Using technology to help students engage with their feedback

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Technology

Feedback

ENGAGING
LEGIBLE
ANYTIME, ANYWHERE

DISCUSS
REFLECT
FEED FORWARD

Action

Technology, Feedback, Action! A Short Report
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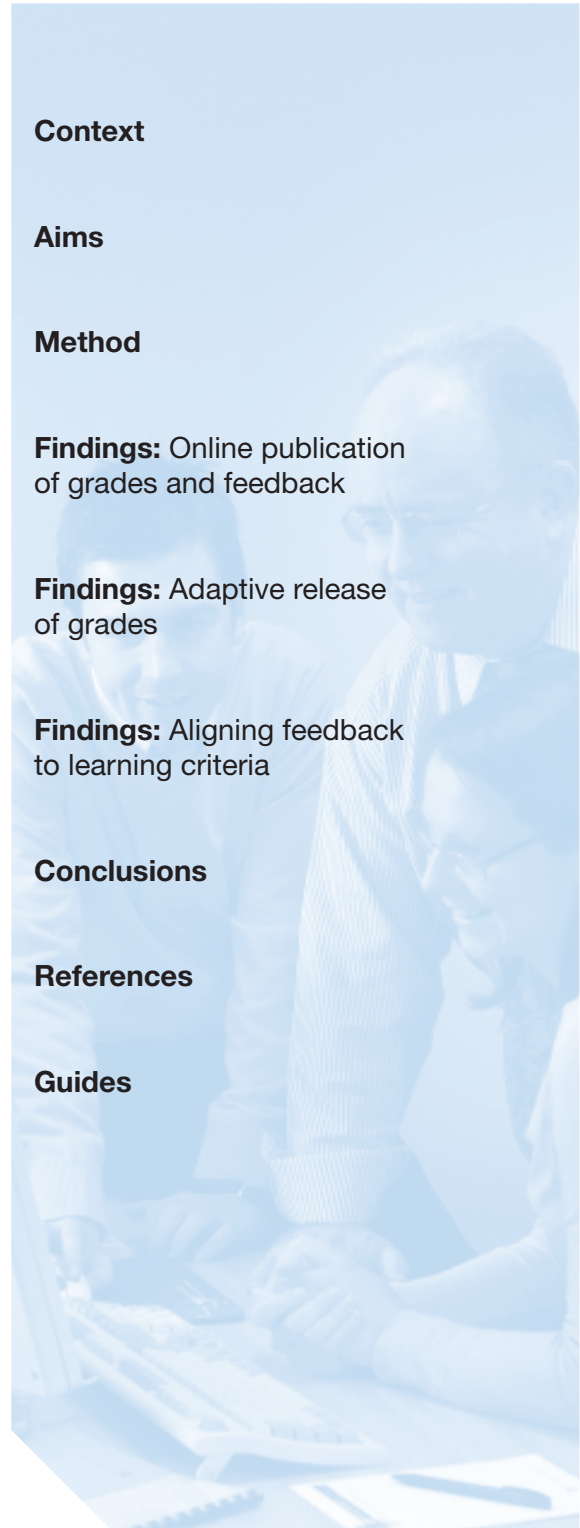# Technology, Feedback, Action!: The impact of learning technology upon students' engagement with their feedback

An Enhancing Learning Through Technology Research Project funded by the Higher Education Academy

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Executive Summary

This short report is based on a research project funded by the Higher Education Academy and undertaken at Sheffield Hallam University during 2008/09.

Technology, Feedback, Action! evaluated how a range of technical interventions might encourage students to engage with their feedback and formulate actions to improve future learning, including:

- online publication of feedback and grades
- disengaging the grade from the feedback
- linking feedback to assessment criteria

The project worked in partnership with 23 undergraduate students to explore their experiences of receiving feedback with varying degrees of technical intervention.

The online publication of grades and feedback and the adaptive release of grades were found to significantly enhance students' engagement with their feedback. Often, logistical benefits such as online storage of feedback, led to greater learning benefits such as repeated viewing of feedback. Linking feedback to assessment criteria, while effective in enabling students to identify strengths and weaknesses at a glance and helping to identify learning targets, was less effective in terms of enhancing engagement with feedback. This approach does have limitations and there was a competing preference for 'in context' feedback suggesting that a mixed model would provide the most comprehensive feedback.

