The Higher Education Academy Research Call

TECHNOLOGY, FEEDBACK, ACTION!: THE IMPACT OF LEARNING TECHNOLOGY UPON STUDENTS' ENGAGEMENT WITH THEIR FEEDBACK

ANNOTATED BIBLIOGRAPHY

Sheffield Hallam University is exploring the potential of technology-enabled feedback to improve student learning. This project aims to evaluate how a range of technical interventions might improve students to engage with feedback and formulate actions to improve future learning.

The literature review focuses on publications and research regarding the importance of feedback and good feedback practice, with a specific regard to the application of technology to support both delivery and use of feedback.

*The literature review does not specifically cover the language and dialogue of feedback or self- and peer-feedback; however these are common themes across the literature and have been highlighted in the extended annotated bibliography below.

	Key source / research on feedback	Technology-enabled feedback	Linking feedback to learning outcomes / comment banks	Separating feedback from grades	Reflection on feedback / action planning	Content / language of feedback*	Feedback as dialogue*	Self / peer feedback*
Black, P. and Wiliam, D. (1998). 'Assessment and classroom learning', <i>Assessment in Education</i> , 5 (1), 7-74. Comprehensive review and analysis of literature on classroom formative assessment and prospects for the improvement of assessment and feedback practices.	✓		✓	✓	✓	✓	✓	✓
Bloxham, S. and Boyd, P. (2007). Developing Effective Assessment in Higher Education. Berkshire, Open University Press. Book providing practical guidance on managing and improving assessment in higher education. Topics explored include: assessment design, preparing students for assessment, marking and moderation, providing feedback, and quality assurance.	✓	√	~	~	✓	~	✓	✓

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Bloxham, B. and Campbell, L. (2008) 'Generating dialogue in coursework feedback: exploring the use of interactive coversheets', Paper presented at EARLI/Northumbria Assessment Conference, 27-29 August 2008, Seminaris Seehotel, Potsdam, Germany. Two-year study examining a process aimed at increasing the dialogue between tutor and student about assessment through the use of 'interactive coversheets' on the BSc Outdoor Studies course, designed to provide students with individual feedback based on the questions students were invite to ask about their work.	√					~	~	~
Van den Boom, G., Paas, F., van Merriënboer, J. J. G. and van Gog, T. (2004). 'Reflection prompts and tutor feedback in a web-based learning environment: effects on students' self-regulated learning competence', <i>Computers in Human Behavior</i> , 20 (4), 551-567. Study based in the Netherlands investigating the practical value of reflection prompts and tutor feedback on the development of students' self-regulated learning competence in distance education delivered online.		>			√			
Boud, D. and Falchikov, N. (2006). 'Aligning assessment with long-term learning', <i>Assessment & Evaluation in Higher Education</i> , 31 (1), 399-413. Paper offering suggested practices for a longer-term emphasis for learning-orientated assessment in higher education to enable future learning following graduation, preparing students to make complex judgements on their own work and decision-making in future uncertain or unpredictable situations which is currently undermined by traditional assessment practices.				✓	✓			✓
Bridge, P. and Appleyard, R. (2005). 'System failure: A comparison of electronic and paper-based assignment submission, marking, and feedback', <i>British Journal of Educational Technology</i> , 36 (4), 669-671. Discussion on the use of online submission, and benefits of electronic marking and feedback with Radiotherapy and Oncology students at Sheffield Hallam University.		✓						

	Key source / research on feedback	Technology-enabled feedback	Linking feedback to learning outcomes / comment banks	Separating feedback from grades	Reflection on feedback / action planning	Content / language of feedback*	Feedback as dialogue*	Self / peer feedback*
Brown, S., Bull, J. and Race, P. (eds) (1999). Computer-Assisted Assessment in Higher Education. London: Kogan Page. Book exploring appropriate use and implementation of technologies in assessment, including a focus on effectively and efficiently providing students with detailed formative feedback on their learning.		√						✓
Butler, R. (1988). 'Enhancing and undermining intrinsic motivation: the effects of task-involving and ego-involving evaluation of interest and performance', <i>British Journal of Educational Psychology</i> , 58 (4), 1-14. Study evaluating the impact of grades on the motivation of fifth and sixth grade pupils.				✓				
Carless, D. (2006). 'Differing perceptions in the feedback process', <i>Studies in Higher Education</i> , 21 (2), 219-233. Research across eight universities in Hong Kong into the problematic nature of assignment feedback, relating to written annotations and comments on both drafts and final assignments along with verbal dialogue, and the use and impact of grades.				✓		✓	✓	
Charman, D. (1999). 'Issues and impacts of using computer-based assessments (CBAs) for formative assessment'. In: Brown, S., Bull, J. and Race, P. (eds), Computer Assisted Assessment in Higher Education. Kogan Page. 85-93. Chapter discussing the formative use of computer-based assessments to support student learning.		√				✓		✓
Chanock, K. (2000). 'Comments on Essays: do students understand what tutors write?', Teaching in Higher Education, 5 (1), 95-105. Paper exploring the nature and extent of misunderstandings of feedback comments by Humanities and Social Sciences students at La Trobe University (Melbourne, Australia) and suggesting ways to enhance communication of feedback.						✓		

