Technology supported assessment and feedback: tackling the issues of pedagogy, process & people.

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1. ABSTRACT

This paper reflects on the outcomes of the Jisc Assessment and Feedback programme (Sept 2011-Aug 2014) which explored large-scale changes in assessment and feedback practice, supported by technology. Assessment and feedback lies at the heart of the learning experience yet student surveys in the UK show that it remains the single biggest source of student dissatisfaction with the higher education experience as well as posing increasing problems in terms of staff workload due to ever increasing class sizes.

A paper to EUNIS 2013 'Supporting assessment and feedback practice with technology: a view of the UK landscape' discussed some of the new tools and approaches used in the UK; this paper looks at whether the secret to getting the most out of the available technologies lies in tackling issues related to pedagogy, process or people.

2. INTRODUCTION

The Jisc Assessment and Feedback programme had the dual aims of using technology to enhance the learning and teaching process and to deliver efficiencies and quality improvements. The programme has taken place in a strategic context whereby most universities are seeking to enhance their approaches to assessment and feedback to better meet learner needs and expectations but are having to do so in the face of increasing resource constraints. Senior managers are looking for improvements in measures of student satisfaction and are wanting to achieve this at the same time as delivering efficiency savings. This is leading to some quite significant paradigm shifts and radical thinking about issues such as:

- the balance of summative versus formative assessment,
- the nature of face to face contact between staff and students
- the nature of peer to peer contact between students
- the balance between tutor-led classroom events and student-centred learning where the individual bears much of the responsibility for developing knowledge, understanding and skills
- the place of online technologies in what have traditionally been predominantly face to face teaching institutions

The programme began with a 'landscape review' which showed that the problems faced by the participating institutions were typical of the UK sector as a whole and discussions within the EUNIS e-Learning Task Force group suggests that the issues (discussed in this EUNIS 2013 paper) are widely recognised across Europe.

The scale of engagement with the programme suggests that the overall findings are equally applicable to the wider European HE sector. Over 30 HE institutions and over 2,200 staff and 6,000 students were directly engaged in projects (link to full list of institutions)

The overall conclusion from the work is that the appropriate application of technology has the potential to deliver a truly transformative impact on assessment and feedback practice provided we can tackle the issues that most commonly serve as barriers: pedagogy, processes & people.

3. PEDAGOGY

One of the main issues for many universities is the absence of a strong pedagogical underpinning driving both the processes and the behaviours (perhaps equally well termed culture) of the people involved in those processes. In many universities responsibility for assessment and feedback is often devolved to individual faculties, schools and departments resulting in considerable diversity of practice. The result of this is that institutional level policies are often more concerned with procedure and consistency, trying to rein in the diversity and, hence, avoid the potential for student complaints, than with good educational design. A key message from the Jisc programme is therefore that what is considered good educational practice in each institution should be surfaced and articulated in the educational strategy.

Defining a set of educational principles is a good means of doing this. In a short guide entitled Why use assessment and feedback principles? Professor David Nicol highlights the fact that they can:

- help put important ideas into operation through strategy and policy
- provide a common language
- provide a reference point for evaluating change in the quality of educational provision
- summarise and simplify the research evidence for those who do not have time to read all the research literature

Jisc has produced a useful overview of published principles that have influenced the work of its funded projects including the highly influential set of REAP principles developed through the work of Professor Nicol and colleagues at the University of Strathclyde and the set of 10 feedback principles published by the NUS as well as earlier work by Chickering & Gamson (1987) and Gibbs & Simpson (2004).

By defining the educational values that characterise each university, academics, learning technologists and those responsible for quality assurance and administration have been able to work together to look at whether those principles are genuinely reflected in practice and, where improvement is required, to move forward on the basis of a shared understanding of what is fundamentally important.

Prof David Nicol (2009, 2010) has also made the point that generic principles can be interpreted in various ways e.g. the principle '*Help clarify what good performance is'* can be implemented in ways that are teacher-centric or in ways that actively engage students. His work is based on the premise that the ultimate purpose of assessment and feedback should be to develop the students' own assessment skills so that, over time, they become less dependent on others to correct their work and more able to judge the quality of work themselves.

