

Transforming Curriculum Delivery through Technology

Synthesis of Project Interim Reports April 2010

1 Introduction

This is a summary that attempts to synthesise key findings from the March 2010 interim reports for the [Transforming Curriculum Delivery through Technology Programme](#) (the Delivery Programme for short). The purpose of the report is to draw out key 'headlines' and significant updates since the last synthesis report. The report has been developed collaboratively by the support team but primarily by Gill Ferrell and Lou McGill. The report will be shared with projects and the programme team and will be made available on the JISC website. However, wider dissemination of the synthesis findings will be done through the programme blog which will highlight a series of themes and issues which have emerged. Details of all projects referred to including the full interim reports are available on the [JISC website](#).

2 Baselineing

At the time of the previous report the projects had recently completed baselineing activities. This section taken from the report by Lou McGill provides a useful reminder of what the key issues were at that point:

'Whilst many of the baselineing issues are also reflected in the Design Programme, most of the Delivery Projects have invested significant effort in including students, which reflects the commitment to listen to the **'learner voice'**. Whilst this has raised challenges for teams, particularly in relation to accessing disaffected groups, there have been some interesting results. A good example of this is the project that discovered student practice, in relation to using feedback, was very different to the perceptions/expectations of staff. This example also illustrates another common issue for many projects - the issue of **staff perceptions** around both students and technologies and how these may impact on the proposed enhancements to learning. **Stakeholder engagement** has been a priority for all projects and as well as engaging learners, academic staff, managers and support staff, many are also attempting to engage employers. One project has developed a stakeholder engagement and communications plan which may also be useful for other projects, as well as the wider community. Developing sustainable mechanisms for **employer engagement** is a focus for some projects. **Managing stakeholder expectations** has taken more effort than many projects anticipated and this is one area where 'expert' input and sharing across projects through the CAMEL process has proven useful.

Other issues worth noting include the following:

- **Time** appears to be the most important resource and this is a major factor – engagement workshops and staff training have been an important enabling factor

- Senior Manager buy-in has not been identified as a significant issue – more challenges relate to engaging teaching staff
- Some projects reveal a surprising level of **naivety** in relation to the complexity of using technologies to enhance learning and the very real barriers and challenges that exist.
- Having **well articulated pedagogic intentions** behind technological interventions is more likely to engage staff and support sustainability
- **Baselining activities** are useful to highlight what institutions already do well as well as gaps in provision – they provide a useful mechanism to engage senior managers. Some of the projects see the value in baselining beyond the life of the project.
- One issue that remains a challenge is getting projects to **integrate their baselining issues into their wider evaluation plans**.

3 Different perspectives on the programme

3a Challenges

When the projects first submitted their proposals they identified a set of significant and common challenges that they would address. In broad terms the challenges were around:

- Enhancing the learner experience
- Responding to new and diverse learners
- Employability
- Delivering a Flexible Curriculum
- Engaging and Upskilling Staff
- Institutional Transformation

As the projects have gone through their initiation and scoping stages their ideas have been refined and the scope of the projects defined more clearly. This has resulted in aims that are generally more realistic and achievable. Far from being a 'step down' from loftier goals the clearer definition of problems, more focused means of addressing them and more structured evaluation approaches makes the projects significantly stronger pieces of action-based research and more immediately transferable and valuable to the wider sector. Out of the broader themes a few very well-defined problems recur throughout a number of projects:

Increasing class size – This is an issue for a significant number of projects. In many cases (e.g. Hertfordshire, Exeter, Leicester, OU) it was explicit from the outset that the projects were looking at ways in which technology could help deal with increasing class sizes partly from a logistical point of view in relation to assessment and feedback and partly from the point of view of helping

the learners feel engaged and 'known' in a large group. However it has also been the case that recruitment in excess of expectations has been a risk to some projects causing them to need to scale up more quickly than planned and causing pressure on staff who are struggling to keep their heads above water and thus have little time to devote to any form of innovation. It is indeed a common Catch 22 situation that staff do not have the time to engage with the technologies that might just solve the problem.

