



Transforming Assessment In Higher Education

A Case Study Series

Dr. Sam Elkington (HEA Academic Lead, Assessment and Feedback)

Professor Carol Evans (University of Southampton)

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Forward

Transforming Assessment: Key considerations

Professor Carol Evans

University of Southampton

c.a.evans@soton.ac.uk

This case study series, emanating from the *2017 HEA Transforming Assessment in Higher Education symposia*, led by Sam Elington is indicative of the vast amount of work being undertaken across the higher education sector to inform assessment and feedback practices. It represents a starting point in our on-going journey to realise what true transformative practice in assessment is.

In reviewing the eighteen case studies presented in this case study series, a number of key themes are highlighted. Firstly, the importance of a research-informed approach is noted; a critical evaluation of research- and practice-evidence is essential in guiding our work. An important dimension of this is the review of underpinning theoretical and conceptual frameworks and the need to be very clear about what frameworks we are drawing on and why. We also need to be especially careful about the inferences we draw from research; robust methodologies are essential in this endeavour. If we are asking colleagues and students to engage in specific approaches to assessment, there must be a strong rationale and convincing evidence base as to why we should identify with, and buy into specific initiatives.

Secondly, assessment needs to be viewed as an integral and key element in supporting the development of pedagogy. I have already argued that assessment is the driver of curriculum change (Evans, Muijs, & Tomlinson, 2015). As part of this, it is vital that we employ critical pedagogies (Waring & Evans, 2015) that explore who is advantaged and also, inadvertently, disadvantaged by the various strategies that we employ to enhance assessment practices.

Thirdly, in promoting and facilitating transformational approaches to assessment, we need to consider the role of individual and contextual variables within the nested communities in which we work, attuned to the specific institutional, and discipline-specific requirements. In driving appropriate developments and change within such communities, the balance between the requirement for consistency and individuality needs careful consideration to ensure that creativity and meaningful approaches to assessment within disciplines are not stifled. What constitutes meaningful learning and

how it can be best assessed needs to be made explicit to all (academics and students), and considered from specific disciplinary perspectives.

Fourthly, an integrated understanding of assessment is required. The EAT Framework (2016) developed from comprehensive research on assessment and feedback across the sector (Evans, 2013) focuses our attention on how all elements of the curriculum and associated processes can enable learners (students and lecturers) to develop core assessment competences (i.e. understanding requirements of assessment, how to access, use, and give feedback effectively, and how to contribute fully to the assessment design process). It is therefore, important that a holistic approach is advocated, one which places student and lecturer beliefs at the centre of activities, and one that recognises the importance of the total learner experience within, across, and beyond modules and phases of a programme.

In sum, assessment practice is an integral part of curriculum design and it should be driving curriculum change in order to support students to better manage the learning requirements of 21st century environments within and beyond higher education. To support transformational assessment practices an integrated approach to assessment underpinned by sound pedagogical principles is required. We must be mindful to avoid reductionist, myopic, and ill-informed quick fix approaches focused purely on accountability drivers that may undermine meaningful learning. A key question is what meaningful assessment within the disciplines comprises. Practices that support individual agency and enable individuals to have full access to the curriculum so that they can take responsibility for their own learning, and can be supported through the provision of high quality, manageable and resource-efficient pedagogies are advocated. A key emphasis must be on the holistic transformation of assessment and the building of sustainable practice.

Ensuring assessment is fit for purpose, now and in the future, is the key. Clarifying the purposes and relevance of assessment to meet 21st century requirements within education and beyond has to be central to our mission, along with an agility to know when and how to evolve and redirect to best meet the needs of all learners (students and lecturers) in order to face current and future challenges in developing the knowledge, skills, and expertise to make the best use of self and contextual affordances and limitations.

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1. Transforming Assessment in Higher Education

Dr. Sam Elkington

Samuel.elkington@heacademy.ac.uk

Introduction

UK Higher education is undergoing a period of significant challenge and transformation. It is likely that these challenges will, in a comparatively short period of time, lead to changes in the ways in which the student learning experience is, accessed, mediated, and assessed. Assessment will undoubtedly have an important part to play in supporting such change and will itself need to reflect this shifting environment. Yet, whilst assessment increasingly occupies a status of importance in higher education, it remains the area, perhaps, least effectively engaged by efforts at change. Managing change of any kind in higher education is challenging, being difficult to model, initiate and sustain. Engaging in a process of transformation in assessment can have a positive impact upon student learning, as well as on student satisfaction. It can help ensure that staff and students have a greater understanding of and confidence in, academic standards, making it a necessary focus for any stakeholders concerned with furthering or ascertaining learning. Assessment shapes what students study, when they study, how much work they do and the approach they take to their learning. Relatedly, assessment tells students what is valued and what they need to achieve to be successful in their studies, and its results inform them of their progress, which in turn impacts on how they view themselves as individuals; and, following from these results, it may provide satisfaction or discouragement. Consequently, the intentionality of assessment design is influential in determining the quality and amount of learning achieved by students, and if we wish to improve student learning, improving assessment should be our starting point.

Some progress has been made in advancing contemporary ways of thinking about and working with assessment in higher education through the development work of keen and capable academics and enterprising institutions and collaborative initiatives. The HEA's framework for Transforming Assessment in Higher Education was itself derived from such an initiative in the form of the 'A Marked Improvement' resource. This collaborative publication builds on two decades of extensive support for teaching, learning and assessment in UK higher education and has provided a strong rationale for transforming assessment in higher education, offering a practical method to take stock of current practice and look to a targeted approach to strategic change.

It is largely thanks to this sound scholastic anchorage that the HEA framework for transforming assessment has proven relevant to a range of stakeholders in HE, including those who teach, those tasked with leading change in assessment policy and practice and those responsible for quality assurance and enhancement, centrally within institutions, as well as in subject-level/disciplinary communities. Transforming assessment is a process that necessarily involves espousing integrated ways of working, and doing so has significant implications for the infrastructure, the dialogue required between staff and students about assessment, and for curriculum review and development.

The centrality and ubiquity of assessment is well recognised in the literature, with the potential repercussion that it dominates learning and teaching in ways that militate against even the most considered efforts at change. To this end, the HEA hosted the Transforming Assessment in Higher Education symposia series between February and May 2017 with the stated aim of bringing together cutting edge examples of effective efforts at sustainable and manageable change at programme, discipline and institutional-level with regards to key challenges pertaining to assessment and feedback*, namely:

- Assessment literacy (8th March, 2017)
- Using technology-enhanced assessment (12th April, 2017)
- Enhancing student engagement through assessment (24th May, 2017)

This case study series resource represents the culmination of the preceding symposia series; drawing together case studies presented at each of the three one-day symposia events. In putting together this publication, it is important to note that the instances of educational research and best practice presented here do not easily translate into simple prescriptions for educational practice. It is important to note that all assessment practice outlined in this case study series is situated in the local context, and nuanced in the particular traditions, expectations and needs of different universities, specialist institutions and academic disciplines. Theory and evidence has to be interpreted and applied within those parameters and cannot be applied simply or uniformly. Consequently, this resource does not prescribe standardised changes, but instead poses some important questions based on our shared knowledge of effective assessment practice in three priority areas of contemporary assessment practice, which can and should be used to evaluate and benchmark existing approaches and inform future developments.

This case study series adds to the growing evidence of practice-based research on assessment, providing a useful basis on which to build and review policy and practice. Crucially it leaves the onus on institutions and practitioners to develop and critically evaluate assessment processes and procedures, as they are used and developed within their local context, comprising students, tutors, resources, regulations, and disciplinary and professional requirements. The case studies presented within this publication are designed to be accessible to staff working at all levels in higher education institutions. It has a particular emphasis on those who are likely to lead and implement change at institutional and programme level.

Overview

This case study series publication is structured according to the three priority areas that formed the focus of each the one-day symposia. Below is an overview of how each area was conceptualised for the purposes of the symposium format, coupled with some of the pressing questions relating to manageable and sustainable change in the area. Finally, a brief synopsis of the case studies presented in each of the areas is provided.

Assessment Literacy

A significant factor in student success is active involvement in their learning. This applies equally to their learning about assessment and standards; their assessment literacy. There are many different and overlapping conceptualisations of assessment literacy. A broad conceptualisation of assessment literacy is considered here, encompassing an appreciation of the relationship between assessment and learning, a conceptual (and theoretical) understanding of assessment, understanding of the nature and meaning of assessment criteria and standards, skills in self- and peer-assessment, familiarity with new and established assessment techniques, the ability to select and apply appropriate approaches to assessment tasks, and an understanding of attribution and plagiarism (Price et al., 2012). Active engagement with assessment standards needs to be an integral and seamless part of assessment design and the learning process in order to allow students to develop their own, internalised conceptions of standards and to monitor and supervise their own learning. Suitable methods for sharing standards with students are formative tasks, feedback with dialogue, and use of exemplar assignments, discussion of criteria, and self and peer assessment. A key rationale underpinning the use of the aforementioned approaches is that an understanding of assessment and standards should help students to become autonomous learners who can readily reflect on and review their own progress,

development and learning. Key questions we asked the assessment and feedback community as part of the 2017 symposia series were:

- What is the relationship between assessment literacy and learning?
- Is assessment literacy cross-disciplinary, or do students need to develop different, and possibly conflictual, disciplinary literacies?
- How does assessment literacy relate to the epistemic assumptions held by students and staff and thereby their perspectives on the nature of knowledge and knowing?
- How is assessment literacy best developed as an institutional priority?

Laura Heels, Lindsay Marshall and Steve Riddle discuss how they develop assessment literacy and engagement on a level 4 Software Engineering Professional module where the challenge is to make learning as personal as possible so that they students are able to see the relevance for their own development, and also as focussed as possible so as not to disengage them.

Paul Kleiman discusses the need to take a 'negotiated' approach to assessing creativity and creative assessment in devising a viable alternative to traditional learning outcomes deemed 'unfit for creative purpose' in an arts-based setting. In a fittingly creative turn, a key feature of the emergent approach is the use of a range of assessment fields or lenses through which to assess the subtleties of creative practice.

Emma Mayhew outlines how an approach to the provision of additional 'on demand' learning has been adopted in the area of Politics and International Relations, where there has been a very specific focus on creating discipline specific screencast videos to support assessment literacy at both an undergraduate and postgraduate level. Focused on achieving a sense of transparency and shared interpretation of assessment processes, these on demand audio-visual materials usefully explore a wider variety of sources ranging from assessment support, understanding marking criteria, and advanced essay writing skills, to the use of Harvard and Oxford referencing, and dissertation support.

Chris Perkins discusses his response to the rather particular challenges faced by Japanese Studies students as they negotiate the abrupt transition from an initial focus on language, to a focus on research. The case study outlines a tailored intervention designed to guide students through the process of conducting independent research with the aim of aiding them to internalise the standards by which their final year dissertations will be assessed by intentionally promoting their assessment literacy.

Carmen Tomas demonstrates both the need for and the potential of developing integrated models for leading an institution-wide change programme in assessment practice. Drawing a route to practice by bringing together multiple sources of evidence through a unitary framework that is empirically informed and intentionally focused on to key institutional priorities, the case study illustrates the practical implications of sound theoretical modelling in efforts at large-scale change in assessment policy and practice.

Naomi Winstone and Rob Nash build on a wider body of work that has sought to develop an evidence-based, sustainable, and systemic approach to maximising the impact of feedback to outline their development of an integrated set of approaches to assessment and feedback, and wider course design. Their approach seeks to harness and foster students' active involvement in evaluating and directing their own learning. Their case study details their development and utilisation of the now established "Developing Engagement with Feedback Toolkit (DEFT).

Using technology-enhanced assessment

As a sector we need to consider innovative ways to improve the operational effectiveness, efficiencies and consistency of assessment processes through available technologies underpinned by sound pedagogies. This might include efforts towards electronic submission, marking and feedback, as well as investigation into the integration of systems (notably the institutional virtual learning environment and student record system).

Effective use of information systems and learning technologies is a precursor to change in assessment policy and practice, efficiencies in staff time and a better experience for students. A range of technologies can be employed to systematise and improve the administration of the whole assessment cycle from submission of work to assessment boards (involving submission, marking and feedback), and including easy access to student work for external examiners. By harnessing relevant technologies, the student experience can be enhanced through better access to assessment information, a broader range of tasks, automated or speedier feedback, student-student and student-staff dialogue regarding assessment, and support for peer and group assessment. For example, the use of interactive technologies can offer innovative opportunities for assessment tasks. Easy publication of images, videos, blogs and student journals allow for a richer, more authentic and more motivating repertoire of individual and collaborative assessment tasks.

Despite higher education institutions having a range of technologies available for assessment purposes, there is variation across institutions as to whether and how these technologies are integrated. This can have implications for the student experience. It is vital that institutions work to ensure that the technical infrastructure and systems are in place, and that technical staff and learning technologists can work in partnership with teaching staff to successfully deploy relevant technologies. Key questions posed to the symposia community included:

- How is the adoption of EMA being increased, its functionality developed and reliability improved? Where the gaps and what are the priorities for developments in this area?
- How are barriers to stakeholder engagement in EMA processes being overcome? How are institutional culture and stakeholder attitudes being changed?
- What marking technologies are being used to generate consistent and timely, yet personal and helpful, forms of feedback? How is technology supporting and encouraging student engagement with both assessment criteria and making use of their feedback?
- What processes and workflows are being improved as a result of EMA adoption? How is technology improving the stakeholder experience around assessment, marking and feedback?
- How is technology enabling innovative forms of student assessment and feedback? How are assessments being designed with technology in mind?

Stuart Downward, Linda Price and Clarissa Wilks provide an insightful account of how implementing an institution-wide change in academic practice through a new Virtual Learning Environment has provided a timely and effective vehicle to enhance assessment and feedback practices through integrated and guided design and supported training and development interventions for staff and students at the institutional level.

David Fevyer and Kathryn Chesir discuss how an institution-wide 'Online Assignment Handling' project was the trigger for more focused work designed to enable staff to make use of electronically managed assessment and feedback (EMA and F) to enhance the effectiveness of their assessment design by opening up the opportunities for technologically enabled assessment.

Brian Henson reports the outcomes of a study designed to test the internal structure of and benchmark standards for final-year undergraduate projects in Mechanical Engineering. Rarely do we routinely scrutinize assessment schemes with sufficient rigour to determine whether they truly assess what they are intended to assess, and

whether the difficulty of assessed tasks are worth the relative marks assigned to them. This case study details the use of rigorous analysis tools to test the validity and equity of the assessment of capstone projects, with a view to informing the continuous enhancement of assessment design.

A major barrier to efforts at strategic change in assessment policy and practice, particularly change that implicates learning technology, is often a lack of institutional knowledge and experience of technology-enabled assessment internally. **Vicki Holmes** outlines how tools designed for mainstream strategic development can be adapted and used to bring about rapid change in e-assessment at institutional level through a process of evidence-informed change.

Enhancing student engagement through assessment

Student engagement is recognised here as a multi-dimensional concept. When applied to assessment this may include, for instance, strategies focusing on developing approaches to assessment and feedback which harness and foster: students' enthusiasm for and enjoyment of active involvement with subject content, learners' active participation in evaluating and directing the processes of their own learning, and student participation in the governance and (co)construction of assessment.

The learning benefits of well-designed assessment are also found when students are involved in assessment; using feedback, peer assessment and self-monitoring of progress as moments of learning in themselves. Students come to have a better understanding of the subject matter and their own learning through their close involvement with assessment. Assessment and feedback activity of this nature does not just contribute to learning at university, but develops learning and evaluative skills essential for employment and lifelong learning. Key questions asked of symposia colleagues included:

- What principles underpin your specific model of student engagement in assessment and feedback?
- What is the relationship between student engagement in assessment and feedback practices and learning outcomes?
- How can we effectively measure learning gain through a focus on student engagement in assessment and feedback?
- How do we promote staff engagement in assessment and feedback practices?
- How do we develop inclusive assessment feedback practices?
- How can assessment design promote staff and student engagement in learning?

In an attempt to foster greater student interest in the subject of tooth morphology as an integral part of dental or Oral and Dental Health Sciences programmes and to increase engagement through assessment and feedback in the area, **Bana Abdulmohsen, Iad Gharib, and a Stephen McHanwell** discuss how they have developed an active learning approach using the principles outlined in HEA's transforming assessment in HE framework to support more reflective, practice-focused, student learning.

Andrea Cameron challenges the proliferation of traditional modes of assessment which concentrate on testing knowledge rather than coupling this with varied skills assessments. Her case study describes the effective use of assessed group debates within an undergraduate elective module on ethics and moral reasoning to enhance student engagement, cooperative learning, knowledge and skills.

Cathy Malone and Liz Austin set out to examine how the shared principles of feedback are translated into the feedback writing practices of academic staff. Their case study captures work that utilises a research informed approach to develop "teacher feedback literacy" with a staff group, and a practical understanding of what it means to write feedback that students value in order to develop consistency of team practice.

Janet Horrocks discusses the learning benefits of introducing enquiry and problem-based laboratory-style interventions as an alternative means of teaching and assessing the scientific process on a BSc Biomedical Sciences programme.

Carol Morris and Alec Goodyear discuss how the decision to integrate mathematics into the engineering curriculum at the Open University, presented an unprecedented opportunity to review persistently low student retention and progression, and to develop inclusive programme-wide assessment strategies, through an intentional design process that actively encourages student engagement.

Guided by a desire to re-think institutional assessment policy and practice in order to reflect changing disciplinary interests, to more effectively embed employability through a diversification of graduate attributes, and to promote flexible learning, **Nina Morris, Hazel Christie, and Jacob Barber** focus, in their case study, on the extent to which (and how) practice of blog writing can improve students' writing and communication skills, increase their self-confidence, and accommodate a more diverse range of learning preferences and styles.

Simon Riley, Gavin McCabe, and Ian Pirie discuss the development and implementation of the Student-Led, Individually-Created Courses (SLICCs) initiative as a novel yet effective means of offering an innovative educational experience that is inspiring,

challenging, and transformational, accessible to all students, and importantly is not supplementary to student learning, but instead is academic credit bearing.

2. Assessment Literacy

Case Studies

Case Study 1

Laura Heels, Lindsay Marshall and Steve Riddle

Developing Assessment Literacy and Engagement in Stage One BSc Computing Students

Case Study 2

Paul Kleiman

"We Don't Need Those Learning Outcomes": assessing creativity and creative assessment

Case Study 3

Emma Mayhew

Goodbye Text, Hello Visual Learning: Using Screen Capture to Enhance Student Assessment Literacy

Case Study 4

Cathy Minett-Smith and Caroline Reid

Demystifying the assessment discourse: the use of infographics to promote student engagement and achievement

Case Study 5

Chris Perkins

Dissertations in 2nd year? Promoting assessment literacy for independent research

Case Study 6

Carmen Tomas

An assessment framework for enhanced institutional assessment literacy in practice

Case Study 7

Naomi Winstone and Rob Nash

The "Developing Engagement with Feedback Toolkit (DEFT)": Integrating Assessment Literacy into Course Design

Case Study 1

Developing Assessment Literacy and Engagement in Stage One BSc Computing Students

Laura Heels

Newcastle University,

Laura.Heels@newcastle.ac.uk

Lindsay Marshall

Newcastle University

Lindsay.Marshall@newcastle.ac.uk

Steve Riddle

Newcastle University

Steve.Riddle@newcastle.ac.uk

Background

This case study discusses how we develop assessment literacy and engagement in a BSc Stage One (level 4) Software Engineering Professional module. Most students in the class come straight from traditional schooling or FE colleges and are not yet aware of how instruction and assessment differ at University. In particular, they often struggle with HE's greater requirement for independent learning and the consequences this has for their skill development and ability to use feedback effectively. There is a clear need to address the problem early so that students build the confidence, resilience and adaptability needed for their career.

