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Introduction

This report provides a final synthesis of findings, deliverables and outcomes from the JISC Institutional Approaches to Curriculum Design Programme (the 'Design Programme'), based on the final reports from projects. The report also includes quotes and commentary from 'Report to JISC: Senior Management Project Interviews' produced by Professor Peter Chatterton. The aims are:

• to inform the sector of key issues and developments in curriculum design surfaced over the four years of the programme;
• to evidence that institutional and technology-enhanced approaches to curriculum design are both possible and valuable (though challenging)
• and to provide material for further communications aimed at specific parts of the sector.

It is the combined work of the support team: Helen Beetham, Gill Ferrell, Sheila MacNeill, Marianne Sheppard.

A list of the projects involved in the programme are listed in Appendix 1. Appendix 2 provides a summary of the projects’ achievements.
1. Executive Summary

During four years of almost unprecedented change in higher education in the UK, JISC has funded 12 universities to transform their approach to curriculum design, through a combined focus on organisational, technical and educational issues. The challenges identified by institutions at the start of the funding period were primarily:

- enhancing the learning experience and meeting learners’ expectations
- embedding graduate capabilities and enhancing graduate employability
- delivering a more flexible, responsive curriculum
- widening access and participation
- developing fit-for-purpose quality processes
- managing course related information more effectively

Many of these challenges have acquired greater urgency in a more constrained funding environment. The retention and progress of undergraduate students has become the dominant driver for business decisions, and better management of course information has become critical not only to deliver curriculum enhancements locally but also to satisfy new external reporting requirements. Business efficiencies – within an environment of sustained high quality – are more important than ever.

The ultimate goal has always been to enhance the curriculum offer, making it more responsive to new markets and needs, more sustainably delivered, more flexible, and more attuned to the capabilities required by graduates in the 21st century. For some projects this has meant a focus on the quality of educational decision-making by curriculum teams. For others the emphasis has been on reforming processes – design, validation and quality assurance, and the business systems and flows of course-related information that support them. But most projects have pushed forward on both fronts at the same time, ensuring that process reforms kept academic quality and educational values to the fore.

1.1 Baselining

A thorough, peer-supported baseline process allowed projects to refine their understanding of local processes and define more clearly their priorities for change. There was clear evidence that the baseline process had organisational value, both when formal approaches such as BPMN, UML, Visio or Archimate were used to identify potential efficiencies, and when participative approaches were used to develop a shared understanding of the curriculum lifecycle and the role of different players. Outcomes of baselining were very different across projects, but some general themes emerged. Innovation was more often held back by cultural than by system constraints: for example by a tendency for curriculum approval to be 'owned' by a small number of senior staff in a department, or by widely held 'organisational myths' about what kinds of curriculum can be approved. Baselining also uncovered tensions between curriculum development understood as a collegial process, centred on discussions within the curriculum team, and as a centrally managed process with mandated documentation and events, involving both internal and external scrutiny.
1.2 Improving curriculum processes

Approaches to process reform included the use of LEAN systems thinking and process modelling as described above (especially using Archi). Engagement of stakeholders was critical throughout this process. In some cases, consultation allowed a new consensus to emerge and it was possible to standardise processes across the institution. However, curriculum teams retained ownership of design, decision-making and ensuring academic quality, and – with some efficiencies introduced – were actually able to spend more time discussing educational issues. Large-scale validation events based on extensive documentary evidence were replaced in some cases with lighter-touch approaches, where the burden of quality proof was shifted to the design process. This process was better resourced, with timely information – including better-developed business case evidence – and relevant guidance made available. Stakeholder engagement was enhanced with simpler, more transparent representations of the curriculum that were meaningful to students and potential employers as well as to curriculum managers and professionals. Conversations were also captured to provide a rich record of the development process.

Benefits of these process improvements have included:

- lighter-weight approval processes
- more trusted and transparent approval processes, allowing stakeholders to be engaged in a more meaningful way
- more focus on making the business/benefit case and its integration into the design/approval process
- enhanced access to timely, relevant information by staff involved in the process of curriculum design
- (over time) quality cycles shortened, so programmes of study can be more responsive and iteratively enhanced
- more transparent, auditable processes

1.3 Reforming course information

While some projects undertook wholesale changes to information systems – for example through the development of a centralised academic database – others were able to achieve important gains using existing systems. Student records, library systems, timetabling, virtual learning environments (VLE), and document management systems (especially Sharepoint) were given enhanced functionality, or their data was exposed to other systems to improve information flow. Data models were adapted or new interfaces were designed (often using web services) to make the underlying information more accessible.

Benefits of these enhancements included:

- greater parity of student experience across the curriculum
- more efficient course data entry and administration
- more efficient management of course information, allowing for semi-automation of – for example – the production of course handbooks and VLE shells
- enhanced curriculum analysis and reporting
- institutions better prepared for external reporting requirements such as HEAR and KIS
- course information clearer and more accessible to students
1.4 Enhancing design practice

While supportive systems and information flows can benefit the design process, they are not enough to support pedagogically innovative and responsive design. Curriculum teams were involved in projects not only as stakeholders in curriculum processes but as professionals with an interest in sharing good practice and enhancing their own expertise. Projects approached this in a number of ways: by engaging students and employers more meaningfully in the design process; by opening up new spaces for design conversations including online spaces; and by offering contextualised guidance and support, in some cases closely mapped to organisational processes. Particularly successful were face-to-face workshops where curriculum teams could work intensively on a module or programme of study, developing graphical representations of the curriculum such as timelines and storyboards. These were supported by a range of resources, embodying key educational principles and ideas. Some project resources have been widely taken up by the sector, including the OULDI toolbox and the Viewpoints design materials.

The benefits of investing in design practice and expertise have included:

- well-designed courses, based on sound educational principles
- better engagement of employers, leading to courses more relevant to workplace needs
- better engagement of students, leading to courses more responsive to their needs
- design processes that are better captured, communicated and shared
- reformed assessment regimes
- embedding of key graduate attributes and outcomes
- better development of business and benefit cases to ensure courses are viable

It should be noted that projects which set out to provide a radically innovative curriculum – for example to meet the needs of particular groups of learners, to support interdisciplinary learning, or to embed particular pedagogic approaches – encountered both cultural and procedural barriers. These projects have been valuable in generating discussion, which has often led to change in the desired direction of travel. They have exposed the difficulty of carrying through radical measures at institutions that have developed in a much more stable educational, social and technical landscape than the one that prevails today.

1.5 Transforming organisations

For many universities involved in this programme, taking a holistic approach to curriculum design was itself a radical step. Practice and process had often been local, ad hoc, unexamined, and unresponsive to changing demands. But although change was seen as necessary, it was difficult to bring about in complex and devolved institutions, at a time of great upheaval (including in the units where projects were based), and in an area as central to academic identity as the curriculum. Projects found it important to use the right language and media for their different audiences, and to open up neutral spaces for different perspectives to be aired. Some of these forums have continued after the end of project funding because of their value in bringing academic and professional 'tribes' together. Recognising 'discourses of resistance' and allowing them to be heard openly, and challenged where necessary, has been productive. Some projects were able to mobilise support at a strategic level and effect change very directly. Others worked ‘under the surface’
with a variety of change agents. Some projects used their identity to build a reputation, particularly for ‘getting things done’, while others kept a low profile and worked to embed change sustainably into ongoing initiatives. CAMEL meetings allowed open sharing of these different approaches, which has meant that the programme has developed considerable expertise: several projects now have a national profile for their work on stakeholder engagement and organisational change.

1.6 Conclusions
Projects within the programme have been rigorously evaluated with support from independent consultants, so the benefits identified in each of these sections have been evidenced across a range of institutions.

Figure 1 shows the range of enhancements that have been effected by projects funded under the Design programme, alongside those funded under the earlier Transforming Curriculum Delivery through Technology programme, with some areas of overlap. In brief, the programme has demonstrated:
• More transparent processes with shared, accessible representations of the curriculum can support better stakeholder engagement in curriculum design
• More efficient processes can save considerable administrative staff time, and may free up curriculum teams to focus on educational rather than administrative concerns
• A focus on the design process rather than its outcomes allows both for lighter-weight approval events and a shorter review cycle with more opportunity for continuous enhancement
• A single, trusted source of course information can be achieved through a centralised academic database, but similar benefits can be gained through enhancing the functions, interfaces and interoperability of existing systems.
• Trusted, relevant, timely information can support educational decision making by curriculum teams
• Better managed course information also has benefits for students in terms of course/module selection, access to up-to-date information, and parity of experience
• Better managed information allows institutions to analyse the performance of their course portfolio as well as meeting external reporting requirements.
• Curriculum design practices can be enhanced through face-to-face workshops with access to resources and guidance
• Particularly effective resources include concise statements of educational principle with brief examples; and tools/resources for visualising the learning process, e.g. as a storyboard or timeline, or as a balance of learning/assessment activities
• With better quality guidance and information available, curriculum teams can build credible benefit/business cases and respond more effectively to organisational priorities
2. External Environment

2.1 Original landscape of the programme

In 2008, when the Institutional Approaches to Curriculum Design programme (‘the Design programme’) was launched, the landscape of UK higher education was noticeably different to the one we find just over four years later. True, many features of the current situation were emerging: financial constraint and the need to provide value for money; student retention; a focus on graduate employability. But changes to the core funding model were swifter and more decisive than anticipated, following the Browne review (BIS, 2010) and government acceptance of its recommendations. A tightening of public sector finances and loss of overseas student revenues, coming on top of the new funding arrangements, led to sometimes radical restructuring and to a general refocusing of institutional missions. Some agendas have lost ground as others became more pressing.

As this report will show, projects funded under the Design programme have responded with great agility to changes in their organisational context. They have survived the loss of executive champions, the dismantling of the units in which they were based, multiple personnel changes and radical shifts of organisational direction which have sometimes diminished, sometimes amplified, their opportunities to effect change. If projects have been tactically flexible, however, it still remains to ask whether their overall purpose has remained relevant and whether the programme’s achievements measure up, set not only against its original objectives but against the new landscape and its different demands.

In 2008, the higher education (HE) sector was still responding to the 2006 Leitch Review of Skills (HM Treasury, 2006) and the then Labour government’s implementation plan, World Class Skills (DIUS, 2007). Growth in the numbers of part-time, work-based learners was widely expected, along with a wider range of approaches to study (flexible, part-time, online etc.). A review of the challenges foregrounded by projects in their baseline documentation found that projects based in post-92 universities were particularly interested to: widen participation in higher education; deliver work-based learning and higher level skills for work; and engage regional employers. The regional workplace was a particular driver of change in the curriculum, with a strong interest in providing more flexible and bespoke offerings that could be continuously re-aligned with employers’ demands. Pre-92 universities were particularly interested in: internationalisation and the international market; strengthening CPD and taught postgraduate provision; and exploiting new markets.

The global marketplace in both higher education provision and graduate jobs was seen as a particular driver of change in the curriculum. There was interest across the board in making processes more flexible, agile, responsive and efficient, and in exploiting new technologies strategically to these ends, but these concerns were typically confined to a small number of people in each institution. Other issues of interest included: dealing with rising student numbers; enhancing the student experience; and business and community engagement.
2.1.1 The programme's original vision

In response to these challenges, the original vision for the Design programme was as follows. (The three-way distinction was partly an artefact of the way in which the JISC e-Learning programme was structured at that time, and so how different elements of the vision were to be supported and communicated).

Learning and teaching practice

Flexible and learner-defined curricula are developed where appropriate.

Curricula support learners in developing the skills and attributes necessary to become effective lifelong learners and skilled and adaptive workers.

Assessment of learner progress and appropriately timed feedback meets the needs of learners and staff during the course and can provide employers with suitable measures of achievement. Learners are able to provide evidence of their skills and achievements against the requirements of employers and professional bodies.

Curriculum design processes are efficient and flexible, enabling the design of learning opportunities which meet the diverse and changing needs of a wide range of learners. Lecturers, learners, employers, professional bodies and other stakeholders are involved in curriculum design as appropriate.

Staff involved in designing learning opportunities have access to design tools and information e.g. about learner requirements, different pedagogic approaches and delivery options including the use of e-learning. They can also find and use a wide range of suitable learning resources, including learner-created content.

The design process allows for innovation and creativity in response to changing demands. Curriculum documentation supports learning and teaching enhancement, including innovation in, for example, assessment and modes of attendance.

Tools and processes support feedback from delivery into design, (i.e. continuous improvement), for example learner and staff feedback, learner performance, attendance patterns, and timetabling, scheduling and other resource considerations.

Technology and standards

Curriculum design and review processes, and associated flows of course-related information, are well-understood and appropriately supported by technology.

Curriculum documentation and other outputs of the curriculum design process are well-designed and managed in systems that capture the relationships between, for example, courses, modules, subject benchmarks, learning outcomes and assignments.

Systems, data and processes enable efficient recombination of units of learning into course offerings and support flexible curricula and credit transfer, as well as making it easier to create prospectuses and course handbooks, display and share information on learning opportunities. Learning resources are stored in systems which enable them to be linked to the curriculum but found and re-used in other courses where appropriate.
Interoperable systems and data standards support *information flows* in a number of directions, for example the use of:

- course-related information in learners’ e-portfolios, employers’ HR systems, and into transcripts and records of achievement
- information on learner achievement and prior learning in tools to support the design and tailoring of learning opportunities
- time, location, workload and other resource constraints in curriculum planning;
- curriculum-related information such as course or module structure and resource lists in instantiation and delivery systems such as learning environments.

**Strategy and policy**

Institutions have *appropriate and agile curriculum design processes* in place to help them achieve their individual mission.

These processes support the embedding into the curriculum of institutions’ *strategic learning and teaching commitments* to, for example, employability, research-led teaching, core and transferable skills, enterprise skills, or the international perspective.

Agile processes help institutions to *exploit new market* and rapidly develop work-based learning and higher level skills offerings in *response to employer needs*. Curriculum offerings meet the needs of a wide range of learners, and support *widening participation*.

### 2.2 Landscape at close of the programme

Following the financial crisis of 2008 and the election of the Coalition government in 2010, the landscape of higher education changed significantly and, during the latter half of the programme, English institutions were operating within an uncertain regulatory framework. It had been anticipated that the White Paper ‘*Students at the heart of the system*’ (BIS 2011) would result in primary legislation creating a new regulatory framework to support the changed funding arrangements. The lack of such legislation created a situation where lines of responsibility between the various agencies responsible for higher education were unclear and a non-statutory body, the Regulatory Partnership Group, was charged midway through 2012 to develop a new operation framework. The projects in institutions governed by the devolved administrations in Scotland and Wales were subject to a slightly different funding and accountability model although the direction of travel was much the same in that, since 2010, the UK public sector has been plunged into austerity.

The budget of autumn 2010 included cuts of 40% in public support for university teaching, with the remaining funds concentrated in Science, Technology Engineering and Maths (STEM) subjects. Caps on undergraduate student fees were raised, with the result that from 2011 the majority of universities were charging the maximum £9,000 per year, representing the ‘full cost’ of tuition being borne by students in the form of loans. Controls on student numbers were relaxed at the same time, allowing sought-after courses to recruit as many highly qualified applicants as they wanted, but leaving less attractive departments unable to recruit. In August 2012, *Times Higher Education* reported that ‘*English institutions [are] still showing a dramatic 7.6 per cent drop in the number of places filled (i.e. acceptances)*'
compared with the same point last year... There are also reports of universities dropping entry requirements significantly in order to fill places’¹

The impact of these policy changes has been extreme uncertainty over university and department finances, and indeed over whether certain courses are viable. Responses have included major reorganisations, typically into fewer faculties or schools, and rationalisations of various kinds. In the longer term, universities outside of the top flight seem likely to specialise in various ways, with some closing departments to focus on areas of strength, and others keeping a broad spectrum of provision but redefining their mission to focus on particular student markets. For these institutions it will be critical to build partnerships with employers and other organisations that can sponsor students with the cost of fees, and to serve the needs of learners outside of controlled numbers. Inside the top flight, attracting ‘AAB candidates' will dominate over other issues. Institutions of all stripes need to show that their student experience is distinctive and offers good value relative to the large burden of debt that graduates will take with them.

These dramatic changes to institutional priorities and in some cases to organisational structures have created many challenges for projects. However, they have also given project goals a new relevance.

Interestingly, I think if we hadn’t had these challenges, which were really a result of external higher education funding changes, my guess is the whole learning design initiative would have remained of interest only to a group of enthusiasts. I think it suddenly came into its own because we had these challenges and we didn’t really have a language for addressing them. Mick Jones, Associate Dean, The Open University²

If anything, and despite the luxury of its own funding, the project has been a beneficiary of austerity as it has come to shape decision-making in higher education. Austerity has focused minds, and led to new efficiencies and alignments, both strategic and in organisational and management terms³

2.2.1 Continuing relevance of the programme’s vision

In this environment, some of the early priorities for the programme have diminished in significance. Widening participation is less of an issue across the board, as institutions are required only to demonstrate that their fees are not putting off poorer students. Higher student numbers are not a pressing problem for most, though many courses are still dealing with diminished resources per student. Level 7 courses have become harder to market under the new financial arrangements, and international student numbers have been hit by changes to visa requirements. Taken together with changes to the funding of part-time students, there has been less work done to expand postgraduate and CPD provision than originally anticipated.

¹ Morgan, J (2012) Institutions shy of recruitment goals, but delays may mask true demand Times Higher Education, 30 Aug 2012
² Chatterton (2012) p.35
³ Cardiff University (2012) p.23
Other areas of programme focus have proved to be prescient, however. At the final programme meeting, projects identified that retention and progress of undergraduate students had become the dominant driver for business decisions, and that better management of course information was now seen as crucial to achieving it.

Many projects set out with the aim of reforming course information to enhance the student experience, and this has been fully justified. Students now expect to know in advance how a particular course of study will prepare them for employment, and once recruited they expect access to relevant information on demand, preferably on their personal devices and platforms. Better quality course information can support student choice of modules, helping ensure they are on the right course to begin with, and allow students to transfer more easily between courses of study. Employers are demanding graduates that can demonstrate a range of achievements and qualities, and in return for their own investment, students also expect more detailed evidence of what they have achieved. Several funded institutions embarked on or formalised a process for recognising students’ co-curricular activities during the programme. All have seen how the management of appropriately detailed course information as critical to their capacity to demonstrate students’ achievements and support their progression.

The launch of the Higher Education Achievement Report and the institution of Key Information Sets for courses have of course provided further impetus to institutional efforts towards rationalising, centralising and better coordinating information. Institutions involved in the Design programme have been well placed to respond to the new reporting requirements due to work already accomplished in relation to course data management and reuse. We were right to observe that curriculum development times were long, premised on well-designed curricula having a long shelf-life, and institutions are now aware of the need to develop (elements of the portfolio at least) in a more agile and responsive way. Reforms to the core processes of design, approval and review have supported general efficiencies in this area too. The engagement of students and other stakeholders in the design process has moved up the agenda and been supported through more accessible documentation and better collaborative arrangements. Although there are no doubt places in UK higher education where curricula are still designed on the basis of the content to be covered, they are falling into the minority. Academic staff are drawing on other kinds of expertise, including learning professionals, those with market intelligence and students themselves, to inform the design of programmes of study. However, there is some evidence that this new expertise is being used to enhance existing offerings rather than to bring forward radically innovative new models, in a generally risk-averse climate.

As institutions enter into more partnership arrangements to deliver the curriculum, the issue of ensuring parity across the student experience has grown more pressing. At the University of Greenwich, for example, the number of students studying with overseas partners has increased significantly over the project’s lifetime, contributing to a 71% increase in the numbers studying on ‘flexible’ or non-standard programmes⁴. Supporting the student experience across more diverse sites, including study locations overseas, means more centralised and standardised but also more flexible processes. The need for consistency in how core activities are carried out across constituent schools/colleges/faculties has emerged

⁴ University of Greenwich (2012), p.6
strongly at several institutions. The baseline process was critical not only in revealing the extent to which devolved systems had flourished, or central systems had been worked around, but also in demonstrating the many benefits that would flow from a more centralised and tightly specified system, particularly for students.

Universities are also becoming more strategic about their partnerships with business: involving employers and professional bodies in the curriculum can be critical to securing undergraduate students. We have seen the strengthening of partnership offices, long-term relationship managers, and joined-up thinking in this area. At Staffordshire University, for example, arrangements with partner colleges and businesses have been centralised and are less dependent on the initiative of individual members of staff. This means not only that systems need to be internally robust but that they must allow for access and meaningful exchange with external organisations, including external assessors.

The achievement of business efficiencies has taken on much greater importance. This is partly due to the general austerity conditions, but in many cases institutions were simply unaware of the savings that could be made until they undertook baseline modelling and review at the start of the project. At Greenwich for example, problems originally seen as affecting a small group of students on flexible courses led to a major reorganisation of the academic timetable, which is allowing flexible use of the university’s estate for teaching and learning over the entire academic year.

At the same time, rationalisation of the undergraduate curriculum has become an issue at many places. At Leeds Metropolitan University (LMU), the aim was to reduce the number of modules, the amount of assessment and the amount of duplication across courses, releasing staff to spend more time with students, while at Manchester Metropolitan University (MMU) the main driver was also the student experience. At Bolton and Cardiff universities, the business case aspect of design has been enhanced, ensuring that time invested in curriculum development produces courses that are capable of generating value for students, as well as for the institution. The potential for efficiencies in sharing/re-using content has emerged as an opportunity during the funding period as more high quality Open Educational Resources have been available to UK higher education, but as yet this is not being actively pursued at a strategic level.

Developments in technology have impacted on curriculum delivery in a variety of ways, and this has needed to be addressed as an issue in the design process. Institutions have continued to invest in virtual learning environments, e-portfolios and assessment systems, and projects have been closely involved in those choices. However, the Curriculum Delivery programme showed that curriculum innovation does not mean embedding specific technologies so much as creating spaces in which students and staff can deploy technologies flexibly, depending on what is accessible and pedagogically useful, and without unnecessary barriers to the use of personal devices and services. Students are increasingly using mobile devices and apps to mediate their relationship with their course, for example enrolling, choosing modules, accessing up-to-date timetable and assessment schedules, checking their library account and downloading grades and feedback. As the MMU project

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5 Leeds Metropolitan University (2012)
has shown, rationalising course information allows the institution to provide a range of services, adapted to the platforms students prefer.

Universities now need to ensure that every course in their portfolio offers value. Leaving aside the new requirements for reporting – a Key Information Set (KIS) per course, a Higher Education Achievement Record (HEAR) per student – departments still need to deploy all the evidence at their disposal to ensure their curriculum offerings recruit well and produce graduates with demonstrably relevant capabilities. Potential students with good prospects of success are a scarcer commodity, while business and community stakeholders are willing to invest in curriculum development only if they can see the benefits to them directly. In this environment, projects dedicated to reform of processes and information systems have come into their own.

3. What has been achieved?

See Appendix 2 for a summary of the projects’ achievements.

3.1 Transformed curriculum processes

Curriculum design touches upon almost every aspect of an institution's business processes from aligning its portfolio of courses to its mission, through market research and course development to quality assurance and enhancement, resource allocation, timetabling, recruitment and assessment. However the curriculum also encompasses the practice of educational design, based on sound understanding of how people learn and how they develop as capable individuals with different subject specialisms. The term business process has tended to be used as shorthand throughout the life of the programme although in reality the processes involved represent a complex interplay of administrative and pedagogic activities. The programme has generated considerable insight into the relationship between these activities and ways in which they can be better aligned conceptually and better supported by technology.

The original vision of the programme for curriculum processes was:

- Curriculum design/approval/review processes are more efficient and flexible
- Flexible and learner-defined/-negotiated curricula are developed where appropriate
- The design process allows for innovation and creativity in response to changing demands
- Curriculum processes support ongoing iterative enhancement with feedback from delivery into future design
- Lecturers, learners, employers, professional bodies and other stakeholders are more able to be involved in curriculum processes

This section considers how and whether new processes have supported these outcomes, while the following section looks in more detail at the practices of educational design, that is whether new tools, Information Advice and Guidance (IAG) systems and staff development opportunities have enhanced the expertise of curriculum teams and their capacity to develop curricula that meet the educational challenges identified by the programme. Projects were
supported in their technical development work by Sheila MacNeill of JISC CETIS, who has written a summary of the technical findings from the work of the 12 projects.

3.1.1 Understanding curriculum processes

Understanding the “previous state” was much more complicated than expected.

An important prerequisite for achieving the hoped-for transformations was a genuine understanding of the 'as is' situation. To enable this JISC required the project teams to spend a considerable amount of time in defining their ‘baseline’ position. Whilst there were initially mixed responses to what some saw as an additional task that prevented them getting on with the project, all of the teams ultimately recognised the value of the time spent on these activities. ‘The JISC's insistence that projects spend at least nine months in review was, in our view, an excellent decision. We actually spent a full year listening to people’s ‘lived experience’ of curriculum design and this formative experience shaped much of what we subsequently did.’

The main focus of the baseline review for many projects was course approval and review processes and while the processes were found in the main to be robust and fit for purpose, project teams were taken aback at the complexity encountered and the difficulty in pertaining a complete picture: ‘... requirements analysis and stakeholder engagement throughout the lifetime of the PiP project has failed to generate a watertight model of the approval process to which all stakeholders will subscribe. The reasons for this are complex but appear to be a consequence of widespread misunderstanding about how the process really functions.’

Despite the difficulties encountered, the baselining activity brought together a wide range of stakeholders, many of whom would not routinely engage with one another, in dialogue around curriculum processes. In all cases the dialogue was as valuable as the outcomes. There was nonetheless a considerable degree of synergy between the findings from the different institutions. The findings are summed up in a baseline report which identified the following common issues:

- complex processes with many dependent stages and roles, leading to bottlenecks
- lack of effective document/data management, hampering efficient collaboration among those involved in approval and review
- information gathered and generated during approval not efficiently used to support other curriculum processes
- continuing dependence on printed documents and on manual entry/re-entry/checking of the documentation
- no single role or function with an overview of the whole process
- “non-traditional” offerings rely heavily on workarounds to the formal processes.

