From Principles to Practice: Making Assessment *for* Learning work in the classroom

Sylvia Green

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Contact details
Sylvia Green
Director
Research Division
Cambridge Assessment
1 Hills Road
Cambridge
CB1 2EU

Tel: +44 1223 553844
Email: green.s@cambridgeassessment.org.uk
Fax: +44 1223 552700
www.cambridgeassessment.org.uk

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Making Assessment *for* Learning work in the classroom

Sylvia Green

Director, Research Division, Cambridge Assessment

Abstract

The concept of *assessment for learning*, also known as *formative assessment*, is generating a great deal of educational debate in the UK. It is a frequently used phrase but what does it mean and what are its implications for teachers and learners?

In this presentation the underlying principles of assessment for learning will be presented and strategies for good practice will be outlined.

An innovative, interactive system, developed by Cambridge Assessment and Harcourt Assessment, will be described. This assessment for learning system offers screen-based assessments, diagnostic reporting, targeting and planning for teachers and students (aged 11 –14) in Mathematics, English and Science. The system demonstrates the way in which assessment for learning can be operationalised with support for teachers and learners.

I would like to begin by exploring some of the key issues surrounding the formative assessment and personalised learning debates that are taking place in England. The political message, from the Secretary of State for Education, is that no school should adopt a 'one size fits all' approach to teaching (*Education*, 2006*)*. The aim is to ensure that schools cater for every child's talents and needs. In a paper presented to the General Teaching Council in England in 2004, David Hopkins, Chief Advisor to the government, proposed that

> The most powerful lever we can pull at the moment to achieve personalised learning is assessment for learning ... it is a powerful means of helping teachers to tailor their teaching to pupils to get best improvement, and to involve, motivate and help them to take the next steps in learning. (p.10)

Whilst recognising the value of formative assessment he went on to report that

> Although significant gains have been made and there are examples of outstanding practice, Ofsted [Office for Standards in Education] identifies assessment and its application to teaching and learning as comparatively weak areas. Too many schools lack adequate systems for tracking the progress of individual pupils. (p. 11)

Alongside this agenda is the ongoing debate about the value of formative assessment, a concept that is not new and was introduced by Bloom, Hastings and Maddaus in 1971. They put forward the idea that teachers should engage in formative assessment activities after stages of teaching and that, rather than relying on summative outcomes, they should provide feedback to students to target teaching and learning. Crook (2001) identifies five points that summarise the key lessons from research about formative assessment.

Assessment that promotes learning:

- involves learning goals understood and shared by both teachers and students;
- helps students to understand and recognise the desired standards;
- involves students in self-assessment;
- provides feedback which helps students to recognise next steps and how to take them;
- builds confidence that students can improve their work.

It can be argued that formative assessment is more educationally valuable and helps to provide personalised support by providing valuable feedback for students and data for teachers. One of the visions of the *Unified E-learning Strategy*, published by the Department for Education and Science in England (DFES, 2003), was to promote personalised feedback to help learners to progress by using immediate information about strengths and weaknesses, enabling support and targeting to be more effectively focused. With developments in the use of technology for assessment it is possible to automate processes of marking, recording and reporting, thus allowing teachers to spend more quality time with their students. One imperative in considering how to make

the vision of personalised learning a reality is to ensure that any new models of assessment should not increase teachers' workloads to unacceptable levels. Assessment for learning and the assessment burden are two of the significant factors identified by Newton *et al.* as driving assessment policy and practice in England (2004).

> The profile of **assessment for learning** (formative assessment) has steadily grown ... and has resulted in a number of policy initiatives and publications. It is being strongly advocated by many of the teacher associations which would like to see far less emphasis upon assessment for accountability and more upon assessment for learning. (p. 46)
>
> The final key driver of policy and practice in recent years has been the need to reduce (what has become known as) the 'assessment burden' to a minimum. This includes the burden of assessment processes upon pupils (the amount of time taken up by assessment as opposed to teaching and learning, the collation of assessment evidence, the recording of assessment results etc.). (p. 46)

'The Tomlinson Report', on 14 – 19 Curriculum and Qualifications Reform (2004) proposed a reduction in the assessment burden by *introducing teacher judgment as the dominant method of assessing main learning at intermediate level and below* (up to 14 years of age) (p.85). The government White Paper, *14-19 Education and Skills* (2005), did not accept these proposals for replacing existing external assessment with internal teacher assessment. However, there was agreement that more robust teacher assessment can enhance the professional judgment of teachers and contribute to better teaching and learning and that formative assessment is an essential part of effective teaching. There was a commitment to provide training and guidance for teaching staff to develop their assessment skills and provide them with materials to help them to accurately assess student performance. There was also a commitment to keep e-assessment under continuous review and to exploit its potential to improve the quality of assessment and to minimise the assessment burden. (pp. 68 - 70).