The immediate challenge comes from student reluctance to engage with the module content (covering the practices, skills and professional expectations for a software engineer), because they see it as non-technical and therefore irrelevant. This is particularly true for material about learning and assessment. Thus, the challenge is to make learning as personal as possible so that they see the relevance for their own development, and also as focussed as possible so as not to lose their attention.

Approach

Students are introduced to essential, non-technical skills by framing assessments to directly appeal to students' desire for more technical content. For example, students (in teams) give a presentation on a programming language of their team's choice. This develops team working, negotiation, and presentation skills, whilst improving understanding of programming. We also encourage students to take part in

extracurricular, non-assessed activities such as hackathons, team challenges and mock assessment centres to help them engage with (and reflect on) the non-subject-related skills.

To address more general issues of literacy, in our introductory lectures emphasis is placed on the need for a Computer Scientist to develop four literacies – Information, Digital, Assessment, and Design – as part of their skill set, giving examples of how they will apply these throughout their careers. Later, to support assessment literacy, we give an introduction to learning theory, covering such ideas as deep and surface learning, and learning preferences (Felder and Brent, 2005; Felder and Silverman, 1988; Price et al, 2012; Rogowsky, Calhoun and Tallal, 2015). Formative exercises to develop assessment literacy include:

- Students complete an online learning preferences protocol (Felder and Soloman, 1996) and reflect on the results they receive. Many of the students are surprised by what they read, and a significant number report an intention to change the way they work based on the information. It is hard to know how many follow through with this, though later conversations indicate that some do indeed adapt their way of working. However, exposure to information about preferences is always going to be useful.
- Students mark anonymised samples of work, covering a range of quality from poor to excellent, from a previous year. Intentionally, we give them no training before this exercise so that they approach it in the way that they believe markers work. Samples are chosen to be similar in style to an assessment that the students have just completed, and they mark and write feedback for them. Few of the students have ever had to do this, and the difficulty they face opens their eyes to the marking experience of their lecturers and helps them to understand how their own work is assessed. Whilst they are prepared to allocate marks, many are reluctant to even attempt to give useful feedback.

The culmination of this exercise is to ask the students for a show of hands for the marks awarded to each sample, and to reveal the marks actually allocated by the markers. The exercises are marked out of 10 and it is normal for each sample to be graded by at least one person in the class at every point on the scale. We then explain the rationale for the actual marks and how they were arrived at.

Examples of summative assessments relating to engagement are given below. For each, we make use of Newcastle University's Graduate Skills Framework (Newcastle University, 2014) to increase the focus on self-assessment and reflection. The framework includes subject-related, cognitive, planning, communication and teamwork skills.

- A 24-hour assessment where we provide students with the coursework specification on the day before it is due. The exercise is framed as a "sprint", a software engineering technique widely used in industry. The compressed time frame encourages students to engage more fully with the module's practical classes. Students conduct a usability analysis of a VLE using Nielsen's usability heuristics (Nielsen 1994). They produce a report on their assessment of the VLE against the set criteria, introducing them to systematic analysis using a framework, whilst also developing their writing skills.
- Students write a reflective blog, in which they complete a self-assessment of their skills based on the Graduate Skills Framework and the Faculty Marking Criteria. Using an online portfolio, students select the relevant Graduate Skills for their self-assessment. Having completed the sprint when tackling this exercise, the students are more open to tackling this kind of writing task, and framing it as a blog also addresses the reluctance that some students express with respect to the idea of "essay writing".

Outcome

The activities for assessment literacy have led to some surprises for the students, as they begin to learn how they are being assessed and how marking criteria are applied. We carry out a similar exercise when training postgraduate demonstrators, with similar results. It is important not to neglect the development of all teaching staff, many of whom are not always aware of the notion of assessment literacy. In order to change this, our School introduced a "Coursework Czar" who reviews all coursework specifications and provides feedback not only on such things as content and mark schemes, but also on diversity and cultural issues. This has proved to be successful and staff are now much more careful when writing their specifications, much to the benefit of the students.

Reflecting on their own attainment of graduate skills leads to the students being more engaged with their own learning and with the material. Comments from module evaluation include: *"Moving from school to university was difficult at first, due to more emphasis on self-study and teamwork. The ... module has helped a great deal with this, through various team and personal assignments and in lectures."*; *"This assignment made me more confident about presenting a subject in front of people and it also gave me some leadership skills. I learned how to meet group team deadlines making me better in time management"; "I had never presented a PowerPoint in front of this many people before ... I really developed my presentation and communication skills, and for my research had improved on my analytical skills... I felt the pressure of needing to not let the team down, and spent a lot of time on my slide"*

A high level of engagement was seen in the reflective blog, with a 100% submission rate. Initially, some students struggled with the concept of reflection, but with encouragement are able to move away from a “descriptive diary” of what has happened, and towards analysis and planning for future behaviour.

Feedback received by the module leaders illustrated growing understanding of professional skills:

- *“Sprint 1 also allowed me to simulate what work would be like in the professional workplace where deadlines are set short and must be met, requiring both time management and persistence”*
- *“We had 24 hours to perform a thorough analysis It helped me understand the importance of self-awareness and reflection and proper time management.”*

The steps outlined here include some work specific to the Computing discipline, but these would be transferable to an equivalent exercise in other disciplines. The assessment literacy exercises are already generally applicable. The positive student response observed in their blogs and module feedback is encouraging, and we are building on this by revisiting the assessment literacy exercises so as to be able to better evaluate any behavioural changes they induce. We continue the reflective blogging process into the following stages of the students’ development, to encourage them to continue to reflect upon their own learning throughout their university career and beyond.

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Case Study 2

“We Don’t Need Those Learning Outcomes”: assessing creativity and creative assessment

Professor Paul Kleiman

Ceil Associates

Paul.Kleiman@cielassociates.co.uk

Background

In 2016, Leeds College of Art (renamed Leeds Arts University in September 2017) decided that the opportunity to apply for Taught Degree Awarding Powers (TDAP) offered an opportunity to undertake a fundamental review of its learning, teaching and assessment strategies. Before TDAP, the college’s programmes were validated by one of the largest universities in the UK, and there were concerns that the university’s assessment framework was not ‘fit for creative purpose’. The primary concerns were:

- an ‘opaqueness in the assessment model’ re: clarity of learning outcomes and assessment criteria;
- generic assessment criteria and learning outcomes were complex and difficult for students (and some staff) to understand;
- significant variances in student assessment workloads within and across undergraduate programmes;
- an unacceptable level of confusion and dissatisfaction surrounding assessment.

The college brought in an external, independent assessment consultant to work with a senior member of staff to develop a new approach to assessment.

Approach

First, a survey of the teaching staff and management was undertaken, utilising the assessment toolkit developed by the Higher Education Academy (Ball, et al., 2013). The findings revealed that the proposed re-design of assessment would fall upon fertile ground. The consultant and the member of staff, both of whom had considerable experience of arts pedagogy and practice, undertook an iterative design approach to the project (Lawson, 1980). A prototype assessment methodology was designed and was ‘road-tested’ intensively with teaching staff from the fourteen undergraduate programmes in the College’s portfolio. It was re-worked based on the feedback received, and then re-tested.

In addition to the 'road-testing' with teaching staff, there were four important meetings that took place: one at the beginning, and three towards the end of the project. The first one was a meeting with the Senior Management Team at which an outline of the new scheme was presented, and which gave the green light to the move away from learning outcomes. It was also agreed, in line with the recommendations from the Higher Education Academy report (2015), to 'map' the proposed system to both the current honours grading system (0% - 100%) and the Grade Point Average (GPA) system.

The other three meetings, which occurred once the main shape and elements of the new system had been designed, were with the heads of quality, finance and registry; the student union; and the directors of the four schools within the College. In all cases, despite some testing questions – particularly from the school directors - was a general welcoming of the proposed scheme, particularly from those in charge of the institution's assurance and administrative operations.

One of the primary reference points for the project was the negotiated approach to assessing creative practices developed by Kleiman (2008). A key feature of that approach is the use of six assessment fields or lenses, which can be weighted accordingly, through which to assess creative practice:

1. **Presentation** (the finished article/product/performance);
2. **Process** (the student's learning/working journey);
3. **Idea** (the informing/underpinning ideas and thinking);
4. **Technical** (the application of technical skills);
5. **Documentation** (in its widest sense e.g. notebooks, sketchbooks, portfolios, research);
6. **Interview** (the student's ability to articulate their learning and their understanding of what they have done and achieved).

Other reference points included the HEA's *A Marked Improvement* (Ball, et al., 2013) and various critiques of the use of learning outcomes (e.g. Biggs, 1996; Bennett and Brady, 2012; Furedi, 2012; Gibbs, 2015; Scott, 2011). The work and research around Amabile's Consensual Assessment Technique (CAT) was also a considerable influence (Amabile, 1982; Baer & McKool, 2009). Though not without its caveats (Jeffries, 2015) CAT, with its relatively high inter-rater reliability, is considered one of the benchmarks for creativity assessment. One of its key tenets, supported by a considerable body of evidence, is that "the most valid assessment of the creativity of an idea or creation in any field is the collective judgment of recognized experts in that field" (Baer & McKool, 2009, p. 2).

The work on the new assessment system was based on a set of principles which included:

- assessment for learning, not a 'bolt-on';
- aligning assessment with the College's mission, values and the discourses and practices of the disciplines involved;
- assessment had to 'work' - for everyone (students, staff, the institution)
- the assessment burden should be minimised – for students and staff;
- assessment must be fair, valid and equitable, and that there must be clarity, coherence and consistency across the all the College's programmes;
- the uncertainties and anxieties associated with creative practice can be mitigated - though not removed entirely.

It was decided early on to place the notion of 'performance' – as a learner, artist, maker, performer, thinker, producer, researcher, team member, etc. – at the centre of the approach. That 'performance' would then be assessed through five lenses: Presentation, Process, Idea, Technical, Documentation (Fig 1.). In the first implementation of the scheme, and due to the size of the student cohorts involved, the Interview that was present in Kleiman's original design was excluded. It was recognised that this omission compromised – to some extent – the notion of assessment as a negotiated or dialogic process, and it highlighted the common conflict between good pedagogy and higher education logistics. It is hoped that it will be included at some stage, particularly for major or final projects.

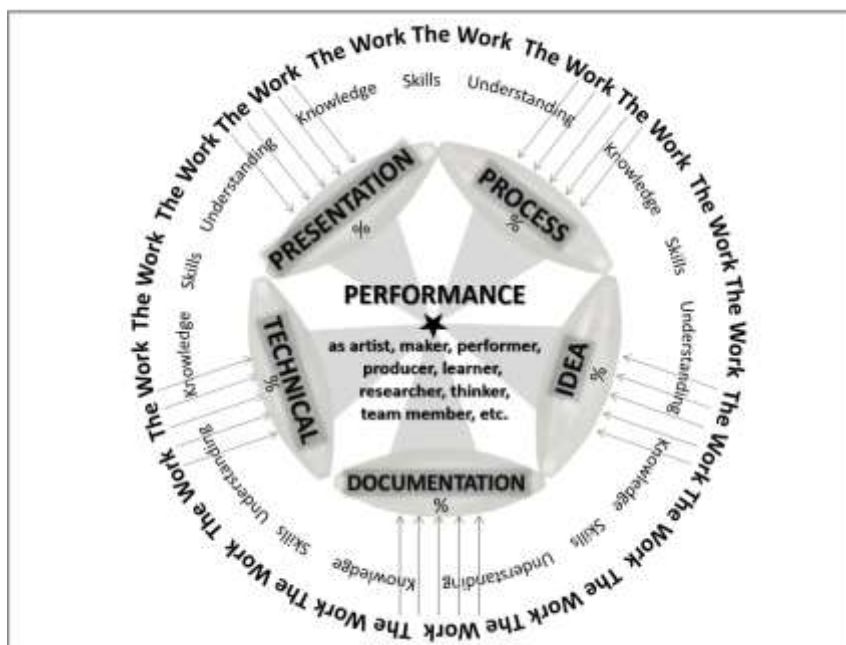


Figure 1: The Five Assessment Fields: Presentation, Process, Idea, Technical, Documentation.

The new approach to assessing creative practices also involved a significant move away from learning outcomes – described during the testing phase as a ‘conceptual shift’ – and replacing them with clear and high expectations. Evidence from the literature (e.g. Furedi, 2012; Gibbs, 2015; Scott, 2011) was provided to support that shift. For example, the

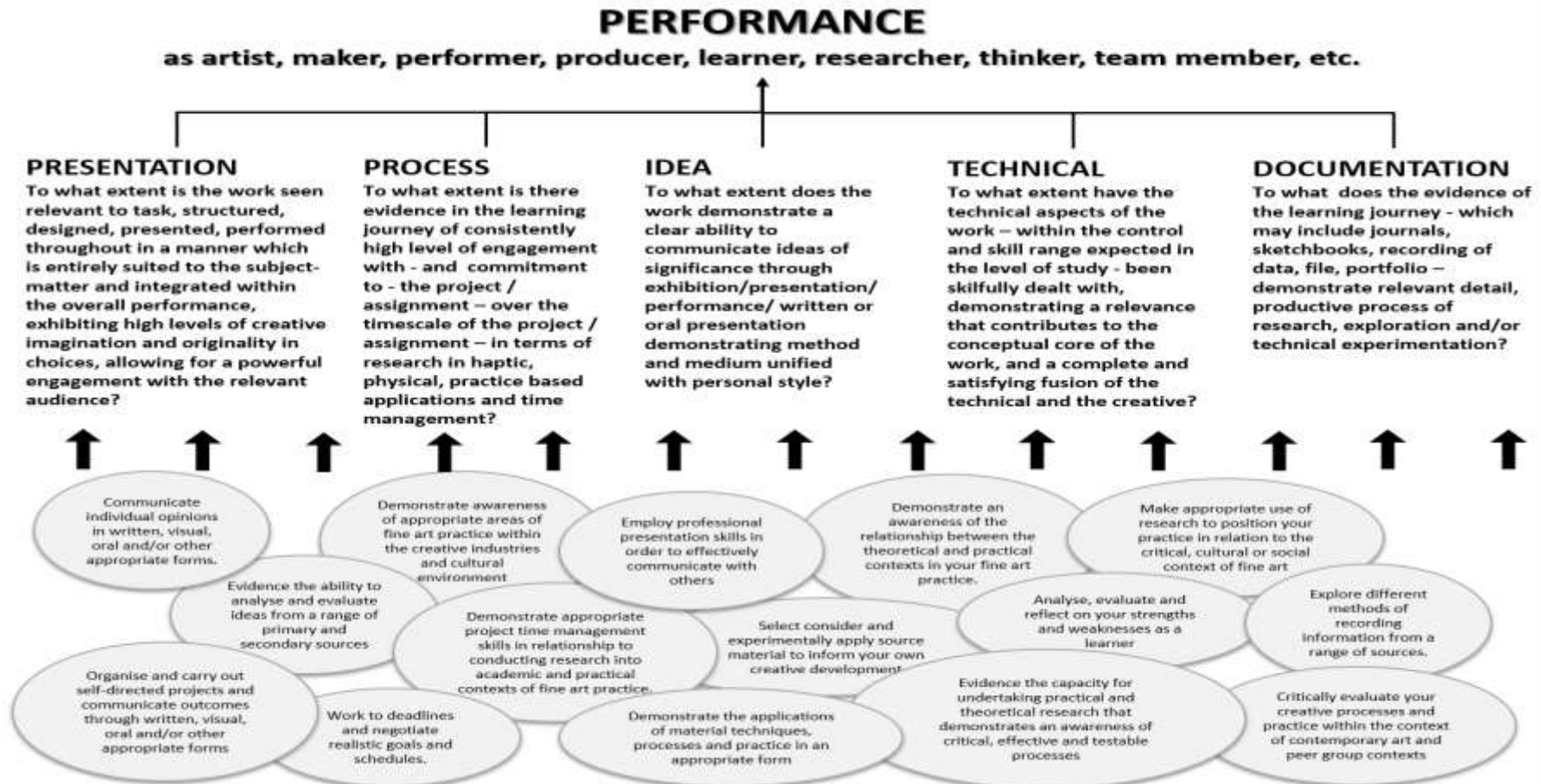
“growing realisation that it is very difficult for anyone to understand what learning outcomes and criteria actually mean, or for two people to understand the same thing – including teachers and markers....the big, complex and important goals teachers care about can come to be replaced by small, simple and trivial goals that seem easier to specify”(Gibbs, 2015).

Another key text was provided by Chickering and Gamson:

“Expect more and you will get more. High expectations are important for everyone - for the poorly prepared, for those unwilling to exert themselves, and for the bright and well-motivated. Expecting students to perform well becomes a self-fulfilling prophecy when teachers and institutions hold high expectations of themselves and make extra efforts.”(Chickering & Gamson, 1987, pp. 5-6).

The ‘conceptual shift’ away from learning outcomes involves cutting, or significantly loosening, the tightly-coupled link between a particular learning outcome and its assessment. Importantly, what is described, and the language used to describe it, need not necessarily change e.g. *“Select, consider and experimentally apply source material to inform your own creative development”*(Fine Art learning outcome, LCA). The shift consists in now considering that learning outcome as an expectation, located amongst a group of expectations (former learning outcomes) in a ‘pool of expectations’. Those expectations are contained – each to a greater or lesser extent – within a single ‘meta’ expectation, the significance of which is communicated clearly to and understood clearly by students (and staff).

Figure 2: Example, from fine art, of the pool of expectations (bottom) and the meta-assessment questions



Each of the five assessment fields was focused on a single 'meta' expectation, for example:

PRESENTATION: *Your work is expected to be relevant to task, structured, designed, presented, performed throughout in a manner which is entirely suited to the subject-matter and integrated within the overall performance, exhibiting high levels of creative imagination and originality in choices, allowing for a powerful engagement with the relevant audience?*

The assessment takes the form of asking 'To what extent has the student's work met the expectations?'. This involves using a specially designed (in Excel) marking sheet (Fig 3) in which the normal numeric grades (0%-100%) are replaced with ten alpha-numeric grades with corresponding descriptors:

1 (Exceptional – excellent in ALL respects)	D (Threshold pass / just adequate)
A2 (Outstanding – excellent in ALMOST ALL respects)	E (Marginal fail / not quite adequate)
A3 (Excellent in MOST respects)	F1 (Weak/to some extent/some but insufficient effort and/or achievement)
B (Good/Very Good, to a significant extent)	F2 (Poor/to a minimal extent/minimum effort and/or achievement)
C (Satisfactory/Competent)	F3 (Very poor/Non-existent)

Table 1: Grading bands and general descriptors

Assessors enter the agreed grade into the appropriate column, alongside the pre-determined weightings, and an algorithm fills in the corresponding information in the other categories.

