

Opening the feedback 'black box': how can mass digital assessment support individual student progress?

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Digital technology is widely used for online testing, e-submission of coursework and for delivery of feedback to students. While this may produce efficiencies and transparencies in an assessment system, economies of scale also mean that differences between groups of learners are hidden and the individual disappears - sometimes as a number rather than a name. In the mass higher education of the future the staff-student ratios that are required for individual tutoring and monitoring of progress are unlikely to be available. Digital technology can provide a means for supporting individual learners, but the systems available for capturing and storing feedback and for enabling discussion of feedback over time are underdeveloped or under-used.

There are many options for empowering individual learners using digital assessment technologies. Firstly, e-feedback can facilitate learner engagement over time. Feedback occurs in many contexts both digital and verbal, from self, peers and experts alike and learners of the future will need to be able to interpret feedback from a range of sources to become confident self-evaluators (Boud and Molloy, 2013). Digital technologies can facilitate peer and self- reflection on feedback collated from many sources and enable records to be kept of feedback dialogues (Nicol & Milligan, 2006).

Secondly, digital technologies can make learner progress visible both to assessors and learners themselves, in other words it enables ipsative assessment (Hughes, 2014). Tracking progress using grades or marks alone may be useful at times but for the highest achievers a string of high marks does not tell us if they are being stretched. Furthermore a sequence of low marks may not give a learner a sense of progress over a programme and there may be areas of improvement that have yet to show up in performance measurements (Hughes, 2014). But, self and tutor monitoring of learner responses to feedback over time offers a richer picture of learner progress.

Finally, digital technologies can make it easy for feedback practice to be shared between staff. Numerous studies indicate that there is a mismatch between the feedback that staff members believe they are providing and student interpretation and use of feedback (Orsmond & Merry, 2011; Price et al., 2010). But while grading is moderated and standards are agreed between assessors, feedback is not shared and discussed in this way. But, just as Nicol (2010) recommends that students can benefit from comparing feedback from a range of sources, self, peers and disciplinary experts, so assessors could develop their feedback practice by viewing the practices of their peers - colleagues who are also assessors.

The paper will consider explore the challenges of using technology to make feedback usable over a long-term programme of study from both student and staff perspectives. It draws on research from *the Assessment Careers* project funded for 3 years by JISC at the Institute of Education.

The project firstly aimed to promote a student-centric approach where students are able to act on feedback through engagement and dialogue about feedback. Five postgraduate programmes piloted student feedback response sheets giving students space to reflect on feedback (4 programmes) and request feedback (all five programmes) and which were submitted with assignments as part of a coversheet. Interviews were conducted with 39 students to elicit information about changes in their response to feedback. A feedback analysis tool was used to analyse feedback before and after the intervention. 23 assessors were interviewed about using the student feedback response form and the impact the form had on their feedback practice.

Although grades are stored in a central database, feedback is stored locally by individual lecturers or by programme administrators and is not readily accessible to other staff, and students need to keep their own records. A resolution of the problem of feedback being 'hidden' was to grant easy access to past feedback for both assessors and students. Therefore, secondly, the project developed and tested a reporting tool in the VLE, Moodle, which enables staff to view feedback from students' previous modules, often produced by different academic staff. A sixth programme piloted use of the reporting system as well as the student response form. For the sixth programme a further 10 staff and 18 students were interviewed for their views on making feedback over a programme visible to all teaching staff on that programme.

Some students were receptive to the idea of re-reading and reflected on past feedback and were helped by digital technology to enter into feedback dialogues with assessors. Enabling student reflection on written feedback on one programme resulted in increased use of ipsative feedback and feed forward and students reported that their individual needs were being considered. However, combining student reflection on feedback with an administrative coversheet, although convenient, had its limitations.

The reporting tool is a more radical approach to e-feedback. Making feedback transparent can enable a prolonged assessment dialogue, but it raised concerns from students who may believe that assessors will be influenced by past feedback and/or grades in the way they assess a current piece of work. Another benefit is that assessors can draw on feedback from past modules to inform feedback on current work and help students see the progress they are, or are not, making in programme level skills. However, assessors may also be nervous about having feedback they have written scrutinised by others, yet they are aware that they may learn from sharing practice.

Digital assessment systems are associated with economies of scale and mass marking and data storage, but in the process the plurality of learner needs and experiences can get lost. But, technologies can be reconfigured at scale to allow a focus on individual learner progress and to support learner self-evaluation and ultimately learner self-regulation for all learners whatever their starting position. However, a cultural shift away from viewing feedback as a short-term and largely hidden interaction between an assessor and student towards feedback as accessible

not only for individual students but also for other staff on a programme will be needed before the benefits of e-feedback in a mass system can be realised.

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