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6 University of Strathclyde (2012), p.26
7 Birmingham City University (2012), p.11
8 MacGregor, G. (2012)
9 Beetham (2009)
It is notable that the 2012 report covering 65 institutions in the JISC Course Data programme replicates these findings in relation to their management of curriculum information.

The above led to a situation where there was an almost overwhelming emphasis on (somewhat arcane) form filling and paperwork with educational design being sidelined.

*The baseline review found that the formal module production process required limited consideration of pedagogy early in the module development process ... whilst the opportunity review document template asked 'is there evidence of a gap in the market in terms of pedagogy?' and 'will this opportunity add value to the University’s pedagogic reputation?' there appeared little requirement by the formal process for the module team to have performed any pedagogic design at this stage.*

One project noted that institutions often place too much emphasis on the documentary artefacts produced by a process rather than the reflective processes themselves: ‘(the) focus on the products of curriculum design rather than the process of curriculum design distracts activity away from rich team discourse and innovative solutions to curriculum design challenges.’ They concluded that ‘approval practices tend to stifle innovation and require a documentary overhead that is perceived by staff as being disproportionate to its value.’

These characteristics resulted in processes that were neither pedagogically neutral nor divorced from the student experience. The UG-Flex project at the University of Greenwich initially identified suboptimal processes requiring workarounds and ‘fudges’ that directly impacted on ‘the poorer experience of students on flexible programmes in respect of management of their study, their progression and their levels of success’ (University of Greenwich, 2012, p.6). This was a situation that was recognised as undesirable but thought to impact a small minority of students. It was not until the implicit driver of improving the student experience had been made the explicit and primary focus of that project that it became clear that precisely the same process characteristics impacted adversely on a much larger proportion of the student population particularly overseas students (the numbers of which more than trebled during the life of the project). ‘... stakeholder requirements were increasingly articulated in relation to the needs and interests of these [overseas] students who shared many of the problems and frustrations experienced by home based students on flexible programmes.’

The value of taking time to understand the processes and their implications is summed up in this quote from one of the project teams: ‘Finding a common ground between pedagogy and practical process meant a success for the project. In order to better understand curriculum design, approval and delivery it is now widely recognised that transparency of process is key.’

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10 The Open University (2012b), p.22-23
11 Bartholomew, P & Everett, J (2011)
12 University of Greenwich (2012), p.6
13 University of Greenwich (2012), p.7
14 University of Strathclyde (2012), p.17
3.1.2 Modelling curriculum processes

Given the lack of individuals or teams who could provide an institution-wide overview that afforded real understanding of the processes, it was essential for the project teams to find appropriate means of framing the dialogue and getting to the crux of the problems in a way that engaged rather than alienated the key stakeholders. The projects used a wide range of modelling approaches and tools and the key tools and their uses are discussed further in the Process Improvement infoKit.

Some of the low-tech collaborative approaches proved highly effective. At Cardiff University 'participatory design' approaches were used with key stakeholders including mapping the current programme approval process using a length of brown paper and noting key steps on post-it notes. Different colour post-it notes were used to capture issues and bottlenecks, and suggestions for improvement (see Figure 2).

![Figure 2: Cardiff University PALET Workshop](image)

Stakeholders then identified aspirations for a new process working in small groups to draw a 'rich picture' of an *Aspirational Ship*, that represented what a new programme approval process would look like in an ideal world. Design features included: good manoeuvrability, simple, advanced navigation system, streamlined, future-proofed, supportive crew and horizon-scanning. These ideas were then used to produce a further 'brown paper process map', translating the aspirations into high level process steps that might be included in the 'future state' business process.

*Rich pictures* were also used to very good effect at the University of Greenwich (see Figure 3). "This method of requirements gathering was selected because it was considered to be an effective way to deal with the complexity of the "problem space" the project was tackling - where there was no agreement even on what the problems were, let alone how to address them. Feedback from participants and also from the team responsible for analysing
the requirements articulated at the rich picture workshops judged the method used to be appropriate, useful and enjoyable.\(^\text{15}\).

![Figure 3: Greenwich rich pictures workshop](image)

Whilst not a modelling tool it is worth noting the success (both within and beyond the home institution) of Manchester Metropolitan University’s Accreditation! game in fostering dialogue about process across mixed groups of administrative and academic staff.

Most projects found some kind of formal modelling process to be a valuable adjunct to the less formal collaborative approaches. A variety of approaches were used, including BPMN, UML and Visio and a significant number adopted the Archimate modelling language, in particular via the free, open source Archi tool developed by JISC CETIS. Several project members went on to become institutional experts in the use of Archi and have supported the adoption of business process modelling more widely. Getting to grips with tools of this nature and getting the most from them is not easy: the Improving Organisational Efficiency infoKit has a section on Modelling that gives a lot more information about the tools and HEIs experiences in using them. This blog post and slideshow from the Staffordshire University ENABLE project is an excellent resource for a non-technical audience showing the benefits of using Archimate models in the project. For those further down the modelling road a further blog post, Comparing ArchiMate views with Process Maps discusses the relative value of models against maps and concludes that it is important to model at the right level of abstraction.

Institutions trying to get to grips with their complex mix of people, processes and infrastructure in order to effect change are increasingly turning to Enterprise Architecture (EA): a high level strategic technique that can help them effect business and organisational change. Most of the universities involved in the programme have been developing EA expertise during the life of the programme. Whilst EA is gaining in maturity in the sector, it

\(^{15}\) University of Greenwich (2012), p.11
has not yet realised its full potential and been a major force in institutional transformation. This short case study from Staffordshire University does however show how the ENABLE project was able to apply EA thinking to deliver a quick win for the institution. A fuller picture of the current situation as regards application and experiences of EA in UK higher education can be found in the Enterprise Architecture infoKit.

3.1.3 Challenging curriculum myths

In reviewing curriculum processes, a couple of issues were particularly striking; neither of these is uncommon in other organisational processes but their preponderance in relation to curriculum processes is worth noting:

- People's propensity to subvert process. 'There is often a great difference between the idealised process (that codified in guidance and formal organisation of staff) and the real process interactions that take place; a difference between management sponsored process and what individual staff do.'\(^{16}\) In some cases there is a genuine need for 'workarounds 'but in many others it is a matter of individual or school/departmental preference ('feral' processes) or a lack of understanding about how the process is meant to operate and thus related to the point below.

- The power and pervasiveness of organisational myths. The University of Greenwich tackled a number of myths to the effect that process change was impossible because their information systems would not permit it and similar issues arose in other projects. '... This situation is further compounded by stakeholder specific perceptions of how the approval process operates, and myths about organisational procedures, as well as myths surrounding stakeholders’ role within certain procedures, some of which are themselves mythic.'\(^{17}\) The University of Strathclyde PiP project evaluator, George Macgregor, has written a scholarly article on the phenomenon in which he concludes that at Strathclyde: ‘These myths have become pervasiveness and are subscribed to by many actors, thus subverting the process as it currently exists and undermining attempts to formalise or model the true process, let alone effect process change.’\(^{18}\)

In relation to the above, the term quality assurance often appears in the list of barriers to change and the projects have sought assurance that new approaches would not be penalised under the audit regime for England and Wales. To avoid perpetrating potential ‘myths’ around this area the programme actively engaged with the Quality Assurance Agency (QAA). The opportunity to discuss the issues directly with QAA revealed that in many cases it is institutions themselves that safeguard these frameworks in the interests of ‘quality assurance’ rather than having them imposed by external agencies and the discussions gave the projects increased confidence that they ought to encourage their institutions to showcase good and innovative practice during their audits.

There was nothing magical about the formula adopted by the projects in order to tackle the myths, instead it involved considerable effort and energy to devise effective means of

\(^{16}\) Cross (2012)

\(^{17}\) MacGregor (2012)

\(^{18}\) MacGregor (2012)
stakeholder engagement and to develop models and representations that brought transparency and enabled discourse.

3.1.4 Improving curriculum processes

Whilst understanding, and reaching agreement on, the process issues that existed may have been an achievement in itself, it did not in itself necessarily point to obvious solutions. The ways in which the projects set about tackling the issues had to fit with their own institutional mission, culture and available resources.

The somewhat ambiguous relationship between administration and pedagogy that threads its way through the processes has already been noted. A debate that ran through many projects concerned whether the formal processes and learning design are separate parallel activities or whether they should/can be integrated. A strong message from the programme appears to be that improved approval and review processes can aid rather than inhibit good educational design but the projects had to tread a fine line between providing the support and information needed during the design process (including supporting creativity) and not being seen to intervene in a way that imposed design practices in such a way as to limit academic autonomy. Most attempted to achieve this through a combination of some or all of: a single source of truth as regards curriculum information; contextual information advice and guidance and pointers to good practice; provision of tools to aid learning design without prescribing their use. Some projects did however adopt more radical approaches to either process change or pedagogy.

Radical approaches to improvement

The most radical approach to process improvement was seen at Manchester Metropolitan University (MMU). MMU Project Director, Mark Stubbs, noted that ‘We reach uncomfortable agreement over suboptimal processes’ and suggested one of the main reasons for this is that the sheer number of interdependencies between processes makes it very hard to actually change anything. He suggests that whilst it is often relatively easy to identify problems with an existing process it is less easy to think through a totally joined up alternative. In his analysis ‘Institutional processes survive by rolling over what we did last year and fiddling it a bit.’ The MMU response to this was to change everything!

Their curriculum design project, Supporting Responsive Curricula (SRC), influenced the creation of a wide-ranging academic change initiative for ‘Enhancing the Quality and Assessment for Learning’ (EQAL). In the light of the process interdependencies discussed above, MMU decided that things had grown too convoluted over time and an overhaul of the entire undergraduate curriculum and associated processes was required. EQAL involved a re-write of the undergraduate curriculum, linking learning outcomes to employability outcomes, revising the programme approval process, developing an online curriculum database and introducing many new systems for students including a new VLE, personalised timetabling and online assessment submission. Moreover the change was accomplished within a year.

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19 JISC (2011), p.4  
20 JISC (2010), p.5
This was a hugely ambitious, and ultimately successful, undertaking. The many lessons learned from such a transformational change initiative are still being evaluated and digested but there are some rich information sources for the sector in the form of the project final report, the project evaluation report and a series of stakeholder interviews presented as a publication entitled 'In the throes of change'.

As to whether the institution has managed to achieve the kind of culture change needed to avoid some of the process subversion issues discussed above, the response so far is: ‘As with any system, it is possible to comply with the demands of EQAL without necessarily buying-in to the underlying principles. What can be said is that it has firmly placed important ideas higher in the agenda such as the need for clear learning outcomes, reduced assessment workloads and the visibility of employability in all courses, not just those that have strong vocational themes.’

The institution has also had to address the extent to which formal processes constrain learning design. In this case the conclusion was that an institution of this size needed to limit diversity of practice to some extent in order to enhance quality and ensure a consistent student learning experience. ‘... and that debate continues, a trade-off between ‘stifling academic creativity’ and standardisation.’ What is important is that standardisation is needed to both create parity of learner experience across such a large and diverse university and drive through this level of institutional change within aspirational timescales. And that standardisation ... is a decision that will need to be made via an executive process as opposed to being reached by a wide consensus.’

The Birmingham City University T-SPARC project was no less radical in that it sought to transform the institutional culture and practice of curriculum design and approval via a proposal for an entirely new approval mechanism that represented a significant departure from the previous arrangements. The proposal involved the traditional validation event being replaced by a process during which an Academic Moderator oversees an iterative development phase informed by stakeholder engagement with learners and employers and where reflection on the design is evidenced by multimedia artefacts using a wide range of capture technology. The key features of the new process were identified as:

- Robust stakeholder engagement in the curriculum design process is built in and verifiable.
- New emphasis on the design process with new opportunities for formative dialogue with externals throughout the design process.
- Absence of a panel event prevents undue near-exclusive focus on production of documentation packs for scrutiny.

The project has delivered a new process and a technical infrastructure and pedagogically focused guidance materials to support this and has conducted a number of pilots. Although many lessons were learned from the technical implementation, the key finding was that, despite a well thought out and executed programme of stakeholder engagement, shifts in culture and pedagogy were slower than hoped for. The focus of approval now falls on the process itself rather than on the outcomes, which encourages course teams not to feel

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21 Manchester Metropolitan University (2012), p.13
22 Manchester Metropolitan University (2012), p.21
constrained by what has been approved before yet many still default to previous ways of working: ‘... there is still some self-imposed expectations to jump through hoops; this perhaps means that although there is much opportunity for teams to show their thinking, they still tend to default to a position to share the sort of thinking mediated by the sort of artefacts they imagine others wish to see.’

Whilst the technical infrastructure was there to provide opportunities, it also served to reveal differences and gaps in understanding about what curriculum design actually means. ‘On reflection, we had made the assumption that programme teams knew how to design curricula and would ‘just’ use the system to do it. However, we had raised the expectation in relation to effective design to such an extent that the programme teams felt lost as to how to meet these new demands and needed much more structure and guidance.’

As the project moves into a second stage of piloting it notes: ‘Now that this infrastructure is in place, we must support the change in cultural practice to align with new expectations and opportunities. After all, as we all know, cultural change does not always move at the same pace as technical development!’

Projects to implement radical pedagogic change at Bolton and Leeds Metropolitan Universities are discussed elsewhere in the report.

**Lean approaches to improvement**

In terms of fitting the approach to institutional mission and culture, perhaps one of the most surprising outcomes is the success with which some very traditional, and highly decentralised, institutions with strong academic schools, akin to fiefdoms, have managed to apply process improvement techniques from the business world. Both Cardiff and Strathclyde Universities have adopted Lean approaches: Lean is about adding value for the customer (in this case the student) through the elimination of waste (non-value adding activities). Despite the distinctly non-academic language, the concepts have been applied to deliver considerable benefits in terms of improving curriculum processes. A detailed account of Strathclyde’s SLEEK project and of Cardiff’s Lean approach to process mapping can be found on the Design Studio. At both institutions the Lean approach has extended beyond curriculum design and approval to become a wholesale commitment to continuous process improvement.

The Cardiff PALET project has streamlined all programme approval and management processes. Although its initial focus was to concentrate solely on the approval of entirely new programmes, the scope of the project was extended to include the development of new programmes, changes to existing programmes and the ongoing, yearly management of programme and module information. The project has fully tested, piloted and implemented a revised, technology supported process to enable Schools to manage their modules of study through the institution’s student record system (SITS). The central system is now a ‘single source of truth’ that is used to publish information directly to students thus eliminating the need for data entry in five separate places.

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23 Birmingham City University (2012b)
24 Birmingham City University (2012), p.22
25 Birmingham City University (2012), p.23
At the inception of the PiP project the curriculum design and approval process at the University of Strathclyde was ‘largely undocumented and typified by difficulties in process and document management, low adherence to acknowledged best practice within curriculum design, poor alignment with institutional policies, and disparate institutional curriculum design practices’. The PiP project developed a single online curriculum design and approval system, capable of managing and facilitating the curriculum approval process whilst simultaneously supporting academics in the process of curriculum design. It lists its headline achievements as:

- Simplification of the curriculum drafting process
- Demonstrable improvements to process efficacy
- Improvements to process transparency, visibility and control
- Enhanced management of curriculum designs during the approval lifecycle
- Improved curriculum reviewing mechanisms and improved support for academic quality processes
- Creation of a central repository of curriculum designs as the basis for their curation as “knowledge assets”, thus facilitating re-use and sharing of designs and exposure of tacit curriculum design practice.

Interestingly, although Strathclyde was one of the institutions where the debate about the appropriate relationship between learning design and formal process was writ large in the early stages of the project, here the newly standardised system is seen as enhancing academics’ control over the process: ‘... better control over the design and approval of curricula was cited as significant for both academics and those involved in academic quality. It was found to empower academics by enhancing their control of designs once they had entered the approval cycle; academic quality staff welcomed it as a better mechanism for controlling, monitoring, structuring and minimising errors in the quality approval process.’

Incremental approaches to improvement

The University of Greenwich adopted a highly participatory-approach to change focused on enhancement of existing processes and systems. Whilst some quick wins gave rise to early concerns about ‘scope creep’, the project ultimately benefited from a redefinition of its scope when the change from an implicit to an explicit focus on the student learning experience (see the section on understanding curriculum processes) revealed that some of the issues it was addressing affected a much wider percentage of the student population than was originally thought. A series of enhancements to, and better integration of, the university’s information systems that may seem relatively ‘slow burn’ in comparison to some of the other approaches in the programme, have nonetheless resulted in a cumulative change in the organisational mindset and a state of readiness for more radical transformation.

‘A primary driver for the project at the outset was a belief that the university’s systems and processes were acting as a constraint to the development of a more flexible curriculum. Over the course of the project this view has changed and where initially “the systems” were seen as the barrier to flexibility it is now understood that

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26 University of Strathclyde (2012), p.3
27 University of Strathclyde (2012b), p.44
the IT systems environment is merely one part of the wider institutional “eco system”. A complete picture also requires a clear academic rationale and consideration of academic practice, resources as well as an organisational culture and mind-set that embraces dialogue, continuous improvement and shared purpose.\textsuperscript{28}

Recognition that systems changes in themselves cannot and will not deliver a more agile, flexible curriculum has resulted in a series of proposals to senior managers to change Greenwich’s Academic Framework. Significant institutional change on this scale was not envisaged at the project outset but funding has been secured to change the university’s academic calendar with effect from 2013/14. Greenwich’s Academic Council has approved the adoption of a Trimester Calendar, which addresses the need for structural changes to go in hand with system enhancements and which will offer many potential enhancements such as transparency, improved forward planning, consistency and unified assessment dates, responsiveness to learners, flexibility for blending teaching, research and development consultancy and employer engagement.

Another project taking a relatively ‘low key’ approach to facilitating process improvement and hence organisational change was the Staffordshire ENABLE project. Whilst the thinking and concepts behind enterprise architecture (see the section on modelling curriculum processes) underpinned the project, these were put into practice in a ‘guerrilla’ rather than an overt way. The project used what it termed a ‘hub and spoke’ approach to show how curriculum related change initiatives in different parts of the University inter-related and impacted on one another and the strategic aspirations of the University. It found that: ‘Whilst strategy was robust, and, to a large extent, so was policy, it was clear these were not underpinned by governance to a sufficient degree.’\textsuperscript{29} An ultimate consequence of this was for the University to rethink and centralise its approach to change and programme management. ‘... there were examples of needs being identified by departments and, whilst the procurement and implementation were carried out in a proper and highly professional manner, the lack of “big picture” engagement resulted in “perfectly executed silos” which resulted in the opportunity to exploit their potential more widely across the organisation being lost.’\textsuperscript{30}

The projects that addressed change to curriculum processes largely through staff development: mainly City, Ulster and the Open Universities fall into this group although it should be noted that early on the City University PREDICT project underwent a significant shift in approach from attempting to effect cultural change by rationalising business processes to an emphasis on staff development (as evidenced by the change in the meaning attributed to the acronym from Process Re-engineering Design for an Interdisciplinary Curriculum with Technology to Promoting Realistic Engaging Discussions In Curriculum Teams).

Probably, and unsurprisingly, the least ‘interventionist’ of the approaches to process change was seen at the University of Cambridge, where the project also underwent a significant shift of focus. The original Joining Academic Curriculum Design And Workflow project (JACDAW) was originally conceived as a workflow tool supporting curriculum and pedagogic

\textsuperscript{28} University of Greenwich (2012), p.2
\textsuperscript{29} Staffordshire University (2012), p.24
\textsuperscript{30} Staffordshire University (2012), p.24
development based on curriculum management elements of the Kuali student system. Early in the project it became clear both that Kuali deliverables would not be ready within the project timeframe and that the approach of a ‘corporate’ system would not sit well with the institutional culture.

The revised Course Tools project concentrated on opening up data sources for improved discovery tools through an individualised timetabling system and a searchable examination question database. These enhancements will support students in creating their own curriculum, as well as improving the capability of the organisation to accommodate and plan for new topic combinations.

### 3.1.5 More efficient processes

Whilst it is clear there are significant efficiency gains as a result of process improvement and better management of course information, it is difficult to put forward reliable data on hard financial savings as most institutions were not collecting relevant data at the start of the programme. For example, one baseline report noted that ‘The University, at this point, has no way of measuring course development times either within the University or with its college partners’,\(^{31}\) and other institutions submitted very broad ranges of value for course development time and cost, with a high level of uncertainty. Despite the lack of comparative data, most institutions have however indicated that they expect significant cost savings in the future from the changes implemented through this programme funding.

Where we have numerical data, it indicates that:

- Having a single source of course information reduces the number of times that data about a course needs to be entered into a data system to between 13% and 25% of previous levels, producing savings in administrator time for each module in the portfolio.
- Having flexible, fit-for purpose business processes reduces work-around and manual interventions, as well as duplications of effort: ‘we estimate cost savings [as a result of introducing changes to the student records systems that reduce the need for staff manual interventions] will run into hundreds of thousands of pounds a year in terms of staff time.’ (Deputy Vice-Chancellor (Academic) University of Greenwich)\(^{32}\)
- Having a trusted source of course information significantly reduces the time spent by course teams and approval committees in locating relevant information. However, we do not have reliable indicators of how much time was being spent on these activities previously.
- A streamlined approval process, in which face-to-face committee-based events are reduced to as little as one hour (such as at MMU) can involve significant savings in terms of logistics, travel, refreshments and accommodation of external examiners. At present it is not possible to say whether a streamlined approval process saves time for course teams, because the focus of their effort may be shifted to other aspects of course development.

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\(^{31}\) Staffordshire University (2012b), p. 23

\(^{32}\) Chatterton (2012), p.12
The University of Strathclyde conducted one of the most thorough evaluations of the impact of project outcomes using heuristic analysis, user acceptance testing, critical analysis, Pareto analysis, and other measures. According to the models produced, the new system completely resolved the issues identified in baselining, except where there were issues beyond the scope of the system to address, such as the timing of key meetings, and its evaluation report was able to put some quite specific figures on a range of process improvements including:

- Communication automation: improvements of up to 65% and 90% in the course and class process respectively, contributing to better process reliability and reduced costs.
- Activity automation: up to 40% and 55% improvements in course and class process respectively contributing to reduced cycle times and cost, and increased throughput.
- Process visibility: contributed the single biggest enhancement and was found to be improved by up to 100% in both the course and class approval process, contributing towards improved process reliability.

The Cardiff PALET project estimated potential savings to the institution of over £55,000 per year as a result of having a single source of module information rather than entering the same data into five separate systems. The project report however notes ‘It is not the cost benefit that is the greatest outcome here, it is establishing a system where only one source of programme information ever needs to be updated no matter how it is to be published, ensuring consistency in the information we are communicating to our students. This enhancement to the student experience is priceless.’

The UG-Flex Project is credited by the University of Greenwich’s Head of Information Systems with having contributed to the achievement of significantly greater interoperability between systems in the period 2008 – 2012 that have, according to Gartner, created a model at Greenwich that is in the top 5% of student systems in the UK. These improvements have had immense impact on the registration/admissions processes, specifically for overseas students where admission was largely a paper-based process with associated long delays and inaccurate information caused by data being input multiple times. Online registration/admission is now almost instantaneous and this has many knock-on benefits e.g. being able to register students on the IT/IS/VLE systems within 30 minutes of registering (before this, students could be starting a course and not have access to systems) and ensuring that students are only registered on validated courses. The University estimates that it has already made savings of the order of £100,000 per year as a result of a reduction of staff time spent on manual adjustments or rework. ‘It is anticipated that there will be a continued savings going forward along with benefits in terms of institutional reputation resulting from an improved student experience.’

Some of the changes undertaken by institutions do require greater investment of time in particular aspects of the process, for example the involvement of learning professionals in staff development and quality assurance. The aim for most projects in gaining efficiency savings has been to release resources for enhancement/value added activities rather than viewing this as a cost-cutting exercise. Efficiency of the system as a whole was associated

33 Cardiff University (2012b), p.14
34 University of Greenwich (2012), p.20
with the quality rather than the speed of design and decision-making and a key rationale for system efficiencies was precisely that they could afford more time for curriculum teams to consider non-administrative issues: the educational rationale for a course, the needs of current and prospective students, the views of a broad range of stakeholders, and how the learning on offer could better serve educational and organisational goals.

What we always said is, changing designs is only partly about finding savings in the actual cost of delivery upfront. It’s really about a better student performance, and I think that’s going to be even more important as we move into this qualifications focused world.’ (Mick Jones, Assistant Dean, The Open University)\textsuperscript{35}

’Many readers will be asking the question – how much money has been saved through EQAL? While there are some cost savings in a more efficient programme approval process there has been significant investment in new technologies and some additional staff such as faculty-based learning technologists. Broadly speaking the institution is delivering the new EQAL curriculum at the same overall cost base as it delivered the old curriculum, but it’s delivering that new curriculum to achieve better student and staff experience. Institutional change, unless there is a goal of curriculum reduction, is about achieving better outcomes for the same investment, not reducing investment.’\textsuperscript{36}

The Open University OULDI project also considered the 'complex and nuanced relationship between course quality and the time expended in design'. The team concluded that:

Design efficiency is also about quality (having a measurable level of design process and product value), designer efficiency (how skilful the individual is at designing), and effectiveness (ending up with a course appropriate for the learners). We must move beyond jumping to the assumption that because a design phase takes longer it is less efficient, and conversely that only because a design has been produced more quickly it has necessarily been produced more efficiently.\textsuperscript{37}

In similar vein, Birmingham City University found evidence that, rather than less time being invested, ‘the profile of effort has been evened out, so the scrapbook approach allows evidence to be captured throughout the process rather than all the effort being put into the preparation of documents at the end of the process.’ (Birmingham City University). The system also encourages transparency within course teams about workload and roles. Because detailed discussion and consensus building is not only encouraged but also recorded, there are likely to be efficiencies in future phases of the curriculum lifecycle: ‘The modules are now writing themselves in terms of content and delivery process because they have done the design work at this stage.’\textsuperscript{38}

\textsuperscript{35} Chatterton (2012), p.35
\textsuperscript{36} Manchester Metropolitan University (2012), p.21
\textsuperscript{37} The Open University (2012b), p.10
\textsuperscript{38} Birmingham City University (2012) Design Profiles – More design less approval (video)
3.1.6 More flexible, responsive processes

The tensions around standardisation and academic freedom were mirrored in debates around the extent to which more standardised and efficient processes could support the flexibility, agility and new types of learning opportunity sought by institutions in order to support a wide variety of learning and teaching approaches and to ensure the curriculum is responsive to change in the academic and employment landscapes.