OUTCOMES

Though still in its early stages at the time of writing, identified outcomes of the project include:

- A 'fit for creative purpose' assessment methodology applicable across the institution, across all programmes;
- A streamlined, online mark and feedback sheet that provides clear information and guidance (Fig 3);

- An acknowledgment by teaching and administration staff that the new system 'works': *"The new assessment model is much more suitable for the BA (Hons) fine art course. Through being involved in the process, it seems to be a more credible and useful system of assessment for both staff and students, and should allow tutors to build a sound picture of whether or not students are progressing in a more holistic sense."*(Course Leader). *"Because I can understand it, they (the students) will."*(Subject Leader). *"The new assessment model provides a level of clarity and transparency that is very beneficial for the administrative side of the University. The proposed model will eliminate some of the current complexity in HE administration and this will benefit academic staff, students and business support staff across the Institution."*(Pro-Vice-Chancellor Assurance/Director of Finance).

Module Assessment Feedback					
Student Name: A.N. Other			Student ID: 000000		
Programme: BA Hons xxxxxxxx			Level: 6		
Module Code: LAU0000		Module Title: xxxxxxxx xxxxxxxx			
Brief Title: xxxxxxxx xxxxxxxx					
MODULE MARKS					
FIELD	WEIGHTING	GRADE	UNWEIGHTED MARK	WEIGHTED MARK	SPECIFIC MARKING CRITERIA
Presentation	40%	A2	85	34	Excellent in ALMOST all respects - outstanding but not exceptional
Process	20%	B	65	13	Good/Very Good - to a large extent
Idea	20%	C	55	11	Satisfactory/Competent
Technical	10%	D	45	4.5	Threshold Pass/ just adequate
Documentation	10%	F1	25	2.5	Weak/to a minimal extent/some but insufficient effort/achievement
MODULE GRADE				B	Good/Very Good - to a large extent
TOTAL MODULE MARK				65	
GRADE POINT AVERAGE				3.5	
TUTOR COMMENT/FEEDBACK - To be used for targeted developmental feedback and feedforward recommendations					
What You Did Well					
What You Can Do To Improve					

Figure 3: New marking and feedback sheet.

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Case Study 3

Goodbye Text, Hello Visual Learning: Using Screen Capture to Enhance Student Assessment Literacy

Dr. Emma Mayhew

University of Reading

e.a.mayhew@reading.ac.uk

Background

Rising student numbers across the higher education sector have increased the pressures on academic colleagues to disseminate key information quickly and effectively. At the same time, the new generation of student often demands greater flexibility in terms of the pace and place of learning and they often respond extremely well to the delivery of information in a much more visual medium. Engagement increases and the retention of information significantly improves once a visual stimulus is added to written or audio information (Meyer, 2014).

Approach

One response is for universities to make greater use of highly innovative, free, or inexpensive screen capture software. Popular options include **Techsmith's Snagit** or **Camtasia Studio**.¹ This type of downloadable software simply records all screen activity as well as any audio and saves as an MP4 file. By marrying this now widely available technology with relatively new visual presentation tools like **Prezi**, **VideoScribe** and **Powtoon**,² lecturers can quickly create dynamic, short screencast videos on all aspects of teaching and learning.

This approach to the provision of additional 'on demand' learning has been adopted by small pockets of colleagues across the UK Higher Education sector. But, in the Department of Politics and International Relations at the University of Reading, there

¹ Snagit is available at <https://www.techsmith.com/screen-capture.html>. Camtasia is available at <https://www.techsmith.com/video-editor.html>

² Prezi is available at www.prezi.com. VideoScribe is available at <http://www.videoscribe.co/>. Powtoon is available at www.powtoon.com

has been a very specific focus on creating discipline specific screencast videos to support assessment literacy at both an undergraduate and postgraduate level. I have used Camtasia to record myself talking through a whole range of Prezi presentations to create a suite of four to six minute long recordings (University of Reading, 2013). These screencast videos have explored sources of assessment support, understanding marking criteria, advanced essay writing skills, the use of Harvard and Oxford referencing, dissertation support, and academic misconduct.

I deliberately used my own voice so that students were listening to someone familiar to them. I also ensured that the videos were highly specific both to the subject area and to my university so that students felt these screencasts were made specifically for them as students of Politics and international Relations at Reading. And of course, as well as being highly visual, I also made them highly informative, unpacking key terminology that might not be familiar and being very transparent in terms of how to achieve success in assessment. Students should not feel that they are having to piece together understanding of success criteria from one essay to the next. I wanted to enhance their understanding of assessment right from the start of their journey with us, a principle focused on transparency and shared interpretation (QAA, 2013).

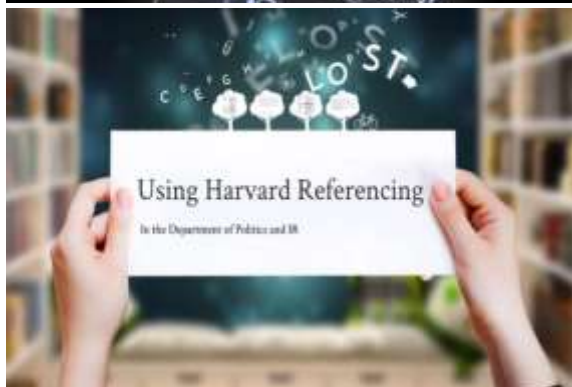
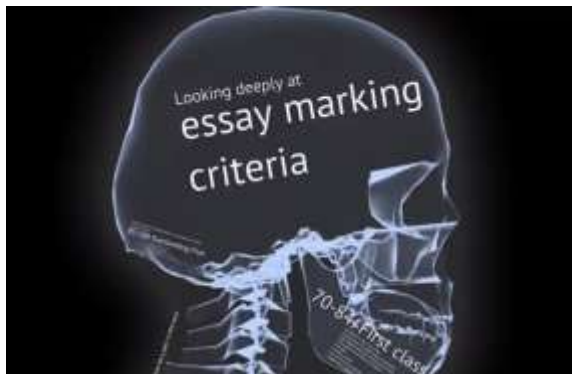




Figure 1: Screenshots of the assessment literacy support suite of videos available to students.

In addition to the suite of supporting material, I decided to develop my use of screen capture technology to trial video feedback. I was able to take advantage of the department's exclusive e-submission policy to view all assignments online via the institution's Virtual Learning Environment, Blackboard. I then created individual MP4 video feedback files for each of my sixty students by opening each submission, activating my webcam, pressing 'record' on my screen capture software and then talking through each essay. Each 4-10 minute long MP4 file was uploaded to Blackboard to be accessed by students. The assessment support suite and video feedback trials were created and disseminated with significant benefits.

Outcomes

Screencasts within the Department of Politics have generated a considerable amount of extremely positive feedback. The suite of screencasts created to support assessment literacy, and only publicised to students enrolled on undergraduate and postgraduate programmes, has recorded over 6,000 views since 2013.

Fifty six undergraduate and postgraduate students completed a short questionnaire on the use of this form of dissemination between 2013 and 2015. One hundred per cent of students found the screencasts helpful. Ninety three per cent felt that screencasts added to the advice and support available. Eighty six per cent called on the Department to produce more. Eighty eight per cent of respondents particularly liked being able to access screencasts whenever they needed to. Ninety five per cent liked being able to pause, rewind and watch screencasts more than once. Only two per cent found that they were too long and two per cent found the visuals disrupting.

Among the sixty students who had received screen captured video feedback in 2014 and 2015, fifty students responded to a follow on questionnaire. Ninety per cent said video feedback was better than the usual written feedback. Eighty eight per cent said that they received much more detailed feedback than they typically would on written feedback- although the time I spent generating feedback for each essay did not

reduced in any significant way, students typically received three to four times more content than I would provide in the same amount of time using written feedback. Eighty six per cent said video feedback helped clarify areas they did not understand more than written feedback. Although impact on subsequent performance is difficult to measure due to the small sample size and range of variables, eighty seven per cent of students *felt* that they would perform better in their next piece of work having received video feedback in comparison to written feedback (Mayhew, 2017).

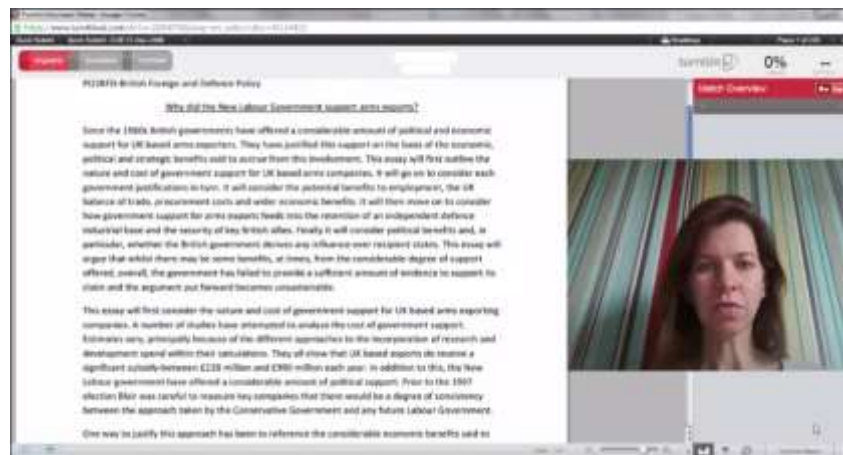


Figure 2: Screenshot example of video feedback provided to individual students

View rates and questionnaires suggest that developing short, highly visual, discipline specific screencast videos to support assessment and provide feedback impacts on student's own perception of understanding and student satisfaction.

In response to this success, the University of Reading funded a two year project to increase the use of screen capture across all levels and all disciplines within the institution and supported a programme of national dissemination. A small interdisciplinary team ran the GRASS project from 2014 to 2016 to enable colleagues within Reading to make greater use of screen capture and produce a range of online training resources to support colleagues within the broader sector (University of Reading, 2014). The GRASS project site includes a broad range of examples showing how colleagues across different disciplines have used screen capture to enhance their teaching and learning provision. The site also includes a number of simple and quick 'How To' guides to support those who are interested in engaging with this new technology.

This work, and that of others, has started to address the under-utilisation of screen capture to enhance assessment literacy, as well as broader learning provision, within the sector.

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Case Study 4

Demystifying the assessment discourse: the use of infographics to promote student engagement and achievement

Dr. Cathy Minett-Smith

University of Bedfordshire

Cathy.Minett-Smith@beds.ac.uk

Dr. Caroline Reid

University of Bedfordshire

caroline.reid@beds.ac.uk

Background

Feedback has considerable influence in improving student learning and achievement both within higher education and beyond. This, however, is dependent upon feedback being both *recognised* and *acted upon* by the student. Jonsson (2012) maintains that there is evidence 'of both an anecdotal and scientific nature that a number of students do not use the feedback they receive, and therefore do not realise the potential of feedback for learning'. The research in this area has largely focused on the academic practice of constructing and delivering quality feedback (Nicol, 2011; Price et al., 2011), at the expense of a paucity in the literature exploring students' active engagement with feedback for effective development (Jonsson, 2012; Winstone et al., 2016).

Barnett (2013) and Kumar (2007) both articulate that institutions are preparing students for a complex challenging future; therefore, there is a need to equip students with skills that will have lifelong benefits. Enabling students to recognise feedback in all its forms, and adopt strategies to utilise it to enable them to be more adaptable in an uncertain, complex and challenging environment is essential. Pedagogic and academic practices that engender assessment literacy skills are fundamental to developing students' ability to personalise the feedback agenda and hence realise the full potential of the learning experience to enable them to confidently access previously unimagined opportunities.

Arguably therefore, a greater understanding of both assessment and feedback from a student perspective would benefit the sector, particularly with influences such as the Teaching Excellence Framework as a key performance indicator (KPI) being used to measure the 'success' of a university. The notion of KPI accountability coupled with a genuine desire to aid student learning and working with feedback has seen a surge of

literature in this area in recent years (Carless 2015, Lizzo and Wilson, 2008; Quinton and Smallbone, 2010; Sadler, 2010; Robinson et al., 2013, Winstone et al., 2016). This institution-wide project aimed to shift that focus, by exploring with students, their understanding of feedback in its many forms within the learning experience, the role they perceived it played in supporting and improving their academic and personal development, and how this influenced their interaction with it.

Approach

The language in the discourse around feedback often portrays students as passive recipients of feedback. More recent literature (Jonsson 2012; Price et al 2011; Sadler 2010 Winstone, 2016) acknowledge and address the complex challenge of student engagement with feedback. This project aimed to focus on students as active agents in the productive use of feedback consequently creating a culture shift by putting students at the heart of the feedback discourse. Employing a cooperative inquiry approach (Reason 1994, 2002) the project fostered a partnership approach with students to unpack their understanding and recognition of feedback. By focusing through the lens of the student experience it aimed to develop new and creative ways of exploring the issue in order to identify innovative strategies to enhance student engagement. The students worked as co-researchers in a series of action cycles that generated and analysed data from focus groups with staff and students, interactive workshops and small development working groups. The interplay between cycles of reflection and action, with all participants fully and actively involved in all decision making associated with planning and analysis enabled the co-production of creative outcomes and resources for future use.

The project sought to provoke an assessment dialogue to explore students' understanding of feedback, challenge the perceived linear relationship between assessment and feedback, and to identify ways to support students to use feedback for academic and personal development. Over a five-year period from 2012 to 2017, the project has completed several action research cycles, engaging over ninety students and 100 academic staff. Each cycle, employing a changing complement of student researchers, has served to validate and refine the emergent data and generate new understandings and approaches for exploration. Consequently, a robust framework has evolved serving as a scaffold for constructing a tangible relationship between feedback and achievement.

Outcomes

The partnership approach produced a series of infographics co-designed to unpack and explain assessment and feedback, and illustrate how they coalesce in a reflective cycle to support achievement in all its forms. The resources aim to demystify the assessment discourse; they have been designed for action, not just awareness and as a tool for

students to use and engage with, thereby promoting student achievement and mapping their learning gain.

The resources have been disseminated at a number of national teaching and learning conferences, and adopted by colleagues in other institutions who requested permission to use them. Emergent from this, and use within our own institution, are a series of short case-studies on the adoption and adaption of the 'Achievement Explained' approach. These case exemplars include Bedfordshire 'PALs' Peers Assisted Learning employment of the resources with fellow students; the structured use of the resources by PG teams as the core focus for new student induction, and also scaffolded throughout UG courses as a progressive embedded year-long dialogue. Bedfordshire Business School have developed the resources as an ipsative personal development framework within their block delivered Post-Graduate taught courses. Kingston University, added to the resource creating a cycle of 'Research Explained' that walks with the student through the research journey. The resources are also being developed as interactive tools, where students can click through for further guidance, information or guided learning resources.

A key consequence of the student voice in this project was the way that the students shifted the emphasis from the familiar, but reductionist, terms of assessment and feedback, to construct a more holistic emphasis of Achievement. The students as co-researchers in the analysis of the data identified that the language of assessment was not enabling, inspiring or motivational. A focus on using feedback detracted from what they identified as their key motivation, which was realising their future academic, personal and professional achievement goals. The tangible association between feedback on assessment and their future achievement goals was not necessarily obvious to them. Furthermore, a narrow perception of feedback linked with assessment tasks blinkered their view of the wider opportunities for feedback in the learning experience. Therefore the consequence of their lack of engagement with feedback became more powerful and personal when positioned as threatening their achievement goals. Collaboratively deconstructing the phrase 'assessment and feedback' and reconstructing it as 'Achievement Explained' synthesised the relationship between feedback and achievement in its many forms; subsequently, fuelling a 'eureka' moment whereby students genuinely comprehended the necessity of their agency in the feedback discourse.

Thus there was a clear message that shifting the lexicon towards 'Achievement Explained' would foster student engagement. Also, that engaged student learning, through consistent constructive dialogue, is a key factor in learning gain.

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Case Study 5

Dissertations in 2nd year? Promoting assessment literacy for independent research

Chris Perkins

University of Edinburgh

Chris.Perkins@ed.ac.uk

Background

In Japanese Studies, undergraduate students spend their entire third year in Japan, where their sole focus is on language acquisition. This presents two issues: first, being in Japan is great for researching Japanese language and culture, but students perhaps do not necessarily have the skills or level of reflexivity needed to make the best of the opportunity; second, once back in Edinburgh, students are expected to complete a 10,000-word dissertation. This abrupt transition from language to 'studies' is the cause of much anxiety for our students, many of whom struggle to make progress with their dissertations. The course discussed in this case study, *Researching Japan*, came about in response to these challenges. It was designed to guide students through the process of conducting independent research, and help them internalise the standards by which their dissertations will be assessed in 4th year by promoting their assessment literacy.

Approach

Prior to the advent of this course we delivered details of assessment for the dissertation to students via a number of documents. However, this clearly was not working. Students continued to ask the same questions about formatting, referencing, structure, and sources and unfortunately many dissertations did not engage with the assessment criteria. Thus, the programme team decided to take an experiential approach to promoting assessment literacy. The philosophy was simple – the earlier we start talking about and *doing* independent research the more students will engage with and internalise the principles of sound research design by which they were to be assessed.

To facilitate this engagement we needed a course with constructively aligned assessments that would promote 'deep learning': seeking connections between concepts and ideas as opposed to the 'surface learning' of unconnected facts (Gibbs 1992, p. 2). In the case of Japanese studies, which can fall into the trap of being overly descriptive, deep learning means developing in students the ability to articulate complex historical explanations of social phenomena, and understand the connections

between history, culture, politics and society in Japan. As a subject area without a defined set of methods, deep learning in Japanese also means being critically aware of the methodological implications of different questions. Both of these skill sets are assessed via the dissertation, and it is therefore crucial that students both understand and demonstrate their competence in them.

Researching Japan was introduced as gateway to the honours years with the following learning outcomes, which in turn related to the assessment criteria for the dissertation itself:

1. Identify and evaluate key theoretical approaches to the study of Japanese society
2. Reflectively evaluate their own knowledge of Japanese society, history and culture
3. Critique academic work on Japan in terms of theory, method, evidence, and argument
4. Design and conduct autonomous research on contemporary Japanese society

The first two learning outcomes require students to come to terms with a range of different analytical approaches to the study of Japanese society, and then reflect critically on how these frameworks influence their own understanding of Japan. To promote deep learning in a relatively safe environment, we ask students to keep a class diary, on which we offer feedback. Students are encouraged to draw connections between the different concepts they have explored and ask questions about how their own views of Japan have changed as a result. Importantly, we encourage students to use their own voice, which lowers the barriers to experimentation with theory.