A series of good practice guides based on the findings of the research have been produced and are available at: **http://tinyurl.com/tfaproject**

A central theme of the University's Learning, Teaching and Assessment Strategy (2006-2010) is to enhance the students' learning experience, making assessment activities, support and feedback a powerful integrated feature of learning.

This research project builds on firm foundations within Sheffield Hallam University with regard to assessment and e-learning innovations. The University has a strong track record in researching into the impact of learning technologies and placing the student voice at the heart of future developments.

Since 2001, there has been rapid uptake in the use of e-learning at Sheffield Hallam University, driven by a combination of academic ownership and enthusiasm, and the growing demand and expectations of students. e-learning is a mainstream feature of the student experience, with approximately 96% of students enrolled on at least one Blackboard site (2008/09).

The Assessment for Learning Initiative (TALI) was established at Sheffield Hallam University in 2006 in response to comments in the National Student Survey on the timeliness and usefulness of feedback and with the aim of actively transforming and promoting assessment practices. A close collaboration between TALI and the e-learning development team has focused upon developing a deeper understanding of the appropriate use of learning technologies to support efficient and effective assessment and feedback strategies. From the outset a key focus has been to promote the role of technology not just in improving the efficiency of assessment practice, but also in encouraging student engagement with feedback.

"A commitment to reviewing [student] feedback, making enhancements where appropriate and communicating responses to students has encouraged students to share a sense of ownership in the e-learning development agenda"

The aim of this research project is to evaluate how a range of technical interventions might encourage students to engage with feedback and formulate actions to improve future learning. The interventions explored will be:

Online publication of grades and feedback

Sheffield Hallam University is promoting the widespread and consistent adoption of the Blackboard Grade Centre as the primary tool for publication of grades and feedback in order to enable students to easily track progress and see how performance on different assessment tasks builds to an overall profile for module; present grades and feedback alongside learning materials enabling 'in context' feedback, linking directly to materials to review; return feedback directly and efficiently to the students.

Adaptive release of grades

A customised Assignment Handler extension has been developed to support effective feedback online. Assignment Handler enables adaptive release of grades, encouraging students to engage with written feedback and identify key learning points in order to activate the release of their mark. The key learning points can then be linked into their personal development planning.

Linking feedback to assessment criteria

Sheffield Hallam University is exploring the use of an electronic Feedback Wizard that generates feedback aligned with assessment criteria. This tool allows tutors to generate individual feedback documents for an entire student cohort. Each document includes an assignment-specific feedback template containing a matrix of assessment criteria and feedback comments, and other remarks individually written for that student.

The research project began with a detailed desk-based review of current literature regarding good feedback practice, with specific regard to the application of technology to support both delivery and use of feedback. This literature review has been published via a wiki and is available for comments and contributions from across the sector at **http://tinyurl.com/tfalitreview**

The main study used qualitative methods and worked with 23 undergraduate students, 14 females and 9 males aged between 18 and 42, to explore their experiences of receiving different forms of feedback with varying degrees of technical intervention including, but not limited to, electronic feedback with marks withheld, online grade publication and criteria-based feedback.

Through a series of semi-structured interviews participants were encouraged to articulate their experiences of feedback, taking an inductive approach to evaluation and enabling the research team to work closely with students to unpack their understanding of their own experiences to analyse the complex and diverse elements of technology-enabled feedback. During interviews students were encouraged to identify how their feedback was provided; how useful they found the feedback; and what they had done or intended to do with their feedback. This approach provided an insight into the effectiveness of feedback and how students engage with it.

One section of the interview followed an 'interview plus' approach. Here the interviews were accompanied by examples of feedback grids produced by the Feedback Wizard to encourage students to think about the benefits and drawbacks of this approach to feedback.