At Manchester Metropolitan University, ‘responsiveness’ was seen in terms of listening and responding in a timely fashion to students. It meant engaging with employers, other stakeholders, market opportunities and organisational priorities as drivers for change. It also meant responding to current trends in teaching and assessment practice and emerging areas of academic content. Streamlined documentation and better integrated systems have enhanced the University's capacity to respond to change, but the project identified other factors: involvement of students in curriculum processes; better communication; clearer lines of responsibility with a more democratic or distributed sense of ownership; a holistic rather than a modular view of the curriculum, including shared ownership between academic departments; and more effective use of formative evaluation within courses of study. Their Responsiveness Model (see Figure 4) shows the interaction of three components: the drivers for change; the course elements (factors that can be changed); and the course team (agents that mediate change).

![Figure 4 SRC Responsiveness model](image)

At Greenwich, the UG Flex project focused on providing a better experience for students requiring flexible start dates or flexible pathways to learning. From this ambition there flowed a wholesale review of the academic calendar, leading to major changes both systemic (through changes to the student record system) and cultural. The project has contributed to greater understanding of flexibility in the curriculum, at Greenwich and beyond.
Other projects were able to enhance innovation through mechanisms such as business case analysis (Cardiff, Bolton), initiatives to enhance approaches to assessment (Ulster, MMU), or a broad-based commitment to innovation as an institutional value and an aspect of governance (Staffordshire). Faster turn-around times and lightweight processes of review should in future make it easier for curriculum teams across the funded institutions to make year-on-year adjustments, eventually moving from a cycle of set-piece quality events towards a process of continuous improvement.

The Bolton Coeducate project was conceived to support the development of new approaches to higher education for students in full-time work, paid or voluntary, who are unable to take advantage of face-to-face on campus provision, and who wish to complete a degree at a full-time rate. A curriculum model for delivery online, based on inter-disciplinary, inquiry-based approaches to learning (the IDIBL Framework) was developed. The approach enables learners to study at a time and place convenient to them and undertake projects for the benefit of their workplace, using an action research approach, to gain academic credit from the scholarly practices used to inform and evaluate their activities. The approach was based on earlier work by the Ultraversity project at Anglia Ruskin University.

The project was successful in terms of having the IDIBL Framework approved and validated for use at Bolton although it noted that the new model was a significant challenge to current ways of working because it requires the simultaneous adoption of a number of significant innovations. The new approaches had greatest success where there was sufficient autonomy of a teaching group who were philosophically committed to the ideas and approach although it was also found to have had a positive impact on learning and teaching beyond the specific intentions of the project. Overall, implementation of the approach appeared more difficult at Bolton, where it was attempted to embed the approach into existing processes and structures, than at Anglia Ruskin University where the innovation was set up and managed by an autonomous unit. The Bolton team concluded that features such as internal processes and resource distribution mechanisms are still heavily predicated towards 'filtering out' radically disruptive innovation activities are best launched independently.

*Given the radical and potentially disruptive nature of this innovation, the most important advice is to make provision for this by setting up a separate unit, with its own start-up resources and relatively independent of the operations of the main body of the university. At best, it has unique needs that are typically not well supported by existing processes and systems; at worst existing processes will block its progress as it doesn’t enhance existing processes and practices and other established units will seek to cannibalise its allocated resources.*

39 University of Bolton (2012), p.17

The experience of the Leeds Metropolitan University PC3 project in attempting to embed a new form of entirely negotiated learning through coaching was similar in terms of encountering difficulties with Information Systems and resource distribution structures. It was impossible for a student to begin negotiating their learning pathway until they were enrolled on a 'course' attached to a particular faculty and the systems did not allow for any form of
centralised enrolment. ‘There were also pragmatic, administrative issues such as how students would be represented on examination boards and where their records would be held (all Faculty-centric) as there was no precedent for a non-Faculty-based programme of study.’ Internal ‘ownership’ of the student/learning also proved to be a barrier to interdisciplinary study. ‘There was a sense of protectionism within many Schools about their modules, with concerns about inadequate pre-requisites, costing issues and ownership common when the possibility of cross-Faculty sharing was raised.’

The PC3 project ultimately achieved considerable success in enhancing learning and teaching practice through moving away from the idea of a personalised curriculum for a particular target market and embedding the practice of coaching in the curriculum in a more widespread way through staff development and working with student ambassadors.

### 3.1.7 More transparent, auditable processes

If a sound business case requires a body of information to be available before the design process properly begins, there is equally a need for robust information to be collected post-validation about how a programme of study is experienced by students, how well it recruits and performs within the portfolio, and how well it prepares students beyond graduation. At the Open University, the OULDI project has put in place mechanisms to analyse the effectiveness of the design process – or at least how closely it conforms to learning design principles: ‘This opens up the potential to evaluate or develop process review criteria which could help us determine how ‘good’ a design process is.’

The Staffordshire University FLAG guidance system and the Manchester Metropolitan University technical infrastructure also have recording, reporting and analytical capabilities built in.

One reason why the revised processes are more readily auditable is that they have been designed for collaboration. Course information is being recorded in ways that make sense to a much wider set of stakeholders than the approval committee, allowing more meaningful engagement as evidenced by the move towards writing student-facing module outcomes. Course documents that are held online are available for everyone to edit, or at least – if they are not – the different permissions are self-evident. ‘C-CAP – and the participative way in which stakeholders were involved in the design of the system – has initiated the questioning of particular myths under the previous state.’

At Birmingham City University this has been taken further:

> Our new process for curriculum design and approval ... has the expectation that programmes will be designed iteratively with input from a variety of stakeholders, including those tasked with conferring approval. Furthermore, the act of iteration, with the input from stakeholders, creates an ‘audit trail’ of activity that is verified as part of the approval process.... Approval of a course is made on the basis of both the

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40 Leeds Metropolitan University (2012)
41 Leeds Metropolitan University (2012)
42 The Open University (2011), p.15
43 University of Strathclyde (2012), p.44
process of design (as evidenced in the ‘audit trail’) and the products of design (the final documentation). 44

As one key stakeholder noted: ‘[the electronic record] allows us to have more direction and... moderation of what is happening and to be able to see if we’ve got that [student and Critical Friend] input in the way that we feel we really do need to have.’ (Mary Carswell, Pro-Vice-Chancellor (Academic and Employer Engagement), Birmingham City University) 45

Another benefit from an auditing perspective is that central processes are more trusted, and there is greater commonality of approach across departments and course teams. At Staffordshire, ‘each faculty felt they required a special system for course development to fit their own “distinctive” approach, however their approach was often similar to those in other faculties and single “best practice” approach was ultimately developed through FLAG [Staffordshire’s IAG system] and supported by all the stakeholders’. 46

At Manchester Metropolitan University a clear link between the curriculum, assessment methods, employability outcomes and timetabling has allowed staff to better understand the implications of choices they make in course design, helping to avoid some of the competing requirements that create logistical difficulties for both staff and students.

The ready availability of information about programmes of study (more on this in section 3.2) also increases the level of accountability to students. At Manchester Metropolitan University students can see on a daily basis the learning outcomes and assessment methods for a course, something that was previously only available in rarely consulted student handbooks. ‘The system encourages consistency and transparency in itself: students can see the information published about the unit and can ask questions; they can ask why a unit has no online content if an academic has not responded. This is transforming the way students interact with the university.’ (Kevin Bonnett, Deputy Vice-Chancellor, Manchester Metropolitan University) 47

3.1.8 Better quality processes

During the baseline process, some of the following challenges to quality were identified in existing processes:

- processes heavily weighted towards a resource-intensive, high-stakes, committee-based approval event
- much development and innovation takes place away from the approval process e.g. when new ideas are developed, new staff inherit a course, or a course is first delivered to students
- these developments and other minor modifications generally go unrecorded, so the curriculum as delivered is inaccurately reflected in approval documents

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44 Birmingham City University (2012), p.3
45 Chatterton (2012), p.23
46 Staffordshire University (2012b), p.22
47 Manchester Metropolitan University (2012), p.8
developing the business or value case poorly carried out and poorly integrated with other aspects of the process

All of these issues have been addressed by some of the projects, and the process enhancements outlined in this section have all had an overall impact on quality (see table below). Quality processes have also been used as a direct route to initiate and sustain change, for example through Manchester Metropolitan University's EQAL (Enhancing Quality and Assessment for Learning) initiative, initiated alongside the SRC project. While the curriculum approval process has been made considerably less burdensome and more flexible, it has been found equally effective at assuring standards. In particular, responsibility for the quality of curriculum decisions has been redistributed and is no longer the sole preserve of those who were already 'expert' in the approval system. After a review of the initiative, it was decided to introduce review of documentation by the Centre for Learning and Teaching. This has made the approval process less lightweight but ensures that key quality elements are receiving proper attention, and has also allowed an institution-wide audit of employability in the curriculum. ‘It is a challenge to monitor consistency and embed new requirements for employability, the use of learning technology and inclusive practice whilst trying to be more responsive to the needs of stakeholders and this is being addressed by trying to have a clear, simple framework for curriculum design without constraining academic decision-making.’

The challenge for all projects has been to streamline quality processes without losing the commitment staff feel to ensuring academic quality and fitness for purpose. ‘There is a strategic focus on integrating these areas of activity [QA and QE] but there remains resistance in practice, and in terms of practical implementation. This project is providing opportunities to explore this relationship and integrating them in the context of a process.’

At Strathclyde, interviews with stakeholder groups suggest that the new process has found this balance. By clarifying expectations of curriculum information in terms of content and quality, the new forms have led to better specified curricula without stifling creativity.

Technology-supported solutions to curriculum design can enable subtle but significant adjustments to the way in which academics design curricula. These adjustments may not be radical in education terms, but they can be radical in institutional terms by, for example, setting a minimum level of curriculum design quality across the entire institution, or ensuring adherence to acknowledged curriculum design principles which might otherwise be ignored.

On the whole, academics feel that this enhances their control of the process and the quality of outcomes. However, the project notes that enthusiasm for increased specificity in curriculum design may not be shared in faculties other than Science, where these interviews took place.

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48 Manchester Metropolitan University (2012b), p.24
49 Cardiff University (2011), p.9
50 University of Strathclyde (2012), p.29
In early consultations at Staffordshire University, staff in each Faculty felt they required 'a special system for course development to fit their own “distinctive” approach': however, analysis found there were more commonalities than differences and eventually a single ‘best practice’ approach, supported by the FLAG guidance system, has proved acceptable to all. It has still been important that academic staff were able to articulate what matters to them, and to have their expertise respected.

Better process transparency and control is also supporting the involvement of professional staff with a quality enhancement remit. The Open University's OULDI project has fostered a collaborative approach which empowers professional support staff, whether that is by giving them more control of an approval stage, providing them with resources to illustrate key pedagogic issues, or embedding an assumption that skills and attributes will be addressed in the design process alongside curriculum content: ‘I think [our role] is definitely moving much more towards being involved with pedagogy.’ These staff in turn have a deeper understanding of pedagogic differences and the perspective of course teams in making decisions about the curriculum.

Finally, more rigorously specified curricula make it easier to share outcomes of the design and approval process or to mine them for examples of good practice. At Strathclyde, course specifications are now being used as ‘knowledge assets’ for other design teams to consult, while the Open University shares course views in staff development activities for curriculum teams.

<table>
<thead>
<tr>
<th>Process change</th>
<th>Benefits</th>
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| Clarified documentation | Better specified curricula (Strathclyde, MMU)  
Assures minimum standards of design e.g. constrictive alignment, appropriate assessments, embedding of graduate attributes (MMU, Strathclyde)  
Enhanced opportunities to share practice across the organisation (OU, City, Strathclyde)  
Supports QAA Quality Code for HE Chapter A3 (programme level) |
| Transparent sharing of course documents/data through approval | Enhanced stakeholder engagement in processes (Strathclyde, BCU, MMU, Ulster, OU, City)  
Efficiencies in communicating with external partners and assessors (Staffordshire)  
Better team collaboration e.g. through notifications to key stakeholders, rolling amendments (Cardiff, BCU, Ulster)  
Ability to monitor proposals in process, e.g. to plan work load and identify problems (Strathclyde, Staffordshire)  
Fewer misconceptions about curriculum processes (MMU, Strathclyde)  
Enhanced sharing between course teams, supporting development of interdisciplinary courses (MMU)  
Supports QAA Quality Code for HE Chapter A4 (approval and review), Chapter B1 (programme design and approval), |
| Contextualised or on-demand support for the design process | Pedagogic thinking is brought into the design process more systematically  
More focus on issues likely to impact on the student experience (City, Cardiff, Greenwich, Strathclyde, Ulster)  
More focus on issues mandated by the organisation e.g. employability, sustainability, graduate attributes (MMU, Strathclyde)  
‘Hardcoding’ of some design decisions into the supporting systems (Cardiff, Staffordshire, MMU) supporting efficiency and quality assurance  
*Supports QAA Quality Code for HE Chapter A3 (programme level)* |
| --- | --- |
| Engaging stakeholders throughout the process | Curricula more fit for purpose  
More focus on issues important to the student experience  
More focus on issues of importance to employers and other external stakeholders  
Enhanced role for learning professionals (City, OU, MMU, Leeds Met)  
Better mapping of course outcomes to the demands of professional bodies or employers (MMU, Bolton)  
*Supports QAA Quality Code for HE Chapter B1 (programme design and approval), Chapter B5 (student engagement) and Chapter B7 (external examining)* |
| Better distribution of workload across the process | Enhanced role for learning professionals (City, OU, MMU, Leeds Met)  
Better time management and planning for course teams (BCU)  
*Supports QAA Quality Code for HE Chapter A4 (approval and review) and B1 (programme design and approval)* |
| Focus on process rather than product | Focus on educational issues rather than design for approval (MMU, BCU, City, OU)  
Potential to introduce systems of continuous enhancement, with approval and review becoming integrated ongoing processes (BCU, OU)  
*Supports QAA Quality Code for HE Chapter A4 (approval and review) and Chapter B1 (programme design and approval)* |
| More lightweight, streamlined processes | Time savings for curriculum teams and other stakeholders (MMU, BCU, OU, Strathclyde, Cardiff)  
Cost savings for institution (Greenwich, MMU)  
Focus on educational design rather than design for approval (MMU, BCU, City, OU) |


### 3.2 Transformed curriculum information

In baselining their institutions, projects found that course information was not managed as a valuable institutional asset or a shared resource for staff and students, but in an ad hoc way, often requiring multiple points of data entry. Course information was scattered, document-based, poorly used, and unreliable. Stakeholders had little incentive to engage with the mandated processes for recording course information, since they did not generally experience this information as trustworthy or supportive of day-to-day curriculum tasks.

These findings may be taken as widely representative of the situation in the sector as a whole: managing course information effectively is one of the most pervasive problems in the sector. The experiences of the projects in this programme match those of the 65 institutions involved in the JISC Course Data programme and the findings of a review of the HE data and information landscape undertaken by HESA in 2012 on behalf of the Regulatory Partnership Group.

In addition to administrative inefficiencies, involving academic as well as administrative staff time, the situation causes issues impacting on the quality of the curriculum process and its outcomes. For example, within the curriculum lifecycle, the greatest investment in course information is often in completing documents for an approval event, but this format is badly designed to support other potential uses of course information, such as:

- effective communication about courses for marketing, recruitment, module selection (course advertising)
- expressing the educational rationale for courses, or what the student learning experience would/should actually be like
- internal and external reporting, analysis across the portfolio
• efficient production of course materials such as handbooks, reading lists, VLE shells, timetables, data for student portal or app
• engaging stakeholders beyond the academic team (e.g. students, employers, clients) in the process of design
• identifying common features of programmes, e.g. to support rationalisation or interdisciplinary design

Technology plays a vital part in addressing these issues. Not only can it help us improve organisational efficiency in an administrative sense it can also help provide learners with the information they need to make informed choices, give them more choice in their own learning pathways and a voice in collaborative or negotiated design of the curriculum as well as provide professionals with learner-related information to support personal learning needs. The solutions are however neither obvious nor straightforward as the situation is not helped by the fact that curriculum management is a major area of weakness in the existing commercial systems used to support administration in institutions.

Early in the programme, the Strathclyde team suggested that there may be also be conflicting information needs at the heart of curriculum design: information about academic needs, the aspirations for the course, and operational needs. An effective design process should allow all of these to be taken into account and effectively balanced. However, evaluation with academics found that information overload during the design process was a general problem, arising not so much from conflicting kinds of information as from the overall volume of information required to make good decisions, and from generally poor mechanisms for delivering it in a timely or reliable way. The improvements brought about in course information, information flows and business systems should in future ensure curriculum teams have much better access to the information they need for forming academic judgements (though of course this does not ensure that the information is appropriately weighted, or that good decisions will always be made).

Most projects invested more work in the improvement of course information management and business systems than they had planned at the outset. At the final programme meeting, reflections included:
• Management of course information is now recognised as valuable to the student experience, rather than an entirely administrative exercise.
• Programme information is the most important part of the project now. It was a minor focus at the start.
• The appetite for business process-related change has really grown in the last 2 years.

3.2.1 Finding a common language

There are challenges around defining a core data set for programme specifications because the information has to serve a variety of purposes, for instance supporting validation, producing a student programme handbook, and managing the programme. The systems involved (e.g. student record systems) have typically been developed for use by admin staff and/or Registry. Projects have been challenged to design interfaces and templates that
stakeholders can engage with directly, and that express academic and learning issues as well as operational ones.

For most projects, students have been seen as the primary stakeholders in course information, and templates etc. have been adapted to be more student-facing in their language. The T-SPARC project at Birmingham City has experimented with new ways to provide information to students via a rich Course Guide, while City University's PREDICT project has worked with staff to ensure that programme and module specifications are student-facing and to allow the philosophy and learning benefits behind course designs to be clearly communicated. One undergraduate, reviewing the new descriptions at City, said 'now I know why I have different teaching methods in my module I can understand what I am supposed to do'. The Students Union also approved of the new approach: 'students can now understand the outline of their programme and why they have different assessments'\(^5\)

At Cardiff, the PALET team worked with Registry and colleagues in Academic Schools to develop new Programme and Module description templates that support a more consistent approach to course information and at Cambridge, the Course Tools project analysed 38 course offerings and over 900 distinct student 'paths' through the Tripos structure and concluded that formal statements about course offerings, while valuable, were not sufficiently rich to enable an informed selection of options. A model was conceived in which electronic artefacts of a course were indexed and data-mined to provide richer opportunities for exploration. As well as supporting students, this rich information was seen as enabling departments on collaborative courses to better understand the goals and content of each other’s components.

Competence mapping has been the backbone of several developments undertaken by Staffordshire University, initially to support accreditation of prior/experiential learning (APEL) through the TransAPEL mini-project, but with the potential to support a wide range of curriculum design and delivery processes through records of intended learning outcomes that learners can match to their personal learning goals. However, competence maps have not proved to be the touchstone for sharing course data that was envisaged at the start of the programme.

Having found common ground in terms of student (and employer) friendly language in the content of coarse and module descriptors, the application of technical standards can do much to support the automated transfer of the information between different systems so that the same information can be reused for a variety of purposes A standard known as XCRI (eXchanging Course Related Information), first developed at Manchester Metropolitan University, has the potential to eliminate many of the existing problems associated with data transfer (provided of course that institutions can deliver a single accurate data source in the first place). The standard is not yet universal but a subset of it (XCRI-CAP the XCRI Course Advertising Profile) is being widely piloted in 2012/13 through the JISC Course Data programme and many of the projects in the curriculum design programme have seen adopting the XCRI standard as a means of improving their management of course data. The potential both for improving the learner experience through informed choice and for administrative savings is considerable.

\(^5\) City University (2012), p.15
This blog post on ‘Managing course information at Staffordshire’ shows how the ENABLE project used XCRI-CAP to deliver a new process/system to support the work of external examiners. Given the availability of more student-facing data, the project also convinced senior managers to join up information processes so that course information can now be provided to students on their preferred devices. At Cardiff, a set of RESTful web services has enabled Schools to manage the publication of course data in a variety of ways, for example surfacing module descriptions from SITS on School webpages and in the University Virtual Learning Environment (Learning Central – Blackboard), and using a ‘Programme Management Portlet’ to generate full module catalogues in MS Word. The project has also developed reports in SITS e-Vision to enable current students to view full module information online during enrolment and selection of optional modules. ‘Through the development of facilities to communicate programme information in a consistent and transparent manner to students, an unexpected basis has been put in place to enrich the information available in the future.’

3.2.2 Systems for managing course information

As has already been noted, the commercial off-the-shelf systems currently available to support student and other core administrative functions are not well suited to managing information about the curriculum. The University of Strathclyde noted some of the reasons why this is the case.

- Fundamentally, corporate systems are typically designed for data entry by a small group of specialist staff rather than widespread participatory engagement
- Corporate systems are also designed as the “source of truth” whereas the course and class approval process is essentially one of draft-feedback-redraft-approval with a final version only emerging at the end of the process
- The data structures in place within Student Records, Finance, etc. represent only a subset of the information used by faculty quality committees to make approval judgements; primarily because this sort of data is not relevant to the other functions

The result of this is the disparate, and often paper-based, nature of the information in many institutions and an ultimate goal for many projects was the development of a data-based rather than a document-based approach to managing course information. As an interim measure, though, document management using existing software (such as Sharepoint) was settled on by most projects as likely to achieve the greatest efficiencies and quality gains with the least disruption to existing systems and most of the funded projects have put in place trusted, authoritative systems for recording and managing course information.

Manchester Metropolitan University went a step further and, being unable to find a commercial solution that would scale to its needs, undertook in-house development of a single academic database. The database is now used to populate the institutional VLE (Moodle), making key information visible to students every time they log on. There is a wealth of information available about the technical developments in the projects that will be of interest to other institutions working with similar technologies. To highlight a few examples:

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52 Cardiff University (2012), p.21
Manchester Metropolitan University has produced a generic set of stakeholder requirements which were used to frame its in-house implementation (case study on developing stakeholder requirements for an academic database) and a host of findings on what is still the most thorough reform of course information management in the sector.

The Cardiff PALET project has released the full technical specification for their work based on the SITS student record system and use of RESTful web services.

City University has improved both the quality and timeliness of data by implementing a middleware solution including a Business Process Engine and Enterprise Service Bus (ESB).

The University of Greenwich using a number of the major commercial systems in use in the sector (Banner student records, WebCT and subsequently Moodle, Talis library system, Syllabus Plus timetabling) has achieved an integrated infrastructure that Gartner rates as amongst the top 5% in UK higher education.

The PIP Technical Development Report outlines the work of the University of Strathclyde in developing its Microsoft SharePoint solution.

A Sharepoint blog documents the story of Birmingham City University's technical journey.

The projects have shown above all that much can be achieved using their existing technical infrastructures (there is more on this topic in the Getting more from existing investments section of the Improving Organisational Efficiency infoKit). They have also shown that good process design is fundamental and that information systems to support curriculum design need to have effective collaboration and workflow functions. In developing the business and information systems it has been important to:

- ensure and reassure that the process remains owned by academic course teams, with the involvement of other stakeholders
- invest in presenting information to users in a timely and relevant way, regardless of the systems in which the information is managed
- note that changes in curriculum design practice can be supported by process/system change but that this alone is not enough.

**Technology-based systems are never just technology-based systems; the involvement of human beings in the use of technology becomes the most important factor in determining success or failure. If our user groups did not like the system we were developing for them, they would simply subvert it, break it, or ignore it.**

### 3.2.3 Analysing curriculum information

The efforts of the projects to produce a single source of curriculum information that is both comprehensible and reusable have increased the value of that information as an important strategic resource for the institutions. As well as improving transparency, accountability and quality, the information can now aid strategic and resource planning and, most importantly, support to students and the improvement of learning and teaching practice.

We have evidence that:

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53 Birmingham City University (2012), p.12
• Universities that took part in the programme were better placed to respond to KIS (see the section on meeting external information needs). Given the current funding environment, universities with better course data management and an advanced understanding of course analytics will be better placed both to respond to future demands for more detailed reporting by funders/government and to demonstrate their value offer to students

• Universities involved in the programme are now able to generate statistical evidence of how different modules and courses in their portfolio are performing, on a range of measures, and make decisions accordingly

• Producing a business/benefit case for each course is now high on the agenda for institutions taking part in the programme, and some e. g. Bolton, Cardiff, the Open University, now have functioning systems in place

• Institutions are now better placed to identify future efficiencies in the core processes of curriculum design, approval and review

At many institutions, systems have been put in place to support better analysis of the curriculum design process itself (e.g. Staffordshire, the Open University), of the performance of individual courses of study, or of other features of the portfolio (Manchester Metropolitan University, Bolton, Cardiff).

Evidence is much more immediate as a result of the use of technology; we can interrogate the trend data in faculty assessment boards, asking how successful is each unit? What is the percentage of good honours degrees? How are certain student groups performing? It also exposes whether course information that went through the approval process is actually happening. (Kevin Bonnett, Deputy Vice-Chancellor, Manchester Metropolitan University)\textsuperscript{54}

The project has created a basis for ever more sophisticated, evidence-based and triaged quality assurance and enhancement activity. By being able to analyse (in the context of all the evidence available) the information provided for every programme in the University, it will be possible to more easily determine, to an unprecedented level of granularity, educational enhancement priorities and where risks exist to the student experience. This will mean that the University will be able to focus resources in respect of curriculum design in ways that were not previously possible.\textsuperscript{55}

[having the undergraduate curriculum online] is already providing benefits in terms of sharing good practice and identifying areas where further central support is required (e.g. on embedding employability, or the use of particular types of assessment).\textsuperscript{56}

\textbf{3.2.4 Meeting external information needs}

Developments in recording and communicating course related information have taken on a new significance under the new QA regime and the requirement to provide Key Information Sets (KIS) for all courses. An evaluation of Cardiff's new SITS-based system found that data

\textsuperscript{54} Manchester Metropolitan University (2012), p.8
\textsuperscript{55} Cardiff University (2012), p.21
\textsuperscript{56} Manchester Metropolitan University (2011), p.3
reporting to HESA, the Student Loans Company and UK Border Agency was simplified, and
the institution was well placed to manage the introduction of KIS.

