



## Formative assessment and feedback: a review

### Abstract

This review examines definitions of formative assessment and the factors that control the effectiveness of feedback. It summarises the various ways of delivering formative feedback and discusses the problems that may be encountered when assessment practice is altered to improve feedback.

### Introduction

It has been argued by many authors (e.g. Nichol and Macfarlane-Dick, 2004; Yorke, 2003; Irons, 2007), that providing opportunities for formative feedback is the single most beneficial thing tutors can do for their students. However, for reasons such as a focus on standards and grading, high staff-student ratios, modularisation, research pressures and the inertia of traditional teaching practices (Yorke, 2003, p483), formative feedback is not yet widely used in higher education.

For most students, the dominant feedback they receive takes place through summative assessment. Staff increasingly put effort into clarifying assessment instructions, provide marking criteria, and attempting to give positive, constructive feedback, yet are frequently dismayed when these efforts appear to fall on deaf ears. Students rarely seem to engage effectively with feedback comments; they tend to be grade-focused and pay little attention to the feedback given. Once the work has been marked there is little incentive for students to reflect deeply on their tutor's opinions. This paper discusses formative feedback and what can be done to improve the feedback experience of students.

### What is formative feedback?

Definitions of formative assessment vary. Often formative and summative assessment are described as being distinct from each other. Black and William (1998) talk in terms of both the formative functions and summative functions of assessment. When viewed in these terms, assessment can serve a dual purpose - a summative assessment can provide formative feedback. The least restrictive way of viewing formative assessment is that it is assessment which provides the learner with information that allows them to improve their learning and performance. In this sense, an end-of-module, graded assignment may be formative if the student receives good quality feedback on how they might improve their work, whilst a mid-semester, ungraded assessment may not be formative if all the feedback says is, "good work, well done". The emphasis is clearly on the style and relevance of the feedback, and the ability of the lecturer to provide the learner with comments that they can understand and use to improve.

Yorke (2003, p477) cites Bruner (1970, p120) who says "*learning depends on knowledge of results, at a time when, and at a place where, the knowledge can be used for correction.*" Reflecting on this statement, we might want to further qualify our definition of formative feedback. It is not enough to just provide good quality feedback, but we must also provide this in a way that encourages students to use it. Without supporting students in their use of feedback (be this through module design, training, clear communication of expectations etc), then feedback given with the intention of being formative will only have the *potential* to be formative. This sense of

formative feedback is similar to that of Sadler (1989) who talks in terms of assessment being formative only if it is used to close the gap between actual and reference levels (i.e. ‘best’ expected standards / model answers etc) of performance.

### Improving the effectiveness of formative feedback

The effectiveness of formative feedback is influenced by a number of factors, including the ability of students to self-assess, giving students clear goals and criteria, and setting out expected standards; the encouragement of teacher and peer dialogue around learning; closure of the ‘feedback loop’; the provision of quality feedback information; and the encouragement in students of positive motivational

beliefs and self-esteem (Nicol & Macfarlane-Dick, 2004). These will each be dealt with in turn.

### Ability to self-assess

Assessment practices currently are dominated by tutor-led feedback, which can keep students in a state of dependency and will inhibit them from learning how to self-correct. A number of authors (eg MacDonald and Boud, 2003; Bedford and Legg, 2007) have demonstrated that self-assessment and reflection can be effective in enhancing learning and achievement.

Sadler (1998) identifies six ‘resources’ that highly competent teachers bring to formative assessment (Table 1).

Intellectual and Experiential Resources	Explanation
Knowledge of subject matter	What is correct, partially correct, incorrect, appropriate etc.
Attitudes and dispositions towards teaching	Empathy; desire to help students develop; personal reflection on their own staff judgements and patterns of feedback.
Skills in setting / compiling assessment	Setting assessment that reveals understanding; that tests desired outcomes; is dissimilar enough from previous work to avoid regurgitation and challenge students whilst similar enough to allow students to build on previous experience and transfer their learning.
Knowledge of criteria and standards	Understands general criteria and standards appropriate to ‘level’ and those that are task specific.
Evaluative skills	Confidence and experience in making judgements; ability to take on board student responses beyond their (staff) imagination and previous experience that enriches their ‘repertoire of tactical moves’.
Expertise in framing feedback statements	Provides feedback that describes the features of a student’s work; makes evaluative comments, linked to criteria, on the positive and negative features of the work; suggests improvements; exemplifies feedback.

