource constraints which might lead to less relevant assessment tasks;
- a strong focus on results as a means of quality assurance and enhancement, rather than on the learning process, leading students to emphasise performance;
- resources and systems designed around the need to deliver material rather than around creating effective learning opportunities;
- knee-jerk reactions to particular problems resulting in over-simplified solutions;
- incongruence between rhetoric of culture and reality.

A culture supportive of effective assessment and feedback must be underpinned by appropriate allocation of available resources. These must be focused on what makes a difference to learning with a focus on assessment design, feedback processes and the development of the relational aspects of the staff-student interface. It is interesting to note that the Open University, which has consistently high satisfaction ratings in the NSS, allocates between 50-60% of its resources to assessment and feedback. In addition, the Open University systems have been consciously engineered to enhance the student learning experience.

References

Astin, A. (1997). *What matters in college? Four critical years revisited*. San Francisco: Jossey Bass.

Biggs, J. (1999). *Teaching for quality learning at university*. Buckingham: SRHE & Open University Press.

Brown, G., Bull, J. and Pendlebury, M. (1997). *Assessing student learning in higher education*. London: Routledge.

Brown, S. and Knight, P. (1994). *Assessing learners in higher education*. London: Kogan Page.

Brown, S., Rust. C. and Gibbs, G. (1994). *Strategies for diversifying assessment in higher education.* Oxford: Oxford Centre for Staff and Learning Development.

Bryan, C and Clegg, K (eds.) (2006). *Innovative assessment in higher education*. Abingdon: Routledge.

Burgess, R. (2007). *Beyond the honours degree classification: Burgess Group final report*. Universities UK.

Butler, R. (1988). 'Enhancing and undermining intrinsic motivation: the effects of task-involving and ego-involving evaluation on interest and performance', *British Journal of Educational Psychology*, 58, pp.1-14.

FDTL Case studies. Available at: http://mw.brookes.ac.uk/display/eswaf/Home .

FDTL project report (in press): *Engaging student with assessment feedback*, HE Academy final report.

Gibbs, G. (1992). *Improving the quality of student learning*. Bristol: TES.

Gibbs, G. and Coffey, M. (2004). 'The impact of training of university teachers on their teaching skills, their approach to teaching and the approach to learning of their students', *Active Learning in Higher Education*, 5, pp.87–100.

Gibbs, G. and Simpson, C. (2004). 'Measuring the response of students to assessment: the Assessment Experience Questionnaire', in C. Rust (ed.), *Improving Student Learning: Theory, Research and* Scholarship. Oxford: Oxford Centre for Staff and Learning Development.

Gibbs, G., Simpson, C. and Macdonald, R. (2003). 'Improving student learning through changing assessment—a conceptual and practical framework', presented at the European Association for Research into Learning and Instruction Conference, Padova, Italy.

Gibbs, G (2007) Departmental leadership of teaching Presented at Learning Institute, University of Oxford 8 Feb

Gibbs,G. (2007). 'Part-time effort for full-time degrees', *THES*, 28th September, p.6.

Gibbs, G and Dunbar-Goddet, H. (2007). *The effects of programme assessment environments on student learning*. Report submitted to the Higher Education Academy, York.

Hartog, P. and Rhodes, E. C. (1935). *An Examination of Examinations*. London: Macmillan.

Hattie, J. A., Biggs, J., and Purdie, N. (1996). 'Effects of learning skills intervention on student learning: a meta analysis', *Review of Research in Education*, 66, pp. 99-136.

Havnes, A. (2007). 'What can feedback practices tell us about variation in grading across fields?', Presented at the ASKe Seminar Series, Oxford Brookes University, 19

December.

Johnson, G. and Scholes, K. (2002). *Exploring Corporate Strategy* (6th edition). Prentice Hall.

Kember, D. (1997). 'The reconceptualisation of the research into university academics' conceptions of teaching', *Learning and Instruction*, *7*, pp.255-75.

Knight, P. T. (1995). *Assessment for learning in higher education*. Routledge.