Learning outcome 3 is assessed via two 1000-word reviews of academic articles. We systematically dismantle each article in class, meaning that students can draw on their discussions with their peers when constructing their own critiques. As with the research diaries, via engagement with the assessment criteria we encourage students to think about the implications of the articles for their own understanding of Japan, and promote joined up thinking across the programme as a whole. In contrast to the diaries, however, we do require the reviews be written in an academic style (more formal, structured, well referenced etc.), as we see them as an important step towards learning outcome 4.

The ultimate goal for this course, learning outcome 4, is to develop the skills necessary to conduct autonomous research. We therefore introduced a 3000-word 'mini-dissertation' on a topic of the student's choosing. This word-limit was chosen because it is slightly more than 2nd year students are usually expected to write, but is not unmanageable. One 1-hour session per week is dedicated to the mini-dissertation. The

process of research and writing is broken up into interconnected stages – brainstorming questions, reviewing the literature, writing abstracts etc. – and students bring their work to each session for discussion and peer-critique. To simulate the act of writing a dissertation, the entire 30% of course marks allocated for the mini-dissertation come from the final product. Thus while the emphasis on ‘process’ is formative, the culmination of this work leads to a graded summative product.

Outcomes

Of the three pieces of assessment discussed above, it is the mini-dissertation that presents the biggest challenge and due to space constraints it will be the focus of this section. Overall the exercise has been a success in relation to our goals of socializing students into the processes and standards required for good independent research. Students have responded positively to the autonomy granted to them, and we have seen a marked improvement in the quality of 4th year research. For example one student commented:

Interesting topics and good opportunity for discussion. Loved being allowed to choose topics for the second semester. Happy with process I made and my abilities now.

Students also commented on the connections between 2nd year preparation and 4th year research and assessment. For example in response to what was good about the course one student wrote:

Building upon the idea of ‘Japan’ as academic inquiry. What sociological concerns we can learn through readings coursework which will serve us well in 4th year. Independent research project is very good, as were discussion/debate.

Some challenges, however, have arisen that were not foreseen when designing the course. First, we have found that, to an extent, the intended learning outcomes for the project are in tension. Namely, the importance of process is emphasized throughout the course, which suggests an assessment strategy that allocates a certain percentage of marks to each step of that process. But the mini-dissertation is also intended to simulate the experience of writing the 4th year dissertation, albeit with much more guidance. One of the unique aspects of the dissertation is that marks are allocated at the end of a sustained independent piece of work that requires a high degree of self-discipline to complete successfully. Thus the scaffolded experience of the mini-dissertation may give students an inaccurate idea of what the 4th year dissertation experience will actually feel like.

There is also the question of expectations. According to Cross (1996), there are three conditions for excellence in student achievement: (1) high expectations, (2) student

participation and involvement, and (3) assessment and feedback. We make it clear from the beginning that, given the level of student participation and involvement, and the large amounts of feedback provided, we have very high expectations of the students – we essentially look for work that would receive a pass mark in the 'good' category of our honours marking scheme. But we also encourage students to follow their interests and to be bold. Indeed, we would rather students aim high, 'fail', and receive feedback, than play it safe. But such an approach to assessment again comes into conflict with the simulation component of the mini-dissertation.

On reflection, it is our impression that even when learning outcomes are constructively aligned with assessment, tensions within the learning outcomes themselves can lead to uneasy compromises in assessment practice. In this case, preparing students for completing an honours dissertation, which requires students to experience some of the associated stress and strain, comes into conflict with an equally strong urge to provide students with a safe environment in which they can constructively fail. This is a microcosm of an embedded tension in higher education more generally: namely the need to provide a place of safe, constructive learning, while developing resilience for life in what can be an unforgiving world.

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Case study 6

An assessment framework for enhanced institutional assessment literacy in practice

Dr. Carmen Tomas

Assessment Adviser, University of Nottingham

carmen.tomas@nottingham.ac.uk

Background

The challenges in transforming assessment practices and the principles for desired alternatives are well established in an extensive literature base (Bloxham *et al.* 2016; Elton and Johnston 2002; Evans 2016; Jessop and Tomas 2016; Medland 2016; Nicol 2010; Price *et al.* 2012; Taylor 1994; Tomas 2014; Yorke 2011). This case study highlights further work relating to how such intelligence can be integrated in its application to serve the purposes of institution-wide transformation. This area is the linchpin between the evidence base and its application in practice. Making such connection requires bringing together often segmented elements from multiple sources of evidence. Models for practice require this intelligence to be joined up and integrated. The task of leading an institution-wide transformation of assessment practice requires consideration of such models. The case also illustrates the practical implications of having a unitary framework to help orchestrate local-central dynamics of change and efforts, and set out expectations of quality in practice. Below a description of the foundations of the framework, its localisation and visible impact is presented.

Approach

Defining an institution-wide framework for assessment practice: process focused, integrative and generic

An institutional assessment framework serves to represent intelligence derived both from theory and research in a purposeful and meaningful fashion. Defining the scope and angle are key. Assessment life-cycles are an increasingly used way of representing assessment. This can be a productive vehicle to enable the articulation of a process that is complex, involving multiple stages and stakeholders. However, the representation of assessment life-cycles, and their scope and angles can vary depending on their purpose.

In order to define the scope of the framework, an essential consideration was that three key functions of assessment needed integrating: learning, grading and assurance. To achieve this, Messick's theoretical framework of validity (Messick 1994, 1995) has been adopted as it already provides a theoretical base for the integration of design, learning and grading functions. Moreover, in addition to the integrated approach, placing validity at the heart of practices is much needed. Many of the systematic checks in the sector are concerned primarily with reliability (e.g. post-marking moderation). Practices are less well understood regarding validity of assessment and it is less clear how design and review of assessment outcomes works (i.e. the beginning and end parts of our life-cycle).

At the core of Messick's model is the concept that validity is both a property of any individual assessment but also of a broad range of uses and stages (design, marking, student engagement, revision stage). Therefore, Messick's theoretical notion of validity provides a strong theoretical foundation for institutions to design robust practices in key areas of concern in the assessment life-cycle, namely design and review stages. The principles of validity have then been translated into specific actions that provide an idea of the baseline of practice.

Lastly, to overcome discipline barriers, and a natural variation of assessment types, the framework is generic but implementable across any performance-based assessment. Performance-based assessments capture all assessment types where students provide a constructed response. This is to distinguish from objective assessments and cover a wide ranging variety of assessment types (e.g. essays, laboratory reports, projects) which represent the majority of assessments in the institution.

Understanding practice and defining priorities: starting with the end in mind

The framework provides a basis upon which an understanding of institutional practice can be constructed. This, in turn, might help to establish goals and priorities for the enhancement of assessment. A range of evaluations served to establish that particular stages required revision: design, student engagement and review stages. Institutional priorities, below, stem from the understanding of practice derived from several evaluations of practice since 2014. Priorities are ranked in order of importance as well as feasibility:

- Engagement of students in advance of assessments: communication, practice and active engagement are fundamental for practice
- Enhancing the transparency of standards, expectations and marking

- Student engagement in the validity of assessment design in principled and structured manners
- Programme level assessment: load, design, consistency of practice

The institutional evaluation of practices is ongoing.

Institutional transformation timeline

Institutional transformation is a slow process requiring multiple steps. The institutional transformation is gradual and combines a complex, multi-dimensional, both centrally and locally-led programme of work. Essentially, it encompasses centrally led work both to support basic transformation with Schools and explore alternative practices (e.g. moderation, validity of marking, programme level designs, reviews mechanisms). Models and examples for alternative practices are developed centrally in collaboration with colleagues *in situ*. Each School/Faculty is supported in choosing their own agendas but largely informed from examples provided from the central assessment framework. Each School/Faculty replays the necessary stages of exploration, trialing and localisation to enable local discovery and adaptation of given models and examples. Below is a summary of the timeline of our institutional case.

Initial phase: 2014 to present (ongoing)

Step 1 Development of the theory based framework for performance based assessments (centrally) as detailed above.

Step 2 Agenda setting, exploration of local practice and needs: local projects launched within the institutional principles. Trials are shaped according to institutional models but tailored to suit the discipline context and requirements. Evidence is collected to inform developments in context. Local trials and practice are also informing further aspects of the framework. The approach is to promote gradual but effective exploration of alternative practices, shaped in liaison with local teams. The work is coordinated centrally; the local projects provide further insights in practice feeding back into the central model.

Institutional consolidation, growth and ongoing exploration (2016 onwards)

Step 3 Assessment framework endorsed as a university level framework. Faculty and school existing cases act as models of practice and also repositories of examples and sources of information.

Step 4 Ongoing liaison with Schools/Faculties and launching of new projects
Step 5 Ongoing exploration and experimentation of alternative practices and models (e.g. moderation; peer assessment and evaluative judgement)

Outcomes

The framework is instrumental in enabling and supporting institutional and local strategic decisions. For example, setting effective agendas and priorities is paramount for the effective investment of limited resources both centrally and locally across the institution. Local autonomy and decision making are central to the institutional approach whilst, centrally, support is offered with models and assistance with local developments. Some of the central gains include:

- greater understanding of practices
- greater consistency and growing a community of practice
- alignment of assurance reviews and systems

Evidence gathering on strategic agendas is supported and led centrally. We are advancing understanding on a range of exploratory strands of work to inform practice and the institutional understanding further. The trials and evidence gathering across the institution address key areas:

- peer assessment and evaluative judgement (programme level)
- programme level assessment design methods and alignment
- marking, moderation and enhancing transparency and validity
- students in assessment design for enhanced validity

This aspect is essential in gathering a repository of evidence, examples of good practice in areas where alternatives need developing.

Institutional leadership and support for enhancement of practices is paramount if true large scale transformation of assessment practice is to be achieved. The case illustrates the importance of shared responsibility between institution and Schools to enable the effective reduction of unnecessary diversity in some areas of practice, whilst also enabling the emergence of true communities of practice. Clear parameters for the quality of assessment practice are set and their localisation supported. This joined up effort is essential to retain the essence of the principles in practice but also to enable, as an institution, to develop and share greater understanding of practice. The work is still

in progress but the impact is visible with Faculty and School-wide cases of transformation of practice in place.

Acknowledgements

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Case Study 7

The “Developing Engagement with Feedback Toolkit (DEFT)”: Integrating Assessment Literacy into Course Design

Dr. Naomi Winstone

University of Surrey

n.winstone@surrey.ac.uk

Dr. Robert Nash

Aston University

r.nash1@aston.ac.uk

Background

Although feedback is one of the strongest influences on students’ learning (Hattie and Timperley, 2007), this influence can only be realised if students engage with the feedback they receive (Nash and Winstone, 2017). Despite concerted efforts to improve assessment and feedback practices within Higher Education, metrics such as the National Student Survey consistently reveal these as the areas of students’ experience with which they are least satisfied (Higher Education Funding Council for England, 2015). Findings such as these have led to the labelling of assessment and feedback as the sector’s ‘Achilles Heel’ (Knight, 2002).

A common response to this issue has been to focus attention on the content and timing of feedback. For some, these efforts have involved writing more detailed comments, phrased in ways that point more directly to future improvement. One important problem with such an approach is that it places emphasis solely on the inputs provided in the feedback process by educators, rather than the outputs by students in terms of their engagement and action (Winstone and Pitt, 2017).

Our work draws upon theoretical approaches to the feedback process that distinguish conceptions of feedback as written comments delivered from educator to student, from conceptions of feedback as a process of dialogue wherein student engagement and action are critical. The former has been labeled the ‘Old Paradigm’, or ‘Feedback Mark 1’, whereas the latter has been labelled the ‘New Paradigm’ or ‘Feedback Mark 2’ (Carless, 2015, and Boud and Molloy, 2013, respectively). Through our work, we have attempted to operationalise ‘New Paradigm’/‘Mark 2’ thinking, by supporting students to become *proactive recipients* of feedback (Winstone, Nash, Parker, and Rowntree, 2017).

We sought to develop an evidence-based, sustainable, and systemic approach to maximising the impact of feedback. In this respect, our work crosses the 'Assessment Literacy' and 'Enhancing Student Engagement through Assessment' themes of this symposia series, addressing the effective development of assessment literacy and its relationship with learning. In addition, our work focuses on developing approaches to assessment and feedback that harness and foster students' active involvement, and on learners' active participation in evaluating and directing their own learning.

Approach

Our research approach builds upon the work of Price and colleagues on students' engagement with feedback, and also reflects the HEA Assessment Framework's recommendation that assessment literacy is integrated into course design. In the context of undergraduate Psychology, we sought to embed opportunities for students to develop the skills required to proactively implement feedback, namely self-appraisal, assessment literacy, goal-setting and self-regulation, and engagement and motivation (Winstone et al., 2017).

Through focus groups with Psychology undergraduates (Winstone, Nash, Rowntree, and Parker, in press), we identified four broad barriers that impede or prevent students' engagement with feedback: (1) they may lack awareness of what feedback means and is for; (2) may lack cognisance of appropriate strategies for implementing feedback; (3) may lack agency to implement these strategies; and (4) may lack the volition to put in the 'hard graft' (Carless, 2015).

Our approach involved an attempt to 'up-skill' students to become more proactive recipients of feedback. Based on the outcomes of our focus groups and review of the literature, we created a 'Developing Engagement with Feedback Toolkit' (DEFT) targeting each of the four barriers identified (Winstone and Nash, 2016; for full access to these resources, see the link provided to the resources in the references below). The toolkit contains a feedback guide to help students understand the purposes of feedback and to 'decode' common terminology. It also includes resources for building a feedback workshop to help students develop feedback recience skills. Finally, it contains resources for building a feedback portfolio, to encourage students to set goals and track progress. Students acted as partners in developing and testing the DEFT.

We evaluated the DEFT using a mixed-methods approach, obtaining institutional ethical approval to run online surveys and focus groups. The survey components were twofold. To begin, 101 Psychology students rated each component of the toolkit first in terms of

how useful they thought it would be to them, and second in terms of the extent to which they would be likely to actually use it. Next, one week before attending a DEFT feedback workshop, an additional 103 Psychology students completed a 24-item measure of feedback literacy created by ourselves. Immediately after the workshop, they completed the same measure again and we looked to observe post-workshop changes in their beliefs and attitudes. The focus group component involved four groups of Psychology students ($N = 13$) browsing through the DEFT resources, and discussing the extent to which these might shape their learning approaches.

Outcomes

Our evaluation demonstrated that students believed the resources would be effective in supporting their willingness and ability to engage with feedback. For example, one focus group participant said:

“it kind of encourages you to actually engage with your feedback and see how you can make it better [...]. So if you get hands on experience with your own work of how to use your feedback I think that would be helpful.”

Across the board, participants were enthusiastic about the DEFT resources, but particularly so about the portfolio. Students were positive about the other resources too, although the survey and focus group data indicated a belief that students would need extrinsic motivation to invest time in using these. The focus group data more broadly showed that participants recognised unique benefits of each tool, and encouragingly, these perceived benefits aligned well with our own intentions of what the benefits should be in terms of the barriers to be tackled. Where participants expressed reservations about DEFT tools, these almost exclusively concerned the likelihood of motivating students who do not want to engage.

The additional pre- and post-workshop evaluation data, collected from students completing the DEFT workshop, indicated improvements in students' feedback literacy as a result of engaging with the workshop activities. In particular, we observed sizeable changes in students' perceptions of feedback's capacity to affect their learner identity and achievement potential.

A key message of our work is that we can equip students to take responsibility for using feedback, thus making feedback more effective (Nash and Winstone, 2017). Importantly, the DEFT has been developed to be flexible and translatable across different disciplinary contexts and levels of education. This flexibility is evidenced by the fact that varied subject disciplines from over 25 educational institutions have already

implemented elements of the toolkit in their practice. To date we have run over 40 DEFT workshops, with the thousands of attendees including academic staff, students, teachers, medics, and academic developers. These workshops have been consistently well received; for example, HEA Fellows at one workshop unanimously agreed in anonymous feedback that the workshop would help them to enhance learning outcomes.

The next steps of the work, already underway, are to conduct a more focused evaluation of the impact of the DEFT tools on students' assessment literacy, orientation towards feedback, and academic attainment. In the interim, these preliminary findings warrant optimism in the potential of our DEFT approach. Some specific 'lessons learned' are outlined within the DEFT itself, one of which being that just like students, we as teachers frequently find ourselves reluctant to engage with feedback, from peer-reviews or teaching evaluations for instance. Reflecting on our own experiences can help us to identify the reasons why students might not appear to engage with feedback, and to work with students to identify possible solutions.

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3. Using technology-enhanced assessment

Case Studies

Case Study 8

Stuart Downward, Linda Price and Clarissa Wilks

Improving effectiveness in assessment: using a new VLE implementation as a vehicle for institutional change

Case Study 9

David Fevyer and Kathryn Cheshir

Enhancing the student experience: overcoming barriers to technology enabled and electronically managed assessment and feedback

Case Study 10

Brian Henson

Testing the internal structure of assessments of undergraduate engineering projects using the Rasch model

Case Study 11

Vicki Holmes

Ready, Fire, Aim: Bringing about rapid change in e-assessment

Case Study 8

Improving effectiveness in assessment: Using a new VLE implementation as a vehicle for institutional change

Dr. Stuart Downward

Kingston University

Dr. Linda Price

University of Bedfordshire

Professor Clarissa Wilks

Kingston University

Please contact email: s.downward@kingston.ac.uk

Background

Kingston University is implementing an institution-wide change in academic practice through a new Virtual Learning Environment (VLE) with full roll-out starting September 2017. The change provides a strategic opportunity to enhance assessment and feedback practices through guided design and supported training and development workshops for staff and students. This case study provides the context for the culture change in assessment and feedback practices, the twin-track approach taken, and our outcomes to date.

Assessment and feedback are integral to student learning gains. However, there is often a mismatch between staff and student perceptions of the effectiveness of assessment and feedback. Staff may remain entrenched in 'traditional', often inefficient, practices bound by poorly-evidenced assumptions and myths (Forsyth, 2017) and they may hold inaccurate assumptions about the typical student (Price et al., 2016). Staff are often requested to deliver better assessment and feedback but are seldom instructed how to do so. The implementation of the new VLE offers the opportunity to institutionally reposition assessment and feedback. It has engaged course teams in reflecting on whether assessment and feedback:

- Fairly evaluates the student's ability to meet our pre-defined Institutional Graduate Attributes, course and module learning outcomes and academic standards?
- Delivers on our commitment to equality, diversity, inclusion and widening participation in HE.

- Is resource sustainable, given pressure on staff to deliver across multiple resource-intensive targets?