The project’s efforts to create a single-source and unified process to manage all
programme information provided the University with a perfect basis for the
implementation of the Key Information Sets (KIS). This has meant the process of
introducing KIS has been smoother than might have been the case without this
developmental activity over the last four years.\textsuperscript{57}

City University’s PREDICT project notes that ‘to change the language of module and
programme specifications from dry ‘academic speak’ to ‘student friendly’ language...has
positioned us well to meet the new requirements of the KIS, which encourages more student
friendly information on programmes.’\textsuperscript{58}

Other institutional projects were however riding the same wave, so it is sometimes difficult to
know how far work on this programme has prepared institutions to meet new reporting
requirements (such as KIS, HEAR, and new QA requirements) and how far these
requirements have led to more joined-up approaches to course information, benefiting the
work of projects. The testimony from the institutions does nonetheless seem to indicate that
the former is the case.

<table>
<thead>
<tr>
<th>Transformed information</th>
<th>Benefits</th>
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<tbody>
<tr>
<td>Restructuring of course information templates</td>
<td>Richer, more granular course descriptions (City, Cardiff, Greenwich)</td>
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<td></td>
<td>supporting enhanced communications (or alternatively)</td>
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<td></td>
<td>More streamlined and standardised course descriptions (MMU, Strathclyde)</td>
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<td></td>
<td>supporting auditable good practice</td>
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<td></td>
<td>Better mapping of programme/module outcomes to professional requirements (MMU)</td>
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<td></td>
<td>Opportunities to provide context-specific IAG to design teams (Staffordshire, Strathclyde, BCU)</td>
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<td>Opportunities to ensure specific issues are discussed by course teams e.g. assessment patterns, constructive alignment, sustainability (MMU, City)</td>
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<td>Archived module and programme descriptions if graduates require details of their studies (Cardiff)</td>
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<tr>
<td>Rationalised/integrated management of course information</td>
<td>Student access to course information to facilitate personal planning and choice (MMU, Cardiff, City)</td>
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<td>Better links between curriculum and timetabling: fewer clashes for students or staff (MMU, Cardiff)</td>
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<td>Staff better understand the implications of choices they make in course design for e.g. student workload (MMU)</td>
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<td>Timely information available to</td>
<td>Enhanced business/value case (Bolton, Cardiff)</td>
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\textsuperscript{57} Cardiff University (2012), p.21
\textsuperscript{58} City University (2012), p. 6
support decision making | More efficient validation panels (Staffordshire, MMU, Cardiff, Greenwich)
Enhanced credibility and trust in information systems (Greenwich, Strathclyde)
Curricula more fit for purpose (Strathclyde, Bolton)
Badly designed or conceived courses are picked up earlier in the process (MMU)
But curriculum teams need time to digest and use information appropriately

### 3.3 Transformed design practices

An important element of the original programme vision was that alongside supportive processes and systems, "staff involved in designing learning opportunities [should] have access to design tools and relevant information, advice and guidance". At the mid-point of the programme, outcomes from the [JISC Transforming Curriculum Delivery through Technology programme](https://www.jisc.ac.uk) were also examined for relevant messages about curriculum design, and used to formulate an important additional aim for the programme:

> Curriculum teams [should] have relevant expertise to undertake curriculum design

The programme has hosted an ongoing debate about the relationship between formal curriculum processes and the real-world practices of educational design. Some projects have taken the view that the two should be coupled more tightly, so that formal processes capture the richness of educational discourse and make it central to approval and review (Birmingham City University), or so that design is more tightly constrained by the specifications of the formal process (Strathclyde, Manchester Metropolitan University).

However, the evaluation report for the Strathclyde project found that academic staff were not convinced that process enhancements alone could 'improve their pedagogy or the quality of the curricula they design'. A detailed evaluation at MMU confirmed that 'there is a particular resistance to engagement with quality processes, which may sometimes be seen in themselves as antithetical to innovation... many staff viewed (them) as an external scrutiny system which bore little relationship to their own perceptions of quality enhancement'. Most projects have taken the view that design practice and organisational process are loosely coupled, drawing on different discourses and resources (broadly speaking collegial vs managerial). Staff interviewed for the baseline review at the OU described design as 'a set of skills and experience brought to the course team by individual members' and a chance to exercise creativity and professional judgement. At Greenwich, formal processes and supporting IT systems were seen as two aspects of the curriculum 'eco system', complemented by academic practice and a supportive organisational culture. At Ulster, most curriculum innovation was found to take place beyond the scope of formal (re)validations, in contexts such as discussion of new research/teaching ideas, new teaching staff inheriting a course, and staff developing their own expertise. All three of these institutions focused on

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59 Manchester Metropolitan University (2012b), p.10
staff development as a separate strand of work, in the belief that enhanced expertise and capacity would feed into formal curriculum processes as academic staff engaged with them, and would become evident in the quality of outcomes.

Staff development emerged more strongly as the programme progressed. The original vision of learning design and IAG systems fully integrated with institutional systems also gave way to a more loosely coupled approach. A strong message is that enhanced processes can support good educational design in a variety of ways, but that staff time, motivation and expertise remain critical to the quality of designed curricula, and that investment in staff capacity brings its own benefits.

### 3.3.1 Finding a common language

As with course processes, a key challenge for the programme has been finding common ways of representing the curriculum and the principles or issues involved in design. Formal course documentation or data provides one kind of shared representation. Reform of this information is explored in more detail in the section on business processes, and there is evidence that it can support practice change: ‘The requirements of the approval process and supporting documentation play a significant role in shaping the design process.’

However, the same project encountered problems in getting practitioners to accept the terms offered to them by the reformed system. Items such as drop-down lists of assessment activities were experienced as ‘inappropriate’ and as failing to reflect the specific methods of different disciplines. This shows that finding common educational representations is a greater challenge than process modelling because of the variety of educational cultures and ideologies found at the same institution: ‘... the root of a number of these [difficulties] may lie in the gap between the pedagogy on which the tool is based and that held by those using it, and in the users’ ability to navigate this gap.’

Projects needed to find ways of representing the curriculum that foregrounded issues in design, were owned by course teams, and could readily be shared and referenced across subject boundaries. T-SPARC at BCU took the original approach of using video – alongside other outcomes of discussion – to record the process of design. The aim was to shift attention onto the educational issues, noting the comment from one experienced academic assessor that ‘without exception the discussions that take place during panel events demonstrate the presence of better design than is obvious through the documentation

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60 University of Strathclyde (2012), p.8
61 The Open University (2012b), p.58
62 Birmingham City University (2012b), p.7
alone63. For this project it was important that artefacts should 'emerge naturally from [curriculum teams'] design activity' rather than those same teams giving up design time to 'constructing evidence/artefacts for the sake of being seen to do so'.

However, most projects used specialised representations to describe or support educational thinking, and as with process modelling it was often to visual languages that they turned. A variety of formats were used, from concept maps to swimlanes and graphs, some developed from established principles of good design and others 'evolved iteratively, through piloting and development in a range of different contexts' (Viewpoints project).

Three types of representation have emerged as particularly useful: visualising key course elements or data; storyboards of the learning experience; and design principles with examples of their implementation. These are considered in more detail below.

**Curriculum visualisation**

The Open University OULDI project has developed several powerful tools for visualising module elements (Module Map), the student experience (CompendiumLD) and the activity profile of a course (Pedagogy Profiler). Evaluation of these tools in use, across more than twenty workshops, has shown that:

- Even simple visualisation tools can enhance the quality of discussion about the curriculum and provide a new perspective (e.g. Module Map, Activity Profiler)
- Around half of practitioners are comfortable with more complex concept mapping/visualisation (e.g. CompendiumLD), while around half do not have the visual skills or confidence. Where used, its impact can be significant *(CompendiumLD and course design is a mode of thinking ... my view is that it's revolutionised our thinking [about] learning and teaching*64  (OULDI Reading pilot report)
- There may be more resistance (at least from academic staff) to tools that assign numerical values to aspects of the curriculum, though these techniques can provide educational as well as logistical insights
- Tools must be capable of adaptation or at least annotation if curriculum teams are to 'own' them and their outcomes
- Visualisations can lead to negative reactions, particularly if they reveal a mismatch between the aspirations of the course team and the module as it is realised (*You might have thought you'd developed a very socio-constructivist model but when you see the bar graph, you see you've got absolutely no communication!*65
- All representational tools require skilled guidance if they are to be used effectively

The OULDI project is interesting in that visualisations developed for process modelling at the outset of the project were also made available to course teams and used for curriculum planning. This shows that visualisations can act as a bridge between educational and administrative / business / logistical concerns, at least in an institution where course teams have extensive responsibility across all these areas. OULDI also analysed resistance to

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63 Birmingham City University (2012b), p.13
64 The Open University (2012c), p.20
65 The Open University (2012b), p.60
visual models in more detail: ‘those who resist these visual forms of mapping either feel they are ‘not visual people’ or ‘don’t have’, or ‘don’t have the time to learn’, the relevant skills. ... These reasons are still seen as culturally acceptable unlike in other design fields where sophisticated visualisation skills are considered essential.’

As with the administrative modelling, the process itself and the dialogue it promotes appear to be valuable in themselves: ‘Providing even modest additional opportunities to reflect on or to discuss designs with others can lead to improvements in the design quality.' Many stakeholders found the models easy to engage with and of real value: ‘... the design representations that they enable us to make should be shared with students and employers. It’s not just a set of planning tools that sit behind the scenes, I actually think they become perhaps the main way of articulating how that next chunk of learning is intended to work. If you like, we can now make the design apparent to everyone who’s involved in what that student’s doing.' (Mick Jones, Associate Dean, The Open University)

Bolton’s business model canvas is another visualisation tool, in this case one that that maps course marketing and resourcing concerns. By requiring course teams to demonstrate their value proposition, it is also having an impact on educational thinking.

**Storyboarding**

The University of Ulster’s Viewpoints project has pioneered a storyboarding approach, using a course canvas along with four sets of cards that can be selected, arranged, annotated, and used as prompts in the detailed design of course elements (more of these below). Evaluation has found the resulting canvases to be useful:

- for reaching consensus within a course team
- as evidence for course (re)validation, e.g. to support key principles and decisions
- as aides-memoire for members of evaluation and revalidation panels
- as exemplary learning designs;
- to support reflection and iterative enhancement in curriculum planning;
- to enhance teaching practice and demonstrate professional development.

A typical comment about the storyboard process was that it ‘structures your thought processes and visually allows you to see if it would work in practice. You can see, at a glance, if the sequence is correct at the end... you were creating something that the group could take away.’

Greenwich has developed a ‘Snakes and Ladders’ board which allows staff to consider issues in design across a course timetable, and is being used to identify critical learning moments and potential challenges and drop-out points for students. At MMU, a board game called simply Accreditation! simulates the curriculum design and approval process and is used as a group training aid for new course teams. This has the advantage of provoking discussion in a low-stakes environment and allowing issues common to many courses to be rehearsed in a neutral way.

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66 The Open University (2012), p.13
67 Chatterton (2012), p.36
68 University of Ulster (2012) p.6
Educational principles

The programme has also had success with representing simple, established educational principles, alongside practical examples of their implementation. Leeds Met has produced a summary of coaching principles for embedding into the curriculum, while City has produced guidance based on seven core principles of programme design. The most common format, however, has been a deck of cards. Viewpoints at Ulster has developed four sets of cards, based on principles derived from Re-Engineering Assessment Practices (REAP), the SCONUL Seven Pillars of Information Literacy model, the 8 Learning Events Model, and from the University's own Creativity in the Curriculum working group. Having been used with nearly 400 staff and students, the Viewpoints resources were found by an independent evaluator to encourage reflection and creativity, to help course teams ‘identify solutions to curriculum design challenges and to maintain an educational rather than a content focus, a learning rather than a teaching focus.’ The evaluator also reviewed curriculum outcomes and found evidence of 'better designed courses with key pedagogic principles embedded'. The project has been able to use these principles as a touchstone for explaining its work across the institution, and a means of connecting with other educational initiatives such as the Principles of Assessment and Feedback for Learning group.

MMU also produced a series of printed course planning cards, which have been used with over 200 staff and with MMU student course representatives at their annual conference, and the OU has a larger deck of course features. At all three universities, the 'deck of cards' format is allowing educational principles to be experienced as an aspect of the creative process – to be chosen, adapted and contextualised - rather than an imposed system of design. It is interesting that all three projects have used their resources successfully to engage students in the design process, showing that educational principles, if clearly expressed, can also help students to reflect on and communicate about their learning experience.

Benefits and lessons

Evaluation of the various representations used across the programme suggests that for educational design:

- A time-based representation of the proposed course/module is very useful, e.g. storyboard or swimlane view of the learning experience
- Decision making is also supported by having available a limited number (6-12) of clearly expressed educational principles, expressed as principles for individuals and teams to select and interpret in their own context
- Examples can be useful to illustrate principles, but there is little evidence of exemplary designs being re-used successfully in their own right (though CompendiumLD outputs have been shared in some cases, and Strathclyde intends to use designed curricula as 'knowledge assets' for future design teams)
- Data visualisations (e.g. of learning elements, staff/student time on task, resourcing) are powerful and revealing, but can be daunting for staff to carry out
- Whenever possible, representations should be physically manifest in the real time/space of course team dialogue, and should be tactile, mobile, multiple and adaptable
- Different viewpoints work for different users: a pick-and-mix approach works better than a single, totalising system
• Representations should always be recorded for reuse by course teams, and ideally in formats that support wider sharing of practice

These representations have been shown in practice to overcome differences of terminology and to disrupt ‘given’, largely textual approaches to design by offering visual alternatives. This in turn has allowed projects to promote deeper reflection and more open sharing.

3.3.2 Effective staff development for curriculum design

Projects have undertaken and evaluated a wide variety of staff development activities. Some of these have been designed to embed the use of new systems and processes, though in most cases educational principles have been explicitly or implicitly included. Others have addressed curriculum and learning design as issues in their own right, for example using the representations outlined in the previous section. This distinction relates once again to how tightly or loosely coupled educational and organisational thinking are believed to be.

Embedding new processes

At City University, the Learning Development Centre (LDC) academic team have run over 100 workshops to support the new curriculum documentation and to help staff take a more student-centred approach. In June 2010 the LDC annual conference focused on the theme of curriculum design so staff could disseminate the innovations that had been supported through the more student-facing processes. One hundred and forty staff attended, and this led to further projects being developed. The link between process and practice has now been reinforced with new lecturing staff: the project has supported 77 of them through a Curriculum Design and Evaluation module and 42 through a new Technology Enabled Academic Practice module as part of their early career development. This has created a cohort of teaching staff with ‘more awareness of curriculum design processes when designing modules’ and professional staff who are ‘more confident when advising staff’ (loosely coupled approach). The project also supported staff who undertook Learning Development projects (26 staff) and took up Learning Development Associate (11 staff) roles.

This is typical of the way that interventions to embed the use of new systems have raised the level of educational thinking and discourse, an approach also followed at Greenwich, Bolton, Cardiff, Strathclyde, and elsewhere. The involvement of staff and educational developers has been critical in this alignment. Where quality, process and pedagogic expertise is brought together in one team, opportunities to capacity build are multiplied, and curriculum design can be enhanced both strategically and as a matter of professional development.

The IAG systems developed by projects to sit alongside new processes can be seen as affording staff development opportunities: these are dealt with in the section on technologies in support of design.

Learning design approaches

The Open University, in collaboration with a number of other institutions (Brunel, Cambridge, University of the South Bank, Reading), used project funding to research, pilot and evaluate a rigorous learning design process, and identify what problems in curriculum design
it is capable of solving. Lessons emerging from the five institutions include the following potential benefits of a learning design approach

- It acts as a means of eliciting designs from academics in a format that can be tested and reviewed by others involved in the design process, i.e. a common vocabulary and understanding of learning activities.
- It provides a means by which designs can be reused, as opposed to just sharing content.
- It can guide individuals through the process of creating new learning activities.
- It helps create an audit trail of academic (and production) design decisions.
- It can highlight policy implications for staff development, resource allocation, quality, etc.
- It has the potential to aid learners and tutors in complex activities by guiding them through the activity sequence.

A senior academic at the OU commented on some of the institutional benefits: “anything that can tighten up thinking about why we are producing what we are producing is a good thing, and it is financially a good thing because it can speed up some of the other decisions.”

Resources from the OULDI project have been used by other institutions in the programme and are widely downloaded from Cloudworks. The Bolton Coeducate team also brought expertise in learning design to their staff development activities. Their conclusion, like OULDI's, is that design operates at a variety of levels, from high level programme design (which aligns most closely with organisational thinking), through learning activity design and session planning, to the micro-management of learning and teaching interactions. All have a profound impact on the student experience, but as yet there are few reliable ways of articulating the relationships between them. Another significant finding from the OULDI project is that there are as yet no reliable metrics for assessing the quality of design processes, or the fitness for purpose of designed curricula.

**Designing effective workshops**

Projects have delivered more than 120 face-to-face workshops and CPD events, supporting around 2000 teaching staff to enhance their practices of curriculum design (not including external events e.g. conference presentations). This is perhaps an ironic outcome of a technology-based programme, but it has been based on research and careful reflection. For example, detailed evaluation of pilot materials at Ulster (2010) found that sharing physical resources that could be selected, handled, annotated and (re)situated by users allowed a collective solution to emerge in real time/space: “Having it online would save trees and allow personalisation, but giving a printed set [of resources] to all new lecturers might symbolise institutional encouragement to reflection on teaching better; ‘best to use this free of technology rather than put it online’.”

The workshop setting also provided teams with a neutral, supportive and non-threatening context for sharing ideas, away from the pressure of formal approval events and also minimising markers of staff roles and status. The face-to-face nature of these discussions

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69 Conole, G et al (2008), p.2
70 The Open University (2012b), p.68
71 University of Ulster (2012b), p.11
was found to be as important to the success of the process as the emergence of a concrete and visible plan. Following this early feedback the project prioritised facilitating and capturing effective design conversations over the development of online tools. The importance of offline interactions was also borne out by the evaluation of CompendiumLD as a visualisation tool. When staff were asked to build a task swim-lane, they were far more comfortable using paper and sticky icons than using the CompendiumLD software. Of course real-time collaboration is not always an option, but given this option it seems that staff still find it easier to collaborate, discuss and share off-line than through computer-mediated representations.

Our work on staff development (and particularly findings from the OU and its partners, MMU, Ulster, Cardiff and Greenwich) have led us to the following conclusions:

- Course teams need opportunities for dialogue in the context of a real development process or curriculum concern
- This should be in a space/time dedicated for discussions about design: ‘An overwhelming theme from feedback – mentioned in over fifty separate feedback comments – was the opportunity... to take 'time-out' from the day-to-day academic role and focus on the design of their module’\(^{72}\)
- Skilled facilitation – by staff with knowledge of educational as well as process issues - is critical.
- Facilitators need to be authoritative: ‘Being academics, the first thing they would do is to unmake what the first academic has done... that's why you need the external authority figure’\(^{73}\)
- Where possible, course-related information should be available e.g. market research, previous course feedback, external assessors’ reports, cohort analysis, comparative courses etc.
- Other information, advice and guidance relating to curriculum design generally should be available, and this is especially valuable in the form of ‘pick and mix’ principles or ideas (as above).
- A representation of the curriculum as experienced by learners – time-based and/or activity-based - should be one outcome of the process
- These representations can be rendered in digital systems e.g. as via widgets, mindmaps, spreadsheets/graphs, dedicated design software...
- … but during the actual design process they are more effective in print or simple hand-drawn formats e.g. cards, canvases, post-it notes, that are easily shared and annotated
- Outcomes should be captured digitally, e.g. simple video/photography, for reference and sharing later (see Viewpoints findings on the value of these outcomes)

**Technologies to support curriculum design**

At the outset of the programme, it was envisaged that existing design tools such as Phoebe, Co-genT, the Learning Design Support Environment (LDSE - now the Learning Designer), the Learning Activity Management System (LAMS) and others would continue to evolve, and that the Design programme would play a role in this. In particular it was hoped that such tools would become able to consume data from institutional information and business

\(^{72}\) The Open University (2012b), p.33
\(^{73}\) The Open University (2012b), p.32
systems, as well as producing designs that could be readily interpreted by virtual learning environments and assessment systems, and in this way the curriculum design and information/business system aspects of the programme would interface. This has not proved to be the direction of travel. A range of tools and resources have been developed to support the design process, and some have been closely mapped to the mandated organisational process (e.g. FLAG at Staffordshire, the Rough Guide to Curriculum Design at BCU), but most have been designed as free-standing resources, for reasons already explored. As a consequence, the trend in technology-based design tools has been towards lightweight widgets or web services and away from integrated systems.

Among the more systematic approaches, Staffordshire’s Flexible Learning Advice and Guidance (FLAG) tool has been designed to guide curriculum teams through the process of course development, with stepped access to the relevant checks, regulations and documentation required at each stage. FLAG is based on the open source Pineapple platform (developed by Plymouth University), with the Staffordshire curriculum design processes (based on EA models) built into it. An online Technology Supported Learning (TSL) planner has also been developed to help curriculum teams develop this important area of curriculum design. At Cardiff, similarly, certain design decisions have been ‘hardcoded’ into the Streamlined Programme Approval and Management Process to support curriculum teams through each stage, from feasibility study to final delivery. Strathclyde has taken a similar set of decisions about support for the C-CAP system, finding that staff were more engaged and motivated by guidance when it was closely integrated with process requirements.

Moving beyond institutional systems, the OULDI project has delivered the generic Cloudworks software and supported its integration with other learning and teaching platforms including LAMS and Moodle. Development, testing and evaluation of the site is recorded in detail on the OULDI blog. Analysis over four years has confirmed the value of Cloudworks as an open public space in which users discuss educational ideas, and in particular where resources and discussions can be collated around specific events. Use of the site to share learning designs has been minimal, however, and despite concerted efforts by the project team, the proportion of participants that contribute actively for more than a month after first joining remains around 5-8%, no higher than in other social networks.

The project has developed a number of free-standing applications to support visualisation of the curriculum, as outlined in the previous section, and these are available via the OULDI toolbox on the Cloudworks site. The source code for Cloudworks is also available as the open source CloudEngine, software based on PHP5 and MySQL which allows similar sharing sites to be hosted by other institutions.

Initial development of Ulster’s curriculum design prompts and planning canvas/timeline was carried out through rapid visual prototyping with applications such as Balsamiq and Adobe Illustrator. The intention was to deliver these as an online tool, but feedback on the prototypes found that it was the face-to-face, collaborative nature of the pilot workshop that was critical to the quality of outcomes. However, the effectiveness of the Viewpoints process and the simple underlying data structures has led two other projects (Cambridge Course Tools project and the Bolton Coeducate project) to develop prototype tools based on Viewpoints resources. The Co-educate team has released a number of widget toolsets, one
based on the 8LEM learning activities from the Viewpoints project, and another based on the IMS Learning Design concepts of role, activity and environment. The use of an open source Wookie server means that sharing and customisation of the toolsets is relatively simple.

The project has also developed a business canvas modelling tool which uses an established modelling process adapted to take into account the factors informing course planning. Developed as a modelling tool within Archi, this allows course teams to analyse the business or value case for a proposed course of study. This has now been trialled and positively received by course teams. For the next iteration, a bespoke template has been developed for course planning at Bolton, included rich contextualised guidance for each of the categories on the canvas. The application is available as a part of the open source Archi (Archimate Enterprise) software developed by CETIS, and as such has the potential for widespread take-up.

The Bolton team were also invited to evaluate the Learning Design Support Environment (LDSE) and provided valuable input to this project. They found that the tool had potential, particularly when designing a new course from the ground up and when analysing the blend of learning activities, but it was limited by interface and stability issues in the short term, and in the long-term by the complex requirements placed on users. The team concluded that the complexity of course design presents real difficulties when it comes to developing support systems. There are at least three levels of design, including fine-grained learning activities, resources and roles (covered by the IMS LD specification), module-level lesson and assessment planning, and the higher level of design thinking described in terms of pedagogic principles and aspirations. In practice, design thinking moves iteratively across these levels, rather than progressing neatly from one to the other.

This may be one reason why the programme has had success with lightweight, free-standing tools that can address different levels of design thinking and can be drawn into the process as and when they are useful. Having said this, compliance with institutional processes remains an important reason why staff take up tools in the first place. Even if tools are not integrated with systems as thoroughly as at Strathclyde or Staffordshire, they need to support the day-to-day tasks associated with the curriculum lifecycle, and they need to be clearly mandated and supported by the institution.

### 3.3.3 Enhanced collaboration and engagement

Accessibility and transparency of course information, shared documentation and streamlined processes, all make for better conversations among members of the wider curriculum and approval team. In addition to these, projects have worked directly to enhance practices of collaboration and engagement.

**Within-team collaboration**

At BCU the new course approval process centres on collaborative design and provides ‘ample opportunity... for conversations between programme teams and those conferring approval.’ However, these opportunities are not always taken up, as programme teams

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74 Birmingham City University (2012b), p. 12
have been slow to move away from a 'compliance culture' centred on documentation. The team found that 'External assessors (part of the approval process) don't often have the time to engage in the design process or with rich evidence of it'. It was also a challenge to develop conversations across module boundaries due to the much devolved nature of the system.

