

Assessment workshop series - No 7

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

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Rethinking formative assessment in higher education: a theoretical model and seven principles of good feedback practice

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Introduction

This briefing paper explores how higher education (HE) institutions might use assessment more effectively to promote student learning. Assessment provides a framework for sharing educational objectives with students and for charting their progress. However, it can generate feedback information that can be used by students to enhance learning and achievement. This feedback information can also help teachers re-align their teaching in response to learners' needs. When assessment serves these purposes it is called 'formative assessment'. It is argued that formative assessment should be an integral part of teaching and learning in HE and that feedback and feedforward should be systematically embedded in curriculum practices.

Formative assessment aids learning by generating feedback information that is of benefit to students and to teachers. Feedback on performance, in class or on assignments, enables students to restructure their understanding/skills and build more powerful ideas and capabilities. However, the provision of feedback information is not the sole province of the teacher. Peers often provide feedback, for example, in group work contexts, and students generate their own feedback while engaging in and producing academic work (see below). Formative assessment also provides information to teachers about where students are experiencing difficulties and where to focus their teaching efforts.

This paper summarises the research on formative assessment and feedback. It includes the following.

- A conceptual model of the formative assessment/feedback cycle.
- Seven principles of good feedback practice: these are drawn from the model and a review of the research literature.
- Some examples of good practice strategies related to each principle.

There are two central arguments within this paper:

- i that formative assessment and feedback should be used to empower students as self-regulated learners and
- ii that more recognition should be given to the role of feedback on learners' motivational beliefs and self-esteem.

A number of writers have argued that feedback is under-conceptualised in the theoretical literature in HE and elsewhere, and that this makes it difficult to design effective feedback practices or to evaluate their effectiveness (Yorke, 2003; Sadler, 1998). While there has been a move over the last decade to conceptualise learning from a constructivist perspective (eg Laurillard, 2002), approaches to feedback have, until recently, remained obstinately focused on simple 'transmission' perspectives. Teachers 'transmit' feedback messages to students about strengths and

weaknesses in their work assuming that these messages are easily decoded and turned into action. In contrast, in this paper, students are assumed to construct actively their own understanding of feedback messages from tutors. Moreover, these messages are assumed to be complex and difficult to decipher (Higgins, Hartley and Skelton, 2001; Ivanic, Clark and Rimmershaw, 2000).

The conceptual model and the seven principles presented in this paper are intended as tools that teachers might use to analyse and improve their own formative assessment and feedback practices.

A conceptual model

In a review article, Black and Wiliam (1998) drew together over 250 studies of formative assessment with feedback carried out since 1988 spanning all educational sectors. The studies that formed part of their meta-analysis were ecologically valid ie they were drawn from real teaching situations. Black and Wiliam's analysis of these studies showed that feedback resulted in positive benefits on learning and achievement across all content areas, knowledge and skill types and levels of education. One of the most influential papers underpinning the Black and Wiliam review, and the writings of other researchers, is that by Sadler (1989). Sadler identified three conditions necessary for students to benefit from feedback. The student must:

- a possess a concept of the goal/standard or reference level being aimed for
- b compare the actual (or current) level of performance with that goal or standard
- c engage in appropriate action which leads to some closure of the gap.

Sadler argued that in many educational settings teachers give students feedback information on b, ie how their performance compares to the standard, but this feedback often falls short of what is actually necessary to help students close the gap. For example, such information might be difficult to understand (eg a comment such as 'this essay is not sufficiently analytical') and especially if the learning goal a has not been fully assimilated in the first place. Black and Wiliam (1998) further elaborate on this communication issue when they discuss the links between the way a feedback message is received and what students do with that message.

'...those factors which influence the reception of a [feedback] message and the personal decision about how to respond...[include]....beliefs about the goals of learning, about one's capacity to respond, about the risks involved in responding in various ways and about what learning should be like.'

Any model of feedback must take account of the way students make sense of, and use, feedback information. More importantly, however, is Sadler's argument that for students to be able to compare actual performance with a standard, and take action to close the gap, then they **must already possess some of the same evaluative skills as their teacher**. For many writers, this observation has led to the conclusion that as well as focusing on the quality of the feedback messages teachers should focus their efforts on strengthening the skills of self-assessment in their students (Yorke, 2003; Boud, 2000).

Figure 1 presents a conceptual model of formative assessment and feedback that synthesises current thinking by key researchers into this topic (Sadler, 1983, 1989; Black and Wiliam, 1998; Yorke, 2003; Torrance and Pryor, 1998). The figure is based on a model of feedback and self-regulated learning originally published by Butler and Winne (1995). A key feature in the model that differentiates it from commonplace understandings of feedback is that the student is assumed to occupy a central and active role in all feedback processes. They are always actively involved in monitoring and regulating their own performance both in terms of their goals and in terms of the strategies being used to reach those goals.

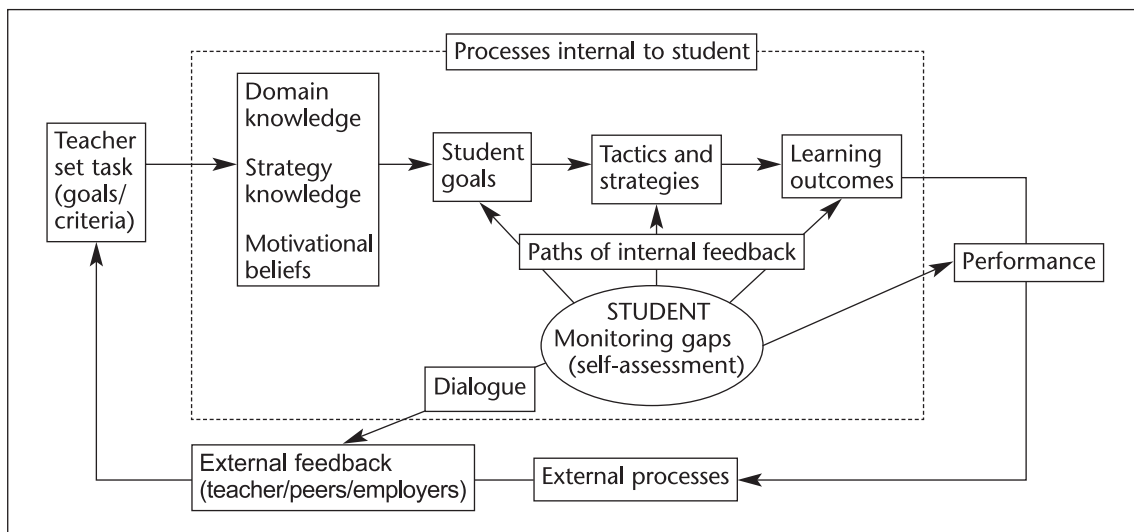


Figure 1 A model of the formative assessment and feedback

In the model, an academic task set by the teacher (in class or set as an assignment) is the starting point for the feedback cycle. Engagement with the task requires that students draw on prior knowledge and motivational beliefs and construct a personal interpretation of the requirements and properties of the task. Based on this internal conception, they formulate their own task goals (which may be different from those of the teacher) and engage in actions to achieve these goals by applying tactics and strategies that generate outcomes. Monitoring these interactions with the task and the outcomes that are being cumulatively produced, generates **internal feedback**. This feedback is derived from a comparison of current progress against internal goals or standards - gaps are identified (between progress and goals) and further actions are taken to close these gaps (Sadler, 1989). This self-generated feedback information might lead to a reinterpretation of the task or to the adjustment of internal goals or of tactics and strategies. Students might even revise their domain knowledge or beliefs which, in turn, would influence subsequent processes of self-regulation. If **external feedback** is provided, this additional information might augment, concur or conflict with the student's interpretation of the task and the path of learning (Butler and Winne, 1995).

In the model, external feedback to the student might be provided by teachers, peers or others (eg placement supervisor). However, students are always actively engaged in feedback processes. First, they generate aspects of their own feedback as they

monitor performance and identify and make sense of gaps while carrying out tasks. Second, they interpret and filter feedback information from external sources. The teacher's feedback response (based on their monitoring and assessment of student performance) must be interpreted and internalised by the student before it can influence subsequent action (Ivanic, Clark and Rimmershaw, 2000). This has important implications for feedback processes in HE. If students are always involved in monitoring and assessing their own work, then rather than just thinking of ways of enhancing the teacher's ability to deliver high quality feedback we should be devising ways of building upon this capacity for self-regulation (Yorke, 2003).