**Table 1:** The intellectual and experiential resources that highly competent teachers bring to the act of formative assessment (Sadler, 1998, pp80-82).

Students have a limited understanding of these six resources and have problems in interpreting the language in which they are expressed. Sadler proposes that if students are to be able to engage with self and peer assessment – shown by the literature on the subject to be highly significant practices in formative assessment (e.g. Black and Wiliam, 1998) – then they will need to be able to begin to understand and apply these six resources.

### Having clear goals, criteria, and expected standards

Despite efforts to be clear, tutors are often disappointed to find that student work does not appear to fully grasp what is intended and that the feedback seems to be ignored (Walker, 2009). Evidence suggests (e.g. Hounsell, 1997; Chanock, 2000; Hyland, 2000) that students commonly do not comprehend the feedback language used; they misunderstand what tutors think are the clear goals of a piece of work; they have a different (or no) idea of the standards expected; and they do not understand the well-intentioned feedback nor know how to act on it. Whilst academics may appreciate instructions such as ‘critically analyse the statement ...’ and feedback such as ‘fails to adequately develop a logical argument’, students often do not. It would seem then, to make feedback truly formative, students need to be actively engaged with the assessment process and academics need to do more to use language effectively.

**“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’”**

(Nicol, D. and Macfarlane-Dick, D., 2004).

Written documents can be improved by including statements that help to define the goals, criteria and standards. We should think about modifying our feedback, using terms we know that students better understand. However, despite attempts to address clarity in written or verbal instructions, difficulties will persist in articulating the requirements of complex tasks (Rust *et al*, 2003; Yorke, 2003). Complementary strategies, including the provision of exemplars (Orsmond *et al*, 2002) and the wider use of staff-student dialogue (discussed below) are also necessary.

### Encouraging teacher and peer dialogue around learning

Whilst clear instructions and feedback from tutors are important, conversations between staff and students and student peer discussions may be considered more vital. Misunderstandings and ambiguities around assessment can be cleared-up through dialogue, either as a group, when introducing the assignment, or at the end of the process, when providing the feedback. Allowing time for such conversations not only helps to clarify the learning process for students (and hopefully improves performance), but should provide tutors with valuable feedback. This in turn should help to improve the quality of instructions and feedback, and give a better idea as to where there may be wider problems in learning for the group as a whole.

### Closing the ‘feedback loop’

For practical reasons, especially with classes of over 100 students, the time between submission and feedback can be up to four weeks. Students, therefore, do not have the opportunity to directly use the feedback they receive on their coursework. However, Boud argues that:

**“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, p158)

If assessment practice allowed for (at least a proportion of) student work to be submitted after receiving feedback, it is highly likely that learning and performance would be improved. In practice this might mean re-submission of work after it has been examined by a tutor (feedback could be individual or to the group) or might involve facilitating peer or self-assessment. Coursework can also be designed to include sub-tasks on which students receive feedback; these build towards the completed assignment. When assessment practice is changed to ‘close-the-gap’, tutor feedback is likely to alter to include more

constructive advice about how the student may improve their work.

## The quality of feedback information

There are a number of ways in which the quality of feedback could be improved. Feedback should be given as soon as possible after submission; be relevant to the task and the pre-defined assessment criteria; and should help the student to understand how to improve the work (not just highlight strengths and weaknesses). Nicol and Macfarlane-Dick (2004) state that students often receive too much feedback. This can be overwhelming and it makes it difficult for them to decide which advice to act on. They cite Lunsford (1997) who advocates providing only three, well considered items of feedback. This helps tutors and students to prioritise areas for improvement. Various authors (e.g. Good & Grouws, 1975; Siero & van Oudenhoven, 1995) found that any feedback, whether positive or negative, that draws attention away from the task and instead focuses on self-esteem, has a negative effect.

## Encouraging positive motivational beliefs and self-esteem

Dweck's (2000) work on 'self-theories' identifies two types of student: those who believe their ability can

be improved, and those that believe it is fixed. For those students who believe their ability is fixed, any criticism of assessment performance will be viewed as a reflection of their low ability, whereas conversely, those with a more malleable outlook will view criticism as an obstacle to be overcome or an opportunity to improve. A challenge for those who provide feedback is helping those with fixed self-theories to believe they can improve. In order to do this, students need to be motivated and possess self-esteem. Butler (1988) shows that students appear to pay less attention to feedback when they are provided with grades, and grading negatively affects the self-esteem of less-able students (Craven *et al.* 1991). These studies suggest that focusing on low-stakes assessment with feedback, rather than high-stakes assessment accompanied by grades, may help students focus on learning and improving rather than confirming performance.