At the Open University and its partners, shared design tools and spaces were found to enhance the contribution of learning professionals, where previously design had been dominated by subject experts. Staff in library and media production units, for example, have used OULDI resources to frame their contributions. At Cardiff, course team discussions and document sharing facilities were set up in IBM Lotus Connections, but the project found uptake to be poor in the pilot, primarily due to time restraints and being unfamiliar with the technology.

Within the design space, roles and relationships are clearly shifting. OULDI has argued that this is because the use of technological tools in learning requires input from a wider range of experts, demanding that the process be managed more centrally - though it is possible this is particularly the case at the Open University with its focus on multi-professional development for mass delivery. From a more conventional institutional context, the PALET project at Cardiff notes that the focus on 'student experience', the rise of centralised quality assurance and enhancement, and integrated administrative processes (made possible by ICT systems) all raise questions about professional roles in the curriculum.

**Engaging employers/professional bodies**

The involvement of external stakeholders in the design process has been highlighted throughout the programme. MMU, BCU and City in particular have made stakeholder engagement central to their process reforms and a key measure of their success. Undoubtedly, richer and more user-friendly representations of the curriculum have supported this engagement, as described in the section on course information: however, there are issues of motivation and resource that cannot be resolved through technical development alone and projects have also put in place new mechanisms for engaging employers in curriculum design.

At MMU, the SRC project piloted initiatives in four subject areas, chosen because they were of particular relevance to employability in the North West region. Examples of effective liaison with employers and regulatory bodies from this project include:

- mapping the curriculum to specific employment competencies and professional benchmarks;
- enabling undergraduates to gain professional qualifications by mapping aspects of their course;
- creating opportunities for students to meet employers and develop their PDP/portfolio;
- building opportunities for work experience and placements
- links between curriculum design and the MMU enterprise team;
- the development of bespoke curriculum offerings for industry.

At Staffordshire, the FLAG system highlights when employers should be engaged with the processes and provides online support for managing partnerships. However, both
projects highlight the difficulty of engaging employers in curriculum design unless there are
direct benefits to them. Qualifying as an external assessor, giving time to course
documentation, and engaging with complex procedures, are all time consuming. Ongoing
partnership management is key. Curriculum teams will be more willing to engage with
employers, and employers will be more interested and able to engage, if both sides are
drawing on an ongoing dialogue. This is now occurring thanks to clearer executive
strategies.

The progress made by these and other projects, such as BCU and Bolton, points to the
importance of building partnerships and using partnership arrangements to inform curriculum
design. Projects under JISC's Business and Community Engagement programme have
produced relevant outcomes, which combined with the findings of this programme show that
the relevance of the curriculum can be enhanced through a systematic approach to
employer engagement.

**Open sharing of design practice**

OULDI’s Cloudworks has proved an effective social/professional space for sharing ideas
about design, particularly in conjunction with face-to-face events (40% of clouds were
associated with workshops or events that had been held in a face-to-face context).
Cloudworks has 4,600 registered users from around the globe and has been used to support
a number of high profile events and networks. However, it has not been used to share
exemplary learning designs, as first envisaged. One issue may be that representations of the
curriculum are so heterogeneous - from Compendium LD maps to Word documents, and
from presentations to swimlane notations - that there is no consensus on what is useful to
share. Another issue raised in evaluation interviews was that the open nature of the site did
not suit the type of discussions educators were used to having about the curriculum, in
small, closed teams. Although by the end of the funding period only around 5% of content
was being added by the project team, some of those interviewed saw Cloudworks as being
owned by a sub-community that they were not part of.

At institutional level, the development of a repository of approved curriculum designs was
found to have been one of the most popular and significant outcomes of the C-CAP project
at Strathclyde. ‘The management of curriculum designs as 'knowledge assets' was
considered to support a number of key academic quality processes and better enable
responsive curriculum design’

City University has initiated a less standardised but still popular educational vignettes blog
for sharing examples of good design, and the project has worked with Academic Services to
audit approval reports for examples that can be shared through institutional events and
publications. As evaluations at Ulster and the Open University have found, any
representation of the curriculum that is valuable to course teams can potentially be shared
more widely, but there may be cultural barriers to doing so.

As the programme has come to its conclusion, it has been interesting to see staff
development activities focus more specifically on assessment and feedback issues, and
embedding graduate attributes such as employability and digital capability into the

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75 University of Strathclyde (2012), p.43
curriculum. Outcomes from the JISC Digital Literacies and Assessment and Feedback programmes will no doubt be swiftly adopted at institutions that have been through the Curriculum Design programme and have high quality staff development approaches already in place.

*It is possible to achieve success in changing or improving the process, practice and perception of curriculum design yet this requires a combination of elements working together: selection of effective design tools; well configured institutional and informal design processes; proper opportunity for collaboration; reflexive working and dedicated time away from the day-to-day to work on a design; positive and real management endorsement; staff with positive attitudes and adequate tacit knowledge of the art of teaching and the discipline of designing learning; and an expert consultant role to guide and advise teams.*

What PALET has now done is introduced a series of criteria, a series of questions that need to be articulated in programme design or programme re-design. This for me has been an example of how investment in innovation has been able to change the way in which we operate... (Stephen Denyer, Deputy Pro-Vice Chancellor for Education and Students, University of Cardiff)

### 3.4 Transformed learning opportunities

Two of the institutions involved in the programme set out to deliver a radically different curriculum, and although their successes have been modest, their stories will be of interest to all institutions looking to change their offer. Across the rest of the programme we have seen important – if less radical - enhancements to the learning opportunities being offered to students.

#### 3.4.1 A radically student-centred curriculum

Bolton’s Co-Educate project was committed from the outset to meeting the needs of work-based learners through an inter-disciplinary, inquiry-based approach to learning (IDIBL). The [IDIBL Framework](#) was validated as a generic course outline with subsequent instances required only to validate their business plan and mode of delivery. IDIBL describes a highly personalised curriculum within which students undertake projects relevant to their workplace and gain academic credit for the skills they develop and use. This approach enables learners to work full time, study in their own time, and be supported online (largely through asynchronous use of the VLE) by learning facilitators and guest experts.

The IDIBL Framework was challenging to curriculum practice at Bolton in several ways. It focused on processes rather than subject knowledge, none of which was specified; it relied on online delivery; learning took place in work settings using working practices as context as well as content; and the teacher’s role was as a facilitator rather than a source of knowledge. Taken together these challenges meant that adoption was limited to areas where a teaching group was philosophically committed to IDIBL and had sufficient autonomy and confidence

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76 The Open University (2012), p.3
77 Chatterton (2012), p.40
to carry it through. The project concluded that scaling up adoption from pockets of innovation would require a business unit or innovations unit (as also proposed at Staffordshire) to review systems and processes at an organisational level.

At Leeds Metropolitan University, the goal was to develop a similarly student-centred curriculum, but here the focus was on coaching as a method of helping students identify their learning needs, plan a curriculum pathway for themselves, and reflect on their progress. As at Bolton, the original plan was to produce a highly flexible, cross-disciplinary curriculum structure within which students could navigate their own path through their studies. In practice – and at a time of great institutional upheaval – it proved more tractable to validate a coaching-based module within one Faculty (as part of the Leadership Pathways programme) and use this as a vehicle for developing expertise, creating learning objects, and designing suitable assessment tasks. The coaching approach and resources have since been embedded into six other subject areas. In addition, while the institution moved away from a wholesale commitment to coaching after changes to the executive, the PC3 team were able to ensure that the goals of the coaching method were included in the institutional framework for graduate attributes, and also to embed coaching approaches into staff development for curriculum design.

At both institutions, the new curriculum model was proposed to meet the needs of a new student market, identified as: work-based or work-focused, requiring flexible pathways of study, and interested in real-world issues that cut across traditional disciplines. At several other institutions, learning across subject boundaries was identified as necessary to meet the complex needs of learners and employers. The PREDICT baseline review at City University, for example, found an appetite for interdisciplinary learning, and opportunities to rationalise in several overlapping areas: academic and professional skills, communication, personal development planning, and research skills. The Cambridge baseline uncovered that students are interested in study outside their discipline and in following unique study paths. In all these cases, projects met difficulties, associated with:

- cultures and practices of curriculum design being owned by academic leads in departments
- content-based approval practices, making it very difficult to validate a flexible curriculum
- concern about the ability to meet professional body requirements
- internal resourcing models which associate students with specific departments’ teaching budgets
- constraints imposed by information systems

All these make it difficult not only to validate and deliver radically flexible curricula but even to progress more modest forms of flexibility and interdisciplinarity. City, for example, made progress in only one of the identified areas of interdisciplinary practice: research skills. Nevertheless, the visibility of alternative approaches to teaching, learning and assessment has influenced other teaching staff, and as noted by Strathclyde these models have exposed the systems, processes and working practices of the institution to critical inquiry. As a result, flexible pathways and other non-standard curriculum structures are now better integrated into mainstream systems, with enhancements to the experience of students on those programmes (Greenwich, MMU). Where the approval system has been radically
overhauled and centralised, at MMU, it should in fact be easier to develop and validate interdisciplinary courses.

### 3.4.2 Reforming the course portfolio

At the start of the programme, reforming their portfolio was not high on the list of priorities for many institutions. As funding arrangements have changed, individual programmes of study have been required by to demonstrate their value. As a result, many projects have taken place alongside major institutional reviews of the undergraduate curriculum. At BCU, while T-SPARC has been developing new processes for design and approval, the Redesign of the Learning Experience (RoLEx) project has required all existing provision to be reassessed. Happily, the project has been able to demonstrate that reformed processes are supporting the aims of the RoLEx project: enhanced student engagement, employer engagement, employability and flexible assessments. The potential to enhance the quality of provision through system and process reform is now established: ‘The project is really providing the means to undertake this major review of our teaching approach and the systems that underpin that approach, in order to strengthen what we’re offering at qualification level.’ (Mick Jones, Associate Dean, OU)\(^78\)

There is also an increasing desire by institutions to rationalise provision across the portfolio, ensuring there is minimum duplication of programmes, modules and assessment points. However, it is worth noting the findings from MMU report that ‘EQAL has not led to cost reductions or any significant rationalisation and indeed some additional posts have been created [though] if business needs dictate such rationalisation in the future, then decisions based on an online and standardised curriculum must surely be more informed’.\(^79\)

### 3.4.3 Meeting educational demand

Market research is often a weak point in the process of course development, with poor communication between course teams and professional staff, and a significant percentage of programmes failing to recruit as a result. This situation is less marked in disciplines with a clear professional focus, but there is a need for a better consideration of the value offer across the full range of disciplines. Since development of a new course can typically take between one and four years in a UK university, it is also important that curriculum design addresses likely future demand, and that departments can respond to new curriculum areas and new student markets.

Enhancements to information management in this area have been undertaken by Bolton and Cardiff, as reported in section 3.1. Projects have also helped to ensure courses in development are better aligned with demand by:

- Making business, demand or feasibility planning an explicit stage in the course approval process (Cardiff, BCU)
- Providing a range of course views including learning outcomes and cost effectiveness (OU)

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\(^78\) Chatterton (2012), p.34  
\(^79\) Manchester Metropolitan University (2012), p.21
• Taking a risk-based approach to course approval (BCU, Cardiff)

3.4.4 Embedding graduate outcomes and attributes

Several institutions involved in the programme have been through a wholesale review of undergraduate programmes. Changed modular structures are often the headline rationale, but a refocus on graduate capabilities and attributes is also a key driver: many of the institutions funded by this programme have, during this period, either defined for the first time a set of graduate attributes, or undertaken an audit to determine whether and how graduate attributes are being embedded into the curriculum. Graduate outcomes are now seen as intrinsic to the student experience and to the value offered by higher education institutions, over and above subject specialist knowledge. Ensuring that these ambitions were fully realised in curriculum processes and outcomes (i.e. the courses offered to students) was a key driver for engagement in the project at many institutions.

Employability remains the most important graduate attribute, judging from the reports of these projects, and other more specific attributes are often expressed in terms of their contribution to employability in the broadest sense, but institutions are also taking the opportunity to express how they develop rounded individuals with a view beyond their first paid job: international awareness, sustainability awareness, scholarship and social leadership are all attributes that universities are claiming to develop through curricular and co-curricular experiences. Several projects have been directly involved in the articulation of graduate attributes (e.g. Leeds Met) while others have contributed expertise to the process (MMU, City, Greenwich). Others have contributed indirectly through:

• Clearer course documentation, making it easier to audit how graduate attributes are reflected in e.g. learning outcomes and course handbooks (City, OU)
• Changes to the approval process, ensuring course teams consider graduate attributes at appropriate points in the design process, and/or that this has specific scrutiny (MMU, Cardiff)
• Production of staff development materials, IAG and examples of course documentation/designs that support different graduate outcomes, typically linked to the design/approval process (Ulster, Staffs, Leeds Met)
• More stakeholder-friendly representations of the curriculum, supporting more meaningful involvement of external stakeholders such as employers (though this does not in itself mean that engagement will take place) (BCU, City)
• Better auditing of the course portfolio to determine how key competences are being delivered and how these translate into graduate employment (all institutions through KIS reporting requirements, for which work on this programme has provided a firm foundation)

Both MMU and BCU are able to evidence that their curriculum offer is now better aligned with employer needs. At MMU, for example, Physiotherapy students are using e-portfolios to showcase the skills required by their professional body, Law students have taken up more pro-bono and work experience opportunities and attended ProDev networking days involving over forty companies, the inter-disciplinary Creative Digital curriculum has been mapped to specific employer needs, and Accounting/Finance students now get maximum credits from the university curriculum when undertaking professional qualifications.
Changed documentation has allowed new issues to be considered during design, and so integrated into offered programmes. Examples include information skills and sustainability issues. A standardised but flexible design process also offers more traction to embed future priorities into the curriculum. ‘Many key stakeholders believe that the concept of flexibility needs to place greater emphasis on designing for flexible delivery (using new pedagogic and blended approaches, techniques and technologies) rather than simply on flexible systems.’

3.4.5 Reforming assessment

Universities are generally keen to enhance students’ experience of assessment and feedback, and redesigned processes all include quality assurance of the assessment regime. Assessment considerations have been embedded into course documentation and/or into the associated guidance materials across the programme, particularly the requirement to constructively align assessment tasks with learning outcomes. The T-SPARC project at Birmingham City has trialled – and subsequently introduced to the University of Greenwich - the use of VOXUR units to collect students’ ideas about assessment and feedback. Ulster's Viewpoints project has worked closely with the University's Assessment and Feedback group to develop highly useable versions of the REAP assessment principles, and has embedded these into staff workshops and into the induction of student course reps. City has helped staff to use the assessment and plagiarism tools associated with the new VLE.

MMU has achieved success in reducing the number of summative assessments across the undergraduate curriculum, and Brunel University – one of the OULDI project partners – has achieved a 66% reduction after adopting the OULDI learning design approach. Both universities believe that staff are designing more effective summative assessments and focusing more effort on formative assessment and feedback, with benefits for student retention and satisfaction. Some of these enhancements are being picked up by the JISC Assessment and Feedback programme.

3.4.6 Technologies in use for learning

The Design programme did not focus directly on the integration of new technologies into the curriculum, unlike the Transforming Curriculum Delivery through Technology programme. In supporting more agile processes of curriculum design and approval, the programme aimed instead to make it easier for course teams to continuously innovate learning, teaching and assessment methods. However, a number of projects (UG-Flex, SRC, Enable, PALET, PREDICT) have taken the opportunity to enhance their VLE provision and to encourage pedagogically innovative uses. For example, the Staffordshire Enable project piloted a self-assessment service to audit curriculum teams' capacity to make effective use of the VLE (Blackboard). The Coeducate project was one of the first users of Moodle at Bolton University, and undertook the work of linking the new VLE with the student information system. City's PREDICT project supported staff through the introduction of Moodle with pedagogically focused workshops, and reports that 'many academics are now using it as an

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80 University of Greenwich (2012b), p.8
integrated tool to improve teaching rather than a document repository’. Technical information about VLE enhancements can be found in blog posts from Sheila MacNeill and Lou McGill.

Several projects were active in reviewing e-portfolio provision. At Leeds Met, PebblePad was officially adopted in 2011 and licences purchased to cover all students and staff, in line with recommendations from the PC3 project. The project also pioneered the use of Elluminate to support reflection and planning. At MMU the SRC project team explored whether students’ competences could be expressed in a way that would meet professional body requirements. E-Portfolios were found to be successful where there was continuity of systems between the University and professional body or employer. Data from departmental trials was used to inform an e-portfolio review, and as a result, Mahara is now being trialled across the University.

At MMU, the work of SRC has dovetailed with a wholesale e-learning review leading to the development of a ‘core plus’ model of technologies in support of the curriculum and arrange of new services. These include a new VLE (Moodle), online personalised timetabling, an online assessment management process, and a mash-up of student-facing course information so that students can access personal curriculum, assignment, assessment, timetabling and library information from a single point. The SRC project has contributed to the evaluation of these developments and in doing so elicited some interesting findings about students' use of technologies in the curriculum.

- While almost all students owned a laptop, few brought it onto campus to study (for reasons of weight, convenience, security, and a preference for using a mobile device alongside the University’s own computers)
- The majority of students interviewed had the Internet available on their phones but many did not use it (expense, usability issues, preference)
- Students were most confident with social technologies (email, IM, social networking, texting) and least confident in creating online materials or participating in virtual worlds.
- Final year students were not significantly more confident technology users than first years, except in the use of electronic libraries.
- However, final year students had a much more critical approach to online information than first years and showed significantly more sophisticated attitudes towards sites such as Google and Wikipedia
- Many students did not see themselves as technologically adept and preferred non-technological alternatives for study

These findings are strongly echoed in baseline reports from the Developing Digital Literacies programme and provide valuable evidence for addressing student digital capabilities from the start of their programmes of study.

3.4.7 Involving students in curriculum design

Despite all institutions having some form of course rep system to channel feedback - and many examples of responsive teaching within the curriculum - learners were found in the

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81 City University (2012), p.7
baseline process to have very little opportunity to influence curriculum design. A review by MMU found some examples of students influencing timetables and assessment schedules but no sense of engagement in the substance of the curriculum – and little appetite for it. Design of a personalised curriculum was a matter of choosing options (with little choice offered within options) and ‘deciding whether or not to attend lectures’. There were mixed perceptions of the role and influence of student reps, and a number of interesting suggestions for improving the feedback process so that a wider range of student views could be heard.

Student engagement in the curriculum became a priority for all institutions during this period, thanks to changes in the funding regime and new reporting and quality agendas on the part of funding bodies, all of which have made the student experience central to how universities are judged. Curriculum Design projects were required to undertake a workshop on the student experience at the start of funding in 2008, so they were well placed to support and in some cases to lead change in this area. City University has led the way in requiring student-facing documentation. Their approach included changes to module and programme specifications, and guidance to staff on the use of student-friendly language. The Viewpoints resources have been used with groups of student representatives at Ulster to ensure that staff and students have a common language for talking about the curriculum as it is designed.

Staff from all projects were involved in student engagement activities, from inducting student reps to capturing feedback and helping students build their own models of the curriculum. The Cardiff project has undertaken a variety of ‘student voice’ initiatives and T-SPARC at BCU was involved in establishing a Student Academic Partners scheme.

MMU undertook extensive interviews to find out how students actually wanted to be involved in curriculum design, and their recommendations have been acted on. Leeds Met has extended coaching training to 8 students who are now involved as agents of curriculum change, and at City University, students can now apply for funding to pursue their own curriculum change agendas. More effective (re)validation processes and more meaningful documentation are definitely lending more opportunities for the learner perspective to be heard. At Cardiff, one student advocate remarked that under the new system ‘I understand how my assessments link to the teaching and learning outcomes’. There has been less progress, though, in delivering curricula that are flexible and student-centred enough to let all students design aspects of their learning pathway (see the section on radically student-centred curricula above).

### 3.4.8 Better course information enhancing the student experience

*The way in which a School engages with the information it provides to the students and the way it engages with the design of its provision, fundamentally affects the student experience.* (Deputy Pro-Vice Chancellor for Education & Students, University of Cardiff)\(^\text{82}\)

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\(^\text{82}\) Chatterton (2012), p.38
At institutions such as Greenwich, Staffordshire, Cardiff and MMU, academics now have access to accurate data on individual students and on course cohorts, as outlined in section 3.2 on Course Information. This data is being used to support programme analysis, both during the design/approval process and for subsequent reporting, with enhancements to student choice and to the overall quality of the curriculum offer. With rationalised exchange of information, there is also the potential to cross-reference course information with individual student data - for example to identify those at risk of dropping out or underperforming, or to support PDP and IAG - so enhancing the student experience more directly.

The Greenwich project has introduced many system changes that enhance flexibility for students by, for example, offering variable start dates and changes to the academic calendar. Students at MMU, and several other institutions following their example, now have access to personalised timetables and to other course-related information via a single interface. Information that was previously only available in course handbooks can now be accessed through live systems such as the VLE. Student-facing course information can therefore be seen to enhance the experience both directly – through better access and choice – and indirectly – through better analysis informing the design process. However, MMU notes that this creates a new imperative for staff to keep information up to date: ‘the online curriculum needs to reflect what is being taught, what the assignment plans are and what the latest reading lists contain. Students will very quickly see where this isn’t accurate as they will encounter it in Moodle on a regular basis.’

### 3.4.9 Benefits identified for students

<table>
<thead>
<tr>
<th>Project intervention</th>
<th>Benefits for students</th>
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<tbody>
<tr>
<td>Produce reliable, accessible course information</td>
<td>Access to richer information about the curriculum (Greenwich, Strathclyde, Cardiff, City)</td>
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<td></td>
<td>Access to personalised timetable (Greenwich, MMU)</td>
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<td></td>
<td>Access to up to date readings lists and library information (MMU)</td>
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<td></td>
<td>Better understanding of LTA regime and expectations of course (City, Ulster)</td>
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<td></td>
<td>Access to e-portfolio across the institution (Leeds Met, MMU)</td>
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<td></td>
<td>Enhanced VLE and associated functions (UG-Flex, SRC, Enable, PALET, City and PREDICT)</td>
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<td></td>
<td>Access to information literacies (Greenwich)</td>
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<tr>
<td>Develop the technology environment for learning and teaching</td>
<td>Better designed courses (all projects)</td>
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<td></td>
<td>Better use of the VLE (City)</td>
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<td></td>
<td>Experience of coaching in the curriculum (Leeds)</td>
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83 Manchester Metropolitan University (2012), p.22
### 3.5 Transformed organisations

The nature of intervention in institutions is complex, particularly when they involve processes as central to institutional identity as the curriculum. Projects may act with clear aspirations but there are too many interacting forces to be certain what the outcomes will be. In the course of the programme, and particular in CAMEL discussions, several different approaches to change emerged.

*The challenge is how to put in place structures, systems and processes that make it possible for [creative, innovative] approaches to flourish and not be marginalised by the operational pressures that tend to... exclude innovation.*

#### 3.5.1 Engaging stakeholders

Cross-institutional, multi-role projects of this kind not only need to engage different stakeholders successfully in their goals but also need to put in place mechanisms for keeping those people talking once the project is at an end. Responsibility for curriculum

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| Enhance employer engagement and employability in the curriculum | More relevant qualifications (Bolton, BCU, MMU)  
Better mapping of outcomes to employer needs (MMU, Staffordshire)  
Networking between students and employers (MMU) |
|---|---|
| Engage students more meaningfully in the curriculum | Enhanced opportunities to choose/design elements of their learning pathway (MMU)  
Curricula more relevant and responsive to student needs (BCU, City, Ulster)  
Opportunities to reflect on learning (Ulster, Leeds Met) |
| Embed new graduate outcomes/attributes | More relevant programmes of study (Greenwich, Leeds Met, Staffordshire, MMU) |
| Review/reform assessment regimes | Enhanced assessment and feedback opportunities (Staffordshire, MMU) |
| Enhance process of developing business case | More relevant programmes of study (Cardiff, Bolton) |
| Design and deliver student-centred curriculum | Access to HE for work-based students (Bolton)  
Access to coaching-based modules for students across the University (Leeds Met)  
Students more engaged, better outcomes (Leeds Met) |

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84 University of Bolton (2011), p.10
processes and systems is widely distributed, and people interested in the curriculum are even more diverse, including employers, community stakeholders and potential students who are not even members of the university. During their lifetime, projects provided a neutral ground for these stakeholders to be involved, for example in a focus group, world cafe or workshop (Viewpoints, UG-Flex) or in meetings that were not 'owned' by any particular tribe (BCU, OU, Cardiff). These groups have proved valuable beyond their original remit, and several have persisted beyond the end of project funding, in alternative forms. Comments from UG-Flex stakeholders include: ‘it has got people from everywhere and it is able to discuss every perspective in one place’ and ‘conversations can run……it has been a forum that is quite unique’.85

As they came to an end, projects worked to ensure that stakeholder groups had adopted project goals as their own, and had ongoing opportunities to sustain and improve on the innovations. So stakeholder engagement had to be a coherent approach but one that used multiple channels and distributed methods. At BCU a ‘ladder of engagement’ model allowed the project to keep track of multiple roles and interests in the project, while at the same time working within each group of stakeholders to move people to a more engaged level. Early on in the project nominal group technique was used to generate issues for improvement and arrive at a consensus view of who, institutionally, owned the problems and solutions (Figure 5):

![Figure 5 T-SPARC Nominal Group Technique](image)

Greenwich also applied innovative techniques to stakeholder engagement, including rich pictures, world Cafes and (again) nominal group technique to analyse and support stakeholder needs, while City worked in existing channels of influence. For some aspects of development, particularly the piloting of new systems, projects adopted a user-needs focus; however, most stakeholder engagement was on a partnership basis with the aim of achieving shared ownership of project goals and outcomes.

**Communicating with different media**

Different media have been found valuable to keep stakeholders informed and maintain two-way communication. Just as graphical formats such as business process maps have been

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85 University of Greenwich (2012), p.7
powerful in process reform, so visualisations of the project such as those produced by BCU have proved valuable in helping stakeholders understand the aims of the project, or communicate complex issues (see for example the PALET Motherboard: Enable spokes diagram and Section 7 (A Model for Change) in the Viewpoints Final Evaluation Report). The Course Tools project found that ‘engaging stakeholders with ideas is very difficult as long as they remain just ideas, but demonstrators and prototypes which allow a hands on experience can be much more effective’.\(^{66}\) This echoes the experience at Staffordshire where senior staff were inspired by visible products and system interfaces, even if these were only at an early prototype stage.