Learner motivation/Attendance – The broader issue is one of motivation and this is played out most explicitly in a large number of projects by poor attendance. The link between poor attendance and low achievement may be an unsurprising one but it is useful that some of the projects (e.g. Kingston College) have been able to demonstrate this quite explicitly. Attendance is a key issue for all of the projects based in FE colleges but it is not specific to this sector and a number of HE projects (e.g. Hertfordshire) identify this as a significant issue whereas others (such as Leicester) report motivational issues in terms of students finding some existing courses 'dry'. Engaging learners more fully in the process of learning underlies all the projects. Middlesex/City is investigating how a blend of technology interventions can support creative conversations to better engage students in Design education through conversational learning and collaboration.

Providing useful feedback/effective assessment – Again a theme that recurs across the programme as well as echoing a major concern in the National Student survey. From the beginning of the programme one of the clusters had a strong focus on this topic but it is now evident that it is important in many more projects. In part the issues relate to class size as noted above but projects (e.g. Hertfordshire, Exeter) are also looking at structural issues of whether they assess the right things at the right time and the balance between formative and summative assessment. Westminster has a particular focus on feedback and how it is perceived and used as well as the means of delivering it more efficiently and Coventry is trialling a process of student peer review. A key challenge in the remaining months will be for the projects to demonstrate that their efforts are impacting both satisfaction and achievement.

Supporting work-related learning – A diverse range of projects are supporting work-based and work-related learning. They range from OU distance learners and learners on work placements at De Montfort to learners in a realistic 'real world work environment' at West Anglia College and learners evacuating an oil rig in Second Life at Leicester. Concerns range from the translation of theory into practice and increasing flexibility for time-poor learners (Leicester) to the practicalities of enabling employers to contribute to the PDP process (Lewisham) and employer concerns about reflective practice in relation to commercial confidentiality (Kingston/De Montfort). The Kingston/De Montfort project has also highlighted the challenges around getting employers to understand the academic process.

Supporting Diversity – The need to support an increasingly diverse range of learners is explicit in many projects. The OU has a long tradition of supporting 'non-traditional' learners and equally so has the Oxford University Department of Continuing Education. Exeter has found a valuable way of promoting and celebrating its diversity by organising a competition for overseas students to photograph their home background and is already considering the marketing potential of such a resource. Interestingly none of the projects has yet reported significant differences in terms of

attitudes to technology between different user populations. Indeed Oxford University feels it underestimated the base level of technical capability of its Continuing Education tutors. The most direct correlation seems to be that already motivated and high-performing learners respond best to the new delivery interventions but this is an issue that the projects are being encouraged to explore further.

Effective Delivery of ELQs – This is a very specific issue but one that affects many institutions so is worth singling out. The change in government funding mechanisms means that many institutions are looking long and hard at what was once termed ‘liberal adult education’ although the impact is felt also on a lot of continuing professional development. The contradiction between policies promoting lifelong learning on the one hand and the approach to ELQs on the others is an obvious one and difficult to resolve. Oxford University has taken a wide –ranging look at its approach to delivery of such courses and its findings will be of widespread interest.

3b *Processes*

The Delivery Projects are part of a wider initiative including a related programme on Institutional Approaches to Curriculum Design. The Design Programme runs over a longer period and is expected to have widespread impact on institutional business processes. In reality however design and delivery are inextricably linked and many of the delivery projects are finding that the types of interventions they are piloting are informing curriculum design and that appropriate use of technology often needs to be considered at the design stage. Kingston College set out with the explicit intention of finding ways of enhancing delivery without the need for curriculum redesign due to the nature of partnership relationships involved and the need to keep the scope of the project manageable. They have done this very effectively by integrating the use of pedagogic planning tools in lesson planning without fundamentally changing the underlying business processes.

In the case of West Anglia College the early experiences with the real-world work environment ‘Springboard TV’ have led to a review of the curriculum model to include greater emphasis on team working involving industry professionals and interaction between learners at different levels. This radical approach to mentoring and skills development has raised challenges of measuring achievement and attainment that are being managed and evaluated and will be of widespread relevance and interest.