Online publication of grades and feedback

Sheffield Hallam University promotes the use of the Blackboard Grade Centre as the primary tool for the publication of grades and feedback to students in each of their modules. The project looked at what students' value most about having their grades and feedback published online and the extent to which this approach encourages them to engage with and use their feedback.

> "…you don't have to share it with everyone whereas if you in a seminar and everyone's talking about what they got you kind of have to feel the pressure to join in whereas if you get in on Blackboard you can see it at your own leisure."

Online publication of grades and feedback through the Blackboard Grade Centre enables students to access their grades and feedback at a time and place of their choosing. In common with the use of technology to support learning more generally, the students appreciated the flexibility and convenience that this offers. The study found that the online publication of grades and feedback can offer students the flexibility to receive and read their feedback in private surroundings. This provides support for earlier research. Price and O'Donovan (2008) suggest that receiving feedback in privacy enables students to engage with and respond to their feedback when they are emotionally ready. Students in the current study appreciated this.

Students perceived that the ability to publish grades and feedback online enabled staff to return their feedback more quickly, keeping the feedback and grades in close proximity to the assessment activity. The importance of the timeliness of feedback is often mentioned in the literature but this tends to be anecdotal. Clearly if students do not receive feedback in time for it to be meaningful, either in relation to the task assessed (a delay reduces the currency and relevance of the feedback) or to facilitate additional learning that can be taken into future assessments i.e. feed forward, then they are less likely to engage with their feedback.

Online publication of grades and feedback

Whilst students responded positively to the quick turnaround possible in receiving grades and feedback online, this did not follow when grades were made available online prior to feedback being made available elsewhere for collection, and in some cases after some considerable time had passed. In these circumstances students were less likely to engage with, or even collect, feedback. When grades are given before feedback, i.e. adaptive release in reverse, it was found to be counter-productive; that is to say that when grades are given before feedback, the feedback is seen as less valuable than when feedback is given first.

The study found that students value the ability to monitor their own progression and to see how they are achieving on each assignment during, rather than following, the module. The Blackboard Grade Centre collates grades enabling students to easily track progress and see how their performance on different assessment tasks builds to an overall profile for the module. This has been promoted internally as a key benefit of using the Blackboard Grade Centre to publish grades and student in the study certainly reinforced the value of this approach. However, some students demonstrated a strategic approach to future assessments by focussing on the number of marks needed and using this to determine the degree of effort.

When delivered through the Blackboard Grade Centre, feedback is automatically stored online and alongside other learning resources, and students commented on the value of this as they see the virtual learning environment as a learning hub. The study indicated a strong preference for the use of the Blackboard Grade Centre as it has enabled staff to present grades and feedback alongside learning materials placing it 'in context' and providing a direct connection.

"…it keeps [grades] all in one place; it means you can see how you're progressing throughout the course of the year and how well you need to do maybe in your next piece of coursework."

"It obviously makes it a lot more beneficial to me as a student to receive that in a much more legible form … typed feedback is much better than written feedback, because you can read it, normally. Lecturers have a tendency to scrawl."

Students valued the perceived permanence of access to their online feedback. The study revealed that they frequently refer back to it to support future learning and assessments. This was different from the way in which students engaged with feedback when it was delivered hard copy. Students did value hardcopy feedback, many stating that they would never throw it away, but few had a logical storage system for such feedback and the majority rarely referred back to it after an initial read through and so its value was transitory.

The study highlighted conflicting views regarding handwritten and typed feedback. There are three key issues here; personalisation, thoughtfulness and legibility. A small number of students perceived handwritten feedback to be more personal as the tutor had taken time to write comments specifically for them. Although this perception suggested that electronic feedback was impersonal, this depended upon the way in which comments were presented. Electronic feedback can easily be made more personal through the use of the student's name and making reference to their previous assignments for example. Electronic feedback was, in some cases, perceived to be more thoughtful than handwritten feedback. Students recognised that tutors could more easily edit and revise their feedback as they read through assignments thus presenting a more cohesive and considered response. A large number of students claimed that they were more likely to engage with feedback when returned in a typed, and therefore legible. While there were conflicting views, overall there was a strong preference for typed feedback.