At BCU and Greenwich, innovative use has been made of video to record stakeholder views. Both projects have found video a highly accessible means of communicating about the project, especially with students and more peripherally involved staff. The video recording process also changes the relationship with the stakeholders involved, which may anecdotally lead to a stronger sense of commitment to the project. Project blogs, YouTube channels, and (increasingly as the funding period progressed) twitter feeds have been important stakeholder engagement tools. However, many projects found that face-to-face engagement with stakeholders to be critical. At Cardiff, interviews of single stakeholders or small groups proved most effective at securing engagement over time, while the Staffordshire project commented that online tools can be useful for maintaining contact between meetings, especially with distributed project teams, but should not be relied on exclusively.

\textbf{Getting the language right}

Projects have learned that it is important to get the language right for different audience. ‘A leading technology university’ might work with senior staff; ‘curriculum renewal’ with teaching staff; ‘process re-engineering’, ‘accessible and transparent systems’ with technical and professional staff. PiP described this as ‘action poetry’. But projects can also provide an opportunity to develop a (new) shared language. The PREDICT project at City found that where previously ‘there was little discussion of the term curriculum... now the term curriculum is used widely across the institution’.\(^{67}\) This is borne out in final evaluation interviews, in which an information architect says: ‘the project has been a success from an IS point of view in that it has raised the awareness of curriculum design and its influence on projects that we may not have realised the significance of previously’.\(^{68}\) A new strategic plan includes the statement that “Focusing staff time on curriculum innovation that will enhance the employability of our students” (City University strategy map 2012 – 2016).

That a project has its own identity, funding, and a profile outside the institution, enables it to act as a focus for activities which might otherwise be disparate and dissipated.

“PiP” gained currency as shorthand for a technologically enhanced, process-oriented approach. In a time of widespread institutional reorganisation and renewed emphasis on reducing bandwidth and streamlining processes these ideas were widely attractive with “PiP” used as a mediating artefact to facilitate discussions.\(^{69}\)

\(^{67}\) City University (2012), p.17
\(^{68}\) City University (2012b), p.16
\(^{69}\) University of Strathclyde, p.26
However, as discussed below, not all projects found that having a clear brand was an advantage in generating sustained and embedded processes of change.

### 3.5.2 Putting processes centre stage

The baseline period allowed projects to focus attention on their institution’s processes and systems, including the attention of people for whom these are not natural concerns. Simply recognising that systems and processes have a complex inter-relationship, and that they are experienced differently by different users, has proved to be transformational in terms of building dialogue and consensus. Across the board, projects report more awareness of the benefits of a joined-up approach to course information management, as evidenced in adoption of the XCRI-CAP standard and the number of project teams involved in successful bids to the JISC Course Information programme.

All stakeholders note the main achievements to date as the single source of programme information, providing better consistency and quality of information and allowing for easier communication of programme information to our staff, students and prospective students.  

There is also better alignment of business and design practices, partly thanks to more fit-for-purpose business systems and partly thanks to a better awareness of how they can be supportive. At Strathclyde and Cardiff there has been a wholesale shift towards a culture of continuously improved systems through the adoption of LEAN approaches, and members of the original project teams are embedded into organisational roles that will take those gains forward. At Greenwich, a review of the impact of current systems on the experience of students taking ‘non-standard’ courses has led to the adoption of a year round trimester academic calendar and framework: ‘The UG-Flex project allowed us to think through different scenarios for how we might structure the academic framework…. and this has led to us moving towards a trimester system (academic calendar) that provides much greater potential for flexible study.’

‘Getting things done that make things better’

Projects that successfully manage the implementation of something useful, however small, gain the right to manage bigger changes. ‘Getting things done that make things better’ (or ‘picking the low-hanging fruit’) has been one of the key lessons of development work in this programme. Course Tools focused on tractable solutions in a complex and highly devolved system; PiP concentrated on developing C-CAP as an enhanced version of current practice; Enable found that sharing prototypes created ‘eureka’ moments that could not be achieved through persuasion in committees.

Even where there is hostility from stakeholders to explicit process improvement strategies via technology, smaller scale improvements and streamlining is possible by virtue of using IT to support an existing process which, in itself, can inspire wider,

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90 Cardiff University (2012b), p.16  
91 Chatterton (2012), p.10
more meaningful process change as stakeholders witness the benefits and transformative potential of technology.92

“I think because PALET has shown some easing of processes and procedures, it’s been much easier for Heads of Schools to say, ‘Look, don’t complain, just get on with it because this is going to be rather easier to do in the longer run.’ So my sense is that as the benefits become proven, the barriers have become irrelevant.” (Cardiff University)

3.5.3 Working across the organisation

Working under the surface

Although project branding can be helpful, several projects have described their organisational change approach as ‘submerged’ or ‘guerrilla’ in its style. The Enable project at Staffordshire set out to ‘seed change messages’ into decision-making processes across the University, from senior committees to regular meetings of academic managers and into IS development /innovation. During a time of almost continuous change, including three changes of VC, the PREDICT project at City University decided to take a relatively low profile. Their Cascading Ripple Approach involved selecting stakeholders purposefully and often one-to-one or in small groups, discussing their practice, encouraging them to share ideas and then, as they began to make changes, involving wider groups of staff. Over time this allowed the project to influence cultural change through broader initiatives such as the consolidation of academic staff development in the learning development centre (LDC) and a review of the strategic learning environment. At Cardiff, the PALET project was launched with a clear brand, logo and identity but by the middle of the project had adopted a more ‘submarine’ approach, making best use of relationships and links already established and initiatives already taking place. The project feels that this has ‘allowed for more flexibility in scope, a better-connected and more focused project team and easier and pragmatic links into other university initiatives’.93

The situation at MMU has been different because of the huge scale and impact of the EQAL initiative. Once this was well established, the role of the SRC project necessarily changed. The project manager has described this new role as being the ‘grit in the oyster’, questioning the received way of doing things, and speaking as the conscience of the initiative’s broader aims: ‘We’re ankle-biters, making sure EQAL remembers what it was for. [We are] able to run focus groups, stakeholder meetings. Our function is to be irritating to the process.’ Having opened the floodgates of organisational change, the project focused on directing the current and on supporting and monitoring the local response.

Working with senior managers

Projects were required to demonstrate commitment from strategic managers in a number of key areas before they received funding. This ‘management alignment’ (City) has proved invaluable at allowing projects to work across established territories. However, keeping their goals on the agenda over four years has proved very challenging, especially as this has

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92 University of Strathclyde (2012), p29
93 Cardiff University (2012), p.23
been a time of great upheaval in institutional priorities and often also in structures and personnel. One project has survived three changes of vice chancellor, another the loss of the project manager and three directors, and disbanding of the unit the project was originally based in.

At MMU the steering group remained stable throughout the period of funding, with executive and senior staff from Learning and Teaching, Standards and Quality, Careers, and Planning, chaired by a Deputy VC. Meetings of this group involved practical planning as well as decision making and reporting back, ensuring that the different strands of the project were well coordinated and had senior oversight. 'With change on this scale, policy decisions are not enough and it requires strand leaders who will work with many areas of the university, making on the spot decisions to remove the many barriers to change that may occur such as finding resources or re-allocating priorities.'\(^{94}\) As a whole-institution change initiative, EQAL appointed faculty champions, which the SRC project was able to draw upon.

Greenwich, Leeds Met and Strathclyde have seen a more volatile engagement in their project steering / management group/s as roles and personnel have changed, but have used this to their advantage when it comes to embedding and scaling innovation. Over the lifetime of UG-Flex at Greenwich, 5 out of the 10 schools/institutes and 9 out of the 13 support/professional offices have had senior representatives involved. Greenwich found that commitment varied depending on team cultures and individual attitudes, and the perceived relevance of the project's goals to that person’s own role and priorities. The flexible composition of the group allowed the project to adapt to changes in organisational agendas and in senior personnel.

Even more radically, the BCU project dispensed with a high level project Board entirely during the second half of its lifecycle – albeit only after it had already achieved significant institutional influence. The final report notes that this was a deliberately more agile strategy which ‘allowed for rapid decision making relating to the running of the project to be continually articulated with the wider needs of the University.’\(^{95}\)

**Working with IT teams**

At Staffordshire the Enable project found that the governance of IT development was not conducive to rapid progress, or to taking a joined-up view beyond the installation of specific systems. The project team have highlighted the need for more effective initiation and implementation of innovation projects and made recommendations to the new Head of Change Management. Experience at other projects suggests that curriculum innovations often take longer to embed and evaluate than other IT projects and the expectations of IT/IS staff for clear measures of impact and end-of-project milestones need to be managed. City found that a professional service such as Learning Development could be a valuable interface between IT teams and academic staff, allowing for more successful communication.

\(^{94}\) Manchester Metropolitan University (2012), p.10
\(^{95}\) Birmingham City University (2012), p.12
Working with staff in academic departments/schools

As discussed in the section on developing design practice, most projects spent a great deal of time – particularly in the latter half of the programme – working directly with curriculum teams. The UG-Flex project noted that *reforming systems and processes does not in itself lead to flexible curriculum design or innovation: consideration must be given to academic practice ... as well as to organizational culture and mindsets.* The OULDI project evaluation found that uptake of new tools and techniques by academic staff depended on their existing skills (both technical and pedagogic), and their experience and confidence as course designers. Workshops focused on design as a professional practice that could be enhanced, with face-to-face activities giving staff the confidence to try new ideas and learn from each other. At partner institution Reading, staff development has addressed staff readiness, attitudes and skills at the same time as introducing new tools and techniques. Staff conferences with a curriculum design focus (e.g. at City, the Open University, Leeds Met, MMU and Greenwich) have shown that high profile events can have both a summative effect - enabling staff to showcase successes in this area - and a rallying effect, proving that curriculum design is institutionally valued.

At City University, a School Liaison Model has given the central team insight into the needs of different subject areas, and has led to staff seeking out their support for curriculum redesign, rather than seeing new systems as an imposition. The project has evidence that this has led to sustainable and embedded cultural change.

3.5.4 Models of change management

The programme benefitted from critical friends who were experts in change management in the higher education sector, and from previous work done by JISC as recorded in the JISC Change Management infoKit. As this resource argues, change in complex organisations is an adaptive, iterative and political process, and successful change agents are often those that proceed by analogy rather than by analysis. Being situated outside of mainstream structures of management and control, projects can be politically effective by influencing widely and gaining credibility, and as we have seen by creating powerful analogies (metaphors, visualisations). But they are at constant risk of being sidelined and of their interventions diminishing rather than amplifying in effect.

The CAMEL process - whereby projects shared organisational approaches in confidence with others facing similar challenges - has highlighted the variety of change management approaches that are available and the fact that none are sure-fire successes. Factors such as project team location, the role of senior/executive champions, and organisational priorities/challenges have been significant, but all projects have had to be agile and prepared to change tack as these factors changed around them. They have also had to constant distribute and redistribute effort. Complexity analysis carried out by the five projects involved in Cluster B found that success in each case has required transformation in even more processes than originally envisaged.

Where projects were located has been important to the influence they have had. As analysed in some detail by their critical friend, Stephen Brown (internal JISC report) the Course Tools project suffered from being located in a unit which did not have a direct stake
in the embedding of project outcomes, and was deliberately positioned outside of other organisational structures, maximising its potential to innovate but minimising its influence. Most of the other projects were settled in or closely aligned with centres for academic staff development. The BCU project was located in the Centre for Enhancement of Learning and Teaching, and the project manager became Head of Academic Staff Development during its funding; City was influential in consolidating academic staff development functions into one unit; at Greenwich the project manager was seconded to EDU for two days per week following a mid-term analysis of project impact. This has allowed projects to be maximally influential in changing practice, always a longer-term and more challenging task than changing IT systems or reforming business processes, which are activities that can be driven through existing structures. However, securing a mandate for change and finding resources for the necessary development work are not possible from professional service teams without executive endorsement.

Enable at Staffordshire has taken an unashamedly centralising approach to change management, driven by an enterprise view of systems and architectures. The value of tools and approaches from Enterprise Architecture and TOGAF has been picked up senior staff in the University and a new role has been created. The Head of Change Management will take forward the 'hub' approach, pioneered by the project, whereby institutional initiatives are coordinated thematically and managed in a joined-up fashion.

At the Open University, the project pursued top-down and bottom-up approaches in parallel. The team concludes that 'bottom-up activity can develop innovation quickly and provide good use examples, yet strategic top-down approaches may enable these practices to spread laterally across the organisation more quickly'\(^{96}\). And in line with the project's distributed, 'ripple' approach, the PREDICT team have developed a Cycle of Change model that maps how project activities impact on – and react against – aspects of institutional culture. Cluster B, under the guidance of Stephen Brown, has explored the relative merits of top-down and bottom-up approaches to change, and concluded that neither is sufficient for a 'whole of organisation' impact. Rather what is needed is distributed leadership, whereby change can happen in top-down systems and through lateral forms of influence simultaneously.

**Discourses of resistance**

In complex institutions, change happens all the time. People who resist particular changes are not necessarily conservative, they may just have a different understanding of the situation and a different view of what will improve it. All projects encountered resistance to the changes they were proposing, or strong alternative currents, whether this arose from senior managers who felt that the proposed changes would infringe on their territory or from staff in departments (internal review by Stephen Brown, critical friend to Cluster B) who felt that they would infringe on academic ownership of the curriculum.

Several projects sought to identify these ‘discourses of resistance’. The Open University project noted that reasons given for not adopting a new approach included lack of time and the costs of development, lack of evidence and testing of the tools and techniques, lack of theoretical underpinnings, and concerns about the autonomy of curriculum teams. Many of

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\(^{96}\) The Open University (2012), p.11
these reasons, they noted, were given ‘historical or institutional legitimacy’ in departments. A report from the Strathclyde project, Critical analysis of business process change and C-CAP within class and course approval explores in detail the role of myth in large organisations and the way ideas about processes had grown up – often without much basis in fact. Rather than tackle discourses of resistance head on, these and other projects chose to generate evidence of the positive impact of change, and to disseminate their own alternative metaphors. At programme level too, projects were encouraged to work together to develop positive ‘stories’ of institutional change, recognising that these often have more human impact than statistical evidence.

The role of the programme

At the start of the project, the development of a formal Project Initiation Document and a push from the JISC towards waterfall methods of project management (such as PRINCE2) offered a useful opening structure to begin work and to produce an initial shared framework for collaboration with CICT.97

The project has derived great benefit from being part of a twelve project national JISC programme and from gaining insight and experience of other institutional practice. The successes at more than one of the external pilots have undoubtedly strengthened the internal case for adopting a learning design approach.98

Final reports provide many examples of how being pushed to manage the change process as a formal project generated institutional outcomes that would not otherwise have been possible. The baselining process seems to have been particularly important in establishing a consensus for change and identifying the important challenges. At Staffordshire, Strathclyde and Cardiff in particular the institution has taken on new formal processes for managing innovation and change as a result of engagement in the programme.

Involvement with other projects in the programme was also identified by projects as key to their impact. The programme gave practical support with technical and business process issues; it allowed for open sharing of professional perspectives and methods of change management; it introduced new techniques, and supported the collection and evaluation of evidence. CAMEL groups and cross-programme meetings allowed project teams to share and learn from others in similar roles, a way that would not otherwise have been possible. There were opportunities to author collaborative papers and presentations, bringing the kudos of external attention, and other institutions were available as test beds for transferable products or ideas. The programme also provided regular points of external scrutiny and review. Projects noted that this allowed change to be directed with greater awareness, better stakeholder engagement, and more access to critical resources. Project teams have been able to embed these processes back into the mainstream practice of their units and in some cases extend them across the organisation.

97 Final programme meeting May 2012
98 The Open University (2012), p.20
4. What has been learned?

4.1 Lesson learned

4.1.1 Lessons in transforming processes

1. Stages in the design/approval/review process are interconnected, and in practice more iterative than linear.
2. Quality can be enhanced by supporting a richer process, with curriculum design rather than approval as the main focus (e.g. BCU, Ulster, OU). However, this does lead to more demands on learning professionals’ time.
3. Streamlined processes of approval (e.g. Cardiff, MMU) can support efficiencies without compromising on the quality of outcomes.
4. Tools to support business case development, integrated with other aspects of the design and approval process, can ensure courses are more fit for purpose.
5. More transparent documentation and enhanced workflows can distribute the work of curriculum processes more effectively across different roles, but this can require cultural change in terms of ownership and control.
6. Wholesale process change requires at least some standardisation of systems, which can only be achieved via an executive process (MMU) – this also helps to ensure parity of student experience.
7. Staff may be reluctant to use new processes, at least initially, for a variety of reasons. A step-wise transition to new systems can be more acceptable but this does undermine some of the benefits.
8. It is only through continuous, iterative engagement with users that systems can develop to meet their varied needs and roles and enhance their real-world practices. ‘Things that seemed like minor glitches in the system to developers, can transform into deal-breakers for users.’ (BCU final report)
9. High level Enterprise Architecture approaches and less technical approaches such as UML and rich pictures can both be used to visualise workflows and start the dialogue about the process ‘as is’ and the aspirational state.
10. Lean processes and formal methods such as agile and incremental systems design, Six Sigma techniques, Business Process Modelling Notation and process analysis, and structural evaluation approaches can generate significant benefits terms of efficient processes, agile systems, and enhanced reporting and analysis. However, they require time and specialist expertise.
11. Agile approaches such as web services built on top of existing architecture (e.g. SITS, Sharepoint) have been effective and involve less upfront investment in systems: however not all IT staff have the skills to develop web services.
12. There is a tension between data driven services and document sharing technologies, e.g. Sharepoint is not designed to share data with non-MS systems, so developing onto it needs care and expertise.

4.1.2 Lessons in transforming course information
1. There should be only one version of course data/documentation in existence for each instance of a course/module, with full transparency and access to the range of stakeholders.
2. This data source should be capable of being easily exported/repurposed for multiple uses in curriculum design and delivery.
3. Formal standards/specifications for course descriptions e.g. XCRI-cap are not a key driver or enabler at this time, but with KIS outputs required on university websites this may change: reliable data sources are key to creating XCRI feeds.

4.1.3 Lessons in developing practices
1. Curriculum design practice is defined by personal and professional as well as organisational factors
2. There is potential to influence curriculum design during the formal validation/review process (Staffordshire, MMU, Cardiff, BCU) but...
3. … most curriculum innovations take place in the period between course (re)validations, which is one reason for focusing on helping staff develop their own practice (Ulster, City, Leeds Met)
4. A ‘toolbox’ or ‘pick-and-mix’ approach, providing the elements are based on sound principles of design, is more effective than a requirement for staff to follow a particular system or sequence of design activities (OU, Ulster)
5. Face-to-face workshops, ideally involving the whole course team in a time and place set aside for that purpose, are more effective than access to resources on an individual basis (OU, Ulster, BCU, Greenwich)
6. Workshops require skilled facilitation and alignment of aims with institutional strategies as well as with the immediate needs of participants (OU and other projects)
7. Buy-in from academic team leaders is essential both for engagement in workshops and ensuring materials and ideas are embedded afterwards.
8. Capturing the outcomes of rich design conversations is relatively straightforward: it is more challenging to ensure this record are used in formal processes (BCU, Greenwich)
9. Staff development interventions and resources should themselves be well designed: they should be contextualised or adaptive, easy to apply into practice, authentic, appealing, and they should embody sound educational principles.
10. Collaborative technologies can support discussion effectively, but can also change roles and relationships in the design process.
11. Sustained partnerships need to be built with students and employers if they are to engage in a meaningful way.
12. All institutions could benefit from the tools and resources that have emerged from the programme, particularly those for curriculum visualisation, storyboarding, and embedding educational principles

4.1.4 Lessons in transforming learning opportunities
1. Radically innovative approaches to the curriculum – work-based, flexible/negotiated, interdisciplinary – may need to be ring-fenced during development in order to prove their value.
2. Embedding new models requires high-level commitment over time as systems, approval criteria, funding arrangements, business processes and even academic calendars may all need to be adapted.

3. A radically student-centred model can impact on learning and teaching beyond the validated programme(s) by offering an example to other programme teams, and by subjecting institutional systems to critical stress.

4. The business or value case for a course needs to be properly integrated into the design process – including better dialogue between academic staff and other professionals – if programmes are to meet the needs of future students.

5. A focus on graduate attributes in both documentation and professional support can bring forward curriculum models that are relevant and fit for purpose.

6. Employability needs to be considered in all course design, not only in vocational subjects.

7. Engaging students and employers in the design process means committing to make those processes accessible, and building long-term partnerships that extend beyond curriculum issues.

8. The ideal change cycle appears to be about 18 months, allowing time for new ideas to be fully developed and piloted without losing focus or energy. Many change initiatives need to roll over academic years: this is increasingly also true of flexible courses.

9. Making course information more visible and useful to students has a direct impact on the student experience. It also creates new dependencies and a requirement that this information be kept up to date.

‘What PALET has allowed is a dedicated response to this multiplicity of elements .... And I think if I were to capture it, it’s been about this convergence, which has been far greater than if we’d tried to do parallel work on each one of these areas at the same time.’ (Deputy Pro-Vice Chancellor for Education & Students, University of Cardiff)

‘UG-Flex [has] acted as a catalyst for getting different parts of the institution to talk to each other.’ (Simon Jarvis, Deputy Vice-Chancellor (Academic Development), University of Greenwich)

‘Programme design is crucial to us delivering to our corporate objectives’ (Mary Carswell, Pro-Vice-Chancellor (Academic and Employer Engagement), Birmingham City University)

‘EQAL bundled a number of changes together and gave them momentum. There was a clearer set of relationships... It linked a number of developments that had previously been free-standing and allowed connections to be made that might not have been made without the EQAL process’ (Alexander Thorley, Director of Student Services and Deputy Registrar, MMU)
4.1.5 Lessons in transforming organisations

Initiation

1. Ensure that the commitment required from key players and partners is commensurate with their interest and the resource they have available
2. Ensure all players understand the level of commitment required
3. Clarify the activities and responsibilities of each team member and ensure they have the authority and expertise to carry them out
4. Spend a significant amount of time at the outset exploring the scope and boundaries of project, gathering requirements and testing beliefs
5. Do not rush into building systems or implementing solutions.

Engaging stakeholders

1. Use a variety of methods and media to suit different stakeholder groups, but keep the core messages clear.
2. Engage stakeholders early and iteratively – as personnel and agendas change, new people will come on board and some who have been champions may drop away
3. Manage the expectations of stakeholders
4. Allow time for dialogue among stakeholders and across boundaries: aim not to broker the relationship indefinitely but to build self-sustaining connections
5. Discourses of resistance can be legitimate: at any rate they are often institutionally or culturally legitimated. It can be more productive to look for alternative stories than to confront them head-on.
6. Tools, approaches and system changes that represent a small step for staff are more likely to be adopted: however, there is a risk that the full benefit of alternative approaches will not be felt (and so staff will return to previous approaches).
7. People are more likely to implement solutions they have had a part in developing
8. Build trust in systems, or the systems are useless. Change projects are rarely in a position of management or control, so credibility is everything.
9. Disseminating early is important to aid reflection and gain an external viewpoint. It can also enhance the credibility of the project internally.

Governance and support

1. Particularly in the first half of any change project, a steering group or project board of senior managers is critical: “Taking issues to the EQAL Board was helpful because it meant that decisions were made by, and had the backing of, a key group of senior staff.” Alexander Thorley, Director of Student Services and Deputy Registrar, MMU
2. A working group should also be established, ideally with overlapping membership so key strands of work are led by people with influence and resources.
3. It is important that the project team can respond tactically to change in the organisational environment, but be supported by the steering group in strategy and direction.
4. Overview of change/innovation processes and of specific initiatives should be a defined organisational role; it is also helpful for there to be cross-initiative membership of the relevant steering groups.
5. Governance of IT developments can lead to ‘siloh solutions’: this is one area where joined up thinking is critical if the value of investments is to be realised.
6. Enlist an external critical friend, capable of being both challenging and supportive, and a broker with internal and external sponsors.

7. Working with other institutions is valuable, especially using a CAMEL style approach (open sharing within a closed format, people in similar roles sharing across a small number of institutions)

**Change management**

1. Top-down and bottom-up approaches to change have their relative strengths, but neither is sufficient. For whole-institution change, ‘distributed leadership’ is required – building the commitment of senior managers to implement systemic change while helping cultural change to spread laterally.

2. A coherent approach to change management involves mapping the current state, articulating aspirations for the future, prioritising desired changes, and managing information in a joined up way.

3. Formal approaches such as EA, TOGAF and LEAN are powerful, if there is the expertise to apply them.

4. However, projects have also been successful with low-key, person-to-person interventions that ‘encourage stakeholders to identify and understand problems and to engineer their own solutions’ (Greenwich)

5. Tolerate changes in deliverables/outcomes and allow for an emergent strategy, with the focus on direction of travel.

6. Working in parallel across a range of fronts – organisational, educational, administrative and technical – is the best approach, minimising dependencies where possible.

7. While remaining responsive, projects should monitor new opportunities for scope creep: explore potential benefits, risks and impact of any change in scope against the original aims and stakeholder interests.

8. Expect changes in senior personnel, organisational priorities, and even organisational structures, in any change initiative lasting more than one year. New faces/units mean new opportunities to embed the change agenda but existing staff may become change weary/wary.

**Location and timing**

1. Projects around curriculum must have educational credibility: a location within or aligned to academic staff development gives the best chance of effecting cultural change.

2. However, IT/IS teams must also be well resourced and well integrated, so that developments are efficiently managed and fully aligned with project goals and stakeholder aspirations.

3. Projects have invariably found it beneficial to time curriculum process initiatives alongside other major reforms such as portfolio review or curriculum restructuring.