Seven principles of good feedback practice

From the conceptual model and the research literature on formative assessment it is possible to identify some broad principles of good feedback practice. A provisional list might include the following seven.

Good feedback practice

- 1 Facilitates the development of self-assessment (reflection) in learning.
- 2 Encourages teacher and peer dialogue around learning.
- 3 Helps clarify what good performance is (goals, criteria, expected standards).
- 4 Provides opportunities to close the gap between current and desired performance.
- 5 Delivers high quality information to students about their learning.
- 6 Encourages positive motivational beliefs and self-esteem.
- 7 Provides information to teachers that can be used to help shape the teaching.

The following sections provide the rationale for each principle in terms of the conceptual model and the associated research literature. Brief examples of how these principles might be applied are also suggested.

1 Facilitates the development of self-assessment (reflection) in learning

Over the last decade there has been an increasing interest in strategies that encourage students to take a more active role in the management of their own learning (see Nicol, 1997). Black and Wiliam (1998) make the argument that 'a student who automatically follows the diagnostic prescription of a teacher without understanding of its purpose will not learn' while Sadler (1989) argues that the purpose of formative assessment should be to equip students gradually with the evaluative skills that their teachers' possess. These writers are concerned that an overemphasis on teacher assessment might increase students' dependency on others rather than develop their ability to self-assess and self-correct.

In the conceptual model, the student or learner is always engaged in **monitoring gaps** between internally **set task and personal goals** and the **outcomes** that are being progressively produced. This monitoring is a by-product of purposeful engagement in a task. However, in order to build on this process, and the student's

capacity for self-regulation, teachers should create more formal and structured opportunities for self-monitoring and the judging of progression to goals. Self-assessment tasks are a good way of doing this, as are activities that encourage reflection on both the processes and the products of learning.

Research shows that direct involvement by students in assessing their own work and frequent opportunities to reflect on goals, strategies and outcomes are highly effective in enhancing learning and achievement (McDonald and Boud, 2003). Moreover, if the skills of self-assessment are developed progressively over the course of an undergraduate degree this would support a model of HE where students are prepared for lifelong learning (Boud, 2000).

An important aspect of self-assessment involves helping students both to identify standards/criteria that apply to their work and to make judgements about how their work relates to these standards (Boud, 1986).

Examples of structured reflection and/or self-assessment are varied and might include students:

- 1 requesting the kinds of feedback they would like when they hand in work
- 2 identifying the strengths and weaknesses in their own work in relation to criteria or standards before handing it in for teacher feedback
- 3 reflecting on their achievements and selecting work in order to compile a portfolio
- 4 setting achievement milestones for a task and reflecting back on progress and forward to the next stage of action.

Having students give feedback on each other's work (peer feedback) also helps support the development of self-assessment skills (eg Gibbs, 1999).

2 Encourages teacher and peer dialogue around learning

While research shows that teachers have a central role in helping develop student's own capacity for self-assessment in learning, external feedback from other sources, for example, tutors or peers is also crucial. Feedback from tutors and peers provides additional information that helps challenge students to reassess their knowledge and beliefs. Teacher feedback also serves as an authoritative external reference point against which students can evaluate, and self-correct their progress and their own internal goals.

In the conceptual model (Figure 1), for external feedback to be effective it must be understood and internalised by the student before it can be used productively. Yet in the research literature (Chanock, 2000; Hyland, 2000) there is a great deal of evidence that students do not understand the feedback given by tutors (eg 'this report is not logically structured') and are therefore not be able to take action to close the gap (ie they may not know what to do to make the report more 'logical in structure'). External feedback as a transmission process involving 'telling' ignores the active role the student must play in constructing meaning from feedback messages.

One way of increasing the effectiveness of external feedback and the likelihood that the information provided is understood is to conceptualise feedback more as a **dialogue** rather than as information transmission. Feedback as dialogue means that the student not only receives initial feedback information but also has the opportunity to engage the teacher in discussion about that feedback. This is shown in the conceptual model by the two-way arrows that link external processes to those internal to the student. The idea that feedback encourages dialogue, is considered good practice by many writers on assessment. For example, Freeman and Lewis (1998) argue that the teacher 'should try to stimulate a response and a continuing dialogue - whether this be on the topics that formed the basis of the assignment or aspects of students' performance or the feedback itself'. Discussions with the teacher help students to develop their understanding of expectations and standards, to check out and correct misunderstandings and to get an immediate response to difficulties.

Unfortunately, with large class sizes, it can be difficult for the teacher to engage in dialogue with students. Nonetheless, there are ways that teachers might increase feedback dialogue even in these situations. For example, by reporting feedback in class and structuring break out discussions of feedback or by using classroom technologies that collate student responses in-class and then feed the results back visually as a histogram. This feedback can act as a trigger for teacher-managed discussion (eg Nicol and Boyle, 2003).

Another source of external feedback are the students themselves. Peer dialogue is beneficial to student learning in a variety of ways. First, students who have just learned something are often better able than teachers to explain it to their classmates in a language and in a way that is accessible. Second, peer discussion exposes students to alternative perspectives on problems and to alternative tactics and strategies. Alternative perspectives enable students to revise or reject their initial hypothesis and construct new knowledge and meaning through negotiation. Thirdly, by commenting on the work of peers, students develop objectivity of judgement (about work in relation to standards) which can be transferred to the assessment of their own work (eg 'I didn't do that either!'). Fourthly, peer discussion can be motivational in that it encourages students to persist and gives a yardstick to measure their own performance against (see Nicol and Boyle, 2003). Finally, it is sometimes easier for students to accept critiques of their work from peers rather than tutors.

Good examples of feedback dialogue in class include:

- 1 providing feedback using one-minute papers (Cross and Angelo, 1990)
- 2 reviewing feedback in tutorials where students are asked to read the feedback comments they have been given and discuss these with peers (they might also be asked to suggest strategies to improve performance next time)
- 3 asking students to find one or two examples of feedback comments that they found useful and to explain how they helped.

Other ways of using feedback dialogue in a planned way, for assignments, might involve:

- 1 having students give each other descriptive feedback on their work in relation to published criteria before submission and
- 2 group projects.

3 Helps clarify what good performance is (goals, criteria, expected standards)

Students can only achieve a learning goal if they understand that goal, assume some ownership of it, and can assess progress (Sadler, 1989; Black and Wiliam, 1998). In the model (Figure 1), understanding the goal means that there must be a reasonable degree of overlap between the task goal set by the student and the goal originally set by the teacher. However, there is considerable research evidence to suggest that there are often mismatches between tutors' and students' conceptions of goals and of assessment standards and criteria.

Hounsell (1997) has shown that tutors and students often have quite different conceptions about the goals and criteria for essays in undergraduate courses in history and psychology and that poor essay performance is correlated with the degree of mismatch. In a similar vein, Norton (1990) has shown that when students were asked to rank specific assessment criteria for an essay task they produced quite different rankings from those of their teachers. Weak and incorrect conceptions of goals not only influence what students do but also the value of feedback information. If students do not share (at least in part) their tutor's conceptions of assessment goals (criteria/standards) then the feedback information they receive is unlikely to 'connect' (Hounsell, 1997). In this case, it will be difficult for students to evaluate gaps between required and actual performance.

One way of clarifying task requirements (goals/criteria/standards) is to provide students with written documents embodying descriptive statements that externalise assessment goals and the standards that define different levels of achievement. However, many studies have shown that it is difficult to make explicit assessment criteria and standards through written documentation or through verbal descriptions in class (Rust, Price and O'Donovan, 2003). Most criteria for complex tasks are difficult to articulate; they are often 'tacit' and unarticulated in the mind of the teacher. As York (2003) notes:

'Statements of expected standards, curriculum objectives or learning outcomes are generally insufficient to convey the richness of meaning that is wrapped up in them' (York, 2003).