Successes and shortfalls in the effectiveness of all aspects of the assessment lifecycle may be indeterminate products of the systems used to set and schedule assessment and articulate assessment criteria relative to learning goals (Sadler, 2009). Feedback efforts are lost if they are mismatched to intended learning objectives. Hence students can fail to capitalise on the opportunities to take responsibility for their learning via assessment, to identify feedback in all forms, understand it, and construct feedforward actions (Nash and Winstone, 2017).

Approach

The need for a holistic approach to assessment and feedback is well recognised.

“There are no quick fixes that give rapid results in assessment, and therefore we propose a holistic and proactive approach rather than an atomised response to individual assessment issues.” (HEA, 2012, p8).

Kingston is advancing this agenda by adopted a holistic institution-wide approach to assessment and feedback. The new VLE provides an opportunity to advance both culture and practice as change is required as the acceptable process of transitioning from one VLE to the other. In line with Biggs (2013), our focus has been the constructive alignment of assessment and feedback with our Graduate Attributes, course, and module learning objectives.



Figure 1: Assessment and feedback practices are constructively aligned to defined learning objectives and built into the VLE Learning Design Principles that guide practice.

Our aspiration to enhance the student learning experience places assessment and feedback at the forefront of our learning and teaching practices, encouraging dialogic approaches. This is to raise the students' metacognition of their discipline through reflection and identification of challenges and feedforward opportunities (*Figure 1*). This includes raising students' awareness that feedback occurs via multiple feedback channels (conversations, written, digital, etc.) and raising awareness that feedback may not be directly connected to specific assessment activities (Ruiz-Primo, 2011).

An institution-wide approach required a clear institutional mandate and the creation of a multi-skilled team to train all Kingston University staff over a one-year period, ready for September 2017. The team includes Faculty Champions (senior academic teaching and learning leaders from each Faculty), TEL staff and Graduate Assistants (recent Kingston graduates). This includes initiating Faculty 'super-user' groups consisting of early-adopter staff to provide experiential feedback and to stress-test ideas and practical applications of the learning design principles prior to publishing assessments on the VLE (*Figure 2*).

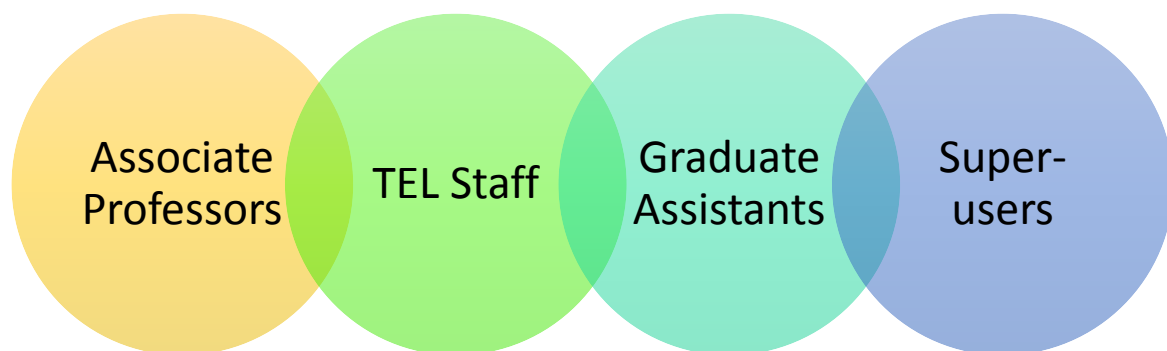


Figure 2: Delivering change in assessment-feedback and the VLE – a multi-skilled team with a clear institutional mandate.

The approach anticipated numerous challenges. One of the difficulties in rolling out such an ambitious project is the tensions and contradictions it raises with existing policies and practices. We have consciously worked with existing systems and policies and current good practice. We have also influenced policy development that guide the blending of assessment-feedback and VLE activities with existing expertise (e.g. the Assessment Task Group and the TEL Steering Group).

We have worked in partnership with staff to capture and disseminate existing good practices. Our training sessions engage staff with the question “*How can we as a VLE team help you to achieve your assessment and feedback ambition?*” Through mutual understanding we have welcomed and encouraged innovation and ownership of the

changes. Our aim is to develop sustainability in the institutional assessment and feedback culture and practice, for staff and course teams to develop independent capacity for autonomous development.

Our training is course team focused. This is to engender a coherent and consistent approach to assessment and feedback, offering students better opportunities to experience a course holistically. The training uses a six-stage process-enquiry model (Figure 3). The model promotes a co-constructivist approach whereby learning is constructed through loops of dialogue aligned to course and module learning objectives (Askew and Lodge, 2000; Price, M. et al, 2010). We have emphasized the value of formative scaffold-based assessment with the aim to promote learning through small incremental units of study build students' confidence and reduce the anxiety typically associated with the high stakes summative assessments (Sparks, 2016).



Figure 3: A six-stage process model used in training to promote a structured and coherent approach to assessment, feedback and feedforward within the VLE.

The process is supported throughout by mechanisms inherent to the VLE. These include:

- Assessment mapping and scheduling.
- Consistency in the articulation of assessment briefs - supported with face to face time to explain terminology and language used.
- Holding, capturing, archiving, sharing and interrogating conversations in all their forms as basis for reflection and feedforward.
- Rubric design guidance within the VLE to provide a basis for structured feedback dialogue and reflection (Popham, 2012; Menendez-Varela and Gregori-Giralt, 2015)
- QA processes including verification, moderation and external examiners.

Outcomes

To date we have trained over 800 staff responsible for 1904 modules. Training includes regular workshops, support materials, course-team to one-one assessment design support. Training challenges are periodically reviewed and resources (re)allocated. A more complete evaluation will be available in September 2018. However, initial feedback from staff and students illustrates that the twin-track assessment-feedback and VLE approach has:

- Provided a catalyst to 'force' compliance to established existing assessment-feedback and associated QA protocols. It has improved consistency, coherency, transparency and accessibility in assessment tasks such as assessment briefs and associated assessment criteria. Clearer narratives now link assessment activities with the learning pathway.
- Highlighted opportunities for change by putting existing best-practices in the spotlight and fostering a cultural climate for staff to have the confidence and support to innovate and explore the added functionality provided by the new VLE.
- Provided a catalyst for the development of new policy and institutional best practice exemplars of the VLE in the VLE.

In the 2017/8 academic year we will gather student and staff evidence of the experiences and we will update this case study.

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Case Study 9

Enhancing the student experience: overcoming barriers to technology enabled and electronically managed assessment and feedback

Dr. David Fevyer

Bournemouth University

dfevyer@bournemouth.ac.uk

Kathryn Cheshir,

Bournemouth University

kcheshir@bournemouth.ac.uk

Background

In 2010, Bournemouth University (BU) identified an aspiration to enable staff and students to make use of online assignment submission and feedback techniques. This aspiration provided the 'trigger' for an institution-wide project called 'Online Assignment Handling' (OAH) that would encompass both the student submission of traditional assignments online and, later, the online provision of marking and feedback by academic staff. The project would also involve the various institutional processes surrounding assessment, such as administrative tasks and quality assurance. Through this scope, the project can be understood to have drawn upon several key principles identified in Nicol's (2007) REAP project. In particular, by developing consistent processes for OAH across the institution and integrating these processes with revisions to the policy framework on assessment, the project encompassed the REAP strands of developing 'policies and strategies to support and guide changes in practice' and 'quality assurance processes'.

In addition to the institutional context and scope, the project sought to enable staff to make use of electronically managed assessment and feedback (EMA and F) to enhance the effectiveness of their assessment design by opening up the opportunities for technologically enabled assessment to enable Biggs' (1996) constructive alignment approach to assessment. For example, the preparation of materials for electronic submission in some of the assignments that required the submissions of student reports involved the same organisational and technical skills – such as the embedding of data tables and images – that are needed for preparing multi-part reports in the disciplines the students were studying.

Earlier work around electronically managed assessment and feedback had been limited to localised examples within specific units that were largely initiated by TEL 'champions'. The scale and institutional buy-in of the OAH project however offered the possibility for a coordinated, integrated and scalable approach that would open up electronically managed assessment and feedback to a wide range of units and to staff over a range of disciplines and previous experiences. Therefore, whilst the project emerged from a 'top-down' institutional aspiration, a critical part of the project's approach was the inclusion of courses and staff who were not traditional 'TEL champions'.

Approach

The project took the approach of three action research spirals similar to that described by Kemmis, McTaggart and Retallick (2000), as illustrated in Figure 1 below. This approach has also been used at BU to inform the development of an institutional e-learning policy (Roushan, Holley and Biggins, 2016).

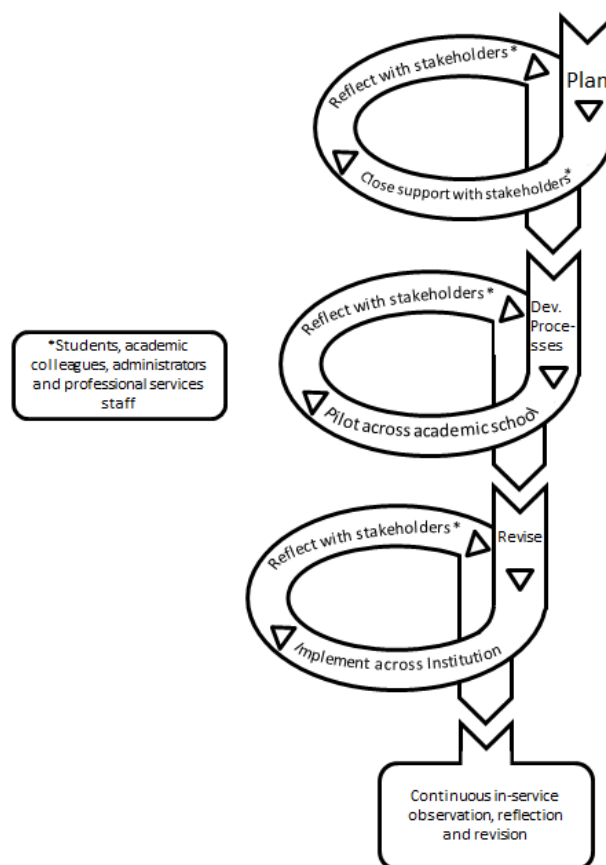


Figure 1. Based upon Kemmis and McTaggart (2000)

First Spiral

This involved a pilot comprising a small number of academic staff and units. This pilot group included both staff with previous experience of EMA and F techniques, and staff with no such experience. Significantly, several of the latter group self-identified as having low levels of technical skills and confidence. Reflection on the first spiral identified a number of important factors that were implemented in the larger academic school-wide pilot of the second spiral.

Second Spiral

These factors included the importance of minimising the amount of file handling required of marking staff, the value of a consistent and predictable experience of submission for students, and the need for clear and robust support process for students who encounter any problems submitting work. The important role of academic administration staff was also underlined.

This spiral also involved a particular approach to engaging academic staff in the Project. The processes were agreed by the School through a series of focus groups involving academic and administration staff, and led by a senior academic with responsibility for Education. This meant that whilst the processes of the second pilot drew mainly upon the experiences of the first, there was a higher level of buy-in from staff who had not been involved in the first pilot.

Third Spiral

This spiral saw the project rolled out across the whole institution following a further revision of the processes and practices developed during the first two spirals. This process of reflection and revision has continued in a less formalised way ever since, in response to both technological advances and the changing contexts of student expectations, staff confidence, and institutional aspirations.

Outcomes

Key findings were that effective adoption and use of Online Assignment Handling is achieved through robust processes that: promote both student and staff confidence in the systems and processes used; free marking staff from managing technical process so they can enhance the student experience of assessment through meaningful and rich feedback; enable the delivery of feedback to students within a short timescale and in a form accessible from anywhere; and which support parity of experience for students and effective administrative and support mechanisms that ensure fairness. This

approach has helped to increase staff confidence and has encouraged widening staff engagement, such that we have seen a growth both in online assignments (from 6,923 in 2010/11 to 68,005 in 2015/16) and in the use of online feedback (from 10% of online submissions in 2010/11 to 55% in 2015/16). To place the growth in context, during the most recent Academic Year for which full data is available (2016/17), 82% of units featured at least one piece of summative assessment that was submitted online. These submissions included online tests as well as submissions to Turnitin and our Large File system

The value of this increase in submission numbers lies in how it evidences the removal of barriers to adoption of approaches that are made possible with – or enhanced by – technology. By engaging academic and administrative staff across boundaries of discipline and previous TEL experience, and supporting this engagement with consistent and integrated processes for staff and students, the OAH project has helped to make EMA and F a more ‘transparent’ form of TEL for staff. Many of the technological aspects of the project have transitioned to Business-as-Usual activities, and some staff have felt enabled to go beyond the forms of online assessment encompassed by the project to take risks on others – such as using video feedback.

One of the key lessons learned from the project is that a high level of consistency across different Faculties and disciplines is both desirable and achievable, but that such consistency requires the early involvement of academic and administrative staff. Maintaining such consistency was also found to be an ongoing process, as changing discipline-specific requirements and new innovations in assessment give rise to new practices and challenges. Effective communication between Learning Technologists and academic subject specialists has been a key strategy in supporting and guiding the development of consistent EMA and F practices around these distinct and changing academic contexts. One current area of such development is non-traditional submissions, such as media work, presentations, and even physical artefacts.

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Case Study 10

Testing the internal structure of assessments of undergraduate engineering projects using the Rasch model

Dr. Brian Henson

Leeds Institute for Teaching Excellence, University of Leeds

b.henson@leeds.ac.uk

Background

This case study reports the outcomes of a study to benchmark standards of assessment of undergraduate engineering projects, and to make recommendations about the form and assessment of projects to ensure consistent standards across different types of projects. Final-year projects in Mechanical Engineering at the University of Leeds account for a third of the credits in the third year of study, and can include design-and-make projects, conducting computer simulations, and carrying out laboratory experiments. The study investigated the internal structure of the assessment and whether the assessment works differently for students doing different types of projects.

The design of assessments is of critical importance. However, it is not common practice to scrutinize assessment schemes with sufficient rigour to determine whether they truly assess what they are intended to assess, and whether the difficulty of assessed tasks are worth the relative marks assigned to them. This study uses rigorous analysis tools to test the validity and equity of the assessment of third year projects, with a view to helping us design better assessments in the future.

Some pedagogues rightly distrust the application of parametric statistics to students' marks, and associate their use with norm referenced assessment and "marking to the curve" (Biggs and Tang, 2011). However, in this study, the Rasch model (Rasch, 1960; Bond and Fox, 2001) is used to examine the structure of the assessment and provide useful information to assessors, not necessarily to determine student marks, but to improve the assessment itself. The Rasch approach is a different paradigm from classical test theory, and it overcomes many of the limitations of the use of parametric statistics (Karabatos, 2001). The Rasch approach was pioneered in education, and is now widely used in medicine and in psychological testing (Embretson and Reise, 2000).

Approach

Table 1 lists the Likert statements previously used to mark third year individual projects in the School of Mechanical Engineering at the University of Leeds. Assessors' responses for projects in 2014 and 2015 were combined, giving a sample of 281 students. Against each of these questions were three, four or five categories of response, which two markers had to agree applied to the student's project being assessed. For example, the possible responses to Question 1, "How would you assess

the student's attendance at meetings?", were "never", "poor", "good" or "excellent". The assessment was designed to assess organizational ability, report writing, communication skills and application of engineering science. Each student's final score was a weighted response of averages from each category. The data were analysed using the polytomous Rasch model (Andrich, 1978) in software, RUMM2030.

Table 1: Assessment questions for individual engineering projects.

	Assessment question	Number of Categories
1	How would you assess the student's attendance at meetings?	Four
2	How organised was the student when attending meetings?	Four
3	What was the level of initiative shown by the student?	Five
4	Did the structure of the report make sense in terms of the connectedness of the material?	Five
5	How would you rate the clarity of the written report in terms of how easy it was to follow?	Five
6	How tidy was the report in terms of line spacing, incorporation of diagrams, pictures and tables?	Four
7	How would you rate the referencing throughout the report, including figures and tables?	Five
8	How would you rate the student's verbal communication?	Five
9	How well did the student answer the questions during the oral examination?	Five
10	Was the student able to follow-up questions, i.e. answer the question but then add more?	Three
11	Assess the student's understanding of the subject area.	Five
12	How rigorous would you regard the student's approach to both the background material and the core detail?	Five
13	How would you assess the student's logical reasoning in both the written report and the oral examination?	Five
14	How would you rate the student's use of data analysis and/or data presentation in the report, e.g. clear diagrammatic labelling and legends, application of relevant statistical procedures, etc.	Five
15	How would you rate the student's use of methods throughout the project?	Five
16	Assess the student's critical judgement in both the written report and oral examination.	Five
17	How well did the student make use of the equipment/software, i.e. existing experimental setup, design tools, application and/or development software?	Five
18	How would you assess the student's level of originality?	Five
19	Rate the extent and depth of the project.	Five
20	Rate the student's overall technical understanding.	Five

Responses to Question 1 were removed from the data because they did not discriminate between students. Students are threatened with disciplinary procedures if they do not attend meetings, and consequently it is not a measure of organizational ability. Question 2 was found to be very easy and discriminated between students too

well (most students were sufficiently organized, or they were assessed as being not at all organised), and it was also removed. The marks of one individual were removed from the analysis, because their extremely low score did not conform meaningfully to the marking scheme. Seven questions elicited responses that were dependent on those of other questions (an endorsement of one categorical response to a question should not lead to an endorsement of a particular categorical response to another question; it can give a false impression of the reliability of the assessment) and they were also removed from the analysis.

Two dimensions were found in the data. Questions 3, 12, 13, 15, 16, 17 and 18 formed a reliable dimension measuring the application of engineering science, and Questions 4, 5, 6 and 7 formed a reliable dimension concerning the quality of the written report. There was no evidence of dimensions for organization ability or communication skills in the remaining questions.

Analysis of how well the questions and categories match the abilities of the students suggests that many of the easiest categories of responses are easily exceeded by even the least able students and are rarely selected, whereas there are too few categories that adequately target students with above average performance. Some of the most difficult categories finely target the most able students. More categories to discriminate the above average and most able students are required.

The students' Rasch scores against the two dimensions were weighted in the same proportions as in the assessment scheme. The projects were classified according to whether they involved computer modelling, design or laboratory experiments. Twenty eight projects could not be classified and were removed from the analysis. It was found that students' scores were significantly affected by the type of project that they did. Students who undertook modelling projects were more likely to score highly in the application of engineering science than those doing design and experimental projects.

Outcomes

The analysis reveals useful information about the validity and internal structure of the assessment scheme. It was found that about half of the questions did not work well; they could not discriminate sensibly, or they exhibited dependence. The scheme did not assess two of the four dimensions it was designed to assess, and the categories of responses need to be extended to better target above average performances. Nevertheless, the scheme demonstrates face validity. It appears to place students in rank order of achievement. The marking is linear within measurement error for most of the students; a small number of lowest achieving students' marks were inflated, and some of the very highest marks should perhaps have been even higher. Consequently, the Rasch analysis raises questions about the extent to which the scheme is valid. It reveals limitations in the scheme that are not readily apparent from an inspection of its face validity. Other similar schemes might benefit from the greater level of sophistication afforded by the Rasch model in the analysis of their validity.