Adaptive release of grades

The adaptive release of grades is facilitated at Sheffield Hallam University through the use of Assignment Handler. This enabled the project to explore students' perceptions of how adaptive release encourages them to engage with their feedback. Adaptive release through Assignment Handler allows tutors to release feedback to their students, but withholds the grade until the student has produced a reflective account on their feedback. Once this reflective account has been submitted, the grade is released automatically into the Blackboard Grade Centre without further intervention from the tutor.

Broadly, the project found that students understand the educational value of separating the grade from the feedback as a means of encouraging them to read and reflect on their feedback.

Students acknowledged the benefits of reflecting on their feedback and recognised that this was important to improve future learning. However, the purpose of reflection and action planning needs to be made explicit in order to prevent students from taking an instrumentalist approach.

The project provides evidence to support Nichols (2007) recommendation of putting 'feedback before marks to encourage students to concentrate on the feedback first'. The students involved in the study clearly articulated the benefits of this process and the way in which it facilitates reflection on the grade achieved and feedback received.

However, a strong theme emerged in that students felt they had fulfilled the assessment task by completing their assignment. Writing a reflection was seen as an additional requirement and in some cases this need to engage with their feedback was negatively perceived as 'enforced' reflection. It emerged that adaptive release changes the boundaries of the assessment process and in order for students to fully engage with this approach, the importance of reflecting on their feedback must be identified as a key step in the process right from the start.

"It makes you think about your feedback because it's very easy just to read feedback and think 'oh, I did alright' or 'oh, that's not so good' but if it actually makes you think about it and you have to write about it because that's how you're going to get your grade then I think that's good for yourself."

"If I have to reflect on the feedback before receiving the grade then it sticks in my mind a bit longer, the feedback I receive, the points that I'm going to use and it's a little bit easier to remember when I'm working on my next assignment."

While the findings of the study support the notion that disengaging the grade from the feedback enhances student engagement with their feedback the process can cause frustrations and anxieties when not fully explained. The study found that students were more likely to engage with the process of reflection when they had been told explicitly a) that they would be required to reflect on their feedback before receiving their grade and b) why this would be of value to them.

As a new intervention, many of the students have never encountered the process before and this contributed to the importance of explaining it adequately. The study also highlighted uncertainty around the practice of reflection. Where students were required to reflect on their feedback with little guidance around what to write, who they were writing for and what would happen to their reflections, the intervention was much less effective in terms of encouraging reflection than for those students who fully understood the process.

Interestingly, some students believed that the key purpose of the reflection was to offer a response to the tutor regarding the quality of their feedback or the validity of the grade. This had the effect of inhibiting their engagement with the process. Others in the study correctly believed that the reflection was for their own benefit, and should be used for action planning.