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Furnborough, C. (2008) 'Learning through Assessment and Feedback: Implications for adult beginner distance language learners', Paper presented at EARLI/Northumbria Assessment Conference, 27-29 August 2008, Seminaris Seehotel, Potsdam, Germany. Study of distance language learner perceptions of positive tutor feedback at the Open University in beginners' courses in German, Spanish and French, exploring whether they utilised their feedback in subsequent learning and whether they focus on product or process of feedback.		√			√			
Crook, C., Gross, H. and Dymott, R. (2006). 'Assessment relationships in higher education: the tension of process and practice.' <i>British Educational Research Journal</i> , 32 (1), 95-114. Small-scale study of tutors and students from Psychology departments at Nottingham and Loughborough Universities into assessment process and practice.		✓	✓			✓	✓	√
Denton, P. (2001a). 'Generating and e-mailing feedback to students using MS Office'. [Online]. In Proceedings of the 5th International Computer Assisted Assessment Conference, Loughborough, 2-3 July 2001. Learning and Teaching Development, Loughborough University. Last accessed 05/03/09 at: http://www.caaconference.co.uk/pastConferences/2001/proceedings/j3.pdf Evaluation into the development of a Microsoft Office based system for generating and returning feedback to first year undergraduate Chemistry students at Liverpool John Moores University. Particularly suited to large classes, the feedback tool generates individual feedback reports for each student that includes their mark, their position in the class and a series of statements selected from a bank of feedback comments, which can be printed or returned via email.		√	√					

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Denton P. (2001b). 'Generating coursework feedback for large groups of students using MS Excel and MS Word.' [Online] <i>University Chemistry Education</i> , 5 (1), 1-8. Last accessed 10/06/08 at: http://www.rsc.org/pdf/uchemed/papers/2001/p1_denton.pdf Evaluation into the development of a Microsoft Office based system for generating and returning feedback to first year undergraduate Chemistry students at Liverpool John Moores University. Particularly suited to large classes, the feedback tool generates individual feedback reports for each student that includes their mark, their position in the class and a series of statements selected from a bank of feedback comments, which can be printed or returned via email.		✓	✓					
Denton P. (2003). 'Returning feedback to students via email using Electronic Feedback 9' [Online] Learning and Teaching in Action [Manchester Metropolitan University] 2 (1). Last accessed 10/06/08 at: http://www.celt.mmu.ac.uk/ltia/issue4/denton.shtml Article describing Electronic Feedback 9, software developed at Liverpool John Moores University, enabling tutors to readily generate and return feedback to students, in the form of Microsoft Word processed reports and email messages.		~	✓					
Denton, P., Madden, J., Roberts, M. & Rowe, P. (2008). 'Students' response to traditional and computer-assisted formative feedback: A comparative case study', <i>British Journal of Educational Technology</i> , 39 (3), 486 - 500. Evaluation into the reception of feedback by first year Pharmaceutical Science and Pharmacy students at Liverpool John Moores University, comparing traditional handwritten feedback with electronic feedback generated using the Electronic Feedback Freeware software developed at the University.		√	✓					
Department for Education and Skills (2003). <i>The Future of Higher Education</i> . (Cm 5735). London: The Stationery Office. White paper outlining DFES' ambition for the future of higher education in the UK.	-	-	_	-	-	-	-	-