The University of Hertfordshire has produced a series of activity cards for use in staff development workshops to help tutors put principles into practice as well as some excellent guidance for staff on how to implement its assessment for learning principles. See also the work of the University of Ulster Viewpoints project in the Jisc Curriculum Design Programme which looked at broader issues of assessment and feedback in curriculum design.

3.1. PRACTICAL APPLICATION OF TECHNOLOGY TO SUPPORT PEDAGOGIC PRINCIPLES

Once the institution is able to move forward with a shared educational philosophy it becomes much easier to design assignments that are aligned with the university's assessment principles and to identify appropriate technologies to support the activities. Universities have found various ways to illustrate how particular technologies can be used in support of educational principles e.g.

- the Bath Spa/Winchester '*Which guide to Technology for Pedagogy*' uses evidence from project work to show which software is useful for what assessment and feedback purpose.

- the University of Exeter has used the idea of the popular Top Trumps game to create Tech Trumps cards rating a range of technologies against each of the dimensions (similar to principles or values) in its model of work integrated learning.
- the University of Hertfordshire has mapped how a series of case studies on the use of electronic voting systems in different disciplines maps to its assessment for learning principles.

The Bath Spa/Winchester, FASTECH project has involved Student Fellows in its dialogue and has identified two of its principles as being key to working with students:

- Distributing student effort
- Assessment for meaning and learning not measurement

It notes the following successes in using specific technologies to support the implementation of these principles:

- increased time-on-task; reflection, and confidence about goals and standards through weekly **blogging** on humanities and arts courses;
- increased capacity to self-regulate and 'close the gap' on performance through **video capture** of mock trials in Law;
- better organisation, linking, coherence and overall reflection on tasks through **e-portfolios**;
- increased student attention to feedback through **audio and screencast feedback**;
- improvements in the quality of feedback, mainly through the use of **Grademark**.

A key message from the programme overall relates to the value in academic staff first engaging in conversations around enhancing assessment and feedback and then considering technology such that the pedagogy is driving the conversations. Whilst principles can be a convenient way of summarising a complex body of research literature, it is also important that institutions have mechanisms for ensuring staff keep up to date with current thinking and disseminate new findings to support this dialogue.

4. PROCESSES

There are a host of core institutional processes covered under the general heading of managing assessment and feedback. Manchester Metropolitan University has produced this high level model of the assessment lifecycle that has been helpful in supporting its institution-wide review of policy and process.

At a more detailed level the processes also include: assessment scheduling; submission of assignments; tracking of submissions; extension requests and approvals; academic integrity; academic misconduct processes; examinations; marks recording; moderation and external examining.

Institutional reviews of the pedagogy and philosophies underpinning good practice have led to an increasing emphasis on supporting the longitudinal development of learners. A longitudinal approach means moving away from assessment **of**, to assessment **for**, learning. Typically this involves a change in the balance of assessment activities away from summative assessment to a greater emphasis on formative assessment which highlights the importance of feedback and feeding forward (more on this below).

Furthermore a strong message from many universities is that the considerable variation in business processes across different parts of the organisation is an impediment to achieving the full potential of efficiency savings in areas such as online submission and marking.

We will look at aspects of each of these processes in turn.

4.1. PROCESS IMPROVEMENT: FEEDBACK AND FEED FORWARD

A longitudinal approach to learner development places considerable emphasis on the processes of feedback and feeding forward.

Feedback provides information to learners about where they are in relation to their learning goals, enabling them to evaluate their progress, identify gaps or misconceptions in their understanding or knowledge and take remedial action. Generated by tutors, peers, mentors, supervisors, a computer, or as a result of self-assessment, feedback is a vital component of effective learning.

Feed forward is as important to learners' progress as feedback. While feedback focuses on a learner's current performance (and may simply justify the grade awarded), feed forward looks ahead to the next assignment, offering constructive guidance on how to do better in future work. A combination of the two ensures that assessment has an effective developmental impact on learning provided (see Nicol 2013, 2014) the student has the opportunity and support to develop their own evaluative skills in order to use the feedback effectively.