Some examples of the structures and devices that can be employed to facilitate formative feedback are given in Table 2. The ASKe (Assessment, Standards, Knowledge exchange) CETL's series of 1,2,3 Leaflets also provides an excellent resource, with numerous constructive assessment and feedback ideas (see page 16/17 of this edition of Planet).

• <b>Use portfolios which include a requirement for self-reflection</b>
• <b>Get students to re-submit work after receiving feedback on a draft version</b>
• <b>Involve students in the drawing up of assessment criteria</b>
• <b>Require students to reflect on their work and the feedback it received in order to receive their grade/mark</b>
• <b>Ask students to identify the strengths and weaknesses of their work in relation to the assessment criteria prior to handing it in</b>
• <b>Use peer review to get students to comment on each other's work prior to submission</b>
• <b>Employ exemplars to help students understand the standards expected</b>
• <b>Allow time for discussion and reflection about criteria and standards in class</b>
• <b>Before students leave the class, get them to draw up a list of action points, based on the feedback they have just received</b>
• <b>Feedback should include action points in addition to, or instead, of 'normal' feedback</b>
• <b>Set formative sub-tasks that build to a summative item</b>
• <b>Ask students what kinds of feedback they find the most useful</b>
• <b>In tutorials, ask students to examine their feedback comments and get them to: explain what was/was not useful; and their strategies for improvement.</b>

**Table 2:** Examples of the structures and devices that can be employed to facilitate formative feedback.

### Problems with implementing improved formative assessment strategies

Whilst the literature on formative assessment is clear about the improvements that can be made through peer and self-assessment, persuading students of their benefits can be a significant challenge (Falchikov, 2004). It has already been noted above that in order to peer or self-assess, students need to develop a much better understanding of the various aspects of the assessment process. This is not a ‘quick and easy’ thing to achieve. Getting students cognitively engaged with assessment and feedback is more likely to be successful where there is a curriculum-wide approach rather than a module-by-module approach where individual members of staff adopt different strategies.

Inducting students into the language and process of assessment is an excellent starting point, but students who are asked to peer or self-assess are often uneasy about taking on this role. Concerns are commonly expressed about evaluating work, as students feel that they and their peers do not hold ‘expert’ knowledge: there is also a fear about the accuracy of any judgements made. Students worry about having to make judgments publicly and are apprehensive about criticising their peers. They fret that others may be receiving overly generous grading from peer marking and they are uneasy at their scope for being over- or under-critical of themselves or their peers. Finally, students are worried about the credibility of the feedback they receive from a non-expert (be it from themselves or a peer).

It is also common for students to rail against peer and self-assessment as they feel it is not their job to assess. When using peer or self-assessment, it is therefore important to spend time explaining to students the rationale for, and benefits of, these forms of feedback. If students are to take on board this approach they need to be convinced of its value and not see it as a way of the lecturer neglecting a significant responsibility.

Finally, Black and Wiliam (1998, p20) note the “... close link of formative assessment practice both with other components of a teacher’s own pedagogy, and with a teacher’s conception of his or her role.”

From this we can conclude that for formative assessment to be successful it cannot be bolted-on to current practice. Staff must be enabled to re-design their provision and supported in re-thinking their purpose as a tutor. Adopting successful formative assessment practices therefore is likely to affect all aspects of a tutor’s teaching. Whether conceived narrowly, only in terms of developing formative assessment practice, or more widely, in terms of a re-invention of the tutor’s role in the classroom, there would certainly seem to be a need for staff development to support tutors in these significant shifts.

### Conclusions

Formative assessment is considered to be one of the most important mechanisms for improving student learning. Self and peer-assessment are particularly effective in formative learning as they require students to engage more fully with the assessment process. Staff who are considering adopting formative assessment practices need to be aware of the various controls that impact on the effectiveness of the process of feedback. Students require a great deal of support in learning to use feedback and in peer and self-assessment; therefore, a consistent, curriculum-wide adoption of formative assessment practices is preferable to smaller-scale, module-based reforms.