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Ecclestone, K. and Swann, J. (1999) 'Litigation and Learning: tensions in improving university lecturers' assessment practice', <i>Assessment in Education: Principles, Policy and Practice</i> , 6 (3), 377-389. Action research project at the University of Sunderland to improve assessment practice and improve students' learning through consistency in grading students' work and providing feedback which is effective in improving the quality of students' work.			✓		✓			
Falchikov, N. (2001). Learning Together: Peer Tutoring in Higher Education. RoutledgeFalmer: London. Book exploring student learning through the use of peer tutoring in higher education, along with suggested activities.		✓	✓	✓				✓
Garner, I. (2006). 'Review of feedback within the Faculty of Development and Society'. Sheffield Hallam University [Unpublished]. Evaluation of student, academic and administrative staff perceptions of feedback effectiveness and desired enhancements to feedback in the Faculty of Development & Society at Sheffield Hallam University.		√		✓	✓			
Gibbs, G. and Simpson, C. (2004a). 'Conditions under which assessment supports students' learning'. Learning and Teaching in Higher Education (1), 3-31. Article evaluating the impact of assessment on student learning. A set of 'conditions under which assessment supports learning' are proposed as a framework for tutors to review effectiveness of their own assessment practice.	✓			✓	✓	√		
Gipps, C.V. (2005). 'What is the role for ICT-based assessment in universities?', Studies in Higher Education, 30 (2), 171-180. Paper reviewing the use of computer supported assessment practices in higher education, exploring the validity and efficiency, pedagogical benefits, and future developments of computer-assisted assessment, online submission and electronic feedback in light of the growing use of virtual learning environments.		√		√				✓

	Key source / research on feedback	Technology-enabled feedback	Linking feedback to learning outcomes / comment banks	Separating feedback from grades	Reflection on feedback / action planning	Content / language of feedback*	Feedback as dialogue*	Self / peer feedback*
Guardado, N. and Shi, L. (2007). 'ESL students' experiences of online peer feedback', Computers and Composition, 24 (4), 443-461. Paper reporting on the experiences of online peer feedback of English as Second Language students at the University of British Columbia (Vancouver, Canada), including analyses of the electronic feedback they received and comparisons of their initial and revised drafts.		√			√	~		✓
HEFCE (2007). 2007 Teaching Quality Information Data. Bristol: Higher Education Funding Council for England. [Online]. Last accessed 10/06/08 at: http://www.hefce.ac.uk/learning/nss/data/2007/ Teaching Quality Information core data for 2007, including results from the National Student Survey. A complete set of data for all higher education institutions is available along with a breakdown of data by individual institution.	-	1	-	-	-	-	-	-
Hepplestone, S. and Mather, R. (2007) 'Meeting Rising Student Expectations of Online Assignment Submission and Online Feedback'. [Online]. In <i>Proceedings of the 11th International Computer-Assisted Assessment Conference 2007</i> , Loughborough, 10-11 July 2007. Learning and Teaching Development, Loughborough University. Last accessed 05/03/09 at: http://www.caaconference.co.uk/pastConferences/2007/proceedings/Hepplestone%20S%20Mather%20R%20n1_formatted.pdf Paper discussing developments at Sheffield Hallam University to enhance the way in which feedback can be provided to students through the appropriate use of learning technologies, including the adaptive release of student marks through the use of a bespoke Assignment Handler tool, and an electronic Feedback Wizard which links feedback to learning outcomes to generate consistent, individual feedback sheets for entire student cohorts.		√	√	√	√			

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	Ke)	Tec	Lin out	Sep	Ref	Cor	Fee	Sel
Higgins, R. Hartley, P. and Skelton, A. (2002). 'The conscientious consumer; reconsidering the role of assessment feedback in student learning', <i>Studies in Higher Education</i> , 27 (1), 53-64. Three-year research project investigating the impact of assessment feedback in higher education, focusing on Level Business and Level 1 Humanities students in both a preand post-92 institution.	✓	<u> </u>	✓	✓ ·	✓	√		
Hounsell, D. (2008). 'The Trouble with Feedback', <i>TLA Interchange</i> . [Online]. Last accessed 21/10/08 at: http://www.tla.ed.ac.uk/interchange/ Article discussing issues with current feedback practice in light of 21st Century mass higher education and its variability across the sector, along with suggestions to enhance the quality and impact of feedback.	✓	√	✓		✓	~		~
Hounsell, D. and Entwistle, N. (2007b). Learning and Teaching at University: The Influence of Subjects and Settings. (Teaching and Learning Research Briefings, no. 31). London: ESRC Teaching and Learning Research Programme. [Online]. Last accessed 10/06/08 at: http://www.tlrp.org/dspace/handle/123456789/1157 Research into how students learn in the age of mass higher education, investigating how the quality of learning and teaching is shaped by subject areas and course settings.	-	-	-	-	-	1	-	1
Hounsell, D., Xu, R. and Tai, C.M. (2007a). Monitoring Students' Experiences of Assessment. (Scottish Enhancement Themes: Guides to Integrative Assessment, no.1). Gloucester: Quality Assurance Agency for Higher Education.[Online]. Last accessed 10/06/08 at: http://www.enhancementthemes.ac.uk/publications/ Guide examining strategies to monitor assessment strategies, enabling strengths to be built on and the opportunity to take remedial action where necessary.	✓							
Jones, D. and Behrens, S. (2003). 'Online Assignment Management: An Evolutionary Tale'. In <i>Proceedings of the 36th Hawaii International Conference on System Sciences</i> , 6-9 January 2003, Big Island, Hawaii. Paper discussing the potential benefits of online assignment management and electronic feedback.		√						