Hence there is a need for strategies that complement written materials and simple verbal explanations. An approach that has proved particularly powerful in clarifying goals and standards has been to provide students with 'exemplars' of performance (Orsmond, Merry and Reiling, 2002) alongside other resources. Exemplars are effective because they define an objective and valid standard against which students can compare their work.

Strategies that have proved effective in clarifying criteria, standards and goals therefore include:

- 1 providing better definitions of requirements using carefully constructed criteria sheets and performance level definitions
- 2 providing students with exemplar assignments with attached feedback
- 3 increasing discussion and reflection about criteria and standards in class
- 4 involving students in assessment exercises where they mark or comment on other students' work in relation to defined criteria and standards
- 5 workshops where students in collaboration with teacher devise their own assessment criteria for a piece of work.

Combinations of the above five have proved particularly effective.

4 Provides opportunities to close the gap between current and desired performance

According to Yorke (2003), two questions might be asked regarding external feedback. First, is the feedback of the best quality and second, does it lead to changes in student behaviour? Many researchers have focused on the first question but the second is equally important. External feedback provides an opportunity to close the gap in the learning process between the current learning achievements of the student and the goals set by the teacher. If feedback information is not turned into action soon after it is produced then this is a missed opportunity. As Boud notes:

'The only way to tell if learning results from feedback is for students to make some kind of response to complete the feedback loop (Sadler, 1989). This is one of the most often forgotten aspects of formative assessment. Unless students are able to use the feedback to produce improved work, through for example, re-doing the same assignment, neither they nor those giving the feedback will know that it has been effective' (Boud, 2000).

In the conceptual model (Figure 1), Boud's arguments about closing the gap can be viewed in two ways. First, closing the gap is about supporting students while engaged in the act of production of a piece of work. Second, it is about providing opportunities to repeat the same 'task-performance-feedback cycle' by, for example, allowing resubmission. External feedback should support both processes: it should help students to recognise the next steps in learning and how to take them both during production and for the next assignment.

Supporting the act of production requires the generation of concurrent or intrinsic feedback that students can interact with while engaged in an assessment task. This feedback would normally be built into the task (eg a group task with peer interaction is an example here) or the task might be broken down into components each associated with its own feedback. Many forms of electronic feedback can be automatically generated to support task engagement (multiple-choice, frequently asked questions). Providing feedback at sub-task level is not significantly different from other forms of feedback described in this paper.

In HE, most students have little opportunity to use directly the feedback they receive to close the gap especially in the case of planned assignments. Invariably they move on to the next assessment task soon after feedback is received. While not all work can be re-submitted, many writers argue that resubmissions should play a more prominent role in learning (Boud, 2000). In addition, the external feedback provided to students often focuses on identifying specific errors rather than providing constructive advice about how performance relates to standards and about how to make improvements in subsequent tasks; and even when corrective guidance about how to improve is given students often do not fully understand it or know how to turn it into action.

Specific strategies to help students use external feedback to close the gap are:

- 1 to increase the number of opportunities for resubmission
- 2 for teachers to model the strategies that might be used to close a performance gap in class (eg model how to structure an essay when given a new question)
- 3 teachers might also write down some 'action points' alongside the normal feedback they provide. This would identify for students what they should do next time to improve their performance
- 4 a more effective strategy might be to involve students in identifying their own action points in class based on the feedback they have just received. This would integrate the process into the teaching and learning situation and involve the students more actively in the generation and planned use of feedback.

5 Delivers high quality information to students about their learning

Another finding from the research is that a great deal of external feedback given to students is not of good quality: it may be delayed, not relevant or informative or over-whelming in quantity etc. Good quality external feedback is defined as information that helps students troubleshoot their own performance and take action to close the gap between intent and effect. In the model (Figure 1), processes internal to the student (shown by the dotted line) are strongly influenced by contextual factors in the environment over which the teacher has considerable control. The teacher sets the task, assesses performance and provides feedback. Research shows that in each of these areas there is considerable scope for improvement.

Feedback needs to be relevant to the task in hand and to student needs. Despite this, research shows that feedback information is often about strengths and weaknesses in handed-in work or about aspects of performance that are easy to identify (eg spelling mistakes), rather than about aspects that are of greater importance to academic learning but that are more abstract and difficult to define (eg strength of argument).

Students might also receive too much feedback making it difficult to decide what to act on. In the literature on essay assessment, researchers have tried to formulate guidelines regarding the quantity and tone of feedback comments. For example, Lunsford (1997) has advocated providing only three well thought out feedback comments per essay. Moreover, these comments should indicate to the student how the reader experienced the essay as it was read (ie playing back to the students how

the essay worked) rather than offer judgemental comments. Such comments help the student to understand the difference between his or her intentions and the effects. Comments should always be written in a non-authoritative tone and where possible they should offer corrective advice (both about the writing process as well as about content) instead of just information about strengths and weaknesses.

Other researchers have argued against following positive comments with lists of criticisms (eg this essay was well-structured...however...) arguing instead that descriptive information about performance in relation to defined assessment criteria is better received by students and is more likely to be acted upon.

It has become common practice in recent years to provide feedback sheets with assessment criteria as a way of informing students about task requirements and of providing consistent feedback in relation to expected goals. However, the construction of such feedback sheets does not always encourage students to engage with a task in a way desired by teachers. Sadler has argued that the use of such criteria sheets often has unwanted effects: for example, if there are a large number of criteria (12-20) they may convey a conception of an assessment task (eg essay) as a list of things to be done (ticked off) rather than as a holistic process (eg involving the production of a coherent argument supported by evidence). So as well as being responsive to student needs, teachers should also consider whether the instruments they use to deliver feedback are commensurate with the expected goals and task requirements.

Strategies that increase the quality of feedback drawn from research include:

- 1 making sure that feedback is provided in relation to pre-defined criteria but paying particular attention to the number of criteria
- 2 providing feedback soon after a submission
- 3 providing corrective advice not just information on strengths/weaknesses
- 4 limiting the amount of feedback so that it is used
- 5 prioritising areas for improvement
- 6 providing online tests so that feedback can be accessed anytime, any place and as many times as students wish
- 7 focusing on students with greatest difficulties.

6 Encourages positive motivational beliefs and self-esteem

How can we make assessment a positive learning experience for students? A key feature of the model of feedback (Figure 1) presented in this paper is the importance attached to motivational beliefs and self-esteem. In the model, students construct their own motivation based on their appraisal of the teaching, learning and assessment context. This influences the goals that students set (personal and academic) as well as their commitment to these goals. However, research has shown that external feedback can have a positive or negative effect on motivational beliefs and on self-esteem. It influences how students feel about themselves which, in turn, affects what and how they learn.

Many studies have shown that, contrary to expectation, frequent high stakes assessment (where marks or grades are given) can lower the motivation to learn (Harlen and Crick, 2003). Such assessments encourage students to focus on performance goals (passing the test) rather than learning goals (Elliot and Dweck, 1988). In one study, Butler (1988) demonstrated that feedback comments alone improved students' subsequent interest in learning and performance when compared with controlled situations where marks alone or feedback and marks were given. Butler argued that students paid less attention to the comments when given marks and consequently did not try to use the comments to make improvements.

Butler (1987) has also argued that grading student performance has less effect than feedback comments because it leads students to compare themselves against others (ego-involvement) rather than to focus on the difficulties in the task and on making efforts to improve (task-involvement). Feedback given as grades has also been shown to have especially negative effects on the self-esteem of low ability students (Craven et al, 1991).

Dweck (2000) has interpreted some of these findings in terms of a developmental model that differentiates students into those who believe that ability is fixed and that there is a limit to what they can achieve (the 'entity view') and those that believe that their ability is malleable and depends on the effort that is input into a task (the 'incremental view'). These views affect how students respond to learning difficulties. Those with an entity view (fixed) interpret failure as a reflection of their low ability and are likely to give up whereas those with an incremental view (malleable) interpret this as a challenge or an obstacle to be overcome.

These motivational beliefs, however, are not immutable. In part, they depend on how teachers provide feedback. Praising effort and strategic behaviours and focusing students on learning goals leads to higher achievement than praising ability or intelligence which can result in a learned-helplessness orientation. In summary, 'feedback which draws attention away from the task and towards self-esteem can have a negative effect on attitudes and performance' (Black and Wiliam, 1998).