In the early part of the programme it was found that, within individual institutions (and indeed sometimes even within disciplines), approaches to feedback represented one of the most diverse and inconsistent aspects of learning and teaching practice. Issues include:

- timeliness of feedback in relation to informing future assignments
- quality of feedback in relation to supporting future development
- inconsistent approaches even within a single module
- feedback not stored so that it is accessible to staff and students

A key aim of many of the projects was to better support learners' longitudinal development and this has been furthered by projects taking the following types of action:

- providing feedback in a more timely fashion (including development of some online assessment systems that provide immediate feedback) so that the student can act upon it in producing the next piece of assessed work.
- improving student understanding of the nature and purpose of feedback (students often do not understand what is meant by feedback).
- creating the conditions for staff/student dialogue instead of seeing feedback as something that is delivered to the student.
- inviting academic staff to reflect on and analyse the type of feedback they give.
- developing tools to aid analysis/auditing of feedback
- developing systems that permit tutors to gain a longitudinal view of a student's previous feedback

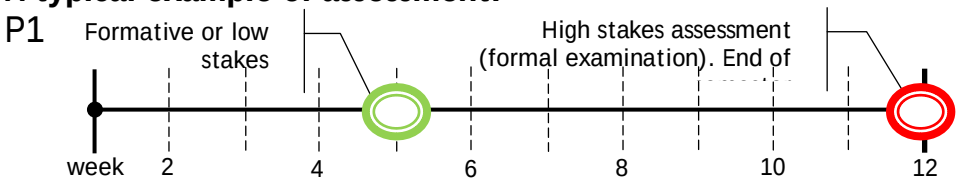
'The changes will be sustainable only if there is change in beliefs about feedback: that feedback should be student–centric not teacher-centric and that feedback should have longer-term as well as immediate aims.' (Institute of Education)

The concept of feeding forward needs to be accompanied by specific action in terms of monitoring progress and impact on learning. We see this working in practice in examples such as the use of reflective journals in a number of projects but it is interesting that, despite benefits evidenced in earlier work, the use of e-portfolio tools did not feature prominently in the programme.

4.2. PROCESS IMPROVEMENT: TIMELINESS OF FEEDBACK

A 'modelling tool' that has proven useful in reviewing assessment practice, and particularly identifying issues with the overall assessment timetable, is the concept of assessment timelines as developed by the ESCAPE project at the University of Hertfordshire. This is used to model patterns of high medium and low stakes assessment across a 12 week semester. An example is shown below:

A typical example of assessment:



Many of the projects in the programme undertook this type of modelling and identified that certain subject areas exhibited a significant reliance on end of semester high-stakes assessment that did not offer opportunities for formative feedback. Bath Spa/Winchester found that, as a result of reviewing the patterns, some programmes decided to break their traditional pattern of two assessments per module, and develop habits of slow learning while providing more opportunities for low stakes formative assessment. The modelling also influenced change at Queen's University Belfast and the University of Dundee.

4.3. PROCESS IMPROVEMENT: ASSESSMENT BUNCHING & OVER-ASSESSMENT

The University of Glamorgan (now the University of South Wales) also sought to address the issue of ' assessment bunching' whereby several assessment deadlines fall on the same date resulting in poorer quality submissions as students have less time to spend on each assignment and lower attendance in lectures and seminars whilst students are concentrating on the multiple assessments to be submitted as well as the lack of opportunity for formative feedback. The University has developed the Assessment Diary which is essentially a personalised list of modules, dates for assessment submission and return of feedback accompanied by a series of automated reminders before each of the deadlines.

Manchester Metropolitan University (MMU) has gone further than most others in trying to implement a consistent approach to assessment and feedback institution-wide in order to ensure parity for all of its learners. MMU undertook some modelling and identified significant peaks in assignment submissions (the highest being around 17,000 individual submissions due at the end of March 2012). Even where such peaks are well-managed to the extent that individual learners do not have multiple assignment deadlines falling at the same time, they have major implications for academic and administrative staff workload.

As part of an undergraduate curriculum change programme, the University decided to standardise the credit size of modules (30 credits) and limit the number of summative assignment tasks per module to 2. This decision was taken in response to continued student feedback that there were too many assessment points: up to 20 in a year for some students. The change resulted in a maximum number of summative assignments per student of 8 per year, including examinations. The change was supported by the implementation of a consistent template for assignment briefs and a consistent set of grade descriptors and assessment criteria as well as an institution-wide deadline of four weeks for the return of feedback. As a result of the curriculum review MMU has reduced the total number of pieces of coursework it handles annually from c.620,000 to c.400,000.