	Key source / research on feedback	Technology-enabled feedback	Linking feedback to learning outcomes / comment banks	Separating feedback from grades	Reflection on feedback / action planning	Content / language of feedback*	Feedback as dialogue*	Self / peer feedback*
Joy, M. and Luck, M. (1998). 'Effective Electronic Marking for On-line Assessment', in Proceedings of the 6th annual conference on the teaching of computing and the 3rd annual conference on Integrating technology into computer science education: Changing the delivery of computer science education, 18-21 August 1998, Dublin, Ireland. Review of a system developed at the University of Warwick allowing students to submit programming assignments and receive consistent feedback on their work through the use of 'graphical electronic marksheets' that enables weighted marks to be given for specific criteria. Comments can be added by the marker either as notes for the moderator who fixes the final mark or as additional feedback to students. The system automatically emails the marks and comments to students.		√	√					
McDowell, L., Sambell, K., Bazin, V., Penlington, R., Wakelin, D., Wickes, H. and Smailes, J. (2005). Assessment for Learning: Current Practice Exemplars from the Centre for Excellence in Learning and Teaching. Newcastle: Centre for Excellence in Teaching and Learning, University of Northumbria. Guide illustrating effective assessment for learning practices at Northumbria University, including examples of effective computer-based feedback, peer feedback and self-evaluation strategies.	√	✓	✓		√	√	√	~
Maclellan, E. (2001). 'Assessment for learning: the differing perceptions of tutors and students', Assessment & Evaluation in Higher Education, 26 (4), 307-318. Study of third-year undergraduate students at the University of Strathclyde describing assessment practices experienced by tutors and students.			✓			✓		✓

	Key source / research on feedback	Technology-enabled feedback	Linking feedback to learning outcomes / comment banks	Separating feedback from grades	Reflection on feedback / action planning	Content / language of feedback*	Feedback as dialogue*	Self / peer feedback*
Mutch, A. (2003). 'Exploring the Practice of Feedback to Students', <i>Active Learning in Higher Education</i> , 4 (24), 24-38. Research project at a post-92 institution exploring usefulness of feedback delivered to business students, and staff concerns about student engagement with feedback. A critical review of literature (or rather lack of research) in this area of work. Suggestions are offered in terms of content, delivery, reception and reflection on feedback to enable students to understand and apply feedback in their future learning.	*	√	√		√	√		
Nichol, D. (2007). 'Improving assessment after the task', Re-Engineering Assessment Practices in Scottish Education (REAP) Online Resources [Online]. Last accessed 19/03/08 at: http://www.reap.ac.uk/nss/nssAfter02.html Project funded by the Scottish Funding Council piloting the redesign of formative assessment and feedback practices in large-enrolment first-year modules across the University of Strathclyde, the University of Glasgow and Glasgow Caledonian University, and developing strategies for embedding new thinking about assessment into institutional policies and quality enhancement processes	*		~	~	√		√	√
Plimmer, B. and Mason, P. (2006). 'A Pen-based Paperless Environment for Annotating and Marking Student Assignments'. [Online]. In <i>Proceedings of Seventh Australian User Interface Conference (AUIC2006)</i> . Hobart, Australia, 16-19 January 2006. Australian Computer Society Inc. Last accessed 21/01/09, at: http://crpit.com/confpapers/CRPITV50Plimmer.pdf Project to develop a prototype paperless environment to provide staff and students with a paperless environment for storage and transmission of student work, rich feedback and recording of student grades.		√						
Potts, D. (1992). 'Case study: You can't teach those things to rats. A case for neither grading nor failing students', <i>Educational and Training Technology International</i> , 29 (4), pp. 296-309.				✓	✓			