Oxford University took a wide-ranging view of how technology could help it better deliver and support its extensive programme of continuing and professional education that mostly leads to students achieving ELQs. A number of issues were identified and prioritised and it is notable that a couple of administrative issues made it into the top five with the result that the university is progressing online enrolment and fee payment and online submission of assignments. This is another project that has faced pressure of numbers with online enrolments doubling during the course of the project. Online submission has been welcomed by learners whilst academic support for this has been tempered by concerns (which are being addressed in various ways) that this will necessarily mean on-screen marking.

Online submission of assignments is a process improvement that has occurred in a number of other projects as well (e.g Bristol, Coventry, Hertfordshire and Lewisham) whilst Exeter has trialled online exams. In other cases the benefits of handling elements of the assessment process online lie in the rapidity of feedback to learners. Bristol has now managed semi-automated marking and feedback on 5,000 assignments and reports significant improvements in achievement amongst the pilot group of learners. Westminster has required learners to complete a reflective log on each piece of coursework which itself generates an automated feedback report. Coventry has trialled online peer review of assignments.

Interestingly it is also improvement to administrative processes that has helped Lewisham College address issues of learner motivation by fostering learner autonomy and ownership. Whilst the portal and PDP have pedagogic goals it is actually having access to their own timetables and attendance records that has had the biggest impact on learners to date. Visibility of their attendance and punctuality data has motivated all students (whether their attendance record was previously good or poor) to improve and this coupled with a process of target setting has engendered a sense of independence. The changes have resulted in direct administrative savings and the college is now extending this to provide learners with information on their financial status. The college also recognises the importance of good pastoral care as personal and social issues can often get in the way of learning. Attempts to offer pastoral support online have not however been popular as learners are concerned about confidentiality and prefer to deal with such issues face to face.

3c Stakeholders

Stakeholder engagement has been vital to the success of the projects. Most have approached this in a very structured way and have found discussions within their clusters at CAMEL meetings particularly helpful in terms of sharing ideas and experiences.

Staff

Most of the projects have benefited from a good level of senior management support and have had to work hardest at winning the hearts and minds of learning and teaching practitioners. Where it has been difficult to engage staff this is mainly due to time pressures, barriers in terms of getting to grips with the technologies and issues relating to institutional restructuring. One project noted at the outset that its staff were exhausted by change and set out to demonstrate clearly the benefits of the approach to particular types of staff. They remarked in their previous update that *'This process had more in common with battlefield strategies than charm offensives.'* It nonetheless appears to have worked as they are now reporting increased awareness and engagement as well as the creation of a practitioner community.

Exeter and Hertfordshire have also seen the creation of practitioner communities arising as a result of the projects. Hertfordshire has taken an Appreciative Inquiry approach to changing assessment practice. This seeks to identify what is good about existing practice and build on it and they now have 'agents for change' teams in other parts of the University and are seeing very positive signs of this producing a 'ripple effect'. Exeter has taken a similar approach working with new Teaching fellows and recognising that *'Change happens one conversation at a time.'* Bristol

has tapped into the 'academic grapevine' and now has staff championing the e-Biolabs approach in other institutions as a result of its staff delivering seminars and acting as external examiners in other institutions.

The projects are working with diverse sets of academic staff. Newcastle is dealing with medical practitioners who may only teach a tiny element of a course. The Dynamic Learning Maps project is helping those staff as well as their students understand the overall structure of a course. This helps avoid duplication of content and ensures that students have the prior learning they need for specific activities. Oxford is working with Continuing Education tutors 60% of whom are aged over 55. The University was concerned that this particular staff group may not engage well with technology yet a survey revealed that all but one had a computer and internet access at home and 91% checked their email daily. The findings showed that there was a good base level of IT skills on which to build and, as a result, a lot of paper-based administration is now being conducted online.

Learners

Learners are of course our key stakeholders The previous report noted *'there have been some very imaginative ways of engaging them in baselining activities and in actually having an input to the design of some of the interventions. The complexity of working with learners in this way has been acknowledged by several projects and the lack of an homogenous group to engage with has presented many challenges. However, many of these approaches are very inspiring and provide real evidence of institutions listening to and responding to, the diverse learner voices.'*

The projects are continuing to build on this promising start and finding the value of learner input. St George's faced some initial scepticism from staff but noted that *'By contrast students almost always recognise a learning style that will improve their learning.'* Bristol said *'Students are the best quality controllers. Give them every opportunity to feedback and report where improvements can be made.'* The peer review at Coventry has already been mentioned and Kingston/De Montfort and West Anglia College are both using learners as mentors to students on earlier stages of the course. Exeter has a parallel project on 'Students as Change Agents' and the marketing potential of their student celebration of diversity has already been noted.