4.4. PROCESS IMPROVEMENT: E-SUBMISSION

The University of Huddersfield has undertaken research into student views on e-submission and found the results to be overwhelmingly positive. Reported benefits of online submission for students include:

- convenience of not having to travel to hand in work

- avoidance of printing costs
- time saved and avoidance of anxiety around work submitted via the postal system
- automatic proof of receipt
- confidence in the safety and security of the system
- the confidence of knowing their work was backed up
- clarity about turnaround times for marking
- realistic timing of submission deadlines (11.59 pm deadline at Huddersfield)
- increased privacy when marked work is returned electronically
- a sense that this is simply normal practice in a digital age

At the University of Huddersfield a time and motion study revealed that an administrator with a student load of 1,620 students saved 137 hours per year or 3.7 weeks based on a 37 hour working week. A similar reduction in administrative workload has been reported at the University of Glamorgan where most submission is now electronic. E-Submission via Moodle became institutional policy at the Institute of Education from early 2013 as a result of its Assessment Careers project.

At Queen's University Belfast the school of English moved to e-submission. The move was well received by both students and staff and is calculated to have saved 20 working days per year in administrative staff time (in a school with c.900 students). This time would have been spent receiving, processing, distributing and filing away students work throughout the academic year. The approach is now being adopted in other schools.

At the University of Dundee as a result of the EFFECT project, time saved through e-submission & e-tutoring works out at c.20 mins per assignment submitted. There has also been a shift of basic administrative tasks away from academics to administrative staff e.g. acknowledgement of assignment submission.

As well as resulting in efficiency savings, some institutions have noted a qualitative difference in the administrative tasks required to support assessment and feedback processes with the automation of some previously manual processes freeing up time to engage in more value added support roles: '*... the tasks that have been removed from the duties of administrative staff because of EAM are those that were particularly repetitive and therefore boring. These include date---stamping, logging and distributing assessment work. ... The time that has been saved has also meant that administrative staff can be redeployed to do tasks that can offer extra support to students and academic staff. For us, this has included monitoring student assessment submissions and contacting students who have not submitted to encourage them to do so.*' (University of Huddersfield)

4.5. PROCESS IMPROVEMENT: ONLINE MARKING

The issue of online marking has polarised academic staff for many years (more on this below) but the programme has seen some large scale shifts in attitude and widespread moves towards online marking. The pattern of developments at the Institute of Education: a move to online submission, followed by an anticipated move to online feedback with online marking left to the discretion of individual academics for the immediate future is a common and logical one and fits with the sector's attitude to change. The mounting evidence for the increased effectiveness and efficiency of online marking may however prompt more directive approaches by institutions in the near future. Reported benefits of online marking for academic staff include:

- the convenience of not having to collect and carry large quantities of paper
- the convenience of electronic filing
- the security of having work backed up on an online system
- the ability to moderate marks without having to physically exchange paper
- the increased speed and efficiency of being able to reuse common comments
- improved morale through not having to write out repeated comments
- the convenience of being able to undertake originality and plagiarism checking in the same environment as marking
- improved clarity of marking and feedback (especially the ability to include lengthy comments at the appropriate point in the text)
- improved consistency of marking

The issues relating to improved clarity (particularly not having to decipher handwriting) and consistency as well as the security and convenience of the medium are also the main benefits to students.

Whilst it can take time for staff to familiarise themselves with the system, there is a clear message that, after this initial period, marking becomes a much faster (and more satisfying) process than the traditional approach. *'The vast majority of the staff interviewed for this study reported that using GradeMark made their marking faster and/or more efficient. What this meant in practice was that they were able to offer the same amount of feedback than they had previously in less time or that they were taking the same amount of time but were able to offer considerably more feedback in terms of both detail and quantity*.' (University of Huddersfield). Pilot activity at the universities of Bath Spa and Winchester produced similar outcomes.