Further investigation is required to understand why those doing modelling projects score better than those doing design or experimental projects. This could be due to the extent to which students are prepared for their projects by the course, the assessment literacy of the tutor at the time of assessment, or biases in students' choice of projects depending on their abilities. This information can be used to improve the assessment process, making it more transparent and giving confidence in its validity.

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Case Study 11

Ready, Fire, Aim: Bringing about rapid change in e-assessment

Vicki Holmes

Head of Technology Enhanced Learning, University of Reading

v.holmes@reading.ac.uk

Background

In 2014, the University of Reading committed to implementing electronic assessment across the institution. Electronic assessment had been identified as one of 6 key technology enhanced learning priorities for the institution.

Through landscape reviews and surveys (Ferrell, 2014; Newland, Martin, Bird and Masika, 2013) the broad complexity and sector wide challenges to implementing a university wide approach to electronic assessment were understood. These included: cultural shifts; staff resistance; localised assessment and feedback process and practice; achieving standardisation while accommodating flexibility; technology limitations; integration between university systems.

As for all institutions, it was important to understand how and to what extent the identified sector-wide challenges manifested themselves within our own institutional context. This would identify priority areas of activity and provide a focus for organisation-wide change. However, we lacked institutional knowledge and e-assessment experience to inform and develop this understanding: in 2014, e-submission was optional and not university-wide, and e-marking and e-feedback tools were not available and in use. At the same time, there were drivers for moving rapidly towards implementation including: the desire to keep up with the sector; student expectations; growing demand from some academic staff to undertake marking and feedback online.

Approach

To meet these multiple challenges, we adopted the Ready, Fire, Aim approach as described by Fullan (1994). This approach suited our situation and context while also enabling rapid learning and progress towards electronic assessment.

“Ready is important; there has to be some notion of direction, but it is killing to bog down the process with vision, mission, and strategic planning before you know enough about dynamic reality. Fire is action and inquiry where skills, clarity, and learning are fostered. Aim is crystallizing new beliefs, formulating mission and vision statements, and focusing strategic planning.”

In readiness, the institutional ‘notion of direction’ was set by establishing a long-term vision that “all summative coursework will be submitted, marked and graded electronically and to implement a step change in the way we manage our end-to-end coursework assessment processes”.

Having established the direction, the ‘Fire’ phase of action and enquiry was structured through the Project for E-Assessment at Reading (PEAR) which was launched in January 2015. PEAR focused on change and learning by working with individuals on their own practice, as opposed to viewing programme or departmental level practice as the unit of change. PEAR focused on two aspects of the assessment lifecycle: (i) setting the expectation that all staff must use e-submission for their undergraduate summative assessment from September 2015 and (ii) the option to begin using e-marking and feedback tools which were made available in January 2015.

The rationale was that through this approach, e-assessment practice would start to change. Staff would develop knowledge and skills as a foundation for future developments, and be better able to provide informed perspectives on future plans. Through engagement with multiple staff across multiple Schools, issues would be surfaced which could inform the ‘Aim’ phase of the e-assessment vision.

The Prosci ADKAR change model (Hiatt, 2006) was applied as it is orientated around change at individual level and was easy to follow and apply (Table 1). The University’s TEL team led on staff engagement, development and support. A Steering Group, led by a University Teaching and Learning Dean, oversaw activity and progress, provided immediate guidance on emerging issues where possible, and documented more significant issues which needed further consideration.

Risks in taking this approach were acknowledged: resistance to implementing the short-term expectation; demand for support outstripping supply; initiating widespread change with low experience; unforeseen issues impacting negatively on the student experience. Would releasing new tools with minimal prescription be liberating or confusing? However, these risks were countered by the perceived benefits. Through action, learning would be fostered and issues surfaced which would inform the institution’s next steps. There was acceptance that there would be plurality of modes in

which the technology was adopted, but that these could be compared and evaluated and thus help to identify best practice.

ADKAR steps	PEAR activity
Awareness of the reasons for change.	University-wide and targeted communications about the long-term vision and initial expectations
Desire to engage and participate in the change.	Demonstration sessions of technology Strong focus on benefits
Knowledge about how to change.	Staff development and training programme Guides and screencasts
Ability to realize or implement the change at the required performance level.	1:1 surgeries and School-based sessions, following on from development and training programme.
Reinforcement to ensure change sticks.	Using local experiences to inform and formalise long-term approach.

Table 1: ADKAR model as applied by PEAR.

Outcomes

PEAR was successful in its aims of raising awareness, developing knowledge and skills and driving adoption:

- Over 650 places were taken on the staff development sessions during January – December 2015.
- There was a 78% increase on the number of assessment submission points set up in Blackboard in 2015/2016 from the previous year, compared to a 23% increase in 2014/2015.
- With respect to the optional adoption of e-feedback and e-grading, 37% of all assessments submitted via Turnitin in October – December 2015 were graded using Turnitin’s online grading tools, compared to 0% in the same period the previous year.

- An unexpected outcome was that some Schools started to develop and implement School-wide approaches under their own initiative, consolidating individual approaches into a co-ordinated and managed model.

This development of practice led to the generation of case studies and exemplars. The case studies identify examples of impact including: clarity of deadlines for students; improved quality of student submissions through increased use of pictures and diagrams as printing costs irrelevant; student satisfaction with use of audio feedback; marking experience more fulfilling and quicker for staff.

(<http://www.reading.ac.uk/internal/ema/ema-case-studies.aspx>)

Reflecting on the success of the Ready, Fire, Aim approach, it could be proposed that the combination of providing the notion of direction, only mandating a simple expectation, inviting engagement, and supporting and encouraging learning through inquiry all contributed to engendering a feeling of ownership and freedom which stimulated adoption. The Fire phase required a flexible just-in-time approach in order to respond to needs and issues as they emerged (Fullan's 'dynamic reality'); this was challenging at times but effective in fostering skills, clarity, and learning.

PEAR surfaced a range of organisational and cultural issues (outlined below) that were barriers for consistent, efficient and institution-wide adoption. This learning has been highly valuable in defining the focus of our e-assessment journey.

- The hidden complexity of the assessment process, with multiple stakeholders engaging in parts but not the whole;
- The impact not only of disciplinary differences, but of differences in School culture and established local 'custom and practice';
- Staff often tend to want to replicate existing practices and render them in a technological format, rather than looking at the affordances and new opportunities that technology can offer;
- Difficulty in balancing consistency (for administrative efficiency and student clarity) and for variety (of assessment practice) both of which are valid but can conflict;
- The interplay between administrative process and academic practice and how these influence choice and approaches to use technology;
- Tacit and sometimes conflicting beliefs about assessment and feedback that have been able to co-exist are brought to the surface (e.g. use of anonymous marking, use of tools to assist with plagiarism detection);

- Ambiguity about roles and responsibilities. A national survey (Newland and Martin, 2016) showed that activities such as setting up submission points are undertaken by both academic and administrative roles;
- Institutional policies, often written to allow latitude and flexibility, add complexity to achieving consistent practice;
- What on the surface appears to be an educational and technological initiative encompasses broader institutional issues and questions (e.g. the role of the academic and of the administrator; ownership of the end-to-end assessment process);

PEAR led to the recognition that enterprise-wide and consistent practice will only come from an organisational level approach. The learning gained through PEAR has enabled the University to move to the 'Aim' phase with greater understanding of its direction and priorities for electronic assessment.

In January 2017, the University launched the Electronic Management of Assessment (EMA) Programme, a 3 year institution-wide programme which will develop PEAR's work, create new approaches to the challenges and expand to cover the full end-to-end assessment lifecycle and development of a student dashboard.

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4. Enhancing student engagement through assessment

Case Studies

Case Study 12

Bana Abdulmohsen, Iad Gharib and Stephen McHanwell

Exploring active learning approaches to increasing student engagement through assessment and feedback

Case Study 13

Andrea Cameron

Enhancing student engagement through assessment - a case study exploring the use of group debates in an undergraduate elective module

Case Study 14

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Case Study 16

Carol Morris and Alec Goodyear

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Case Study 17

Nina Morris, Hazel Christie and Jacob Barber

Using blogs as a form of Assessment

Case Study 18

Simon C Riley, Gavin McCabe, Ian Pirie

Student-Led, Individually-Created Courses (SLICCs): Enabling students to gain academic credit for extra-curricular activities during the summer vacation and take ownership of their learning.

Case Study 12

Exploring active learning approaches to increasing student engagement through assessment and feedback

Dr. Bana Abdulmohsen,

Teaching fellow, School of Dental Sciences,

Newcastle University

bana.abdulmohsen@newcastle.ac.uk

Dr. Iad Gharib,

Clinical teaching fellow, School of Dental Sciences,

Newcastle University,

iad.gharib@newcastle.ac.uk

Professor Stephen McHanwell,

Professor of Anatomical Sciences, School of Medical Education,

Newcastle University,

stephen.mchanwell@newcastle.ac.uk

Background

Learning about the detailed structure of teeth (dental anatomy or tooth morphology) is a fundamental part of any undergraduate (UG) dental course. Traditionally teaching of this topic has been primarily through lectures supported by practical teaching largely based upon observation; an essentially passive approach to learning. Teaching of tooth morphology is predominantly delivered in the first two years of dental (BDS) or Oral and Dental Health Sciences (BSc/ODHS) programmes. For safe and effective clinical practice, knowledge of tooth morphology has to be retained throughout clinical training and beyond into practice. Therefore, there is a need for students and demand from staff that this knowledge is delivered early in the course in such ways as to foster deep learning (Hattie, 2012). At the same time the General Dental Council (GDC) have a requirement that dental curricula promote active reflection in student learning and student engagement in assessment and feedback (General Dental Council, 2015-<https://www.gdc-uk.org/professionals/education>).

Approach

In an attempt to foster further the student interest in the subject content and to increase engagement through assessment and feedback, an active learning approach has been developed using the principles outlined in transforming assessment in HE (HEA, 2014) to support more reflective learning and supporting students own meaning-making. Through a workshop approach that aligned learning with formative assessment we aimed to develop an approach that promoted assessment for learning (Hattie and Timperley, 2007). We achieved this through a combination of self- and peer-assessment and feedback. In this workshop students were taught three-dimensional tooth morphology through carving teeth from soap. This was followed by a formative assessment and feedback process. The assessment used a combination of self-evaluation, peer review, and staff assessment of the carved teeth. A grading matrix was developed designed to assess the accuracy of the carving by measuring key dimensions of the model and looking for the presence or absence of key features that identified the tooth. By requiring the students to focus upon the accuracy of their work and the work of others the grading matrix enhanced the learning of the topic through a formative assessment for learning approach while supporting active reflection. The School-wide workshop was run once with 35 undergraduate students; from all stages of our two programmes (BDS and BSc/ODHS). Eight trained staff (2 Clinicians, 2 Dental technicians, 4 postgraduate students PGTs from different stages) supported the workshop. Once students had completed carving their teeth, they were eager to start assessing their work to see how well they had done and to identify areas for improvement. Using the matrix they assessed measurements and features relevant to the tooth they were carving. This step was designed to consolidate the knowledge and skills they gained in this workshop and to promote their self-evaluation skills. Students then peer-assessed each other's work and gave written feedback; an exercise designed to reinforce both their understanding and for developing peer assessment skills. Students read the feedback and discussed it in pairs. A member of the teaching team also assessed the carved teeth and provided constructive and comprehensive expert feedback identifying areas for improvement.

Outcomes

Students were clearly enthusiastic and engaged about this method of learning tooth morphology. Results from a questionnaire distributed at the end of the workshop revealed that 100% of the students felt they had gained better understanding of tooth morphology, while 97% reported increased engagement in their learning of the subject. Comments from students helped us to understand the reasons behind their enthusiasm for this approach to learning tooth morphology:

"Interesting way to learn tooth morphology!" "Fun practical class!"

"I would love to do this again and practice more, also like to do more teeth (e.g. canine)"

"Good revision and easier to remember by doing, rather than looking in a book."

And the value the students placed upon the opportunities for self, peer and staff assessment as a means to promote learning:

"Opportunity to judge our tooth morphology and carved teeth"

"Will allow me assess my tooth build up for patients in the future."

"I know what features to look out for when doing tooth morphology more so now"

As the HE framework for Transforming Assessment (2014) identifies, developing self and peer assessment skills for students are fundamental ways to promote learning. Students participating in the workshop enjoyed being active participants directing their own learning by participating in an evaluation process during the workshop. They also recognised the value of this approach as a means to consolidate knowledge needed at later stages of their course as dentists or dental therapists where they need to self-evaluate the tooth when repairing damaged teeth or assessing the quality of ready-made crowns.

Staff had been trained prior to this carving workshop on how to carve teeth and assess carved teeth and also reported that they had learnt as the result of their teaching.

Comments from staff included: "This was an opportunity for us to identify how the assessment process successfully deepened understanding of tooth morphology and made learning more enjoyable." "I found this workshop to be very informative and enjoyable especially assessment part which helps us assessing our work, thinking of the geometrical dimensions of the carved teeth and identifying opportunities for improvement.", "It enhanced self-evaluation skills to a large extent". Quote from PGT student "I am pleased being able to successfully carve a tooth which greatly helps to transfer those skills in clinics, when treating patients (e.g. composite build ups)".

Why is this approach so apparently powerful in supporting learning? There is evidence from the teaching of gross anatomy (Pather, 2015) that requiring students to study human cadavers promotes active learning through engaging students in an active process of observing structures in detail and is promoted by a process called touch-mediated perception (Smith and Mathias, 2011). We cannot get students to dissect but would argue that the process of carving teeth, measuring the dimensions and observing

the features carefully through asking them to assess their work promotes deep learning (as defined by Marton and Saljo, 1976) by similar processes.

The impact of the workshop can be evidenced in its internal dissemination in a Learning and Teaching Forum in the Faculty. Staff in other Schools in the University (School of Medical Education, School of Computing Science and School of Biosciences) involving the teaching of biological structure have shown considerable interest in applying these methods. Following this success, a proposal has been approved to add this activity to the Newcastle Dental School curriculum. The adaptation of a new way of teaching tooth represents an example of students co-creating course content (HEA, 2014). It has been the active engagement of the students in this method of teaching that has helped its adoption into the curriculum.

The next step will be to share good practice and demonstrating the generalisability of this method of teaching tooth morphology by running this workshop in partner Dental Schools in UK and to disseminate the outcomes in conferences and publications. This will support the development of a stronger evidence base to encourage wider uptake of this approach. The final step in this work is to involve a long term evaluation of the effectiveness of learning tooth morphology by this method by looking at knowledge retention by BDS and BSc/ODHS students in later stages of their courses.

***Correspondence to:** Dr Bana Abdulmohsen, School of Dental Sciences, Newcastle University, Newcastle upon Tyne, United Kingdom. Email: bana.abdulmohsen@ncl.ac.uk. Tel: +44 (0)191 208 7918.

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Case Study 13

Enhancing student engagement through assessment - a case study exploring the use of group debates in an undergraduate elective module

Andrea Cameron

Abertay University

A.Cameron@abertay.ac.uk

Background

'If you want to change student learning then change the methods of assessment'
(Brown, Bull and Pendlebury, 1997, p.7)

Universities report increased challenges around student attendance and engagement (Landin and Perez, 2015; Mearman, Pacheco, Webber, Ivlevs and Rahman, 2014). Lecturers often invest time in lesson preparation to ensure that their materials are stimulating – though many present to sparse classrooms and there can be limited use of resources within the virtual learning environment (VLE) (Mearman et al, 2014; White et al., 2014). However, attendance is credited with heightened development of soft skills, the assets most in demand by employers (Cohn and Johnson, 2006). There is an appreciation that assessments should develop students' capacity to make judgements (Boud, 2017) and to have moral awareness and social skills that equip them to work in a dynamic, uncertain future context (Kreber, 2017). However, many students are still being exposed to quite traditional modes (Bartram and Bailey, 2010) which concentrate on testing knowledge (assessment of learning) rather than coupling this with varied skills assessments (assessment for learning (Knight, 1998). This case study describes the use of assessed group debates within an undergraduate elective module on ethics and moral reasoning to enhance student engagement, cooperative learning, knowledge and skills.

Approach

Abertay University introduced elective modules in 2015 in order to expose students to a broader syllabus in their early years of study. Students are required to study an elective module (not associated with their main degree programme) during each of the first two stages of study.

One of the elective modules, '*Ethical Reasoning for a Global Society*', challenges the students to consider moral and ethical dilemmas within a citizenship and future employment context. The early part of the module exposes students to legislative frameworks and case study material, with the students working in groups within the university's new collaborative learning suite. *VIA* software is used to promote cooperative engagement with classroom material. Students share case study responses with the class and are encouraged to present counter viewpoints in the knowledge that academic discourse will not always result in consensus. The module has two units of assessment, a group debate and a portfolio of engagement. These have been designed to challenge critical thinking, oral fluency when presenting a counter-position, capacity to work within a team, and collegiality. Students are organised into multi-disciplinary non-self-selecting teams of 3-4 people and randomly choose to oppose or propose a given motion. Time is given in class for students to gather and share resources and to start building their arguments (guided preparation). This work continues within the virtual learning environment (VLE) with module lecturers able to provide feedback as the discourse develops. The level of engagement in this forum (frequency, volume and content of postings as well as the level of peer support being provided) contributes to the portfolio grade, as does the in-class preparation. Students are informed of the marking criteria for both units of assessment from the outset (assessment literacy) and are aware that the group mark for the debate is differentiated by the standard of individual presentation and participation in the rebuttal and audience questions. This latter aspect is built into the grading for the debate therefore attendance and engagement is key. The coherence and fluency of each team's debate is also graded allowing cooperation to be rewarded.

Outcomes

Twenty eight students enrolled for the first iteration of the module during the 2016-17 academic session. No student had prior debating experience. Consequently, it was a real pleasure to hear the voice, rationale and confidence of some of the student presenters. Voting software was used to make the debate interactive, and while some found engaging their peers in the debate preparation challenging – students enjoyed participating in a different non-written mode of assessment. Student evaluations were overwhelmingly positive though some acknowledged that they had felt '*out of their comfort zone*' during the debate but were pleased with what they had achieved. The occasional student made comment that it seemed that '*students were having to do all the work*' and that teaching staff were '*getting an easy ride*'. This was coupled with '*I wish I had chosen an alternate elective where we get to listen to speakers doing the debates rather than having to do them ourselves*'. However, in general, students were particularly appreciative of working with peers on other programmes of study and

considering alternate disciplinary approaches (a central objective of the elective suite of modules). Some students used the VLE forum to good effect - those who engaged well with this platform were able to evidence heightened cooperative learning, with students pooling resources and developing their lines of argument. Other students needed several prompts to start posting material and for some there was limited engagement with the forum (this was reflected in the grade that was finally awarded). Student attendance averaged 68% across all weeks including the final 4 weeks when the in-class assessments of the debates occurred. This was at a point in the term when attendance was waning for other colleagues and many were experiencing attendance levels akin to c.30%.