Linking feedback to assessment criteria
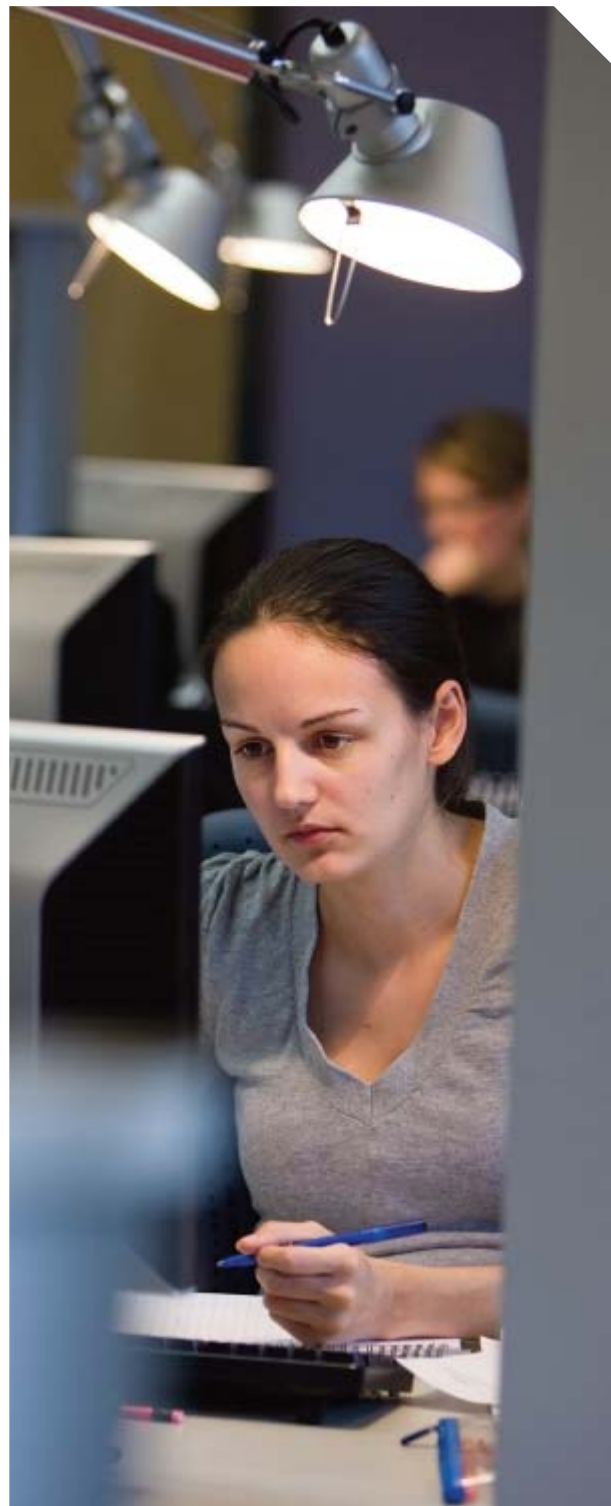
One approach to presenting feedback to students is to provide feedback comments that are aligned directly with assessment criteria. This can be done paper-based but the opportunity to use electronically generated feedback from pre-populated comment banks has seen growth in this approach. There are a range of different tools that can be used to facilitate this linking and Sheffield Hallam University has been exploring the use of an internally-developed electronic Feedback Wizard, which allows tutors to generate individual feedback documents for an entire student cohort. Each document includes an assignment-specific feedback template containing a matrix of assessment criteria and feedback comments, and other remarks individually written for that student. This method is designed to offer detailed feedback to students in a consistent and equitable way.

At the time of this study, the Feedback Wizard was only in limited use across the institution and therefore few students involved in the study had experience of this tool, although a large number had received feedback, electronically or hardcopy that linked feedback comments to assessment criteria. Participants were shown examples of feedback grids generated by the Feedback Wizard and, coupled with their experience of receiving other forms of feedback grids, they were able to articulate the potential benefits of this approach.

"You could really clearly see what you had to do for the next one and where you could actually improve."

"If you just get … a percentage for a mark out of 20 or whatever then it doesn't really give you anything. Whereas if you understand maybe the process that the lecturer has gone through with regards to how he's got to that figure … it gives you a bit more of a basis of understanding as to how or why they've got to that point."

Students suggested that they could understand feedback better when aligned to the original assessment criteria. The provision of this level of detail in an accessible format with explicit links to the assessment criteria was identified as a valuable approach to providing feedback. Students could easily identify their strengths and weaknesses against specific areas in a structured way that could lead to the development of action plans.

Interestingly, given some students' earlier concerns that typed feedback was impersonal, none of the participants perceived the output generated by the Feedback Wizard to be so. This is even after the students were informed that the Feedback Wizard automatically populates the feedback grid from a bank of pre-populated comments, although individual comments can be written for each student.

On each feedback document, the Feedback Wizard provides an indicative weighted grade for every assessment criterion. Participants in the study perceived this approach to provide transparency in how tutors calculate the final grade for their work.

In order for this type of feedback to be effective, the study found that providing details of the assessment criteria with the assignment task was essential. This enables students to make connections between what they were hoping to attain and what they actually attained, and identify personal targets.

> "It's quite interesting because you see exactly which bits have got their attention, especially if they've crossed something out which usually means a big no-no. It makes it easy to see how you can improve next time because you know what they're looking for, which is an ideal way of doing it."