The University of Huddersfield noted that the time saving didn't just come from the marking process itself, but also accumulated from other administrative burdens that had been reduced or removed as a result of using the tool: *'I can actually spend more time writing comments than I am spending emailing students back or all those other things*.' (University of Huddersfield)

The University of Glamorgan reported the same global efficiency savings but noted that many academic staff were unlikely to reflect on the bigger picture of the overall process: '... *academic staff seem to make a direct comparison between the time taken to mark a physical script and to mark online and the speed of the system. They were less aware of the saving of time on the entire feedback process, which involved tracking student submissions, or using lecture time to hand back assessments or having multiple interruptions from students collecting marked work at different times*.' They did however cite one academic who had clearly recognised this: '*I think the whole process is quicker. We used to rely on the faculty administrators to collect the work and then we have to collect them a few days later and ask the student to come and collect their work. With Turnitin the whole process is a lot quicker. Students do not lose their work. Whether the "marking" is faster I think depends on each individual and it will be different. But the whole process is definitely quicker.'* (University of Glamorgan)

5. PEOPLE

The initial review of the assessment and feedback landscape in 2012 revealed that this is an area where traditional practices predominate and remain *'stubbornly resistant to change'*. In other words people and their culture and behaviours play the most significant part in determining learning and teaching practice. Agreement on pedagogic principles can be a unifying factor that drives process and cultural change but considerable change management expertise is required to ensure that this change is embedded and sustained. In order to implement what is currently recognised as good practice in assessment and feedback we may need to address some deeply held beliefs.

5.1. CHANGING CULTURE: ASSESSMENT AND FEEDBACK AS A SHARED RESPONSIBILITY

In many cases it is difficult for both teachers and students to accept the notion that students have considerable responsibility for their own learning and that feedback is a shared activity not something that is 'given to' students by tutors.

Many of the projects discussed here had goals relating to moving away from a 'transmission' model whereby feedback is something that is 'given to' students towards one where responsibility is shared and students take greater control of their own learning. The University of Dundee placed great emphasis on creating the conditions for dialogue around feedback: *'Neglecting dialogue can lead to dissatisfaction with feedback. The transmission model of feedback ignores these factors and importantly the role of the student in learning from the feedback. Simply providing feedback does not ensure that students read it, understand it, or use it to promote learning*.' (University of Dundee)

One of the main purposes of feedback is to help learners develop the capacity to self regulate as identified by Nicol and Macfarlane-Dick (2006) *'Feedback should serve the function of progressively enabling students to better monitor, evaluate and regulate their own learning, independently of*

the teacher. Learning is enhanced when learners are self-regulating, actively engaging in setting learning goals, selecting strategies for achieving these goals and monitoring their progress toward these goals.' These ideas have been further developed more recently by Nicol (2013, 2014) who identifies that providing feedback to peers offers enormous benefit in terms of letting students see their own work in a new light and helps them develop their own concept of quality through seeing many examples of work written to the same assignment brief including their own.

The, largely untapped, potential of peer review is now the focus of much research in the UK and internationally. Current thinking is that embedding peer practices in curricula may be the single factor that will make the biggest difference to student learning as reviewing others' work develops critical thinking, independence of judgement, reduces dependency on the teacher and results in students generating feedback for themselves while they produce it for others. The PEER Toolkit project has produced guidance for other institutions in the form of a 'how-to' guide on peer review but the culture change involved in persuading staff and students of the benefits should not be underestimated.

5.2. CHANGING CULTURE: TRANSPARENT FEEDBACK

Given the importance of feedback in effective learning, perhaps one of the most startling revelations of the programme was the very limited extent to which feedback given to students is ever discussed and compared within course or programme teams. Course teams take for granted the need to meet to discuss differences in grades but differences or inconsistencies in feedback are rarely identified and discussed. The Institute of Education has talked about *'opening the 'black box' of feedback practice for both staff and students*'. A strong message from the project teams is that clarifying what purpose feedback is expected to serve and analysing tutor feedback has to become normal practice for academic staff.

One of the key outcomes of this programme has been the creation of some tools for analysing feedback and the analysis of some hard evidence. The evidence appears to suggest that typical feedback profiles may differ considerably between institutions although, in all of the published examples, the 'typical' profile in the analysed sample is skewed towards a particular type of feedback rather than sufficiently rounded to provide optimal learner support. The feedback audits also raised the issue of failure to pick up on warning signs such as a student receiving the same feedback many times but failing to improve.