Business representatives have stated that students are not work-ready (BCC, 2016) and in the context of employability, universities are being questioned about skill development (UUK, 2013). Employers recognise that subject specific knowledge is important – however, transferable skills particularly those of communication, reliability and team work are also valuable for the workplace (Bevitt, 2015; Shah, 2013). Broadening the variety of assessments for a more diverse student body with a range of learning styles has the capacity to increase student engagement and enhance employability (O’Shea and Fawns, 2017; Brew, Riley and Walta, 2009). The feedback from the first cohort taking this elective module suggests that the majority of students appreciated the exposure to an alternate assessment format which for some was personally challenging but also developmental. The feedback and guidance provided in class, and online, helped build student confidence that the work that they were producing aligned with assessment expectations. They were also particularly appreciative of the *‘richness of conversations’* and the *‘holistic way of thinking’* that emerged from the module activity.

The assessment modes did not follow traditional formats and instead required the student to orate a coherent argument, as well as demonstrate collaboration. Students place less value on co-operative assignments (Machemer and Crawford, 2007) and are known to prefer written coursework, perceiving these as less stressful, fairer and allowing more time for preparation (van de Watering, Gijbels, Dochy and van der Rijt, 2008; Bartram and Bailey, 2010). This is despite increased recognition of the value of exposure to collaborative assignment modes (O’Shea and Fawns, 2017) which enable the development of skills of negotiation (including dealing with conflict), organisation and management of time and resources (Shah, 2013; Clarke and Blissenden, 2013). Bevitt (2015) and Bartram and Bailey(2010) acknowledge that because of the challenges of introducing new and different assessment modes many educators may shy away from making changes to their practice. However, as evidenced here, there is merit in persisting with alternate assignments that heighten engagement but it is vital that

students understand the worth of their personal investment in terms of deeper learning and the development of attributes that employers' value.

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Case Study 14

Where is the protocol?"

Independent thinking increases student engagement in laboratory work: A case study

Dr. Janet Horrocks

Abertay University

J.horrocks@abertay.ac.uk

Dr. Sean Brown

Abertay University

S.Brown3@abertay.ac.uk

Dr. Anne Savage

Abertay University

a.savage@abertay.ac.uk

Background

Laboratory work plays a central role in the training of students in the process of science. In a typical laboratory class students are presented with a robust protocol and perform experiments where the results are predetermined. This expository style of teaching (as defined by Domin 1999) is commonly used in many institutions (including our own). Activities are designed so that large numbers of students can carry out the same experiment at low cost in a two to three hour time frame. These laboratories are often viewed as "recipe following" or "cookbook" exercises with low cognitive demands (Tobin 1987). The students are not required to plan the investigation and so often attend sessions with little planning and preparation. During the laboratory the focus is on obtaining the "right result". Assessment of lab work is usually via the submission of a report where primacy is given to the fundamental science the exercise was designed to explore as opposed to how to design and execute experiments. The benefits of enquiry and problem based laboratory sessions in teaching the scientific process has been widely discussed (Waldrop 2015) and this case study presents an approach to introducing this type of delivery into a BSc Biomedical Sciences programme.

Approach

The BSc Biomedical Sciences programme at Abertay University is a four year programme delivered by the Division of Science. A twenty-credit module in year three (representing a sixth of the credits for year three) was designed with learning objectives focused on the process of science (defining a testable hypothesis, designing and executing an experimental plan, applying statistical analysis to the evaluation of data) as opposed to specific factual content. These learning outcomes were designed so that skills such as risk assessment and application of statistical analysis could be developed by the students within the context of a practical project. The development of this module was part of a wide-ranging curriculum review by Abertay University.

The students were presented with a scenario which was based on the type of work carried out by Abertay University for SME's. In selecting the scenario several criteria were considered:

- Is there sufficient information readily available (accessible peer reviewed literature) for the students to carry out the task?
- Is it possible to carry out the task at Abertay University (considering safety, cost, timeframe and equipment)?
- Does the task build on and develop the existing practical skills of the cohort?
- Will the task generate data that is amiable to statistical analysis?

The task selected on this occasion was the assessment of the antioxidant content of soft fruit for a soft fruit grower to use in marketing and product development.

Working in assigned groups of four to five the students were provided with key literature and, during an initial tutorial session, were expected to design an experimental plan. The experimental plan was split into two phases for the students. Phase one focused on identifying a suitable means of measuring antioxidant levels and then developing a standard assay protocol (standard operating procedure). In phase two the students were able to define their own objective which had to have commercial relevance (for instance the effect of storage conditions on antioxidant content). The students were expected to complete risk assessments for all reagents and processes. Work for phase one was carried out in three practical sessions and after each session each group was offered a focused tutorial (typically 20 minutes) to discuss the outcome of the laboratory session and plan the next session. These sessions were run with the tutor acting as a facilitator so that students made their own decisions in planning the next session. After three laboratory session each group developed an experimental

plan for phase two. To support the development of the plan a number of timetabled tutorials covering experimental design and statistical methods were available to the students. After completion of phase one the first assessment was held. Students were given individual viva's which were focused on their understanding of the laboratory work and experimental plan. The viva questions were structured to identify students who were not actively engaged in the laboratory work. The group size and the nature of the task were designed to reduce the opportunities to act as bystanders. Constructive feedback was given to all students and those who had not been able to articulate understanding of fundamental principles of the exercise were offered targeted additional support (tutorials) by the module team.

Phase two involved the investigation defined by the students. A similar pattern of delivery was used. Each laboratory session was followed by a facilitated discussion on the next steps. The final assessment took the form of a report to the company containing a standard operating procedure for antioxidant measurement, statistical report, executive summary and a page summarising the key biological background. The assessment was an individual submission (using group experimental data) and a proportion of the grade was related to the contribution that each member had made to the laboratory work (as assessed by peers and staff).

To reinforce the value of the transferable skills developed in the module a workshop with a careers advisor was organised and students identified skills and attributes (such as team working, project management core laboratory skills, risk assessment, experimental design), that they had developed during the module. They explored how their experiences in the module could be used to answer typical interview questions and were given the opportunity to practice articulating their answers in a mock interview scenario. This final session was attended by 70% of the students.

Outcomes

During the laboratory session the students were very much more "on task" and engaged in discussing the data they had collected than is normally observed in a laboratory class. There was a clear sense of ownership of the laboratory work. Attendance at the session was 86% (as a % of student laboratory sessions attended compared to total laboratory sessions for the whole group). In feedback (obtained from open ended survey questions) all responding students reported spending considerably more time preparing for these practical sessions compared to other practical sessions.

"this was OUR practical, which naturally made us give an extra little bit of effort."

Of responding students 50% stated they had a better understanding of the material compared to other practical sessions.

“I have more understanding before coming to labs now, before I would usually understand why we did something after the lab was done”

The remaining 50% of students indicated that their level of understanding was similar to that achieved in other laboratory sessions even though in this case (in contrast to other laboratory classes) little detailed information was given to the students. We could therefore conclude that all of the responding students perceived that they understood the material as well or better than they would typically understand a more conventional practical exercise. This demonstrates that given a supportive framework the enquiry based approach can lead to similar or better understanding than the expository style of delivery. There is evidence that students value the more demanding learning environment although there is the perceived risk of negative feedback (Chopra et al 2017, Bleske-Rechek 2010).

This case study shows that, given a suitable task and support students are prepared to take ownership of laboratory work and invest significant time and intellectual effort in the process. The selection of an appropriate task is central to the success of the exercise. The task has to be selected so that it builds on the students existing skill set and allows scope for student to have input into experimental design and trouble shooting. Furthermore the scheduling needs to include time for facilitated discussion both before and after the practical session.

The approach could be used in many branches of laboratory science provided that a suitable scenario can be developed. By calibrating the amount of support and detail give in both post and pre practical sessions this approach could be used at across all stages of a programme.

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Case Study 15

Exploring feedback practices that students value

Cathy Malone

Sheffield Hallam University

c.malone@shu.ac.uk

Dr. Liz Austen

Sheffield Hallam University

l.austen@shu.ac.uk

Background

In our experience of working with course teams, staff demonstrate a broad understanding of assessment literacy: there is an acknowledgement of the importance of academic feedback and its role in learning (Ramsden 2003), an awareness of social affective dimensions of feedback (Xu and Carless 2017) and familiarity with the long term, educational purpose of feedback (Boud 2000, Sadler 2010). Similarly, mechanisms for developing consistency throughout the assessment process via informal and formal moderation are widely implemented across our institution. Nevertheless, students indicate that there is diversity in the way staff approach assessment and feedback, and staff themselves indicated hesitancy in challenging practice in peer review. A broad understanding of the principles of assessment literacy might be sufficient to inform individual practice but inadequate to challenge the practice of others, or to develop consistency across a team. Therefore, we focused our research on feedback literacy (Sutton 2012) as a subset of the broader field of assessment literacy. We wanted to examine how the shared principles of feedback (such as Nicol and MacFarlane-Dick 2006) are translated into writing. We also wanted to develop, together with a staff group, a practical understanding of what it means to write feedback that students value in order to develop consistency of team practice.

This case study used a research informed approach to develop "teacher feedback literacy" (Xu and Carless 2017). It aimed to connect two component parts: *Research and Evaluation*, and *Appreciative Inquiry and Staff Development*. An Appreciative Inquiry (AI) model was chosen to generate, a "co-evolutionary search for the best in people" (Cooperrider and Whitney 2001, p3), to avoid negativity and attempts to lay blame. This approach was used to frame this staff development work, outline an evidence base, and engage staff in research informed interventions and next steps.

Approach

Research and Evaluation

A sample of written feedback was taken from four undergraduate social sciences courses which were selected 'based on lower than sector institutional National Student Survey (NSS) scores for assessment and feedback' (Austen 2016: 3). The sampled feedback was drawn from a range of modules across three years, which were then presented to students in five focus groups (n=28). Here the students evaluated anonymised feedback texts against principles of effective feedback from Nicol and MacFarlane-Dick (2006): namely assessing the texts for clarity, thoroughness, whether they understood how the grade was reached, comparison to an expected norm, and identification of what was done well, what needed to improve, and tone. Each feedback text was evaluated twice and by applying numerical values to each response, averaged evaluations were used to rank each text from 1-95. Mini corpora of the top and bottom 25 texts were then created and compared. A frequency driven approach was used to examine these corpora and see what patterns emerged. Comparative analysis of the corpus data focused on identifying the textual features in the feedback that students valued, including an examination of structural and lexical patterns. Patterns in feedback length, use of praise, forward orientation, detail of feedback and interpersonal positioning of student reader and staff writer were evident from this data. This analysis of corpus data was then combined with qualitative analysis of the focus group commentary. The student comments on feedback and the patterns that emerged from texts did not always converge.

Findings from the focus groups confirmed the highly interpersonal nature of academic feedback. It was clear that these were potent, high stakes texts for the students which elicited strong emotional responses, with students demonstrating particular sensitivity to the tenor of the feedback and the way criticism was incorporated. The findings suggest that student sensitivity to the tenor and content of the feedback, rather than the process or speed by which it is disseminated, plays an important role in student satisfaction. This research also highlighted the affective response of student readers to a text which writers may perceive as objective, structured and criteria based.

Appreciative Inquiry and Staff Development

This evidence base was used to design staff development workshops both for the staff group who produced feedback for the research sample, and then for the wider institution. In recognition of the sensitive context surrounding negative student survey data, an appreciative, strengths-based approach to organisational development was utilised in the workshops. Staff were asked to complete four stages adapted from the Appreciative Inquiry cycle (Cooperrider and Whitney 2001): *Define - Discover - Dream - Design*. During the Define and Discover phases we reviewed some principles of feedback and presented our research to staff, inviting them to share in the analysis of

data. Results included focus group analyses and corpus analysis including comparisons of raw frequency counts and concordance printouts. Data was presented under themes that emerged from frequency driven analysis; length and formatting of feedback, use of praise, forward orientation, interpersonal distance and mitigation of criticism. At this stage staff were given time in groups to discuss and interpret the data themselves, and discussion moved between consideration of principles and detailed analysis of actual examples. In the Dream Stage staff were asked to consider their ambitions for feedback and in the Design Stage staff members collaboratively established targets to improve feedback, both collectively and individually.

Outcomes

A detailed mixed methods analysis of student preferences around feedback created a strong platform from which to have this discussion with staff. Corpus analysis brought patterns in feedback to the fore in a way that was not immediately evident from lay reading of these texts. Data analysed contrastively in this way allowed particular patterns to emerge and staff to develop a much firmer shared concept of what constituted effective feedback. Sharing this locally owned data back to the disciplinary subject team meant we were able to invite them into the analysis of the data. This use of exemplars proved helpful in informing this discussion and the use of Appreciative Inquiry enhanced staff engagement in these messages and fostered the desire for change. This approach also inspired further project work led by the subject group themselves to improve feedback practices, meaning the ownership of the project effectively transferred back to the staff group. This work was well received within the subject group as a whole, on evaluation one colleague stated:

I feel more aware of how my feedback might impact on my students, I am more careful with tone. I also put more emphasis on feed-forward comments. I hope these actions combined will mean students feel more comfortable contacting me for help if they need it.

It is clear that developing teacher feedback literacy was greatly enriched by a detailed analysis of actual feedback from across a subject area, and when staff were given sufficient time to scrutinise the research data in detail. This use of exemplars allowed a group of staff to thoroughly explore the nature of terms such as 'clarity', or 'dialogic feedback', by examining such descriptors against samples of text.

As staff responded very positively to being included in a discursive analysis of these findings we conclude that examining student perceptions of feedback can be done with more sophistication than simple satisfaction ratings or discussion of feedback that students 'like'. In line with the HEA framework (2016), this case study models change

based on foregrounding 'dialogue and building understanding' and following with 'curriculum review and development'. The final aspect of the process is 'developing infrastructure' and both authors are well placed to be able to input these findings into discussions of institutional change.

This approach was applied within one department in a UK higher education institution. Whilst we believe that a contextual evidence base provides the strongest foundation for change, this staff development process is not limited to this subject area. Further work would look to develop this approach within other disciplines, and at other institutions.

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Case Study 16

Transforming assessment practices in undergraduate engineering for distance-learning students

Carol Morris

The Open University

carol.morris@open.ac.uk

Dr. Alec Goodyear

The Open University

alec.goodyear@open.ac.uk

Background

The Open University (OU) is a UK based, distance-learning organisation taking students from diverse backgrounds. Formal entry qualifications are not required and approximately one third of the students registered for undergraduate engineering qualifications do not have 'A' levels or equivalent. Consequently, retention and progression are lower than that at conventional universities. Approximately 1100 students per annum enter the programme, the vast majority of whom are in full-time employment.

Following the introduction of loans for part-time students in England in 2012 the OU moved from a module-based model to one which was qualification based. Prior to 2014 engineering students were required to study two, compulsory, 30-credit, mathematics modules at level 4 which were 'service' taught. It became apparent that over half of the engineering students were experiencing difficulties with the mathematics modules and were either withdrawing from study or failing the mathematics modules and were consequently unable to progress with their engineering qualification.

In 2014, after consultation with Faculty staff and Associate Lecturers, the decision was made to integrate mathematics into the engineering curriculum and to teach it in context. This major restructuring of the engineering curriculum required three of the four compulsory 30-credit modules studied at level 4 to be rewritten. These modules are compulsory for both the BEng (Hons) and the integrated MEng. Modules are written by teams of academics, led by a module chair, and utilise a blended-learning approach using printed teaching material and online active learning materials, forums and other resources available through the module's website on the Virtual Learning Environment

(VLE). Once the rewrite of level 4 modules has been completed, others at levels 5 and 6 will also be rewritten so that by 2019 most of the core engineering curriculum will be new.

Previously module teams had autonomy in setting assessment strategies and assessment tasks at the individual module level and there was little, if any, interaction between teams. This could result in differences in advice and guidance to students as well as repetition of assessment tasks to accommodate students taking modules in different orders. The restructuring gave the qualification team an unprecedented opportunity to review student progression, develop assessment strategies across the whole qualification, and to design assessment which enhanced student engagement with the module materials.

Approach

At the start of the restructuring an assessment and tuition working group was formed which was tasked with devising assessment strategy across the BEng (Hons)/MEng qualifications – initially at level 4. The working group consisted of the chairs of each level 4 module, the Qualification Lead and the Director of Teaching.

An initial workshop was held, utilising dialogue sheets (Oxley and Flint, 2008) to build on the work of Gibbs and Simpson (2005) and Brown (2005). The following key questions formed the basis of the workshop:

- What is the purpose of assessment at level 4?
- How can we design assessment to ensure that students engage with the learning materials to become deep learners?
- How can we ensure that all the intended Learning Outcomes are assessed so that students have a breadth of learning?
- How can we design assessment which is inclusive and does not advantage/disadvantage a particular group of students?
- How can we use assessment to improve student retention?
- How can we ensure that assessment prepares students for later study?

An output of the workshop was the development of a set of principles which aid the formulation of assessment tasks, as well as a shared understanding among staff working on the level 4 modules about the purpose of assessment. The principles expanded on Gibbs and Simpson's 'conditions' for supporting student learning through assessment and encompassed the requirement to ensure that assessment tasks encouraged deep rather than surface learning. Deep learning requires reflection,

hypothesis and application of learning to achieve the intended Learning Outcomes; in contrast, surface learning arises when teaching and assessment are not aligned and when students view assessment as a task to be done with minimum effort (Biggs and Tann, 2011, pp 24-27).

The working group devised an assessment strategy for the level 4 stage of the qualifications before any learning materials were written for the revised modules. This maximised the opportunities to develop students' engagement with the materials through assessment, as each module team had a clearly defined assessment structure which contributed to the overall strategy. The level 4 stage consists of 4, 30 credit modules which are studied sequentially enabling an assessment strategy which ensures that assessment tasks gradually build in difficulty as students progress through an individual module and in type as they progress from one module to the next. Module teams are required to submit their draft assessment tasks to the working group which reviews them for fit with the strategy and the intended Learning Outcomes.

Outcomes

The assessment strategy developed for the qualification stage requires each module to utilise continuous assessment through a combination of 1500 -2000 word summative tutor-marked assignments (TMAs) and formative, but compulsory, interactive computer-marked assignments (iCMAs). Extensive written feedback is given with TMAs, and iCMAs allow students 3 attempts at each question, with instant feedback for incorrect attempts suggesting where the student has made mistakes and referring them to appropriate module material.

Formative practice quizzes are incorporated into most study weeks for the duration of the first three modules and the time taken to do them is accounted for in the overall study time. These quizzes enable students to have multiple attempts at mathematical problems (set in an engineering context where possible), with feedback given instantly for incorrect answers.