4. Eighteen months is the minimum period to achieve major process change.

**Educational change**

1. Use a number of clear educational principles as a touchstone – they can support communication about the benefits of change and lend themselves to
adoption/interpretation in different contexts e.g. University documents and policies, curriculum documentation, course handbooks.

2. Refer to educational drivers for change, e.g. national student survey data, meeting student expectations, achieving excellence.

3. Academic staff appreciate evidence of value/benefit in terms of the student experience

4. Other reasons for resisting educational change include lack of time for professional development, resistance to the language or format used, fear of loss of autonomy/control

5. There is a need for better understanding of the relationships between different ‘levels’ of design, from the whole-programme view through to the design of tasks and learning interactions.

6. There is a need for more measures in respect to the quality of design process and the suitability and effectiveness of designed programmes of study.
## 4.2 Benefits

<table>
<thead>
<tr>
<th>Project</th>
<th>Beneficiaries</th>
<th>Benefits</th>
<th>Details/evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenwich/UG Flex</td>
<td>Academic staff (e.g. in programme teams), senior school staff (Directors of Learning &amp; Quality), staff managing resources (e.g. space management) and records administrators.</td>
<td>More structured and granular information on courses and programmes and on students on flexible programmes on the University of Greenwich student records system.</td>
<td>Staff had previously had to extrapolate information about students on flexible programmes manually, often time-consuming and error-prone. Identified by stakeholders back in 2009 as major point of pain for staff in schools and central offices and it is anticipated that the will achieve considerable efficiency savings. See comments from one stakeholder: <a href="http://www.youtube.com/watch?v=RQWkoWWB8rk">http://www.youtube.com/watch?v=RQWkoWWB8rk</a></td>
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<tr>
<td>Greenwich/UG Flex</td>
<td>Students</td>
<td>Access to structured and granular data on curriculum</td>
<td>Staff and students now have access to accurate information about their programmes of study, for example: online enrolment for students based overseas and online personalised timetables as well as the appropriate resources for their courses on the university’s VLE. See discussion: <a href="http://www.youtube.com/watch?v=5KrAimo7pgM">http://www.youtube.com/watch?v=5KrAimo7pgM</a></td>
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<tr>
<td>Greenwich/UG Flex</td>
<td>Senior academic staff (e.g. Programme Managers, Head of Department) Educational Development Unit staff</td>
<td>Better training and support in information literacy</td>
<td>Surveys and focussed discussions with academic managers and the evidence from these is that many struggle to use digital information to fulfil aspects of their role and moreover were often entirely unaware how this information could be used to enhance the quality of teaching and learning. Staff now have access to improved training and support materials in information management and digital literacies, tailored to individual needs. This work is continuing through the University of Greenwich JISC-</td>
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<tr>
<td>Human Resources staff</td>
<td>funded digital literacies in HE project</td>
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<tr>
<td><strong>Greenwich/UG Flex</strong></td>
<td>A Training Providers Network was set up in June 2012 and is administered by the University of Greenwich’s Human Resources offices.</td>
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<tr>
<td>Academic staff (programme teams etc.) All staff in schools and business support/professional offices. Educational development Unit staff</td>
<td>Tools to support staff to engage in high quality curriculum design, resulting in higher quality curricula, awareness and engagement.</td>
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<tr>
<td><strong>Greenwich/UG Flex</strong></td>
<td>Using tools developed by the University of Ulster’s Viewpoints project and other bespoke tools, members of Greenwich’s Educational Development Unit are now working directly with programme teams to help them to explore how to improve their courses to maximise student success.</td>
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<tr>
<td>Academic staff, administrative staff in Office of Student Affairs. Learning &amp; Quality Unit</td>
<td>Improved quality assurance procedures and systems, notably for course approval and review.</td>
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<tr>
<td><strong>Greenwich/UG Flex</strong></td>
<td>Procedures reviewed and improved for the approval and review of programmes; monitoring of programme approval and review automated and fully accessible to staff.</td>
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<tr>
<td>HEI and wider HE community (in UK and internationally) SunGard/Ellusian</td>
<td>Better knowledge and understanding of the complexities and costs of curriculum flexibility in an HE institution.</td>
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<tr>
<td><strong>Greenwich/UG Flex</strong></td>
<td>See stakeholder comments: <a href="http://www.youtube.com/watch?v=W8edq7fsT4">http://www.youtube.com/watch?v=W8edq7fsT4</a></td>
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<td></td>
<td>We are in a position to share models for the adaption of systems to manage flexibility and an understanding of the complexity of flexibility in an HE institution.</td>
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</tbody>
</table>

See also http://ugflex.blogspot.com/2011/06/disseminating-good-practice-knowledge.html for commentary on how Greenwich has engaged with the Viewpoints materials.

Interactive Staff Development Workshop “Snakes & Ladders”
See short discussion at: http://www.youtube.com/watch?v=3cF9i0X1bbI
Ellusian are very interested in the outcomes of this project. “We are seen as a point of authority in Europe”.

<table>
<thead>
<tr>
<th>Institution</th>
<th>Description</th>
<th>A model for stakeholder engagement, communication and dialogue that can deliver continuous improvement</th>
<th>Stakeholder Engagement Tools:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenwich/UG Flex</td>
<td>Information Systems Professionals, Change Managers, Projects Managers and Academic Managers in HEIs</td>
<td></td>
<td>• Rich Pictures</td>
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<td>• Nominal Group Technique in meetings (how to guide)</td>
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<td>• Going for a quick win</td>
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<td>• World Cafes - a way to engage stakeholders in productive conversations</td>
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<td>• World Cafes (as a tool for student engagement)</td>
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<td>Stakeholder comments on achievement of continuous improvement</td>
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<td>Stakeholder comments on cultural change:</td>
</tr>
<tr>
<td>Greenwich/UG Flex</td>
<td>Change managers, project managers, senior managers in HEIs</td>
<td>Practical support for those involved in leading and managing change in HEIs (or any organisation going through change).</td>
<td>“Creative Thoughts on Change” a tool to support change managers.</td>
</tr>
<tr>
<td>Strathclyde/PiP</td>
<td>Course and class designers (academic staff)</td>
<td>Improved Approval forms</td>
<td>Improved Approval forms that:</td>
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<td></td>
<td></td>
<td>• Are easier to fill in &amp; facilitate single source data entry</td>
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<td>• Allow for higher “first-time” approval rates &amp; reduce requests for more information</td>
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<td></td>
<td>• Provide better review/feedback /revision workflows &amp; track proposal progress</td>
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<td></td>
<td></td>
<td></td>
<td>• Provide easier-to-access information on curriculum relevant to students</td>
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<tr>
<td>Institution/PIP</td>
<td>Role</td>
<td>Objective</td>
<td>Implementation Strategies</td>
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<tr>
<td>Strathclyde/PiP</td>
<td>Faculty officers and admin staff</td>
<td>Provide better information on designing curriculum in line with principles of good design/ pedagogy and give greater opportunity for delivery of desire university portfolio.</td>
<td>Satisfy university/QAA Scotland mandate to standardise information through: Improving “first-time” collection of module/programme data. Reducing number of modules/programmes rejected at committee. Providing better quality and more accessible information for reporting. Supporting dissemination around educational strategy.</td>
</tr>
<tr>
<td>Strathclyde/PiP</td>
<td>Faculty committees</td>
<td>Easier to satisfy university/QAA Scotland mandate to standardise information</td>
<td>Business Case information a new mandatory first approval stage. Online system gives easy access to proposal with targeted summary views for highlighting key information. Tracking / version control ensures creates history. Feedback embedded so committees can easily verify satisfaction of requirements. Redesigning forms prompts designers to present more information in a structured manner with the quality of the design therefore better assessed.</td>
</tr>
<tr>
<td>Strathclyde/PiP</td>
<td>Registry (now Student Lifecycle) and Ordinances &amp; Regulations Committee</td>
<td>Access to reliable information about courses and classes</td>
<td>Guarantee that data has passed through all necessary stages before being presented. Automated confirmation to course/class designers when requests processed. Ability to monitor proposals in process to plan work load and identify issues. The data entry process could be automated to eliminate re-keying.</td>
</tr>
<tr>
<td>Strathclyde/PiP</td>
<td>Business systems (Corporate Information Services)</td>
<td>Better information about courses/classes in student records system</td>
<td>Guarantee that data has passed through all necessary stages. An enhanced data source that can be used for data mining. The opportunity to automate the data entry process.</td>
</tr>
<tr>
<td>Strathclyde/PiP</td>
<td>Strategic Committees, (Quality Monitoring, Educational Strategy)</td>
<td>Better match between institutional strategic priorities and curriculum activities</td>
<td>Re-designed course procedures provide C-CAP process provides better information on the extent to which course and class designs embody the relevant policies. Data captured is more accessible. C-CAP database is amenable to generating reporting required for internal/</td>
</tr>
<tr>
<td>Institution</td>
<td>Participants</td>
<td>Benefits</td>
<td>Implications</td>
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<td>-------------</td>
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</tr>
<tr>
<td>Strathclyde/PiP</td>
<td>Curriculum Related Units &amp; Committees i.e. Estates/Timetabling, Library, Disability Service, Marketing, Finance</td>
<td>Transparency in approval</td>
<td>Allows stakeholders to view proposals at the earliest opportunity. Specific information relevant to Library, Timetabling, Disability Service, Finance and Marketing is identified in forms. Opportunity to create dedicated summary views that represent the interests of these stakeholders.</td>
</tr>
<tr>
<td>Strathclyde/PiP</td>
<td>Senate</td>
<td>Better information to inform decision-making</td>
<td>Streamlined process with a guarantee that proposals had proceeded through all appropriate stages.</td>
</tr>
<tr>
<td>Strathclyde/PiP</td>
<td>Students</td>
<td>Better course designs</td>
<td>Better access to course information. A more attractive and better designed curriculum experience.</td>
</tr>
<tr>
<td>Strathclyde/PiP</td>
<td>External agencies (QAA, SFC, HEIs)</td>
<td>Curriculum approval system that is responsive to wider sector guidelines. Alignment of project with wider programme/sector aims and objectives</td>
<td>Improved forms include lists that are interoperable with QA and KIS. Evidenced through reporting and ongoing participation in programme meetings/processes.</td>
</tr>
<tr>
<td>Strathclyde/PiP</td>
<td>JISC</td>
<td>Alignment of project with wider programme/sector aims and objectives</td>
<td></td>
</tr>
<tr>
<td>BCU/T-SPARC</td>
<td>Students and academic staff</td>
<td>Better designed programmes. Better learning experience</td>
<td>N/A (programmes are yet to run) though there is a perception that programmes are better designed: <a href="#">Testimony from a CELT nominee</a>.</td>
</tr>
<tr>
<td>BCU/T-SPARC</td>
<td>Students, staff and the wider University through enhanced progression and retention</td>
<td>Better programme outcomes</td>
<td>Programme designs are in place but are yet to run.</td>
</tr>
<tr>
<td>BCU/T-SPARC</td>
<td>Students, employers</td>
<td>Opportunities for better technology</td>
<td>Technology based infrastructure has been designed and delivered.</td>
</tr>
<tr>
<td>Institution</td>
<td>Stakeholders</td>
<td>Benefits</td>
<td>Supporting Evidence</td>
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</tr>
<tr>
<td>BCU/T-SPARC</td>
<td>Students and academic staff</td>
<td>Better destinations data alignment with employer needs and thus more employable students</td>
<td>Video demonstration of system (Version 1)</td>
</tr>
<tr>
<td>BCU/T-SPARC</td>
<td>Academic staff</td>
<td>Influence over their experience – students have bolstered opportunities on the designs of their programmes</td>
<td>Technology based infrastructure has been designed and delivered Video demonstration of system (Version 1)</td>
</tr>
<tr>
<td>BCU/T-SPARC</td>
<td>Academic staff</td>
<td>Supported design process</td>
<td>New process includes embedded support Testimony from a CELT nominee</td>
</tr>
<tr>
<td>BCU/T-SPARC</td>
<td>Academic staff</td>
<td>Augmented information in relation to programme design</td>
<td>Creation of the Rough Guide to Curriculum Design</td>
</tr>
<tr>
<td>BCU/T-SPARC</td>
<td>Academic staff</td>
<td>More democratic approach to design process</td>
<td>Approval now requires evidence of wide team engagement in the design process Testimony from a CELT nominee</td>
</tr>
<tr>
<td>BCU/T-SPARC</td>
<td>Academic staff – particularly the Programme Director</td>
<td>Better distribution of workload</td>
<td>New system to support design streamlines the workflow – this includes mechanisms for the distribution of tasks Video demonstration of system (Version 1)</td>
</tr>
<tr>
<td>BCU/T-SPARC</td>
<td>Academic staff, wider university</td>
<td>More responsive/time approval process</td>
<td>Iterative design process delivered</td>
</tr>
<tr>
<td>BCU/T-SPARC</td>
<td>Academic staff, administrative staff</td>
<td>Centralisation of documentation – one version of the truth</td>
<td>SharePoint-based document management system integrated into new processes and system Video demonstration of system (Version 1)</td>
</tr>
<tr>
<td>Institution</td>
<td>Staff, Stakeholders</td>
<td>Methodology</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>BCU/T-SPARC</td>
<td>Academic staff, administrative staff</td>
<td>Single point of data entry</td>
<td>Use of web form as an alternative to documents allows for multiple documents to be populated from single sources of data. Video demonstration of system (Version 1)</td>
</tr>
<tr>
<td>BCU/T-SPARC</td>
<td>Academic staff, students and the wider university</td>
<td>Holistically designed programmes</td>
<td>Technology based infrastructure has been designed and delivered. Testimony from a CELT nominee</td>
</tr>
<tr>
<td>BCU/T-SPARC</td>
<td>Academic staff, administrative staff, wider university</td>
<td>Streamlined process for re-approval</td>
<td>Technology based infrastructure has been designed and delivered. Video demonstration of system (Version 1)</td>
</tr>
<tr>
<td>BCU/T-SPARC</td>
<td>Academic staff, administrative staff, wider university</td>
<td>Streamlined process for minor modifications</td>
<td>Technology based infrastructure has been designed and delivered. Video demonstration of system (Version 1)</td>
</tr>
<tr>
<td>BCU/T-SPARC</td>
<td>Academic staff, students, employers, wider university</td>
<td>New emphasis on design vs. preparation for approval</td>
<td>New processes were approved for piloting by Senate in July 2010. Video commentary: evaluation data (see report)</td>
</tr>
<tr>
<td>BCU/T-SPARC</td>
<td>HE Sector</td>
<td>Wider understanding of what stakeholder engagement means</td>
<td>Stakeholder Engagement Model developed and widely adopted by sector</td>
</tr>
<tr>
<td>BCU/T-SPARC</td>
<td>Academic staff, the JISC, HE Sector</td>
<td>Wider and deeper understanding of the process of curriculum design</td>
<td>Wealth of artefacts and presentations have been offered to the sector over the past four years, see: Rough Guide to Curriculum Design; Baseline Review; Design Studio page</td>
</tr>
<tr>
<td>OU/OULDI</td>
<td>Module development chairs and teams</td>
<td>Greater awareness of the benefits of learning design approaches</td>
<td>Staff have acquired new conceptual frames, deeper understandings of pedagogies and a richer language to describe their intentions, reasoning and practice. New Learning and Teaching Strategy includes two related strategic objectives: to ‘develop and apply new approaches to learning design’ and that ‘all staff will have expertise to engage in learning design.’ OULDI project has contributed two of the five Curriculum Business Model</td>
</tr>
</tbody>
</table>
representations that will be used as exemplars in all new module
development
Curriculum Design now featuring in the most recent Institute of Educational
Technology Business Plan, in the revised process for module development in
the Faculty of Education, and in a new draft for Module Chair (the module
development leader) roles.
By mid-2010 (midway through the project) around half of the academic staff
surveyed said they had come across the term ‘learning design’ (n=100).

| OU/OULDI          | Module development chairs and teams | Enhanced capacity to visualise the course being designed | The project has found that visualising learning designs can help in:
|                  |                                   |                                                        |
|                  |                                    |                                                        | • Making the structure and relationships explicit
|                  |                                    |                                                        | • Supporting reflection on the learning design and in particular the student
|                  |                                    |                                                        |   experience
|                  |                                    |                                                        | • Testing how achievable and practical the design is
|                  |                                    |                                                        | • A diagnostic tool for the evaluation and annotation of a design
|                  |                                    |                                                        | • Collaboration and communication of ideas
|                  |                                    |                                                        | • Organising thoughts, including mind-mapping and brainstorming
|                  |                                    |                                                        | • Sharing the visual design or ‘learning plan’ with students
|                  |                                    |                                                        | • Supporting the teaching of the course: A tool for lecturers or associate
|                  |                                    |                                                        |   lecturers
|                  |                                    |                                                        | • Supporting changes in practice
|                  |                                    |                                                        | • Expressing information, concepts or relationships in the form that is most
|                  |                                    |                                                        |   easily absorbed and retained (e.g. the shape of a graph)
|                  |                                    |                                                        | • Capturing the process of design in addition to the final output (forming a
|                  |                                    |                                                        |   record of discussion and development)

| OU/OULDI          | Module development chairs and teams, teaching staff, students | Better designed courses and enhanced student experience | Nine pilots revealed that design efficiency is about quality (having a
|                  |                                                               |                                                        |   measurable level of design process and product value), designer efficiency
|                  |                                                               |                                                        |   (how skilful the individual is at designing), and effectiveness (ending up with
|                  |                                                               |                                                        |   a course appropriate for the learners) as well as staff time.
|                  |                                                               |                                                        | Feedback from staff (n=>150) indicates that OULDI workshops, especially
|                  |                                                               |                                                        |   with wrap-around support, were considered by staff to be more effective in
<table>
<thead>
<tr>
<th>OU/OULDI</th>
<th>Module development chairs and teams</th>
<th>Enhanced module production process.</th>
<th>The workshop/tools provided a mechanism for effectively reviewing previous modules in preparation for a remake or redesign. Design activities enable staff to make links between elements of the module. Workshops provide the opportunity to meet and get to know others involved in the module production (including other academics). Provided an opportunity to create, share and record design artefacts for later reference. Provided an opportunity to better understand and appreciate other perspectives and roles in the module production process.</th>
</tr>
</thead>
<tbody>
<tr>
<td>OU/OULDI</td>
<td>Professional staff involved in curriculum design</td>
<td>Enhanced credibility and involvement</td>
<td>OULDI tools have helped support teams better frame and present their suggestions to academic teams. Support experts report that the tools have provided them with greater credibility because theoretically informed.</td>
</tr>
<tr>
<td>OU/OULDI</td>
<td>Partner institutions</td>
<td>Similar benefits to above – at partner institutions</td>
<td>Workshops considered highly effective by participants and academic leads.</td>
</tr>
<tr>
<td>OU/OULDI</td>
<td>Institution especially administrators</td>
<td>Enhanced use of business process modelling and improvement</td>
<td>Revisions to the process guidance provided by the university. Launch of an institutional Stage Gate Process Review. Expertise in learning design acquired within IET now being used to train others.</td>
</tr>
<tr>
<td>Institutions: senior managers in institutions</td>
<td>More streamlined and economically efficient design process.</td>
<td>A shorter and more reliable approach to designing a module. An Assistant Dean notes 'if they had been using a real traditional way of designing it would have taken them a much longer time.'</td>
<td></td>
</tr>
<tr>
<td>OU/OULDI</td>
<td>Support teams involved in course development</td>
<td>More engaged in curriculum design dialogue.</td>
<td>Evidence that curriculum design, and the associated tools and approaches, can enable other professionals to better frame their potential contribution to course production. The OULDI-JISC project has helped the OU Library and media production unit to align their services with the new CBM requirements.</td>
</tr>
<tr>
<td>OU/OULDI</td>
<td>Wider community of learning designers and curriculum developers</td>
<td>Enhanced dialogue about design via the Cloudworks web community</td>
<td>By December 2012 over 4,500 Clouds added (exceeding the target of 4,000) Several communities of practice, some associated with conferences, are using Cloudworks. After the project ends the tool will continue to be supported by the OU. Cloudworks could be said to have achieved a ‘critical mass’: in the last six months of 2011, project team contributions comprised just 5% of all added content while total content added remained broadly stable. Cloudworks has demonstrated itself to be a successful place for: open sharing of conference and workshop discussions and resources; promoting and raising visibility of project work or individual views; and a place for short ‘flash’ discussions on teaching and learning subjects.</td>
</tr>
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</tr>
<tr>
<td>OU/OULDI</td>
<td>Wider community of learning designers and curriculum developers</td>
<td>Tools for curriculum/learning design along with guidance</td>
<td>Learning design toolkit including e.g. Module Map and Pedagogy Profiler accessed xx times Over a dozen guides to support design practices Over 1,000 downloads of CompendiumLD by non-OU staff. CompendiumLD included in teaching materials about Learning Design at the University of Geneva. More than 420 students have benefited from coaching Evidence from the Sports Management module indicates an improvement in the quality of the assessment, students more engaged in their learning and increasing their grades [Staff interview - PDPST007]. Students transferring coaching approach to other sessions and modules [Staff interview - PDPST005; student ELESIG presentation; Staff-sport interview]. Students more reflective [Student Ambassador Digital Stories]. Students increasing confidence as learners [Student PLC Assessments].</td>
</tr>
<tr>
<td>Leeds Met/PC3</td>
<td>Students</td>
<td>Educational benefits from involvement in coaching.</td>
<td></td>
</tr>
<tr>
<td>Leeds Met/PC3</td>
<td>Students</td>
<td>Personal benefits from involvement in coaching</td>
<td>Less outgoing students more active and engaged [Staff interview - PDPST005, Staff-sport interview]. Peer support transferred to other life events [Staff interview - PDPST005;</td>
</tr>
</tbody>
</table>
| Leeds Met/PC3 | Staff | Professional benefits from involvement in coaching | Student ELESIG presentation; Staff-sport interview]. Students more reflective [Student ELESIG presentation].

Staff development events have introduced more than 70 members of staff to coaching principles.

Better engagement with students [Staff interview – PDPST007] Reduction in the time staff spent supporting students as peer support became established (PDP005).

Staff felt approach valuable and time invested worthwhile [Staff interview - PDPST006].[Staff-sport interview].

Staff motivated to continue coaching training, with continued positive results [Staff-Health interview, Staff-Media Studies interview, Staff-sport interview]. |
| --- | --- | --- | --- |
| Leeds Met/PC3 | Institution | Embedding new educational approaches that support graduate outcomes more effectively | Coaching embedded in assessment, learning and teaching strategy (since superseded). Coaching embedded into staff development programme Support for the undergraduate curriculum refocus (Coaching for Personalised Student Support).

External requests to use our materials in other coaching programmes, and 27500 views of PC3 materials on YouTube (as of July 2012), most of these coming from four learning resources on coaching and adult learning (http://www.youtube.com/janetfinlay). Contributed to the university's ongoing individual coaching programme. |
<p>| Leeds Met/PC3 | Institution | Adoption of an e-portfolio system with multiple benefits for staff and students | The project was instrumental in driving the decision to adopt the PebblePad e-portfolio system |
| Staffs/Enable | Institution | Better understanding of programme management and change management | A member of Executive and several Project Managers involved in new initiatives have recorded that they are building on outcomes from Enable University to consider programme management as a formal process (recorded in the XCRI Update Plan, May 2012). Baseline models requested by other projects:TransPart (the JISC funded |</p>
<table>
<thead>
<tr>
<th>Staffs/Enable</th>
<th>Institution</th>
<th>Enhanced planning for agility and innovation in curriculum design</th>
<th>Partnerships project), XCRI-CAP (again a JISC funded project) and the Students Records project (an internal project). Project Manager's paper on understanding Programme Management in Higher Education has been presented to the Senior Management Working Group. Enable team had been involved in consultation on the University Plan, contributing to messages about the need for joined up thinking, agility and innovation in curriculum design.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staffs/Enable</td>
<td>Award designers/developers Students studying for new awards</td>
<td>Access to advice and guidance through the FLAG system</td>
<td>The Flexible Learning Advice and Guidance Tool (FLAG) provides ready access to advice and guidance that is otherwise hard to locate. Partner colleges have already noted that it helps them understand where their course developments are in the process, and saves time in their communications with the University. FLAG allows measurement of development times and highlights bottlenecks. FLAG raises the profile of more innovative approaches to curriculum design during the curriculum design process. FLAG encourages embedding of Staffordshire Graduate attributes and new assessment techniques.</td>
</tr>
<tr>
<td>Staffs/Enable</td>
<td>External examiners, curriculum administrators, course teams</td>
<td>Enhanced efficiency in the process of appointing and reporting to external examiners.</td>
<td>External examiners database application has reduced duplication of staff effort. Efficiencies in reporting processes, managing documents and records, and producing business reports. Web-based user interface speeds up data entry e.g. through auto completion of fields.</td>
</tr>
<tr>
<td>Staffs/Enable</td>
<td>Validation panels, course teams, curriculum administrators</td>
<td>Enhanced efficiency of document management for validation</td>
<td>Document management system removes need to copy and email documents to validation panels. Reports run on demand by a wider range of stakeholders.</td>
</tr>
<tr>
<td>Staffs/Enable</td>
<td>Partnerships team</td>
<td>Transforming partnership</td>
<td>Enterprise Architecture modelling now used to help manage the restructuring</td>
</tr>
<tr>
<td>Institution</td>
<td>Participating Stakeholders</td>
<td>Added Value</td>
<td>Outcomes</td>
</tr>
<tr>
<td>-------------</td>
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</tr>
<tr>
<td>MMU/SRC</td>
<td>Academic staff and students in Physiotherapy</td>
<td>Use of e-portfolio system to showcase professional skills</td>
<td>Better understanding of how to use e-portfolios to showcase skills required by prof body and employers (see case study at <a href="#">SRC_Physiotherapy_casestudy.doc</a>).</td>
</tr>
<tr>
<td>MMU/SRC</td>
<td>Academic staff and students in Law</td>
<td>Enhanced focus on employability</td>
<td>Increased focus on employability and encouraged more students to take up pro-bono and work experience opportunities (see <a href="#">LAW STRAND CASE STUDY v3.doc</a>).</td>
</tr>
<tr>
<td>MMU/SRC</td>
<td>Academic staff and students in Creative Digital</td>
<td>Better coordinated curriculum and enhanced focus on employability</td>
<td>Sponsored ProDev days where students and employers could network (see <a href="#">ProDev day videos</a>), so far involving over forty companies and 1500 students. Mapped inter-disciplinary Creative Digital curriculum to specific employer needs. Helped create a future vision for a digital hub in the university and a more coordinated curriculum across the various departments and faculties.</td>
</tr>
<tr>
<td>MMU/SRC</td>
<td>Academic staff and students in Accounting and Finance</td>
<td>Better mapping to professional body requirements</td>
<td>Mapped undergraduate and masters programmes to professional body frameworks. Students now get maximum credits from the university curriculum when undertaking professional qualifications (e.g. AAT) (see <a href="#">Accounting and Finance case study</a>).</td>
</tr>
<tr>
<td>MMU/SRC</td>
<td>Students across the institution</td>
<td>Enhanced learning experience and satisfaction</td>
<td>EQAL project designed to enhance student satisfaction and employability outcomes. Benefits can't be gauged within the lifespan of the SRC project as the first graduates will emerge from the revised process in 2014. Indeed the expectation of the institution is that satisfaction might even dip as systems go through a bedding-in period.</td>
</tr>
<tr>
<td>MMU/SRC</td>
<td>Students across the institution</td>
<td>Enhanced employability outcomes</td>
<td>A curriculum linked more closely to employability outcomes through Employability Curriculum Framework (<a href="#">Report on ECF evaluation</a>).</td>
</tr>
<tr>
<td>MMU/SRC</td>
<td>All staff involved in programme approval</td>
<td>Streamlined programme approval process</td>
<td>A more efficient programme approval process with a simpler online unit definition and a streamlined approval process (saving an average of at least £1500 per approval event).</td>
</tr>
<tr>
<td>MMU/SRC</td>
<td>Students across the institution, especially on interdisciplinary programmes</td>
<td>More choice of learning opportunities; more holistic view of the curriculum</td>
<td>A shift from faculty based programme approval to centrally based approval allowing a more holistic view of the curriculum. Supports development of courses which involve multiple faculties and disciplines: “… It is also beneficial for students who will have a standard experience across the institution. Faculties are now part of one institution; previously, crossing faculties in your choice of units could have felt as if you were changing institutions.” Faculty Quality Administrator</td>
</tr>
<tr>
<td>MMU/SRC</td>
<td>Library staff and students as library users</td>
<td>Library resources linked to course unit specifications</td>
<td>Library resources linked through to course unit specification optimises library spend to match the curriculum on offer. Students see up-to-date reading lists with links to the library catalogue.</td>
</tr>
<tr>
<td>MMU/SRC</td>
<td>Students across the institution</td>
<td>Enhanced online portal</td>
<td>A richer online portal access to resources such as the VLE, personalised timetabling and other systems such as the library and assessment tracking.</td>
</tr>
<tr>
<td>MMU/SRC</td>
<td>Students across the institution</td>
<td>Better access to information about the curriculum</td>
<td>Curriculum much more visible to students. Students can track in Moodle the learning outcomes and assessment methods for a course. Course information can be updated to students instantly.</td>
</tr>
</tbody>
</table>

Supported MMU Futures which give students opportunities to build additional skills.