Knight, P. T. (2002a). 'The Achilles' heel of quality: the assessment of student learning', *Quality in Higher Education*, 8(1), pp.107–15.

Knight, P. T. (2002b). 'Summative assessment in higher education: practices in disarray', *Studies in Higher Education*, 27(3), pp.275–86.

Laming, D. (1990). 'The reliability of a certain university examination compared with the precision of absolute judgements', *Quarterly Journal of Experimental Psychology*, 42A*,* pp. 239-54.

Laurillard, D. (1993). *Rethinking university teaching: a framework for the effective use of educational technology* (1st edition). New York: Routledge.

Lea, M. and Street, B. (1998). 'Student writing in higher education: an academic literacies approach', *Studies in Higher Education*, 23(2), pp. 157-72.

Meyer, J. H. F and Land, R (2003). 'Threshold Concepts and Troublesome Knowledge: Linkages to Ways of Thinking and Practising' in *Improving Student Learning Ten Years On*, C. Rust (ed.), Oxford: OCSLD.

National Student Survey 2006, 2007. Available at: http://www.unistats.com/.

Newstead, S. (2002). 'Examining the examiners: why are we so bad at assessing students?', *Psychology of Learning and Teaching*, 2(2), pp.70-75.

Newstead, S. E. and Dennis, I. (1994). 'Examiners examined: the reliability of exam marking in psychology', *The Psychologist*, 7, pp. 216-19.

O'Donovan, B. (2007). 'If I was going there I wouldn't start from here: teaching students how to think rather than what to think', presented at 15th Improving Student Learning Symposium, Dublin, Ireland, 3-5 Sept 2007.

O'Donovan, B. and Price, M. (2007). 'The intellectual development of students: implications for learning, teaching and assessment', presented at ISSOTL 4th Annual Conference, Sydney, Australia, 2-5 July 2007.

O'Donovan, B., Price, M. and Rust, C. (2004). 'Know what I mean? Enhancing student understanding of assessment standards and criteria', *Teaching in Higher Education,* 9(3), pp.145-58.

O'Donovan, B., Price, M., and Rust, C. (2008). 'Developing student understanding of assessment standards: a nested hierarchy of approaches'. *Teaching in Higher Education*, 13(2), pp. 205-17.

Powell, A. and Butterworth, B. (1972). *Marked for life*. London: Citadel Press.

Price, M. (2005). 'Assessment standards: the role of communities of practice and the scholarship of assessment*', Assessment and Evaluation in Higher Education*, 30(3), pp. 215-30.

Price, M. and Rust, C. (1999). 'The experience of introducing a common criteria assessment grid across an academic department', *Quality in Higher Education*, 5, pp. 133-44.

Quality Assurance Agency (2006). *Outcomes from institutional audit: assessment of students*. Mansfield: QAA/Linney Direct.

Ramsden, P. (1992). *Learning to teach in higher education*. London: Routledge.

Raven, J. (1991). *The tragic illusion: educational testing*. New York: Trillium Press.

Rust, C**.** (2001*). A briefing on assessment of large groups: LTSN Generic Centre Assessment Series No. 12*. York: LTSN.

Rust, C, Price, M. and O'Donovan, B. (2003). 'Improving students' learning by developing their understanding of assessment criteria and processes', *Assessment and Evaluation*, 28, pp.147-64.

Sadler, D R. (1989). 'Formative Assessment and the Design of Instructional Systems', *Instructional Science*, 18, pp.119-44.

Sastry, T., and Bekhradnia (2007). *The Academic Experience of Students in English Universities*. Higher Education Policy Institute. Available at: www.hepi.ac.uk.

Wenger, E. (1998). *Communities of practice: learning, meaning and identity*. Cambridge: Cambridge University Press.

Yorke, M. (2001). Address to ILT symposium: Widening participation and promoting student retention, London, 27th September 2001.

Yorke. M. (2003). 'Formative Assessment in higher education: moves towards theory and the enhancement of pedagogic practice', *Higher Education*, 45(4), pp.477-501.