A number of the profiling tools used during the programme are freely available:

- University of Dundee coding framework
- Institute of Education feedback profiling tool and guidelines
- Open University Feedback Analysis Chart for Tutors (FACT)
- University of Southampton OMTetra tool which monitors the consistency of e-feedback & helps support tutors through a strong formative function where the tutor engages in reflection about the quality and appropriateness of their feedback.

In many cases institutions reported that academic staff had previously simply not had access to this type of information or a forum in which to discuss the issue. Aside from the cultural issues involved in changing habitual behaviours, projects also had to deal with the fear on the part of academics that giving better feedback necessarily means increased workload. This appears to have been the initial assumption of many staff who were delighted to find that giving better feedback actually improved the self dependency of learners and reduced the overall amount of time they spent giving feedback and the need to repeat the same feedback many times.

'*... seeing students making progress through feedback helps to ensure that marking and feedback are worthwhile and rewarding activities for assessors. There is no reason why assessment cannot be as rewarding and inspiring as teaching*.' (Institute of Education)

Technology has a vital role to play here but it has been noted that most of the VLEs in common use record both marks and feedback at a module level so that it is not easy to gain an overview at programme level. *'There is a role for technology here in storing feedback across a programme and making it easily accessible to staff and students so that a longer-term picture of learning can emerge and this could become a standard feature of VLEs*.' (Institute of Education)

5.3. CHANGING CULTURE: RESISTANCE TO TECHNOLOGY

Whilst it often appears that there are particular issues when change to learning and teaching practice involves implementation of new technology, in fact the underlying issues are very similar to those faced in any significant change initiative.

Probably the single set of technology innovations that have most divided the academic community are the tools that permit online marking of student assignments. Views can be extremely polarised and highly personal. For example:

- those resisting the change may cite age as a relevant factor and state that on-screen marking causes them eye strain;
- advocates, on the other hand, may state (again citing their age as relevant) that not having to carry heavy piles of essays is a significant benefit as is the ability to make use of the accessibility functions available on screen such as being able to adjust font size and colour for ease of reading.

A large scale study of attitudes to e-marking, carried out by the University of Huddersfield, identified that academic staff attitudes are split into three main groups:

- those who are innovators or early adopters and have migrated enthusiastically to e-marking;
- those who have approached it more cautiously;
- those who have done so reluctantly or have tried it and then moved back to paper marking.

The University of Huddersfield concluded that a strongly directive approach is likely to be counter-productive and that academics should be allowed to continue working in the way in which they feel most comfortable whilst the institution continues to emphasise the benefits of e-marking and reward those adopting the practice through a reduction in administrative duties: '*... it is important to build a strategy and a system which provides each group with the support they need but also offers rewards and applies pressure in a consistent way such that moving away from paper---based marking and into eMarking makes the most sense to as many of them as possible*.' (University of Huddersfield)

Queen's University Belfast took a similarly non-directive approach combining appreciative inquiry with demonstrating the benefits of the application of technology. Their experience shows the powerful message that can be transmitted when reluctant users of the technology experience the benefits. Online marking was initially piloted across three modules in a single school as a result of which the school took the decision to move to fully online marking in the following year. Pivotal in the decision were the views of one academic who was strongly reticent prior to participating in the pilot but found the experience very positive. The consequences of this were extremely far-reaching with two further schools subsequently adopting the practice. *'The implications of this are that staff sharing positive experiences can be a powerful means of bringing about change in practice and process*.' (Queen's University Belfast).

The lessons learned from implementing large scale change to assessment and feedback practice have been incorporated into a 2014 update of the Jisc infoNet Change Management infoKit.

6. SUMMARY

The programme set out to review one of the most fundamental aspects of the higher education experience and the landscape review showed that the problems faced by the participating institutions were typical of the sector as a whole. The projects have addressed some issues that go to the very heart of the learning experience and have found effective means of engaging stakeholders in productive dialogue about difficult matters that have long tended to polarise views.

The focus on pedagogy as the starting point has been a valuable lesson. The discourse around underlying educational principles and values was a strong unifying factor for many projects. It has enabled them to reconcile quite disparate views and, having achieved agreement on what they actually want to achieve, it has become easier to establish whether or not a particular technology can help enhance the current situation. The projects have also been able to draw on a sound evidence base, through data such as that derived from feedback audits, with which to question and challenge current practice.