A number of projects deal with better preparing learners for their learning. This is the case with the Bristol e-Biolabs project that has had considerable success in preparing students to undertake laboratory work. It is also the focus of Coventry's COWL project that aims to help learners develop the academic writing skills they need. Kingston College has introduced the Grade Improvement Programme (GIP) in response to a similar identified need for language and academic writing skills and the MYO module (Managing Yourself and Others) now underpins the re-engineered delivery.

Many of the projects (e.g. Hertfordshire, Westminster) feel they are successfully addressing the over-emphasis on summative assessment and the Westminster e-Reflect project is asking learners to reflect on the process of learning as much as the final mark. A quote from Bristol does however strike a note of caution that this is not an easy process: *'Some learners are strategic to the point of self-defeat. They will look at the prelab quiz first and then at the experimental information (or ask a friend) to obtain the answers. This attitude can to some extent be mitigated by well designed questions and by question banking where every student sees a different set of questions. But*

simply increasing the number of questions to cover every aspect of the learning session results in unhappy and resentful learners.'

The majority of projects have explicitly sought to uncover the student experience of the use of technology through learner-centred evaluations. Interestingly some common findings support those of previous work such as the [Learner Experiences of e-Learning programme](#), including for instance that many students are experienced, positive and proactive in use of technology but nevertheless may need support in seeing how to transfer personal technology use to learning situations. The learner experience aspect of these projects has been explored in greater detail in a separate synthesis of these reports produced by Rhona Sharpe and Greg Benfield which aims to draw out the evidence of the learners' experiences of curriculum delivery in these projects.

3d Technologies

A wide range of technologies are being investigated and piloted by the Delivery projects as a group and some projects (e.g. Exeter, Leicester, OU to name but a few) are piloting multiple technologies within their project. The technologies need to be evaluated from the viewpoints of effectiveness and efficiency e.g. Leicester is finding that some technologies that can be pedagogically effective (e.g. Second Life) nonetheless have high entry barriers in terms of technology and skills and are not necessarily easily scaleable.

Technology, as ever, moves on apace and the projects need to deal with this. Leicester evaluated the only e-book reader available in the UK at the time the project started. There is now a wider range of devices some of which address identified weaknesses in the earliest model. The effectiveness v efficiency issue also reared its head in relation to this technology as publishers wanted to charge prohibitive rates for pre-loading content onto the readers and a compromise had to be found by which students had to perform the downloads themselves. This also highlights the need for interoperable content formats such as epub, so that content is device independent and can be deployed in multiple systems.

Some projects have found ways of scaling up their activities during the life of the project. Both Bristol and Westminster have migrated their first versions of systems onto more robust platforms that can be used institution-wide. Westminster is now investigating platform options to make the e-Reflect system more scalable, adaptable and robust.

Perhaps one of the most surprising outcomes of these projects (given that JISC projects tend to attract technical innovators) is the extent to which projects have explored options and reverted to familiar and established technologies. This is very often the result of user feedback. The previous report noted *'There have been several very positive responses to VLEs and one project (Kingston/De Montfort) found that it provided remote students with a very tangible connection to the institution. This is in contrast to the widespread negativity about VLEs in the wider e-learning community.'* If anything the trend towards innovating with the familiar is even more marked now that the projects have got beyond their pilot phases. Perhaps to some extent it reflects the robust nature of the projects' approaches to stakeholder engagement and the fact that they are

genuinely listening to stakeholders. Perhaps in part the desire to make the most of what we already have is inevitable in the current climate and perhaps it reflects the fact that the projects are genuinely focused on pedagogy and on solving real problems rather than finding a technology solution then seeking the problem to which they can apply it. There is clear evidence of the importance of the good relationships between IT departments and projects in terms of developing and supporting system integrations and the deployment of technologies to allow the pedagogical innovations to take place. This may reflect the growing maturity in relationships more generally between staff involved across departments and the fact the VLEs TEL approaches are becoming truly embedded in institutional practice and not just seen as something that a small subset use. One clear example of technical innovation however is the Dynamic Learning Maps project where course information is being mashed up with user information and user ratings of resources.