The first module employs continuous assessment only, the second has a 2000 word end-of-module assessment which students complete over two-three weeks, and the third has a terminal, unseen three-hour examination. The third module incorporates a formative practice examination, recognising that many OU students will not have sat an examination for several years. The final level 4 module incorporates a residential school where students are assessed on their participation and understanding of laboratory and field activities.

Review and self-assessment of learning outcomes attainment is also built into modules as part of the assessment. Students keep a reflective 'learning log' and questions are incorporated into each of the TMAs that enable students to reflect on and assess their own progress and achievement of the intended learning outcomes.

The first cohort of students for the restructured qualifications commenced their studies in October 2016. Preliminary findings show that there has been a significant increase in completion of the first module from 66% before the restructuring for the October 2015 cohort (n= 1023) to 74% for the October 2016 cohort (n = 1016). The cohorts are comparable in terms of gender (13% female), previous educational attainment (30% with qualifications below 'A' level) and age (25% under 25). A survey conducted in April 2017 at the end of the first module revealed that 85% of students who responded were satisfied with the assessment and that 93% believed that the feedback they had received helped them with future assignments.

Progression rates to the second module, which started in April 2017, have also been high, within the OU context, with 83% of those who completed the first module progressing immediately to the second. There is no requirement at the Open University for students to progress quickly and it is likely that the remaining students are taking a study break and will resume their studies in October 2017.

These preliminary findings are encouraging in terms of student outcomes and the approach taken by the working group has been beneficial to staff working on the engineering qualifications. Peer review of assessment tasks has given new, inexperienced staff a supportive environment in which to develop their skills. Experienced staff have had time to reflect on their practice, support colleagues and develop scholarship around assessment.

We believe that this approach could readily be transferred to a range of disciplines and learning environments and contributes to the staff development of new or inexperienced staff. The key learning from this approach is that communication between module teams has been enhanced through the formation of the working group, with each team aware of others' assessment tasks, enabling them to devise assessment which incrementally develops students' understanding of the learning materials. A similar working group, with some common membership, has been set up for the level 5 curriculum and will be extended to level 6, enabling a coherent assessment strategy across the engineering qualifications.

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Case Study 17

Using blogs as a form of Assessment

Dr. Nina Morris

Lecturer in Human Geography, University of Edinburgh

N.Morris@ed.ac.uk

Dr. Hazel Christie

Lecturer in University Learning and Teaching, University of Edinburgh

hazel.christie@ed.ac.uk

Jacob Barber

PhD Candidate in Human Geography, University of Edinburgh

Jacob.Barber@ed.ac.uk

Background

Blogs are one of the most important new communication web tools in recent years and academics are increasingly urged to blog as part of their engagement and dissemination activities (Dunleavy and Gilson, 2012). Over the last decade numerous positive teaching and learning outcomes have also been associated with the use of blogs in both formative and summative assessment. For example, practitioners have documented that blog writing can: improve critical reading skills (Kidwell, Northcott and Paterson, 2012); empower and motivate students to think independently and assume responsibility for their own learning (Park, 2003; Dunleavy, 2015); help students develop their reflective skills and, in turn, become more thoughtful and articulate observers of their world with an ability to understand how their positionality and/or practices might influence the construction of knowledge (Glass, 2013; Smith, 2010); encourage students to read regularly and engage more deeply with the course material (Dunleavy, 2015; Glass, 2013); and, bring learning 'to life' by actively encouraging students to make connections between the course material and the wider world (Smith, 2010). However, much of the pedagogic research on blogging has been anecdotal and has tended to focus on the pedagogical use of blogs to encourage critical self-reflection (Kidwell et al., 2012) or on helping instructors implement these assignments rather than analysing their impact on learning (Hansen, 2015). Scholars who have examined how blogging affects student learning have largely focused on the social elements of this technology, debating whether posting and commenting activities encourage student learning and engagement, build camaraderie, or support collective problem-solving (Hansen, 2015).

Guided by a desire to re-think assessment policy and practice in order to reflect changing disciplinary interests, to embed employability in HE through a diversification

of graduate attributes, and to promote flexible learning, our research funded by the Principal's Teaching Award Scheme at the University of Edinburgh set out to achieve two aims. First, to understand if and how assessed blogs can be used to support student learning, with a particular focus on the development of research skills. Second, to look at blogging from an institutional perspective with a view to developing resources that could be used across the University (and beyond) to support the greater use of blogging in the curriculum. We focused, in particular, on the extent to which (and how) blog writing can improve students' writing and communication skills, increase their self-confidence, and accommodate a more diverse range of preferences and learning styles (Murphy 2013; Hansen, 2015).

Approach

A multi-layered methodology was employed including an online University-wide survey of teaching staff, interviews with four Course Organisers (CO) drawn from the institution's three Colleges (the courses selected to cover a variety of blog formats, Virtual Learning Environments, and class sizes), focus groups with students (16 in total) from each course, analysis of student evaluation surveys for each course (academic years 2014-15, 2015-16 and 2016-17 as appropriate), and consultation with other relevant stakeholders (e.g. IT support officers, administrators, student union). Specifically, we explored: the extent to which blogging is currently used as an assessment tool at the University of Edinburgh; student/staff views regarding the impact of assessed blogs on the learning experience; best practice relating to assessed blogs; the merits of different online platforms; staff/student satisfaction with assessed blogs; and, the possibility of producing a flexible set of Grade Related Marking Criteria for assessed blogs.

Exams and essays have long been, and continue to be, the dominant forms of assessment at the University across all disciplines; however, in its recently published Learning and Teaching Strategy (2017) the University highlighted its commitment to the creative use of digital technologies in teaching and assessment (where appropriate). This includes ensuring that teaching staff are 'supported in the appropriate use of the full breadth of learning technologies' and allowing opportunities for 'reflection, development and innovation in teaching in workload modelling'. The Institute for Academic Development and Information Services team are felt to have an instrumental role in encouraging and enabling academic staff to explore alternative approaches to learning and assessment. The findings of our research should be read against the context of this emerging atmosphere of transformation.

Outcomes

A diverse range of factors were revealed to motivate the COs to use assessed blogs. They included: a desire to get students writing in dynamic, concise ways; an ambition to connect academic theory with the 'real world' and to (critically) consider non-academic sources of information; an aspiration to encourage their students to take ownership of their ideas; and, a wish to the students to develop and hone a skill they could take forward beyond academia. In general, the COs were satisfied that they had gone some way to achieving their goal(s), however, they noted a number of challenges and/or dilemmas in implementing this form of assessment. The most commonly cited was having to use software that is not fit for purpose (or has limited features) often, although by no means always, with limited support from locally-based ICT staff. Other issues included the pressures of balancing innovative assessment with institutional inertia and/or professional tradition; the quandary as to whether to make the blogs public or private and what impact this might have on the students; and, a lack of standardised marking criteria for this type of work. They all noted that it takes longer to mark this type of non-uniform, creative work than traditional types of assessment (essays, exams, multiple choice) a fact rarely reflected in workload models.

Assessed blogs also posed a series of challenges for most of the students. Like their instructors they complained about unintuitive software and/or software with restricted functionality, noting that the blogs were particularly time consuming as a consequence of ICT problems (formatting, difficulty in uploading non textual materials, and technical glitches deleting unsaved work). Some of the students expressed frustration at having to 'decipher' unclear marking criteria and said that having to 'feel their way through' the assessment made them anxious. A challenge not helped by the disjunction that students often felt between their own sense of what a blog is or is for, and the understanding of what a blog is or is for implicit in the guidance of instructors. The provision of guidance notes in lieu of a specific marking rubric, limited or overly subject-specific (as opposed to writing skills-based) feedback on formatively assessed posts, and weak direction regarding the intended audience for whom they should be writing all appeared to contribute to this angst.

Other issues the students cited tended to be more double-sided; for example, some students found it difficult to select their own topics, some found the requirement for concision to be challenging, and others felt overwhelmed by the work needed to achieve regular submission. For the students, blogs seemed to both open out their own opportunities to negotiate what to include in their work, and present a conundrum for them in terms of the appropriate selection of materials and the extent to which they could truly present a personalised effort. Nonetheless, all acknowledged that these efforts had contributed (in transferable ways) to their learning (e.g. capacity for

independent thought, improved writing technique, more motivated work ethic, applied knowledge of the whole course content). For the most part the students appeared to welcome the opportunity to do something different (a 'change from the norm'), they enjoyed the 'refreshing' informality and personalised nature of the writing style, they appreciated the opportunity to apply their learning to contemporary 'real world' issues, and (where applicable) were enthusiastic about being able to incorporate A/V material, hyperlinks, images, and creative formatting into their work. Students were less comfortable with the option (sometimes only as a hypothetical) that their work might be subject to review from their peers before it received some measure of approval from assessors.

The research did not highlight any disciplinary differences with regards to the applicability of assessed blogs; although the appropriateness of blogs may be a consequence of the kinds of subject matter that COs wished to tackle in their courses (e.g. contemporary debates, public communication). Across the disciplines the students felt that blogging enhanced the self-perceived extent and quality of their learning, whilst staff noticed improvements in many (although by no means all) of the students' willingness to undertake, and proficiency in, what we might call research skills – independent thought, ability to undertake independent literature/resource searches, ability to synthesise theory/ideas, writing skills, a regular work ethic. There was a general sense that assessment by blog was best suited to the Honours years' curriculum; partly because blog writing was thought to develop the basic skill set acquired in pre-Honours but also because the numbers enrolled on pre-Honours courses (c.120+ at the University of Edinburgh) would make assessment by blog prohibitively labour-intensive for staff. The findings were inconclusive regarding disciplinary acceptance of blogs as a form of assessment. Commenting on the 'traditional' ethos of their discipline, one CO noted that assessed blogs were a somewhat incongruous addition to the standard suite of assessments used within their field; however, their colleagues had been fully supportive of the venture. Another CO noted that whilst they had never encountered direct resistance to their use of assessed blogs, they were reluctant to share their practice with scientifically-minded colleagues because of a general antipathy towards 'novel' methods of teaching and assessment. The case studies used in this research may not have been appropriate to draw these kinds of differentiated institutional response to the fore, and this matter would benefit from future research.

There are several key messages that have emerged from this research. First, for innovative forms of assessment such as blogs to work, both staff and students require appropriate and dynamic support from academic colleagues, computing staff, and departmental administrators. This includes the provision of opportunities to share good

practice and discuss novel forms of assessment within specific disciplinary contexts in addition to those provided by dedicated teaching and learning forums, access to relevant ICT training/advice and a responsive rather than prescriptive approach to software provision (e.g. the development software packages with enhanced blogging capabilities), and adequate time allocation in workload models. Second, there is a need to stimulate cross-disciplinary, cross-institutional debate about what constitutes best practice in relation to assessed blogs (e.g. what constitutes a blog, formatting techniques, marking criteria), and a need to refine/expand debates on innovative forms of assessment in a context where open, accessible and collaborative learning is becoming increasingly important. Future work might support and find ways to empower instructors and students to engage in innovative forms of assessment especially when this activity challenges institutionalised or disciplinary norms.

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Case Study 18

Student-Led, Individually-Created Courses (SLICCs): Enabling students to gain academic credit for extra- curricular activities during the summer vacation and take ownership of their learning

Dr. Simon C Riley

University of Edinburgh

Simon.C.Riley@ed.ac.uk

Dr. Gavin McCabe

University of Edinburgh

Emeritus Professor Ian Pirie

University of Edinburgh

Background

The Student-Led, Individually-Created Courses (SLICCs) initiative is being developed across our institution to offer an innovative educational experience that is inspiring, challenging, and transformational, accessible to all students, and importantly is not supplementary learning, but for academic credit. SLICCs offer a flexible reflective framework for experiential learning during an experience the students arrange for themselves over their summer vacation. SLICCs are based around students defining their own learning outcomes in the context of an academic theme within their own proposed experience. Students reflect throughout their defined experience whilst collecting an e-portfolio of evidence of learning (Stefani *et al.* 2007; Zubizarreta 2009), which they reflect upon and curate for assessment. The philosophy of SLICCs is that our students are being placed at the centre, undertaking independent, co-created, and co-owned student-led learning (Bovill *et al.* 2016; Healey *et al.*, 2014). This produces a deep engagement by students, and also staff, in the learning process. SLICCs enable students to better recognise and articulate their development through experiences, and boost students' learning and assessment literacy (Price *et al.* 2012). Engagement with a SLICC results in learning experiences that are better integrated with graduate attributes and employability, as articulated in the recently published University of Edinburgh 'Learning and Teaching Strategy' (2017). Taking the initiative into and beyond pilot phases has been a three-year process, requiring significant student support from

Students' Association sabbatical officers and participating students themselves who recognised the opportunities for autonomy and taking ownership of their learning, from senior academic management including an Assistant Principal and the appropriate Senate Committee, together with commitment from champions in schools and professional support services.

Students propose and design their own plan of study around a chosen and substantial learning experience during their summer vacation, and identify the main academic theme. This encompasses developing opportunities for experiential learning in the local and global community, and in the research-rich environment on campus. Students' experiences include work placements, internships, academic summer studentships, expeditions, cultural exchanges, volunteering, self-directed research, and regular summer jobs. We were very clear from the outset that SLICCs should be inclusive; highlighting our widening participation students, with 45% of participants in our pilot studies from this background (Speirs *et al.* 2017).

Approach

In the SLICC framework, students define their anticipated learning based on generic learning outcomes, that address 'analysis', 'application' and 'evaluation', re-interpreting these in the context of their own defined experience undertaken during their summer vacation. These learning outcomes are aligned with our institutional graduate attributes. Students receive initial feedback from their tutor, who guides them on how to maximise their opportunities, and approves the SLICC to continue. This initial engagement of students reflecting on their anticipated learning and assessment is key to the design and success of SLICCs, supported by extensive online materials, guidance and exemplars in a 'SLICCs Resource Pack'.

Throughout their SLICC, students reflect frequently in a blog, and collect and curate evidence in an e-portfolio. This evidence can be varied and extensive, exhibiting profound breadth and depth of insight. Students are provided formative feedback on an 'Interim Reflective Report', based on their progress towards achieving their original personalised learning outcomes. This interim report forms the basis of the evidenced, summative and self-assessed 'Final Reflective Report' of their learning journey and achievements. Students are also guided in the SLICCs Resource Pack in using the assessment criteria to inform their progress, and at the time of final submission, they are asked to grade themselves, and justify their grading according to the grade descriptors and assessment rubric.

Table 1: Pilot learning outcomes developed for SLICCs at SCQF Level 8

Learning Outcome 1 – ‘Analysis’ – I am able to demonstrate how I have actively developed my understanding of the context/setting of my SLICC.
Learning Outcome 2 – ‘Application’ – I am able to draw on and apply a range of relevant skills and attributes (academic, professional and/or personal) in order to engage effectively with my SLICC, identifying where I needed to improve these and/or develop new ones
Learning Outcome 3 – ‘Evaluation’ – I am able to evaluate and critically reflect upon my approach, my learning and my development throughout my SLICC

SLICCs have been piloted over two summers with first and second year students from 17 different academic schools ranging across numerous subjects with differing pedagogic approaches. If successful, students received 10 academic credits at SCQF Level 8 (pre-honours Years 1 and 2 in the usual Scottish 4-year degree programme; equivalent to FHEQ Level 5). With the pilot studies shown to be successful, summer SLICCs have been accepted by the Senate committee to be mainstreamed for 20 academic credits (10 ECTS equivalent) with the addition of two further learning outcomes.

Outcomes

SLICCs develop students’ learning and assessment literacy, employability and ownership of their own learning. The framework strongly values the learning opportunities that come from dealing with challenges or even mistakes, which are often penalised by existing modes of assessment. If the student clearly articulates and evidences how they have taken advantage of the learning opportunity and learned from the experience, indicating a change in their future approaches, challenges and mistakes can be strongly and positively recognised in the SLICC assessment. These benefits are propelling the SLICCs initiative forward, with the framework being run both centrally and locally across the institution.

At the outset, it was clear that for the SLICCs approach to support the institutional strategy to develop graduate attributes, they must be resource efficient, scalable, interdisciplinary and flexible. A scoping exercise across the institution revealed some excellent reflective practices, although these tended to be small scale and embedded in disciplines. As an illustration of the scalability of SLICCs, all Year 2 medical students undertake a highly flexible group SLICC (220+ students in 30+ groups), on self-proposed

projects in any area of interest, many using interdisciplinary tutors including art, design, education, engineering, geosciences, humanities and music.

The true breadth of interest in SLICCs from a wide range of staff and disciplines is starting to surface. The SLICCs initiative is now being adapted, adopted and applied creatively across the institution to a wide range of experiential projects, tasks and opportunities, within and across disciplinary boundaries. The SLICCs learning framework can support students from foundation, through undergraduate to Masters. They may be designed through developing a portfolio of learning around a series of smaller course events arising in labs, workshops or tutorials. Alternatively, the learning experience may be a project that produces a substantial output (e.g. Honours or MSc projects), or take a reflective, portfolio-based overview of a programme or its application. SLICCs are being embedded in online distance learning MSc programmes, allowing students to reflect on their disciplinary learning in the programme, or to co-create a learning experience to apply their academic development into their professional practice.

The SLICCs framework can work with individual students or groups, even students in different years of the programmes, or undergraduates and postgraduates working together, and in single- or inter-disciplinary ways across programmes and academic structures. Two additional learning outcomes have been developed subsequent to the initial piloting – ‘skills’ and ‘mindset’ – further aligning SLICCs with the institution’s graduate attributes.

In the **‘SLICCs Resource Pack’** [<http://edin.ac/sliccs-resource-pack>], a full set of resources have been developed to support students’ reflective practice, experiential learning, and assessment literacy, including exemplars. Further support is provided for SLICC tutors to enable them to understand the ethos of SLICCs, and to navigate the resources to support their tutees effectively. For school and programme leads, stratified learning outcomes and assessment rubrics according to stage of study, and course development support, including generic Boards of Studies documents are shared as part of the ‘SLICCs Academic Community’. These increase the efficiency and ease of uptake and embedding by interested colleagues across the institution. We offer these as open educational resources, and look forward to collaborating with colleagues on this.

The successful transition from concept, through piloting to mainstreaming, embedding and roll-out has required a number of key factors. There was already significant interest across the institution in developing a credit-bearing experiential learning framework, by both students and staff, with multiple highly-regarded, often long-standing, but usually relatively small and bespoke course and programme initiatives. There was also a recognised strategic need for further development of experiential teaching and learning

at our institution with its major research focus, research-led teaching and increasing community engagement. Nevertheless, success also needed significant support at a range of levels, including from students, senior management and champions in schools, to counter the inevitable challenges in initiating and embedding new developments. This development and implementation will be explored in more detail in a full manuscript, currently in preparation. The challenge now lies in maintaining the momentum gathered from this pilot work to embed the SLICC learning framework in students' experiences across the institution.

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Contact us

+44 (0)1904 717500 enquiries@heacademy.ac.uk
Innovation Way, York Science Park, Heslington, York, YO10 5BR
Twitter: @HEAcademy www.heacademy.ac.uk

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