The implication of these studies for teaching practice is that motivation and self-esteem are more likely to be enhanced when a course has many low-stakes tasks with feedback geared to providing information about progress and achievement rather than high stakes summative assessment tasks where information is only about success or failure or about how students compare with peers. Other strategies that would help encourage high levels of motivation to succeed include:

- 1 providing marks on written work only after students have responded to feedback comments
- 2 allocating time for students to rewrite selected pieces of work - this would help change students' expectations about purpose
- 3 automated testing with feedback
- 4 drafts and resubmissions.

7 Provides information to teachers that can be used to help shape the teaching

Good feedback practice is not only about providing good information to the students about learning but it is also about providing good information to teachers. As Yorke (2003) notes:

'The act of assessing has an effect on the assessor as well as the student. Assessors learn about the extent to which they [students] have developed expertise and can tailor their teaching accordingly' (Yorke, 2003).

In order to produce feedback that is relevant and informative, teachers themselves need good data about how students are progressing. They also need to be involved in reviewing and reflecting on this data and in taking action to help close the learning gap.

In the conceptual model (Figure 1) information about students is provided when the learning outcomes are translated into public performances. Teachers generate this public information about students through a variety of methods - by setting assessment tasks and in-class through questioning of students and through observation. Such information helps teachers uncover student difficulties with subject matter (eg conceptual misunderstandings) and difficulties with study methods while carrying out assessment tasks.

Frequent assessment tasks, especially diagnostic tests, can help teachers generate cumulative information about students' levels of understanding and skill so that they can adapt their teaching accordingly. This is one of the key ideas behind the work of Angelo and Cross (1990) in the US. They have shown how teachers can gain regular feedback information about student learning within large classes by using short test-feedback cycles. These strategies benefit both the student and the teacher (Steadman, 1998) and they can be adapted to any classroom situation or discipline. Moreover, implementation allows teachers and students to share, on a regular basis their conceptions about both the goals and processes of learning (Stefani and Nicol, 1997).

A variety of strategies are available to teachers to help generate and collate quality information about student learning and help them decide how to use it. For example:

- 1 one-minute papers where students carry out a small assessment task and hand this in anonymously at the end of a class (eg what was the main point of this lecture? what question remains outstanding for you at the end of this teaching session?)
- 2 having students request the feedback they would like when they make an assignment submission
- 3 having students identify where they are having difficulties when they hand in assessed work
- 4 asking students in groups to identify 'a question worth asking', based on prior study, that they would like to explore for a short time at the beginning of the next tutorial
- 5 quick evaluation strategies at key points in teaching.

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Understanding the economies of feedback: balancing supply and demand

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For those of us who are successful learners and self-motivated to acquire new knowledge, the idea that feedback is part of the natural process of learning appears self-evident. Our idealised picture of the eager learner may be that of a young child running to their parent asking if they like the drawing the child made in school that day. Yet the ideal clashes with the reality when the eagerness for feedback of young children is contrasted with the actual reactions of many students in college classrooms.

Much that can be learned by simply observing our students as feedback is presented to them. Envision a professor returning a graded paper or essay exam to a classroom of students. Even if the professor provides carefully constructed individual comments throughout the paper, students are often reported to simply turn to the back page to locate the grade. Why does it appear that instructor comments have so little value in comparison to grades?

In spite of the obvious, that not all students desire feedback from their teachers, the myth of the eager learner breathlessly awaiting wise feedback from professors endures. Our beliefs have shaped the professional literature. Two strands dominate the research on feedback in college settings. The first strand is research on how professors can improve the delivery of feedback to students. These efforts focus on processes for providing feedback in terms of timing, extent, delivery options etc. The second strand is on how to manage the process of providing feedback so that the professor's life is not overtaken by the time-consuming practice of grading and commenting on student work.

There is good news to be shared: the research efforts about college-level feedback have produced clear evidence about effective practices in both delivering feedback and managing the process of producing feedback. One such synthesis is The American Association for Higher Education's (AAHE) *Principles of Good Practice for Assessing Student Learning* (1996). Among the best practices listed are four that focus directly on the process of providing feedback to students.

- Answers questions that people really care about.
- Leads directly to improvement in learning.
- Embedded in the context of learning.
- Takes place repeatedly over time.

AAHE's list of good practice is but only one of a number of typologies and helpful guides on the process of providing feedback to students (Black and William, 1998; Nicol and Macfarlane-Dick, 2004).

The abundance of information about best practices in delivering feedback to students shows that the focus of higher education has been on the 'supply side' of the feedback equation. Educators know a great deal about effective feedback strategies (Pascarella and Terenzini, 1991). Clearly there are many challenges remaining in the

application of our knowledge to actual practice, but the largest gap in perfecting feedback practices is not the need for more information about how to deliver feedback but rather on how to increase student desire for feedback. To that end I propose that feedback be considered using an economic model of supply and demand.

What if feedback were a commodity which was bought and sold in the free market? How would value of feedback be determined? The answer would likely follow the basic rule of any free economy - price is a function of both supply and demand. When the supply of a commodity is greater than demand, the commodity carries a low market value. When demand is greater than supply, the commodity carries a high value. A stable economy occurs when supply and demand are about equal. If we apply that reasoning to feedback in higher education, wouldn't it be fair to report that higher educators provide more feedback to students than they ask for? Perhaps feedback is so 'cheap' in higher education because the supply side of the equation is out of balance with student demand for feedback.

Should we simply wait for students to discover the obvious high value of feedback from their professors? Can we have an impact on the demand side of the equation? Such efforts can, of course, be frivolous. Without the assistance of marketing experts and late-night television, many Americans would not know of their urgent desire for a Chia Pet®, a terracotta novelty pot for growing watercress sprouts, or a Ginsu Knife® which never needs sharpening. Other efforts to increase demand can be of critical importance to societies, such as the efforts to increase demand for AIDS testing in Africa or demand for information on the consequences of obesity in the UK and United States. The latter examples, efforts to increase desire and awareness because to do so benefit society, best illustrate the need for intentionally engaging students in wanting and valuing growth-producing feedback.

Educators might adopt two sets of lenses for viewing our feedback initiatives. First, we could think like anthropologists and study our students in their native habitats to establish their basic instincts and motivations. My past experiences suggest that such efforts would show that students respond positively to rituals and have a natural curiosity about how they fit in and compare with their peers. Second, we could think like advertising managers who create demand for products and services. Past experiences also suggest that even mature students often fail to see the connection between educational practices and the desired end results unless educators are very intentional in communicating both hopes and plans.

Below are a number of practical ideas for raising the value of feedback by increasing student demand for it. These ideas are a blend of building on the natural tendencies of students and purposefully creating adjustments in attitudes and behaviours.

1 Provide feedback that allows students to compare themselves with their peers in non-threatening ways. Traditional aged students are especially interested in learning how they fit in and measure up in comparison to their peers. Western education, until recently, has seldom provided opportunities for students to work together in the classroom in meaningful ways which include sharing feedback. Educators should use this natural curiosity to our advantage. Unfortunately, student interest in learning about themselves can easily be stifled by the scary aspect of being on the receiving end of poorly executed feedback.

This lesson was driven home to me when, long after I had graduated from college, I decided to take an introductory art class. I had undergraduate experience in art appreciation, but this was my first attempt at an art performance class. Interest in studying art was stimulated by marriage to an artist and not because of self-perceived artistic skills. My classmates had extensive prior experience in art classes as shown by their portfolio of work: I was admitted to the class as a special exception since I did not have a portfolio to present in the admissions process. I was keenly aware that my classmates, all far younger than me, had 'earned' their place in the class and so I was appropriately intimidated from the first day of class. Near the middle of the term students were required to show a piece of art to the class and open ourselves to a critique from the whole class. At that point in my life I had been a teacher for some 15 years and had presented speeches to audiences of over 2,000 people - being in front of a class was not difficult for me. Yet the position of seeking feedback from this class of students had my voice trembling and the nervous sweat stained my shirt and dripped off my forehead. Still, I recall this experience both for the emotions of the day and for the incredible feedback my peers gave me. Their feedback was powerful and positive, but the opportunity to compare my artwork with their creations allowed me to engage in self-reflection that would have otherwise been impossible.