	Key source / research on feedback	Technology-enabled feedback	Linking feedback to learning outcomes / comment banks	Separating feedback from grades	Reflection on feedback / action planning	Content / language of feedback*	Feedback as dialogue*	Self / peer feedback*
Price, B. and Petre, M. (1997). 'Teaching Programming through Paperless Assignments: an empirical evaluation of instructor feedback', in Proceedings of the 2nd conference on Integrating technology into computer science education, 1-5 June 1997, Uppsala, Sweden. Research into a system for electronic assignment handling on Computer Science courses at the Open University, focusing specifically on the quality of marking and feedback, and efficiency and accountability of electronic assignment management.		√	✓					
Price, M. and O'Donovan, B. (2008). 'Feedback - All that effort, but what is the effect?', Paper presented at EARLI/Northumbria Assessment Conference, 27-29 August 2008, Seminaris Seehotel, Potsdam, Germany. Findings from a three-year project addressing student engagement with feedback and measuring the effectiveness of feedback, exploring the purpose and utility of feedback, and factors that diminish and enhance student engagement with feedback.	✓			✓	✓	✓	✓	✓
Prowse, S., Duncan, N., Hughes, J., Burke, D. (2007). "do that and I'll raise your grade'. Innovative module design and recursive feedback', <i>Teaching in Higher Education</i> , 12 (4), 437-445 Research at the University of Wolverhampton into an innovative feedback process to encourage students to make effective use of tutors' comments in a School of Education module using a four stage process: first submission of written work, written feedback on the submission, viva on student understanding of the feedback, and final submission of written work resulting in improved learning and grades.		√		✓	✓		√	
Race, P. (no date). 'Making Feedback Work', A compendium of extracts from 'Making Learning Happen' (2005), '500 Tips for Tutors' (with Sally Brown, 2005), 'the Lecturer's Toolkit: 3rd edition' (2006) and Making Teaching Work' (with Ruth Pickford, 2007).	✓	✓	~	✓	~			✓

	Key source / research on feedback	Technology-enabled feedback	Linking feedback to learning outcomes / comment banks	Separating feedback from grades	Reflection on feedback / action planning	Content / language of feedback*	Feedback as dialogue*	Self / peer feedback*
Rowe, A. D. and Wood, L. N. (2007). 'What feedback do students want?' . Paper presented at AARE 2007 International Educational Research Conference, 25-29 November 2007, Fremantle, Australia. Research into student perceptions of feedback of undergraduate Economic and Finance students at Macquarie University (Sydney, Australia), with suggestions to improve effectiveness of feedback.		√		✓	√	√		
Rust, C., O'Donovan, B. and Price, M. (2005). 'A social constructivist assessment process model: how the research literature shows us this could be best practice', <i>Assessment & Evaluation in Higher Education</i> , 30 (3), 231-240. Argument for a social constructivist approach to be applied to the assessment process requiring that students actively engage with their feedback, and gives practical examples from the research literature of ways it could be implemented.				✓	✓			✓
Tuzi, F. (2004). 'The impact of e-feedback on the revisions of L2 writers in an academic writing course', <i>Computers and Composition</i> , 21 (2), 217-235. Study exploring the relationship between electronic feedback and its impact on second language writers' revisions focusing on how they responded to their peers and an evaluation of the revisions made as a result of the feedback they received.		✓			✓	✓		✓
Weaver, M. R. (2006). 'Do students value feedback? Student perceptions of tutors' written responses', <i>Assessment & Evaluation in Higher Education</i> , 31 (3), 379-394. Survey of students in the faculties of Business and Art & Design at Nottingham Trent University on their perception of feedback. Along with content analysis of feedback samples, the survey results indicate students generally find feedback unhelpful to improve future learning. Suggestions to improve the value of feedback are made.		✓			√	√	√	✓

	Key source / research on feedback	Technology-enabled feedback	Linking feedback to learning outcomes / comment banks	Separating feedback from grades	Reflection on feedback / action planning	Content / language of feedback*	Feedback as dialogue*	Self / peer feedback*
Winter, C. and Dye, V. L. (2004). 'An investigation into the reasons why students do not collect marked assignments and the accompanying feedback'. [Online]. Last accessed 21/10/2008 at: http://wlv.openrepository.com/wlv/bitstream/2436/3780/1/An%20investigation%20pgs%20133-141.pdf Study at the University of Wolverhampton into extent of uncollected work using staff views about non-collection of feedback and student reasons for this, along with suggested strategies for ensuing students collect their assignments.	*		✓	>		>		
Wojtas, O. (1998). 'Feedback? No, just give us the answers', <i>Times Higher Education Supplement</i> , 25 September, p7. Short article on research undertaken at the University of Sunderland into student understanding and engagement with feedback.				√	✓	√	✓	✓
Yorke, M. (2001). 'Formative assessment and its relevance to retention.' <i>Higher Education Research and Development</i> , 20 (2), 115-126. Article discussing formative assessment in the context of political and structural environment of higher education and how formative assessment can contribute to student learning, development and retention.						√		