The projects have shown that large scale institutional change is possible and that it is possible to deliver parity of experience for learners without compromising values held dear by particular academic disciplines. Most significantly, they have produced considerable evidence that appropriate application of technology can deliver significant efficiencies in terms of automating routine administrative processes and can do so at the same time as delivering a more effective learning experience.

The programme addressed aspects of the higher education experience that are notorious for being *'stubbornly resistant to change*' and the adoption of practices that are learning centric and support effective longitudinal development can be said to be truly transformative. The programme has not delivered a magic formula that will transform institutions overnight but it has provided an evidence base, examples of good practice and a set of tools and resources that can allow other universities to significantly enhance their own practice in ways that are appropriate to their own particular context. Appendix 1 of this report draws the lessons learned about some of that good practice into a checklist that institutions can use to begin that dialogue and start their own journey of assessment and feedback transformation.

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Gill has teaching and research experience and has held senior management positions in a number of university administrative functions as well as directing a UK support service enhancing the use of ICT in further and higher education. She acts as a consultant to universities and national agencies in both the UK and Europe and has been an invited speaker at many national and international events. Current interests include: data and information management, technology enhanced learning, assessment and feedback and learning space design.

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Andrew has over 10 years experience working across Higher Education, Further Education and Skills. Having started his career as Multimedia Developer at Jisc infoNet, working on a range of digital projects, Andrew now plays an active role in the research and development of new resources for the service. This requires playing an active role in the management of Jisc funded programmes, recently including: Jisc's Transformations programme; Business and Community Engagement programme; and Flexible Service Delivery programme.

Outside of work Andrew is undertaking an MSc in Project Management where he is hoping to uncover whether or not there is a link between the maturity of project management practices and organisational success. He also co-kickstarted a project called 'Purposed' which has crowdsourced a response to the question, "What's the purpose of education?"

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Appendix 1: Checklist for institutional Self-Assessment

1. **Strategy and policy**
    - Is your institution's approach to assessment and feedback articulated in institutional strategy and, if so, at what level institution-wide or devolved?
    - Is your assessment and feedback strategy underpinned by educational principles?
    - What guidance exists to help staff apply the principles in practice?
2. **Academic practice**
    - Does your institution use consistent templates for assignment briefs, assessment criteria, marking rubrics etc?
    - How and when do academic staff e.g. programme teams discuss and compare approaches to feedback?
    - Does your institution use any audit tools to analyse tutor feedback?
    - How do part time teaching staff develop an understanding of the programme wide approaches to assessment and feedback?
    - What opportunities are there for student/tutor dialogue around feedback?
    - Are academic staff able to view past feedback for a particular student?
3. **Learner engagement**
    - How are students inducted into assessment and feedback practices and encouraged to develop assessment literacy?
    - What mechanisms for learner self evaluation are promoted and supported?
    - What mechanisms for learner peer evaluation are promoted and supported?
    - How are learners involved in dialogue around developing assessment and feedback practice?
    - Do students have access to personalised information about assessment and/or feedback deadlines for submission and/or returned work?
    - Are students able to view all of their past feedback in one place?
4. **Curriculum design**
    - Does your institution have any policies relating to the number and type of assessments per module/course?
    - Are learning outcomes for specific modules and courses mapped to scheduled assessments?
    - Does your institution use any modelling tools to look at the balance of formative/summative assessment and the scheduling of assessments across modules and courses?
    - Does your institution have a full overview of its assessment activity and the implications of submission peaks on administrative support and IT systems?
    - Does your learning design implement educational principles e.g. '*Help clarify what good performance is'* in a teacher centric or a learning centric way?
5. **Employability**
    - Does your institution use a range of assessment types that mirror actual working practices in the relevant discipline?
    - Is the development of student self and peer evaluative capability valued as an important attribute of employable graduates?
    - Does your institution involve employers in determining *what* should be assessed?
6. **Processes and technologies**
    - Does your institution have a policy on online submission and/or feedback/marking?
    - Does your institution have consistent processes relating to the submission, marking and return of assessed work?
    - Do staff have ready access to information about available technologies and ways in which they can support assessment and feedback practice?
    - Are students able to employ an appropriate range of technologies in producing assessed work?