While this example may fail to qualify as 'non-threatening', the value of the opportunity to compare my own work with that of my peers was a rewarding experience. Judging from the ease at which many of my peers undertook this critique I surmise that mature artists may find peer critique less threatening than I did in my first experience with the process.

2 Focus on formative feedback rather than summative feedback. An anthropologist studying college students would likely establish that grades and transcripts are the currency of higher education for many students. (Educators who hope that students will learn for the pure sake of learning may not like hearing this news!) Tightly connecting feedback to the grading process so that there is real opportunity to turn that feedback into a higher grade could raise the demand for feedback. The use of multiple drafts of assignments and other opportunities to improve student work before final grading is more helpful than feedback that comes only at the end of an assignment or activity. The use of comments to improve a first draft is intuitively obvious to mature learners but may not be so to less experienced learners. New students may need assistance in the process of using feedback from early drafts and will need to gain experience in seeing the positive impact of later grades.

Unfortunately most students have a less than confirming experience with assignments that use multiple drafts. Student experiences in many multiple-draft assignments follow a predictable path:

- 1 student receives feedback about errors in the first draft
- 2 student rewrites paper
- 3 professor points out unresolved errors from the first draft, new errors created in the edits, and finds errors that were in the first draft but were not noted.

While the chance of any future draft being error-free could seem hopeless, the more important lesson taught may be that corrections do not produce positive feedback.

Using the opportunity of a second draft to praise improvements could significantly increase student interest in receiving feedback.

3 Leverage the power of peers. Students learn a great deal from other students. Alexander Astin's review of the research literature found that 'the student's peer group is the single most potent source of influence on growth and development during the undergraduate years' (1993). Educators should formalise the peer feedback process to help students develop a habit of seeking feedback from others.

A recent study of the power of peer-based feedback confirms the veracity of this pedagogy. Less academically prepared students were paired with a stronger student as either a roommate or laboratory partner. Control groups consisted of student pairs matched on their level of academic preparation. In this set of experiments, weaker students matched with a stronger student performed at higher levels than students matched as equals. Furthermore, there was no evidence that learning outcomes were diminished for stronger students (Winston, 2003).

Intentional efforts by faculty members can increase opportunities for students to work together in ways that encourage both formal and informal feedback exchanges. Peer to peer feedback is too important to leave to serendipity.

4 Role model your own demand for and willingness to seek external feedback. Students need models of adults who actively seek feedback from others. They also need models of how adults evaluate feedback and decide how to use feedback for improvement. Sometimes the really smart move is to dismiss misguided or erroneous feedback. Understanding that effective people retain full power to use or dismiss feedback is an empowering epiphany. One way to increase demand is to teach students that asking for feedback does not mean that they give up power to make their own decisions and determine their own course of action.

5 Use rituals to establish high expectations. Fraternity and Sorority members often pass through admissions rituals which include feedback about their performance. Such rituals can create demand for feedback by providing an appropriate space and context.

One institutional example of an academic ritual used to shape expectations and behaviours is the opening day at Elon University in North Carolina. The Elon campus is known for its beautiful mature oak trees and so the campus initiated a ritual of giving each graduate an oak tree sapling on graduation day as a symbol that students take some of Elon with them wherever they go in the world. The ritual became an important graduation experience. After some years, someone realised that only the successful students received this symbolic reward. In effect, keeping this ritual a secret from new students missed the opportunity to motivate students and set high expectations. Following that realisation, the campus added to its welcoming activities a new campus convocation where new students crossed the 'graduation' stage on their first day on campus. To share the expectation that students will graduate from Elon, the campus presents each student with an acorn and explains that another acorn was planted that day to start growing the sapling that will be presented to graduating students in four years.

Elon uses this ritual to set high expectations that students will graduate and as the background for talking with students about what it means to be a successful student, including expectations for their involvement in receiving and giving feedback as part of the 'Elon Experience'. This ritual is but one example of how colleges can establish high expectations and increase the demand for feedback that could help students achieve success.

Conclusion

There will always be new staff members entering the profession and returning staff members working to enhance their level of skill in providing feedback to students. Exploration and dissemination of best feedback practice is unlikely to diminish anytime soon. In fact, the published literature shows a rich array of evidence about how best to supply feedback to students.

The challenge that continues to face higher education is to increase student demand for feedback as a key process in learning and psychosocial growth. To date, higher educators may have focused too exclusively on the supply side of the equation with too little attention to the demand side of the equation. The challenge for maximising the value of feedback as a pedagogical technique falls on institutions of higher education. It is necessary, but not sufficient, to supply feedback to students - we must also actively work to create student demand for feedback.

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Formative assessment and student success

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Abstract

There are plenty of claims to the power of formative assessment, yet formative assessment is rarely used to fullest advantage in UK higher education. Causes of this weakness can be discerned in curricular structures and pedagogy, and their effect is magnified as the pressures increase on the sector to enhance student employability and to make 'efficiency gains'. The argument of this paper is that a realisation of the full potential of formative assessment will require substantial attention to both curricular structure and pedagogy.

Formative assessment

The basic idea of formative assessment is straightforward - to contribute to student learning through the provision of information about performance, either formally or informally. Rowntree (1987) sees it as spanning 'a spectrum [...] ranging from the very informal, almost casual, to the highly formal, perhaps even ritualistic'. This spectrum can be transmuted into a four by two matrix (Table 1).

	Formal	Informal
From teachers	(probably the main approach in higher education; feedback from computerised packages might be included here)	(where circumstances permit)
From peers	(eg via peer assessment activities)	(perhaps over coffee or a stronger beverage)
From others	(though possibly problematic if the 'other' is also a mentor or supervisor)	(probably the main approach in work-based learning contexts)
From self	? (only if an assessment requirement)	(where the student is acting self-critically)

Table 1 A typology of formative assessment

Most academics probably tend to think of formative assessment in terms of the top left-hand cell. Of course, formative assessment from teachers may be oral (particularly in fieldwork, studios and in practice placements) and possibly informal (top right-hand cell), and intended to encourage the student towards progressively higher levels of achievement. The key issue underlying this paper is how to encourage students to develop their capacity for self-assessment (bottom right-hand cell).

Summative assessment and a blurred distinction

Summative assessment, in contrast, is concerned with establishing the extent to which a student has achieved the outcomes specified in the curriculum design. However, the distinction between formative and summative assessment is far from sharp. Some assessments (eg in-course assignments) are deliberately designed to be simultaneously formative and summative - formative because the student is expected to learn from whatever feedback is provided, and summative because the grade awarded contributes to the overall grade at the end of the study unit. Summative assessments in relation to a curricular component (the student passes or fails a module, for example) can act formatively if the student learns from them: in the case of examinations it is rare for feedback to be provided upon performance.

Formative assessment is powerful

The value of formative assessment has been stressed by a number of authors (eg Brown and Knight, 1994; Hounsell, 2003). Both qualitative and quantitative

studies have provided convincing evidence of its effectiveness. The extensive meta-analysis of quantitative data from school and college settings¹ that was undertaken by Black and Wiliam (1998) provides as strong a confirmation of the effectiveness of formative assessment as is likely to be obtained from experimental studies in an arena in which control is always problematic.

If it is reasonable to extrapolate the findings that have emanated mainly from school settings across the breadth of higher education, then the need is to consider whether better use may be made of formative assessment in the latter milieu. This is not only a matter of pedagogy because the structures of academic curricula provide the framework (or, perhaps, the cage) within which pedagogy operates.

A weak aspect of curriculum provision

It is widely acknowledged that assessment is generally weak in comparison with other aspects of curriculum provision. Criticisms from a range of Quality Assurance Agency for Higher Education (QAA) reviews have included the slowness of feedback, and the failure of the feedback to offer adequate guidance for future work². Boud (1995) coined the term 'consequential validity' to signify the importance of feedforward in formative assessment - indeed, the word 'formative' itself embodies this teleological perspective.

Even though students tend to be more generous when responding to survey questionnaires³, it is evident that not all is well in the assessment domain.

Formative assessment is under threat

The pressures on higher education exert a continuous threat in respect of formative assessment. Among these are the following.