Interesting points were raised about how feedback should be presented. Students acknowledged that aligning feedback to assessment criteria and presenting this in a grid form summarised the comments clearly and cohesively. However, there was a competing preference for feedback to be positioned against the specific point in their original work, so they are able to identify easily the context of the feedback.

Online publication of grades and feedback

Students expressed a strong preference for feedback and grades online. It provides greater flexibility of access to feedback, enabling students to read and respond to feedback when they are emotionally ready and in relative privacy. The prompt return of feedback and grades also means students will be more inclined act on it because it is current, relevant and meaningful in terms of the original assessment. The storage of feedback alongside their learning offers a sense of permanence and students are more likely to refer back to it when working on future assignments. Access to grades in a single place enables students to monitor their progression and see how their performance on different assessment tasks contributes to the overall assessment profile. The use of technology pushes feedback to students removing the burden to seek out feedback from tutors and makes it easier for students to engage with their feedback as they have ultimate control over how, where and when they receive their feedback. Additionally, typed feedback is more legible and readable, which counters the perception that handwritten feedback can be more difficult to read and understand.

Adaptive release of grades

The benefits of the adaptive release mechanism were acknowledged by students when they fully understood the process. The use of Assignment Handler enables the adaptive release of grades to occur with large cohorts of students and releases grades immediately on submission of the reflective account. This would be difficult to achieve without a technical intervention and helps to reduce frustrations experienced as a result of withholding grades. The study also found that students are able to produce action plans from feedback but this is often a subconscious process and Assignment Handler provides a space for students to formalise this process. However, the study acknowledges that this is a new approach, therefore not all students will have encountered it before. The study emphasises the importance of explaining the process in order for students to fully engage with the reflective process and action planning.

Conclusions

Linking feedback to assessment criteria

The study found that students liked linking feedback and grades to original assessment criteria as it enables them to identify their strengths and weaknesses at a glance. This can help students to reflect as they are able to use the assessment criteria to identify learning targets. Feedback presented in this manner also offers transparency as students can see how their grades have been calculated. Technology enables this process to occur at scale, facilitating the generation of comment banks which can be used to create consistent but individual feedback. Without tools such as the Feedback Wizard, this is possible, but it would require greater effort and more time on the part of the tutor. It would entail a great deal of repetition, which the technology eliminates. However, this approach does have limitations and there was a competing preference for 'in context' feedback suggesting that a mixed model would provide the most comprehensive feedback.

Overall

This study has explored the use of technology to support students' engagement with their feedback. Whilst the study looked at the use of three specific tools, the findings are transferable to the interventions more generally, regardless of the tool used to achieve it.

The study concludes that the availability of feedback stored online for future reference with the opportunity for, and expectation of, further dialogue provides the greatest benefit to future learning. The flexibility afforded by publishing feedback online enables students to read and respond to feedback when they are emotionally ready, and in relative privacy. It also enables them to store their feedback alongside the rest of their online learning materials and activities, and unlike hardcopy feedback they are more likely to go back to this in future.

The study also found that under normal circumstances, students read their feedback and do attempt to retain the information for future assignments, although not formally. The process of adaptive release encourages students to read and reflect on their feedback before obtaining their grade and students' interviewed appreciated the potential benefits of disengaging the grade from the feedback. However many were unfamiliar with this adaptive release approach highlighting the importance of explaining the process fully. The most benefit was gained where students understood the process and the purpose. The study noted that whilst students liked to get their feedback and grade at the same time or very close together, they valued the learning benefits of having to engage with the feedback before the grade was released. Where grades were made available before the feedback, the feedback itself was not valued as having additional learning benefit.

The study identified a series of recommendations around the use of technology to enhance student engagement with feedback. These evidence-based recommendations will be published as a series of good practice guides aimed at academic staff, students and senior managers. We believe that technology has the potential to significantly enhance learning. These guides will show how technology can be used to its full advantage to help students make the most of their feedback.

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To view the literature review and a full list of references, please visit: **http://tinyurl.com/tfalitreview**

A series of best practice guides for senior managers, academic staff and students are available upon request.

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