On the downside the reversion to familiar technologies does reflect the difficulties many academic staff have in engaging with new technologies. Bristol reported a nervousness about involving staff in too much beta testing for fear it might 'put them off' before the product was ready for a proper trial. These issues are not only confined to staff; Bristol noted '*Not all students are digital natives. Although we had complaints about the Excel pro-formas, discussions with the students revealed that their difficulties were actually with basic computer operations such as saving and retrieving a file.*'

A number of projects are exploring the application of user-owned technologies and the question of balance between institutional and other technologies. It is interesting that, despite the ubiquity of mobile devices, learners do not necessarily see their potential for learning unless prompted to do so. Kingston/De Montfort established that this was the case and ran briefing sessions for students about to go on field trips to highlight the potential uses of mobile devices. Although the feedback from students was generally positive an unexpected consequence was that lecturers expressed some concern that the use of the devices was actually inhibiting reflective practice e.g. students capturing a scene in a photo were not necessarily thinking about and annotating the photo in the same way they would if they were obliged to sketch a feature. However there are other gains from using the technology such as allowing remote participation in field trips and augmenting resources with mash-ups of user generated content.

Lewisham tried offering learners mobile devices as an incentive for good attendance during the pilot phase of the project. Whilst the idea of being rewarded proved popular and contributed to stakeholder engagement, the college did not find any clear evidence that the devices were used to access resources outside scheduled class time (although they were useful to work-based learners). However this may have been peculiar to this particular class where students were able to complete their learning activities sessions/class time.

4 Transformation

The programme does, as the title states, have transformation as its overarching goal. Much of this transformation is being approached from the point of view of personal transformation of the learners through reflective practice, PDP, mentoring etc but this is inevitably feeding back into transformation of the curriculum and of institutional business processes.

As with any significant project the true extent of benefit realisation may not be evident until some time after the project itself has finished. Similarly, when one looks at changes in key indicators of student retention and achievement for an institution, it is difficult to establish precise cause and effect when multiple interventions are taking place and a range of parameters are changing. The projects are nonetheless tackling this by means of robust evaluation plans. The extent of external interest in the projects even at this stage is a good indicator that they are tackling recognised and significant problems and that their outcomes may be expected to be both sustainable and transferable.

5 Other influences

The economic climate remains both a challenge and an opportunity for the programme. Inevitably some of the institutions involved are looking hard at structural and staffing issues and it can be difficult to foster a spirit of innovation when jobs are at risk. On the other hand there can be no better time to demonstrate that technology can deliver efficiencies as well as more effective learning.

It was noted as surprising in the previous report that, despite an increased UK focus on the topic, open education and Open Educational Resources (OER) are not having a great impact on these projects despite some of the institutions having projects in the JISC UKOER programme. Indeed the only real example of re-use here is Oxford's attempt to develop a range of generic skills training content that can be customised and re-used at the point of need. Bristol does however specifically mention OER and would like to progress the idea of shared resources for laboratory teaching. Leicester have also committed to make some of their resources available as open content. The KUBE project is looking at OER and the fact that they have used Xerte to create content means that they are well placed to make their content more openly available.

Perhaps the most surprising example of unforeseen external influence having a positive impacts on the projects is the observation that January's bad weather had a significant impact in terms of persuading some, formerly reluctant, staff to see that online delivery offered some very real benefits!

6 Summary

The projects are now entering their final phase when pilot activities are being rolled out on larger scale, rigorous evaluation is taking place and outcomes are being shared. The true measure of success for JISC will be the extent to which the outcomes are used, embedded, sustained and transformed in the wider community.

To this end a range of dissemination activities are already underway. A rich collection of 'assets, artefacts and resources' from the projects is being deposited in the [Design Studio](#) and you can find regular updates on the projects web pages, blogs and via the Programme Support blog [JISC Involve Curriculum Design & Delivery](#). Feedback from the wider community will help us ensure we provide the most useful resources in the most usable formats and answer the most important questions so please take these opportunities to engage with the work of the programme so that you too can benefit from the lessons learned.