- Paradoxically, the governmental concern with standards of attainment and with the accountability of higher education, which privileges summative over formative assessment.
- Research and related activities, which draw attention away from teaching and learning.
- Increased student/staff ratios.
- Curricular unitisation, which has increased attention on summative assessment at the expense of formative assessment.
- The legacy of the 'scientific measurement' paradigm that was dominant in the twentieth century (Shepard, 2000), and still casts a shadow over the contemporary constructivist approaches to pedagogy.

¹ The bulk of the data had been gathered in school settings.

² See the range of subject overview reports published by QAA, the *Overview report on Foundation degree reviews: conducted in 2003* (QAA, 2003), *Learning from higher education in further education colleges in England* (QAA, 2004a) and *Learning from subject review 1993-2001* (QAA, 2004b).

³ Data from a survey of Foundation Degree students suggests that they were happier with feedback than were members of QAA visiting parties. Further, the recent pilot survey of student opinion for a national survey in the UK seemed to evoke similarly generous responses (Wojtas, 2004). Of course, opinion ratings can only be properly interpreted in the light of the respondents' expectations.

These are big pressures whose effects can be mitigated to only a limited extent by the actions of individual teachers. The need is for a strategic approach on a broader front.

There are also threats from students' perceptions of the assessment regime, such as students playing the assessment game by finding out the expected response and providing it, rather than taking a risk with something more ambitious - a grade/performance trade-off that is often learned in school (Doyle, 1983).

Effective formative assessment

Formative assessment is perhaps more demanding than some teachers and students appreciate. Knight and Yorke (2003) summarise the demands in Exhibit 1. Although Exhibit 1 refers to the student's personal development, it probably underplays the importance of the personal in formative assessment - a matter that is discussed further below.

Teachers:

1 are aware of:

- the epistemology of the discipline
- stages of student intellectual and moral development
- the individual student's knowledge and stage of intellectual development
- the psychology of giving and receiving feedback

2 provide:

- tasks sufficient in number to create opportunities for giving feedback on all **key** module/programme learning outcomes
- tasks of progressively graded difficulty, appropriate to the students
- criteria against which performance(s) will be judged

3 communicate with students:

- clearly regarding the standards expected of students
- in a timely manner
- highlighting the strengths and weaknesses of presented work (and not of the students themselves)
- indicating how their work might subsequently develop.

Students:

- understand what is expected of them (with reference, inter alia, to the assessment criteria)
- elicit the meaning from formative comment
- act on the basis of their developed understandings.

Exhibit 1 Components of effective formative assessment⁴.

⁴ This exhibit draws upon Knight (2002), Gibbs and Simpson (2002) and Yorke (2003).

It is argued elsewhere (Knight and Yorke, 2003) that formative assessment can be considered as a complex signaling system that calls into play at various times the background characteristics of student and teacher/assessor; the assessment task; the criteria against which performance is being judged; the giving and receiving of feedback on performance; and - crucially for success - the taking of action by the student on the feedback received. The signaling system conveys various 'messages' which are subject to interpretations of varying accuracy. A successful signaling system minimises inaccuracy in interpretation⁵. When and how that signaling system is operated are important pedagogic matters that need to be addressed in the context of contemporary higher education.

Widened participation

The government's aim for English higher education is that, by 2010, half of young people⁶ should have experience of higher education. In Scotland, this level of participation has already been reached; in England, the percentage of young people in higher education at the time of the 2003 White Paper was estimated to be 43 per cent (DfES, 2003, para 5.7). This contrasts with a ratio of roughly 1:8 at the beginning of the 1980s. However, the proportion of students entering higher education from socio-economic groups III m to V remains well below that from the other socio-economic groups, although it has risen steadily over the years (DfES, 2003). The demographics of higher education have changed in another (and not unrelated) way, in that many more 'mature students' have been recruited to higher education, with a wide range of background experiences. The student body in higher education is more diverse than it has ever been, yet, as Wagner (1995) observed nearly a decade ago, the now-massified system was still being run on lines similar to the previous elite system.

The performance indicators published by the funding councils (eg HEFCE 2003a) show that the new universities and general colleges of higher education attract a higher proportion of students from disadvantaged backgrounds than the old universities, and that their student completion rates are lower. Poor completion is linked to a variety of factors that are unrelated to institutional provision (eg poor choice of programme, financial difficulties, health problems), but also to some which appear to be quite strongly related (eg quality of the student experience; resourcing)⁷. In the latter group, dissatisfaction with tutorial support and feedback figure as influences on non-completion.

The vital importance of tutorial support was captured by a student who had entered higher education from an access course:

'I completed an Access course prior to attending [university] where the staff were really helpful and knew you on a 1 to 1 basis. At university this wasn't the case and...I couldn't cope with the workload with no tutorial support' (Student reading for a diploma in higher education. From Yorke, 1999).

⁵There is often an opportunity, in higher education, for students to interpret tasks in ways that were not envisaged by the task-setter - indeed, some would argue that higher education should offer an invitation to students to do more than fulfil specified tasks, for example, by 'reading around' the subject. Hence the level of interpretive inaccuracy in the signalling system may not reach the zero that could perhaps be achieved in competency-driven curricula.

⁶Taken as spanning the age-range 18 to 30.

⁷See for example Yorke (1999), Davies and Elias (2003), Yorke and Longden (2004).

Since a quarter of the 2,151 non-completing students who responded to a survey of their experiences of higher education indicated that dissatisfaction with staff support was a moderate or considerable influence in their departure (Yorke 1999), the quotation carries some weight⁸. However, it is impossible on the evidence available to make an explicit causal connection between poor feedback and non-completion.

The policy drive towards widened participation draws attention more sharply than before to the characteristics of the entering students, and hence to how their chances of success might be maximised. A central issue, well understood by those running access courses, is the need to encourage the development of self-confidence, self-esteem and self-efficacy. This brings into focus the student as a person - a perspective that was well appreciated by writers such as Rogers (1961; 1969), but is currently at some risk of being backgrounded by the instrumentalism of outcomes-led curricula.

The importance of 'the personal'

The USEM account of employability⁹ provided by the Enhancing Student Employability Co-ordination Team (Knight and Yorke 2004; Yorke and Knight 2003) emphasises an aspect of student learning that has been given relatively little attention until recently - the range of personal qualities and attributes that can influence student (and graduate) achievement. The argument made in respect of USEM is that these personal variables influence performance across the board. There is a substantial body of research that testifies to the importance of the personal dimension (Table 2).

The point of including Table 2 is to demonstrate, albeit with considerable brevity, that 'the personal' is of significance in the learning process¹⁰. In a higher education system in which some students¹¹ will, for a variety of reasons, be uncertain of their capacity to succeed, formative assessment is of particular significance. The opportunity exists for staff to **support students psychologically**¹² in addition to demonstrating ways in which their academic performance might be developed. The need is to develop their self-efficacy in relation to higher education.

Contribution	Theorist(s)
Having a malleable self-theory is preferable to having a 'fixed' self-theory (eg 'my intelligence is "developable" rather than fixed for all time').	Dweck (1999)
Adopting goals focused on learning is generally preferable to concentrating on performance ('looking good' or 'not looking bad') ...	Dweck (1999)
...though striving for good performance may not be deleterious, especially for the able	Pintrich (2000)
Practical intelligence plays an important part in success in life; academic intelligence is not sufficient	Sternberg (1997)

⁸ Even though the particularities of individual students' circumstances were varied.

⁹ Understanding; Skilful practices; Efficacy beliefs and Metacognition. Although USEM was developed with employability in mind, it applies to other life-situations as well. It is consistent with the concept of 'capability' advocated by Stephenson (1998), which can be summarised as 'effectiveness in the world'.

¹⁰ Note that Marzano (1998) found size effects comparable to those of Black and Wiliam (1998) in respect of experimental studies of influence on the self-system (the 'E' of USEM) and on metacognition (the 'M'). As with Black and Wiliam's meta-analysis, the bulk of the studies were undertaken in school contexts.

¹¹ And not only those who might be labelled as 'widening participation students'.

¹² This should not be interpreted in terms of unwarranted praise (Dweck, 1999).