These developments and the increasing debate surrounding this area have the potential to open up a range of possibilities for assessment practices and will increase the potential for teacher assessment processes. However, there are a number of factors to

consider in this context. Any attempt to introduce new methods or systems will require a balance to be struck that will inspire trust through reliability, validity and transparency whilst being practicable for teachers and students.

In the outcomes of the first year of a study carried out by the Assessment Reform Group (ARG), *Assessment Systems for the Future (ASF): The place of assessment by teachers* (2004), it is proposed that

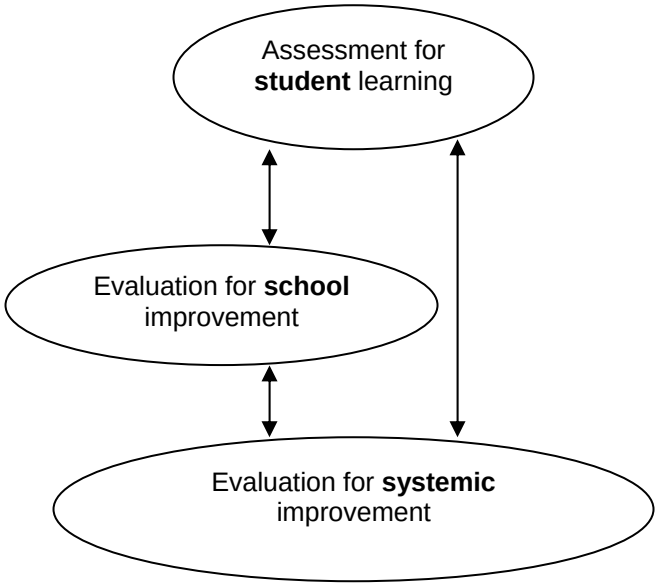
> Courses should provide more than information about what is involved in collecting and judging information for assessment. They should give trainees and teachers experience of generating, as well as using, criteria so that links are clearly made with learning goals. (p. 11)

The Working Group Report also suggests that teachers' summative assessment should be explicitly linked to formative assessment, recognising the inter-relationship between assessment for the two purposes.

We can learn a great deal about different assessment strategies by looking at international practice and the analysis of the formative approach to assessment carried out by the OECD Centre for Educational Research and Innovation (CERI). In their publication, *Formative Assessment: Improving Learning in Secondary Classrooms* (2005), the centre details classroom practice in eight countries since 2002 focusing on lower secondary education. They define formative assessment as *the frequent, interactive assessment of student understanding and progress to identify learning needs and shape teaching*.

They report very encouraging findings from their study but admit that there are still major barriers to wider practice. Such barriers include *resource and organisational implications related to practicality and tensions with the accountability demands of highly 'visible' summative tests of student performance.* The study distinguishes between the levels of the education system at which strategies for improvement can be informed – classroom level, school level and policy level. (See Figure 1)

Figure 1: Coordinating assessment and evaluation



Source: *CERI (2005). Formative Learning: Improving learning in secondary classrooms.* p. 26.

The case study research by the CERI found that several OECD countries establish standards by providing detailed and shared criteria for students and teachers with internal systems used to track an individual's progression. There is international research evidence (p.47) that tracking a student's progress against objective criteria is more effective than making comparisons with other students' levels of performance. (Cameron and Pierce, 1994; Kluger and DeNisi, 1996; Heckhausen, 1989; and Rheinberg and Krug,1999).