## References

- **1,2,3 Leaflets**, Assessment Standards Knowledge exchange (ASKe), Centre for Excellence in Teaching and Learning, Oxford Brookes University <http://www.brookes.ac.uk/aske/> Accessed 21 June 2010
- **Bedford S. and Legg S. 2007** Formative peer and self feedback as a catalyst for change within science teaching, *Chemistry Education Research and Practice*, 8, 1, 80-92
- **Black P. and Wiliam D. 1998** Assessment and classroom learning, *Assessment in Education*, 5, 1, 7-74
- **Boud D. 2000** Sustainable assessment: Rethinking assessment for the learning society, *Studies in Continuing Education*, 22, 2, 151-167
- **Bruner J.S. 1970** Some theories on instruction. In Stones E. (Ed.) *Readings in Educational Psychology*, Methuen, London
- **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, 1-14
- **Chanock K. 2000** Comments on essays: do students understand what tutors write? *Teaching in Higher Education*, 5, 1, 95-105
- **Craven R.G., Marsh H.W. and Debus R.L. 1991** Effects of internally focused feedback on enhancement of academic self-concept, *Journal of Educational Psychology*, 83, 17-27
- **Dweck C. 2000** *Self-theories: Their Role in Motivation, Personality and Development*, Psychology Press, Philadelphia
- **Falchikov N. 2004** *Improving Assessment through Student Involvement: Practical Solutions for Higher and Further Education Teaching and Learning*, Routledge
- **Good T.L. and Grouws D.A. 1975.** *Process product relationships in fourth-grade mathematics classrooms*, Columbia, MO, University of Missouri
- **Hounsell D. 1997** Contrasting conceptions of essay-writing. In Marton F., Hounsell D. and Entwistle N. (Eds.) *The Experience of Learning*, Scottish Academic Press, Edinburgh
- **Hyland P. 2000** Learning from feedback on assessment. In Booth A. and Hyland P. (Eds.) *The practice of university history teaching*, Manchester University Press, Manchester
- **Irons A. 2007** *Enhancing Learning through Formative Assessment and Feedback*, Routledge
- **Lunsford R. 1997** When less is more: principles for responding in the disciplines. In Sorcinelli M. and Elbow P. (Eds.) *Writing to learn: strategies for assigning and responding to writing across the disciplines*, Jossey-Bass, San Francisco
- **McDonald B. and Boud D. 2003** The impact of self-assessment on achievement: the effects of self-assessment training on performance in external examinations, *Assessment in Education*, 10, 2, 209-220
- **Nicol D. and Macfarlane-Dick D. 2004** *Rethinking formative assessment in HE: a theoretical model and seven principles of good feedback practice.* [http://www.heacademy.ac.uk/assets/York/documents/ourwork/assessment/web0015\\_rethinking\\_formative\\_assessment\\_in\\_he.pdf](http://www.heacademy.ac.uk/assets/York/documents/ourwork/assessment/web0015_rethinking_formative_assessment_in_he.pdf) Accessed 21 June 2010
- **Orsmond P., Merry S., and Reiling K. 2002** The use of exemplars and formative feedback when using student derived marking criteria in peer and self-assessment, *Assessment & Evaluation in Higher Education*, 27, 4, 309-323
- **Rust C., Price M. and O'Donovan B. 2003** Improving students' learning by developing their understanding of assessment criteria and processes, *Assessment and Evaluation in Higher Education*, 28, 2, 147-164.
- **Sadler D.R. 1989** Formative assessment and the design of instructional systems. *Instructional Science*, 18, 2, 119-141
- **Sadler D.R. 1998** Formative assessment: Revisiting the territory, *Assessment in Education*, 5, 1, 77-84
- **Siero F. and Van Oudenhoven J.P. 1995** The effects of contingent feedback on perceived control and performance, *European Journal of Psychology of Education*, 10, 13-24
- **Walker M. 2009** An investigation into written comments on assignments: do students find them usable? *Assessment & Evaluation in Higher Education*, 34, 1, 67-78
- **Yorke M. 2003** Formative assessment in higher education: Moves towards theory and the enhancement of pedagogic practice, *Higher Education*. 45, 477-501

Sharon Gedye [sharon.gedye@plymouth.ac.uk](mailto:sharon.gedye@plymouth.ac.uk)