Contribution	Theorist(s)
An internal 'locus of control' is preferable, since it relates to a sense of self-agency	Rotter (1966)
Self-efficacy (the belief that one can, probabilistically 'make a difference') influences performance	Bandura (1997)
'Learned optimism', likewise	Seligman (1998)
'Emotional intelligence', also likewise	Salovey and Mayer (1990); Goleman (1996)
Emotional state is of significance in learning	Boekaerts (2003)

Table 2 Sources of support for valuing 'the personal'

Pedagogy

Coming to terms with the demand of higher education is a challenge for any first-time student, irrespective of their background. Apparently privileged students (such as those going to public schools) who have reasonably good A level scores may struggle when they are confronted with the need to take considerable initiative in their learning. There is circumstantial evidence to this effect from Naylor and Smith (2002) and HEFCE (2003b) (as regards degree classification) and from unpublished work by the Student Assessment and Classification Working Group on data relating to year one performances at a new university. In crude terms, the privileged did less well than might have been expected. One can only speculate as to the cause(s), but a plausible contributory explanation would seem to be the amount of coaching given in respect of the A level examinations which is typically not available in the higher education environment.

The standards of higher education are difficult to appreciate. Incoming students have to adjust to the norms and expectations that may have a substantial tacit dimension, and 'tuning in' can take time. The good performer at A level may not easily realise that - to parody slightly - an elegant reassembly of received opinion may attract only a modest grade in a system that looks for analytical challenge and imagination in awarding the highest grades¹³. The student entering with vocational qualifications and/or with life-experience may also find the demand initially mystifying.

The main pedagogical implication is clear. In the early stages of a programme it is important to provide early study tasks and to give feedback on them. To do so allows a dialogue to open up between teacher and student regarding expectations which, crucially, is based on real activities and not the abstractions of learning outcomes¹⁴. Note the plural, 'tasks'. Once is almost certainly not enough. There needs to be a sequence of tasks and associated feedback, if the student is to be helped to appreciate exactly what is expected. Bandura advises against demanding large

¹³ There are probably some marked differences between subject disciplines here. The early stages of science-based programmes may focus on the development of basic understandings at the expense of the criticality expected from the start in programmes in the humanities.

¹⁴ See Wolf (1995) on the importance of exemplification in assessment to teachers, let alone students.

cognitive jumps, on the grounds that it can be demoralising not to make good progress towards a distant goal:

The less individuals believe in themselves, the more they need explicit, proximal, and frequent feedback of progress that provides repeated affirmations of their growing capabilities (Bandura, 1997).

One approach that responds to Bandura's point is that of the 'patchwork text' (Winter et al, 2003) which involves students in completing a series of short assignments that culminate in a reflective commentary on what has been learned, instead of requiring them to complete a single assessment at the end of the module of study.

As the student's capabilities develop, the expected cognitive jumps can be larger.

There is, however, a possible problem with formative assessment. If feedback is given on draft material, the student may respond to the feedback without necessarily having developed their understanding to an appropriate extent. The revised piece of work may gain a good grade, but it may in the longer term prove an inadequate launching pad for the next, more advanced, phase of study. Subsequent performances may turn out to be weaker than the student had come to expect.

An underlying concern in formative assessment is the development of the student's autonomy and their capacity for self-regulation. Formative assessment is aimed at the student's metacognitive development, as well as the cognitive and affective (and in appropriate cases the psychomotor). In terms of student development, the ideal shift is from formal feedback provided by teachers to students' evaluation of their own achievements (part of the development of autonomy in learning).

Knight and Yorke (2003) argue that some aspects of performance are not warrantable by institutions unless the resourcing devoted to them reaches a prohibitive level. Performances in work settings are vulnerable to the lack of training of assessors in the workplace, and the kinds of role conflict that follow from a colleague acting as both mentor and assessor. A more viable option is to make better use of formative assessment - to enable the student or graduate to make claims regarding their achievements that are grounded in evidence collated in a portfolio. The success of such an option depends on the student's capacity to reflect upon their performances and on the formative feedback that they have received. While formative assessment is typically construed as being 'low stakes' in character, in the longer term it implicitly acquires a veneer of 'high stakes' (such as when a student or graduate draws upon it in the construction of a job application, or at interview).

It is sometimes overlooked that formative assessment is part of the teaching/learning engagement. An implication of seeking to improve formative assessment is that more staff time will need to be devoted to it, and less to other aspects of teaching. This is more challenging than a mere redistribution of time, since it raises the issue of pedagogical strategy within the unit of study.

Increased student/staff ratios as UK higher education has expanded have led to growth in class size and to a diminution of contact between teachers and students. Yet the pedagogic changes have tended to adjust incrementally to accommodate to the growing pressures: the opportunity has not generally been taken to reflect on whether incremental adjustments are the optimal response to a massified system

whose resourcing is accepted by government as being currently inadequate. Using Senge's (1992) metaphor, the higher education frog continues to swim in the bucket of gradually heating water, since no single change in circumstances has been sharp enough to trigger a move to jump out.

How the formative assessment is handled is important. There is a danger that some students will interpret criticism of their work as being criticism of them as persons. Table 2 indicates the importance of dealing sensitively with the psychological aspects of formative assessment. In their longitudinal study of learning at Alverno College in the US, Mentkowski and Associates (2000) exemplify good practice in the College's approach to formative assessment, which has requires students to construe formative assessment in terms of constructive criticism and its capacity to help them evaluate their own work¹⁵. What Alverno College has achieved is an institutional culture focusing on **learning**, without denying the importance of performance.

Academic structures

Dealing with pedagogy at a relatively localised level will not solve all the problems relating to the improvement of formative assessment, since the academic structures within which pedagogy is conducted exert their own constraints. It is widely appreciated that the move towards modularised curricula has made the modal time-span for a curricular component the semester, in contrast with the academic year. This has militated against formative assessment, since there is considerable pressure to cover the syllabus in the time available in the semester. Much formative assessment takes significant time, and the limited time available in a semester makes it difficult to accommodate the 'turn-around time' needed for students to submit work, have it assessed, and to act upon whatever recommendations may be made by the assessor. Staff in a number of institutions have complained that summative assessments now occur more frequently than they did in the past.

Recently a number of institutions have relaxed their modular structures in order to lessen the pressure on students in the first semester. This is not a version of 'dumbing down', but the opposite - a way of helping students towards the attainment of standards.

The espoused logic can be summarised as follows (Yorke, 2001).

- Students merely need to pass the first year of full-time study in order to qualify for the honours-bearing phase of a degree. Grades higher than that of a pass are, in effect, irrelevant.
- Students who take a little time to adjust to the demands of higher education may fail their assessments at the end of the first semester.
- This may be sufficient of a discouragement for them to decide to discontinue and, if they do continue, they are likely to be burdened by 'trailing' one or more modules into the second semester.
- Since such students are, self-evidently, not the strongest at this stage, it is better to act formatively during and at the end of the first semester, and to place the only critically important (summative) assessment at the end of the second semester.

¹⁵ Although they do not call upon some relevant psychological theorising.

The 'logic-in-use' however, has probably factored in the institutional concern with retention statistics, and it is debatable whether the educational or managerial consideration has been the dominant driving force.

The need for a strategic approach

Institutions are in a position to take strategic initiatives to enhance the provision of formative assessment. They can, for example, review their curricular structures in order to test whether they are facilitating to the optimum the development of their students. Since institutions in the UK are required to produce learning and teaching strategies and are expected to update them at intervals, there are external stimuli to undertake curricular review.

Two studies suggest that institutions in England which have addressed the first-year experience systematically are reaping the benefit in terms of student success (Action on Access 2003). In the first study (of six institutions that had bettered their benchmark expectations for retention despite having a challenging demographic profile), interviews with senior managers found *inter alia* that these institutions were likely to have emphasised formative assessment in the early phase of their programmes, and were committed to being supportive to students and 'friendly'. In one of the institutions, there was also a recognition that the social dimension was important in learning activities (echoing comments above regarding 'the personal'). A study of a further nine institutions with high proportions of students from disadvantaged backgrounds elicited findings that were broadly similar, even though the retention statistics had yet to reflect the policy changes that had been put into effect.

The Action on Access studies concentrated their attention on the first-year experience, in which induction (both socially and academically) are important, with formative assessment playing a key role. However, formative assessment is significant across the whole curriculum, and it would be a mistake to concentrate excessively on the first-year experience, critically important though it is. Students can benefit from a curriculum richly pervaded with formative assessment, though the nature of these benefits is likely to evolve over a student's period of engagement in higher education.