Mischo and Rheinberg (1995) and Koller (2001) found positive effects where teachers referred to student progress over time. They reported that

> The establishment of learning goals and tracking of student progress toward those goals makes the learning process more transparent; students do not need to guess what they need to do to perform well. Teachers also help students to track their own progress and to build confidence. (p.48)

Tracking progress was found to be an important part of the process as was the use of feedback if formative assessment is to work effectively. Good feedback should be linked to explicit criteria so that the learning process becomes more transparent and so that the student knows what is expected. Feedback also benefit teachers in that they can focus on the individual student's needs and consider how to plan the next steps in teaching and learning. Feedback combined with adaptation of instruction was important in the schools involved in the CERI case studies. A review of empirical evidence on feedback by Kluger and DeNisi (1996) showed that positive effects occur if feedback is formulated and used as a guide to improvement (p. 225). Sadler (1989) emphasised that learners must understand both the 'reference level', that is, the goal of their learning, and the 'actual level' of their understanding. The CERI study identifies an important aim of the formative assessment process as enabling students to evaluate and revise their own work (p. 65).

Other areas investigated were peer and self assessment. Sadler (1989) argues that self assessment is essential to learning because students can only achieve a learning goal if they understand that goal and can assess what they need to do to achieve it. He suggests that self-monitoring is central to the work of all professionals and that students' self-assessment skills should be promoted if they are to become professional learners. Teachers at several of the CERI case study schools noted that peer assessment is an area where students need careful coaching and help in how to carry it out effectively. Students can be very critical of each other and require not only appropriate knowledge but also skills and sensitivity in order to use the process to best effect. However, when carried out positively, it can enhance the development of self-assessment skills.

Teachers appreciated the benefits of formative assessment while many at the same time recognised the barriers that can exist and that it is very difficult to put such ideas into regular practice. They need methods for translating abstract ideas into concrete practice and since they are very busy, with many pressures on their time, they need exemplars and tools to help them to gather information as part of the teaching and learning process. Nevertheless, those who managed to include formative assessment practices in their classrooms identified a number of benefits including

- Improvements in the quality of teaching
- Stronger relationships with students and increased contact with parents
- Different and better work products from students
- Greater student engagement.

One of the key factors driving policy and practice, as identified by Newton, is the role of information and computing technology and the development of a range of electronic assessments. The collection, analysis and use of assessment results have also been facilitated and there is great potential for further innovation to provide support for teachers and students.

Research and development by Cambridge Assessment and Harcourt Assessment have led to the design of an online assessment system to support teachers and to engage students in assessments of Mathematics, English and Science. The system

- Supports and informs teaching and learning
- Is delivered online and is regularly updated
- Includes assessment items and stimulus materials to motivate and engage
- Provides instant marking
- Gives instant feedback on performance to the teacher, pupil and parent
- Provides personalised guidance on the pupil's next steps
- Enables adaptive assessment appropriate for each pupil.

At the beginning of this development, research carried out by Johnson and Green (2004, 2004b) investigated how assessment on-screen affected student performance, strategies, perceptions and behaviours. The evidence from their empirical study suggested that there were no statistically significant differences between student performance on paper and on screen and that there were fewer omitted answers on screen. The investigation of affective responses and motivational factors found that students felt that computer-based questions were easier than those presented on paper. The observation data showed that students showed greater commitment to answering on screen and were less easily distracted suggesting that they were more motivated and engaged with on-screen activity.

This research and development project offers the opportunity to collect a wealth of data on student performance across many areas of the curriculum and we intend to maximise the use of the data to investigate issues related to progression in the curriculum, common misconceptions and how they can create barriers to learning. During the next phase of the project we plan to continue the development of interactive, investigative activities to assess skills and processes in the contexts of Using and Applying Mathematics and Scientific Enquiry.

Feedback from teachers and students so far have been positive and the technology offers them support and saves time, particularly in recording and reporting. School managers also see the benefits as the system affords them the opportunity to gather data for target setting and organization.

There is no doubt that personalised learning strategies and formative assessment practices can bring rewards in terms of student performance. However, they do place extra demands on teachers who will need training and support if they are to take on more responsibility in this context. Advances in technology will inevitably lead to more technological solutions in the classroom with support materials enabling more activity to be automated particularly in the areas of marking, recording and reporting.

It can be argued that formative assessment methods are more valid and educationally valuable but they also need to be trusted, reliable, dependable and practicable. A great deal of work is being done in the UK and internationally to promote formative assessment and we can learn a great deal from international studies about how best to support teachers and students in finding new strategies and new materials and in identifying the key areas that should be addressed in this context.

There is no doubt that new initiatives will need to be underpinned by thorough research so that we can make progress through evidence-based practice. With technology advancing rapidly and with the development of innovative assessment opportunities, the challenge will be to harness the technology and to make best use of all that it has to offer.

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