Where the institution finds it difficult to deal with formative assessment at a corporate level, there is nevertheless plenty of scope for appropriate action at the level of the department and/or programme team. Programmes are reviewed at intervals, often quinquennially, which provides the opportunity to reconsider curricular aims, content and - of particular importance here - methods and assessment. Less obviously strategic, the department or programme team can instigate a process of 'tuning' curricula (Knight and Yorke, 2004) by making appropriate adjustments to existing practices which remain consistent with the approved curricular structure. Placing oneself in the shoes of the student, and being imaginative as regards pedagogy, can lead to quite high gains for relatively little pedagogical pain.

Strategic activity requires vision and leadership, together with the managerial skills to ensure that the espousal of change does not get transmuted into actionless rhetoric. As Fullan (2001) observes, educational change is relatively easy to envisage, but difficult to implement in a socially complex environment. It is a demanding challenge to give formative assessment greater prominence in curricula, since it is likely to involve considerable cultural change as regards pedagogy. The challenge can be expected to take considerable time, and is unlikely to succeed without sustained leadership and commitment. There is no quick fix.

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Improving feedback to students (link between formative and summative assessment) - Post-workshop report

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A one-day workshop 'Improving feedback to students' was held on 4 June 2004 at the St Andrew's Building, University of Glasgow. The workshop consisted of four keynote presentations and two breakout sessions. The keynote presentations were given by Professor Dai Hounsell, University of Edinburgh; Professor Mantz Yorke, Liverpool John Moores University; Dr Randy Swing, Policy Center on the First Year of College, Brevard College, North Carolina; and Mrs Debra Macfarlane-Dick, University of Glasgow and Dr David Nicol, University of Strathclyde.

The keynote presentations

Dr Randy Swing gave an interesting and thought provoking talk on 'Understanding the economies of feedback: Balancing supply and demand'. He started his talk with an observation on student behaviour when receiving feedback. He then moved on to review the research literature (albeit from a strong North American perspective) with a view to developing a model for giving learner feedback which is firstly likely to enhance how it is received and secondly that the effort in producing it is somehow balanced against the demand for the feedback from the students. This application of the law of supply and demand provoked discussion in a number of the breakout groups.

Professor Dai Hounsell gave a talk entitled 'Reinventing feedback for the contemporary Scottish university'. In his talk, Professor Hounsell discussed nine assumptions which could be said to underpin current practice on feedback at the present time. For each of the assumptions, he offered grounds for the questioning the assumption and then offered advice for reinventing feedback practice. Throughout the presentation, the discussion was reinforced by what the research literature had to say on the subject. Overall, this was a paper which gave a pragmatic but research-informed way forward on the subject of feedback.

Professor Mantz Yorke presented a paper entitled 'Formative assessment and student success'. In his presentation Professor Yorke began by reviewing the blurred boundary between formative and summative assessment, then moved on to briefly review the UK experience of the Quality Assurance Agency for Higher Education reviews of 'teaching quality' and the emerging general conclusion that feedback to students is an area where legitimate criticism can be made. Particular areas of concern were the length of time for the return of feedback to students in some instances and the failure of feedback to offer adequate guidance for future work. In the next part of his talk, Professor Yorke examined what makes effective formative assessment and feedback. He used the USEM model² to stress the importance of the 'personal' and 'personal development' in making feedback effective. This, to me, is an interesting approach to getting students to take ownership for responding to feedback and also for developing the skills associated with self and peer assessment. Finally, Professor Yorke stressed the need for institutions to adopt a **strategic** approach to enhance the provision of formative assessment and feedback. This is certainly a viewpoint that would seem in keeping with having assessment as a specific enhancement focus in Scotland.

¹ Unable to attend on the day due to bereavement.

² Understanding, Skilful practices, Efficiency beliefs and Metacognition.

In their joint presentation, Debra Macfarlane-Dick and Dr David Nicol outlined the model they developed as part of the Learning and Teaching Support Network Generic Centre-funded project Student Enhanced Learning through Effective Feedback (now part of the Higher Education Academy). They presented a conceptual model to describe formative assessment and feedback. The model is a synthesis of the work of many researchers and is primarily based on a model of self-regulated learning and feedback developed by Butler and Binnie. Like almost all such models this one provoked debate among participants about its description of such a complex process. The presenters then went on to describe seven principles of good feedback practice linked to the model, which helped to demonstrate its usefulness. The obvious benefits of these principles were reinforced by means of several case studies, which helped to reinforce the concept that feedback is intended to help enhance student learning

Group discussions

Participants were divided into breakout groups at two points during the day. The discussions were wide-ranging and what follows is my own distillation of the record of these discussions provided by the note-takers appointed on the day for which I am extremely grateful.

From my reading of the discussions, it is clear that the breakout groups covered a wide range of issues. I have identified a number of recurring themes and these are presented as follows (in no order of importance).

Demand

The demand for feedback is a factor which requires consideration in the development of any institutional strategy on assessment. The participants gave many examples to show the differences that disciplines make on formative feedback eg in the visual arts, students are very demanding and there are tensions between giving formative feedback, ensuring students become independent learners and staff time. It was also noted that even within a single discipline the demand for feedback can change during the named award eg in nursing the demand for formative feedback grows during the programme of study as students seek more feedback on their professional practice.

Time

The issue of time and timing was commented on by many of those attending. The staff time involved in writing high quality feedback, and the methods used to reduce this (eg checklists, pro formas or computer generated feedback) were discussed at length. The timing of feedback to learners was also discussed and the seven principles described by Macfarlane-Dick and Nicol were thought by some to offer helpful advice on the timing of the feedback ie not all feedback needs to be returned as quickly as possible.

Anonymity

The role that the increased use of anonymous marking plays in the feedback process was discussed by some groups alongside the issue of giving feedback in a way that helps with both low and high achievers without demotivating either. While

anonymous marking has been introduced with the best interest of the students in mind, it was felt by many that it was often difficult to write impersonal (to an anonymous student) and yet appropriate feedback.

Student numbers

Clearly the issue of formative feedback to large classes is one which vexes many academic colleagues. Almost everybody thought that giving 'helpful' feedback was easier in smaller classes. However, ideas of peer and self assessment, the use of checklists and pro forma and computer-based assessment and feedback were all discussed as possible ways of ameliorating the problem of large classes. Similar issues were discussed under the next heading.

Student use of feedback

The comment that was made by Randy Swing in his presentation, namely 'the professor provides carefully constructed individual comments throughout the paper yet students are often reported to simply turn to the back page to locate the grade' rung true for many. As a result, a considerable amount discussion took place around how to get students to engage with feedback. It was felt by many that self and peer assessment had a key role to play here, both in developing the skills of assessment of learners but also in developing notions of what is effective feedback. It was thought by some attendees that self and peer-assessment was also a beneficial way of generating useful formative feedback for learners in large classes.

Self and peer-assessment

While this arose indirectly in several groups, it was also explicitly discussed by other groups. It was thought by many that using self and peer-assessment, in both formative and summative situations, offered possible solutions to many of the difficulties discussed such as large classes, raising student expectations, motivating students to demand feedback and the development of learner independence and autonomy. Examples of methods used for self and peer-assessment included the use of model answers, pro formas and checklists.

Final thoughts

Perhaps unsurprisingly, at the end of the day, there were still many issues unresolved. Some of these included:

- training of students for self and peer-assessment
- training of students to use feedback effectively
- development of student abilities to recognise good and bad work
- staff time to develop new feedback methods
- getting the balance between formative and summative assessment.

Finally, feedback received from those who attended on the day suggests that this was both a stimulating and enjoyable day, which at the height of the exam season implies a successful day.

Personal note

I would like to acknowledge publicly the help and support I had from Fiona MacKinlay in the Research Office, Faculty of Education, University of Glasgow in organising this event. A great deal of this took place in my absence (due to the sudden death of my wife, Anne). Without the hard work of Fiona (particularly in dealing with the proposal from Scottish Water to cut the water supply to the building on the day of event!), this event would not have taken place. As they say, weel done cutty sark.

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