“Without EQAL it would have taken a great deal longer to have arrived at this point. Although employability wasn’t the main thrust of EQAL, a lot has been achieved in terms of forging links between curriculum design and graduate prospects. I suspect that EQAL and the changes in documentation it has introduced have had a big part to play in raising awareness of employability at MMU.” Penny Renwick, Pro Vice-Chancellor, Quality and Development
| MMU/SRC       | Centre for Learning and Teaching; staff supported by the Centre | Enhanced role | A higher profile role for the Centre for Learning and Teaching  
|               |                                                                    |               | More timely intervention/support for course teams developing learning outcomes and assessment methods |
| MMU/SRC       | Centre for Academic Standards and QE; all staff involved in curriculum development | More transparent QA/QE process | More visible but equally robust quality assurance process  
|               |                                                                    |               | Process less open to misconceptions about flexibility and responsiveness  
|               |                                                                    |               | Clearer role for the Centre for Academic Standards and Quality Enhancement. |
| MMU/SRC       | All teaching staff and students | Rationalised course information and associated processes | Clear link between the curriculum, assessment methods, employability outcomes and timetabling.  
|               |                                                                    |               | Staff can better understand the implications of choices they make in course design  
|               |                                                                    |               | Reduction in competing requirements (especially around assessments) that create difficulties for staff and students. |
| Cardiff/PALET | Staff involved in curriculum design and approval | Better understanding of curriculum design and the design/approval process | Hardcoded certain curriculum design decisions into electronic processes.  
|               |                                                                    |               | Initiated a dialogue with students around curriculum design  
|               |                                                                    |               | Developed simple templates and tools to support curriculum development  
|               |                                                                    |               | In collaboration with the Education team in Registry, piloted and evaluated staff development workshops to support curriculum design. Public Interviews’ confirmed that participants found these valuable and beneficial, particularly opportunities for discussion with staff from other Schools and Directorates and the space to consider different approaches to curriculum design. Templates and tools developed for the workshops circulated more widely to staff via the learning and teaching website. |
| Cardiff/PALET | Institution, and students studying on new/revised | Better business case and feasibility study for all new/revised programme | Process developed in the SITS system requires staff to complete a ‘Feasibility Study’  
<p>|               |                                                                    |               | If this is signed off by the Head of School, the proposer is then required to |</p>
<table>
<thead>
<tr>
<th>Cardiff/PALET</th>
<th>programmes</th>
<th>offerings</th>
<th>work with the School Manager to complete a full Business Case and Financial Plan. School Managers have indicated that the more formalised approach to business planning is a positive step forward and that benefit will be realised when the processes are fully implemented in the future. Redesigned, student-focused module description template Students will benefit from receiving consistent, accessible information about their modules in a standardised format.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrolled students</td>
<td>More transparent and accessible information about modules, available when enrolling and making module choices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cardiff/PALET</td>
<td>All applicants and enrolled students</td>
<td>Consistent, reliable, single-source information about modules and programmes</td>
<td>Programme Structures project implemented in SITS ensures current and enrolling students receive consistent, transparent programme information from a single source of data. Students can access fuller information about their programme of study and in the future will be able to receive a fuller transcript of their studies. Students can also select modules online as part of the enrolment process, with access to full module information.</td>
</tr>
<tr>
<td>All applicants and enrolled students</td>
<td>Student-friendly module descriptions and programme documents</td>
<td></td>
<td>Schools worked to review and revise programme descriptions for their programmes based on the new programme specification template.</td>
</tr>
<tr>
<td>Cardiff/PALET</td>
<td>All teaching and administrative staff</td>
<td>Consistent, reliable, single-source information about modules and programmes</td>
<td>‘Single source information and consistency of information had previously been a difficult problem to manage. The PALET project has taken significant strides in addressing these problems making it easier for staff to manage the necessary information in one place (SITS)’ (Director of Learning and Teaching). Staff have better visibility of how their programmes are structured, which can help them to plan and organise support for students. Staff will benefit from having historic, archived module and programme descriptions, should a past student require details of their programme of</td>
</tr>
</tbody>
</table>

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Cardiff/PALET  | All teaching and administrative staff involved in module approval and management; the University  | Cost/efficiency savings  | Staff benefit from only having to manage the data in one place, which reduces duplication of effort and has resulted in cost and time savings. Feedback provided by Schools during project evaluation activity indicated that there would be cost and resource savings in the future: "we anticipate that this work will lead to considerable efficiency savings in the longer term, as we are able to work from a single source of programme information." See also PALET evaluation report section 4.4

Cardiff/PALET  | All teaching and administrative staff; University  | Streamlined programme approval and management system  | It is envisaged that Academic Schools will benefit from the implementation of the new, technology support process in the following ways:

- One Proposal – One Event: Process streamlined to move unnecessary bureaucracy – programme developments to be considered by a School Advisory Panel OR a Programme Approval Panel – not both;
- Streamlined Information: Programmes developed directly into the SITS system by Schools. This information to be reused by other business applications across the University;
- Better Communication: New business processes include automated communication to key stakeholders in process – greater transparency of information, allowing the right people to 'input' if/when required;

Cardiff/PALET  | University  | More accurate and easily collated information to provide to external bodies.  | The implementation of new programme structures has prepared the institution well for the implementation of the Key Information Sets as the HEFCE definition of a ‘KIS Course’ broadly fits with ours. The University was well-placed to meet the new reporting requirements efficiently as much of the data required for KIS was gathered and processed using SITS tasks developed by the PALET Project.

City/PREDICT  | Staff of the Learning Development Centre  | Greater awareness of curriculum design issues  | Eighteen staff within the Centre worked with the project team to explore curriculum design and evaluation.
These staff were also involved in other projects such as the Strategic Learning Environment and implementing recommendations of the review of undergraduate education. Greater clarity about the role of the Centre in curriculum design, more collaboration with school staff, and involvement in curriculum design activities. LDC staff are often asked now to either join curriculum design teams or to comment on their plans whereas previously we were only asked to sign off their documentation at final stages. All academic members of staff from the LDC are also now members of the Schools learning and teaching committees and in some Schools of the Programme Approval and Review Committees. Through the workshops the LDC staff have run around revising the module and programme specifications there has been the opportunity to discuss the approaches to learning, teaching and assessment and share both the pedagogic research but also good practice across the institution. We do have some evidence of the time spent in each school on curriculum design and other activities.

**City/PREDICT**

<p>| Teaching staff across the institution | Greater awareness of curriculum design issues and the role of technology | Staff development activities developed by the project such as the <a href="#">curriculum design and evaluation module</a> (77 staff in four years) and the <a href="#">Technology Enabled Academic Practice module</a> (42 staff in three years). Staff who have undertaken these modules have said they have “more awareness of curriculum design processes when designing modules and will be more confident when advising staff on this” and “of all the modules, I can see how this will immediately help with my development and work”. Workshops on curriculum design and the changes to programme and module specifications (around 300 staff) and redesigning modules to implement Moodle (around 300 staff). The project also supported staff who undertook <a href="#">Learning Development Projects</a> (26 staff) and <a href="#">Learning Development Associate</a> roles (11 staff). Many staff participated in the conference on Curriculum Design (140 staff). |</p>
<table>
<thead>
<tr>
<th>Institution</th>
<th>Role</th>
<th>Benefit</th>
<th>Course Design Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>City/PREDICT</td>
<td>Students</td>
<td>Cultural shift towards more student engagement in the curriculum</td>
<td>Greater input to the curriculum through the student voices award scheme. The annual programme review documentation over the last two years has been focused around the student feedback and aspects they consider to be good practice and those they feel still needs development. Students have also this year begun to participate in both approval panels and periodic review panels (yet to be evaluated). Students engaged in development projects (yet to be fully evaluated). In the last year of the project students were involved as stakeholders through a group of programme representatives who responded to a questionnaire (21).</td>
</tr>
<tr>
<td>City/PREDICT</td>
<td>Students</td>
<td>Better able to understand what is on offer in the curriculum</td>
<td>Student facing programme and module specifications now allow students to gain an insight into their learning. Staff are aware that students need to have clear explanations about LTA and what they are expected to contribute. Students find the new descriptors much more accessible “...now I know why I have different teaching methods in my module I can understand what I am supposed to do” (UG Student) and “many students can now understand the outline of their programme and why they have different assessments...” (Student Union Rep).</td>
</tr>
<tr>
<td>Bolton/CoEd</td>
<td>Work-based students</td>
<td>Access to qualifications via the IDIBL framework</td>
<td>This has happened, although the numbers of students recruited on courses based on the IDIBL framework have been fewer than hoped for.</td>
</tr>
<tr>
<td>Bolton/CoEd</td>
<td>Course designers</td>
<td>Make activities of course design easier</td>
<td>This has been a partial success with course developers reporting the advantages of having the framework to support their thinking, especially...</td>
</tr>
</tbody>
</table>
### Bolton/CoEd

| Teaching staff and students | Validation framework that allows more flexibility; examples of innovative curriculum practice | Evidence that lecturers have more freedom to teach in different ways and respond to the needs and contexts of their learners rather than follow a rigid syllabus because of the assessment requirements at the end of a course curriculum (some video evaluation of the experience) Development of a Staff Teaching and Learning Portal in Moodle to showcase innovation practices such as those supported by the Coeducate project |

### Bolton/CoEd

| Institution | Understanding of Action Research and Soft System methods | Worked with school office managers to help them adopt AR and modelling approaches to improve their working practices around curriculum issues Demonstrated the value of a Soft Systems approach to change management Project provided input to the Technology Infrastructure and Management Information group Project explored Course Data Analytics and secured funding to pursue this avenue of work in the university Project developed a culture of Enterprise Architecture |

### Bolton/CoEd

| Institution | Enhanced information/data infrastructure for course data | |

### Bolton/CoEd

| Wider HE community Curriculum design teams | Access to open source, free-standing design tools Intensive curriculum design workshops supported by relevant resources (task cards, planning canvas, timeline), founded on proven pedagogic principles. | IDIBL Framework, Widget design tool, and the Generic Model Canvas generator 34 Viewpoints workshops delivered to date since 2009 60+ Viewpoints events (workshops, information sessions, webinars etc.) 2100+ sets of Viewpoints themed cards and 160 Timeline Worksheets printed Benefits of the viewpoints process:  
- As supporting evidence for new course evaluation, module (re)design, course revalidation etc.  
- Helps course teams consider/prepare the Aide Memoire for members of evaluation and revalidation panels  
- For dissemination and sharing of learning designs; |
• To aid further brainstorming and curriculum planning;
• To annotate/illustrate key principles/decisions on learner timelines;
• To provide a mechanism for the reflection process to be integrated within institutional curriculum planning
• To enhance teaching practice and demonstrate professional development.

Comments on the workshops
“The Viewpoints workshop enables teams to focus solely on one objective resulting in a comprehensive, high quality learning design” (TFL Development Programme Manager); “A simple, inclusive and accessible model of curriculum design” (HEA seminar external workshop participant, 2011)

'It assisted a successful validation’
“My practice has changed in that I promote every opportunity I can for colleagues to take part in cross-institutional collaboration”; “Awareness of how valuable Viewpoints cards/timeline are when planning a module, in particular in relation to assessment and feedback”; “Group brainstorming about integration of modules proved useful”; “Learning how to align my module and come up with alternative ideas for teaching and learning”; “Team-building’ exercise for course team, encouraged more creative thinking”; “The approach embodied in Viewpoints has increased my understanding of staff experience of supporting students (both academic and support/professional services)”; “As the focus is very much practice driven staff seem to connect easily to potential benefits they can easily achieve. The timeline is an added benefit encouraging them to think holistically about the module and provides a very useful action plan for implementation”.

Design and development of new courses such as an online blended module
| Ulster/Viewpoints | Students | Supports a student-centred design process | In workshops, staff annotate around worksheet student timelines ([Flickr](https://www.flickr.com))

“It prompts staff to be mindful of the student learner”; “Encouraged me to consider the importance of the induction period in the assessment process”; “Very learner centred discussion rather than following visual QA process”; “The timeline walks you through the learners’ experience”. (Workshop participants)

- Resources created allows staff to explore key student interactions leading to learner focused designs and fosters discussions about key aspects of the learner experience

The [Students’ Union Perspective](#), “As I did the workshop with students who had completed the course I received immediate feedback on what would be useful and beneficial” (Student Engagement Manager, Students’ Union) |

| Ulster/Viewpoints | Staff and students | Promotes reflection and innovation in the curriculum | Feedback on Viewpoints workshops show they have supported reflection and innovation

‘Allows for deep discussion focused on themes” (Workshop participant)

“The beauty of the Viewpoints materials is that the materials guide the discussions to expose issues and questions” ([UG-Flex Project Blog](http://ug-flexprojectblog.greenwich.ac.uk), Greenwich)

“Have seen growing confidence in teams where I have facilitated the workshop” (Staff Development, Ulster) |

Technology Facilitated Learning (TFL) workshops/staff development interventions are more pedagogically focused |
| **Ulster/Viewpoints** | **Course teams** | **Fosters collaboration and discussion** | **Engagement of students in the development process of new online blended module (see above). See Flickr**

“It enables students to experience the design of an assessment strategy and see that the design of assessments are based on a comprehensive set of good practice principles” (TFL Development Programme Manager)

Viewpoints inclusion in the PGCHEP Staff Development course. (Digital stories, Staff Development)

Use of the learner voice in the revalidation process (“Some excellent… debates took place with the students” (Student Engagement Manager, Students’ Union).

Working group established to redesign the approach to module validation

Online module evaluation form in development for students |
| **Ulster/Viewpoints** | **Course teams** | **Support for validation** | **Flickr** and **Slideshare**

Participant Feedback (with staff): “Can stimulate discussion, collaborative team working and initiate new ideas for curriculum design…”, “Working in a group to rethink curriculum in a fun and productive way”; “invaluable in creating a team”… “Provision of an open and honest environment”

Participant Feedback (with learners): “In every way I felt the process was one where everyone in the group took careful time to piece together a structure that the whole group could be happy with” (Student Engagement Manager, Students’ Union)

Digital stories (with Viewpoints Facilitators)
<table>
<thead>
<tr>
<th>Institution/Viewpoints</th>
<th>Course Teams Across the UK</th>
<th>Process</th>
<th>Other HEIs (University of Greenwich, City University, University of Nottingham, Sheffield Hallam and the University of Cambridge) using project resources to directly support their curriculum development processes (e.g. UG-Flex Project Blog)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ulster/Viewpoints</td>
<td>Course teams across the UK</td>
<td>Process is highly transferable across contexts</td>
<td>(led by CHEP). Revalidation events at Ulster take place annually.</td>
</tr>
</tbody>
</table>
5. References


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University of Ulster (2012) *Institutional Approaches to Curriculum Design Institutional Story Viewpoints*
## 6. Appendices

### Appendix 1: List of Projects

<table>
<thead>
<tr>
<th>University</th>
<th>Project Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birmingham City University</td>
<td><strong>Technology Support Processes for Agile and Responsive Curriculum (T-SPARC) project</strong></td>
</tr>
<tr>
<td>Cardiff University</td>
<td><strong>Programme Approval Lean Electronic Toolkit (PALET) project</strong></td>
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<tr>
<td>City University London</td>
<td><strong>Promoting Realistic Engaging Discussions In Curriculum Team (PREDICT) project</strong></td>
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<tr>
<td>Leeds Metropolitan University</td>
<td><strong>Personalised Curriculum Creation through Coaching (PC3) project</strong></td>
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<tr>
<td>Manchester Metropolitan University</td>
<td><strong>Supporting Responsive Curricula (SRC) project</strong></td>
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<tr>
<td>Open University</td>
<td><strong>Open University Learning Design Initiative (JISC-OULDI) project</strong></td>
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<tr>
<td>Staffordshire University</td>
<td><strong>Enable project</strong></td>
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<tr>
<td>University of Bolton</td>
<td><strong>Coeducate Project</strong></td>
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<tr>
<td>University of Cambridge</td>
<td><strong>Course Tools project</strong></td>
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<tr>
<td>University of Greenwich</td>
<td><strong>UG-Flex project</strong></td>
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<tr>
<td>University of Strathclyde</td>
<td><strong>Principles in Patterns (PiP) project</strong></td>
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<tr>
<td>University of Ulster</td>
<td><strong>Viewpoints project</strong></td>
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### Appendix 2: Summary of Project Achievements

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<thead>
<tr>
<th>Learning opportunities</th>
<th>Process enhancements</th>
<th>Support for curriculum design</th>
<th>Systems development</th>
<th>Organisational change</th>
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<tr>
<td>BCU/T-SPARC</td>
<td>Completed nine successful pilots across four faculties.</td>
<td>Annotated workflow diagrams produced during baseline consultation A new process for curriculum design and approval, based on proposals made by the project, including ratification from the University’s Senate to conduct live pilots. Advisory posts on process mapping</td>
<td>Rough Guide to Curriculum Design, an extensive guide to the process of curriculum design that supports programme teams in their work. Range of advisory materials on use of video and Voxur units including a Data Protection Act policy and Data Protection Act Statement</td>
<td>A new SharePoint-based infrastructure to support the new processes of curriculum design and programme approval (PDAS). Stakeholder engagement model, widely shared across sector Baseline review Advisory blog posts on stakeholder. Engagement with Student Academic Partners</td>
</tr>
<tr>
<td>Strathclyde/PiP</td>
<td>Learning opportunities</td>
<td>Process enhancements</td>
<td>Support for curriculum design</td>
<td>Systems development</td>
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<td>Evidence that the CAP system minimises common curriculum design errors and has resulted in an improvement to baseline curriculum design quality. Restructuring of curriculum design forms (including the incorporation of summary case) ensures curricula are relevant and fulfil the needs of stakeholders, such as students and employers.</td>
<td>Successful application of Six Sigma DMAIC method of process renewal. Improved process transparency and collaborative functionality better support the work of academic quality teams, enabling peer review and quality monitoring. Renewed emphasis on academic quality and pedagogy. More automation and fewer delays. (see system models).</td>
<td>A number of reports into curriculum design issues incl. threshold concepts, troublesome knowledge, and accessibility. Context sensitive guidance on best practice and pedagogy as well as more functional matters, integrated with C-CAP.</td>
<td>Course and Class Approval Pilot (C-CAP) system built on Microsoft SharePoint: provides personalised views, adaptive forms and contextualised support for all phases of the approval process. Uses system logic and XSLT behind forms to enable complex rules to be actioned. Extensive evaluation of the system and development methodology.</td>
</tr>
<tr>
<td>Learning opportunities</td>
<td>Process enhancements</td>
<td>Support for curriculum design</td>
<td>Systems development</td>
<td>Organisational change</td>
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<td>OU/OUldi and partners Reading, Cambridge, Brunel, London South Bank (collectively account for one in every five students enrolled in Higher Education in the UK)</td>
<td>Better designed courses with more focus on student learning and better blend of learning experiences (multiple evaluation from OU and partners).</td>
<td>Cloudworks online community resource: 1.03 million page views, over 230,000 visits, 4,500 clouds added, and 5,500 comments posted: over 4,600 registered users from across the world. ‘Indicators of Community’ conceptual tool for modelling/evaluating online communities. CompendiumLD, visualisation software customised for use in a learning design context – now downloaded over 2000 times. Other tools for visualising/modelling the curriculum from different viewpoints: Activity/Pedagogy Profiler; Module Map; Task Swimlane; Learning Outcomes view.</td>
<td>Open source version CloudEngine which can be installed on local systems elsewhere.</td>
<td>Baseline Review New Learning and Teaching Strategy includes two related strategic objectives: to ‘develop and apply new approaches to learning design’ and that ‘all staff will have expertise to engage in learning design.’ Contributed two of the five Curriculum Business Model representations that via the CBM project will be given to and used by all new modules being developed. By mid-2010 can 50% academic staff surveyed were familiar with the term ‘learning design’ (n=100) Institute of Educational Technology has assigned to each faculty a Curriculum Business</td>
</tr>
<tr>
<td>Learning opportunities</td>
<td>Process enhancements</td>
<td>Support for curriculum design</td>
<td>Systems development</td>
<td>Organisational change</td>
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<td>'Learning Design Toolbox' cloudscape accessed by 7982 users from 65 countries. Including: a Course Features Cards set; an Information Literacies Card set; and guides and workshop activities associated with visualising aspects of the curriculum design, e.g. Learning Design workshop Lite, OULDI Guide on the Design studio. Nine pilots across six UK HE institutions, with workshops attended by over 270 staff. Almost twenty workshops during the project, including fourteen directly associated with the pilots.</td>
<td></td>
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<td>Model/Learning Design (CBM/LD) representative and resource has been allocated to develop a physical CBM/LD toolbox for every new module team.</td>
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<td>Learning opportunities</td>
<td>Process enhancements</td>
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<td>improved the experience of students following existing flexible programmes. Pioneered use of video to capture student feedback. Contributed to a cross-institution collaborative approach to information literacy training (feeding forward into the Greenwich DDL project)</td>
<td>stakeholder requirements using e.g. - Pictures, Nominal World Cafes with staff - World Cafes with students</td>
<td>Tools: First year transition curriculum planning tool: Snakes Templates Ladders Templates See example of tools used in workshop on student transition</td>
<td>proprietary student records system (Elusian/Sungard’s Banner product) that have added additional granularity to programme and course information. Contributed to significantly greater interoperability between systems, putting Greenwich in top 5% of student systems in the UK: University of Greenwich Student Systems Map 2011-2012 Greater understanding of flexible systems which Greenwich is now being asked to share with other HEIs</td>
<td>understanding of the concept and consequences of curriculum flexibility. Change in mindset and culture, raised expectations: “there is now an expectation of change and &quot;continuous improvement” New change processes and enhanced Experience of Change Management Research on academic calendars in use in UK HEIs Proposal to amend University of Greenwich academic framework/calendar now endorsed. Creative thoughts on change</td>
</tr>
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</table>

Leeds Met/PC3 | Development and | Development of | Adoption of an | Baselining |
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<tr>
<th><strong>Learning opportunities</strong></th>
<th><strong>Process enhancements</strong></th>
<th><strong>Support for curriculum design</strong></th>
<th><strong>Systems development</strong></th>
<th><strong>Organisational change</strong></th>
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<tr>
<td>testing of a number of models for the use of coaching within the curriculum, including a module-based approach and cross-course peer coaching. Over 70 staff and 420 students have benefited from coaching through the project. Case studies: See also digital narratives in the Toolkit.</td>
<td>extensive resources for curriculum support, including a Coaching Toolkit for staff. Contributing to staff development on using the e-portfolio, as part of a research training programme (for PhD students) and induction programme for new staff. Resources: Models and modalities of coaching for learning</td>
<td>institution-wide e-portfolio system as a result of reflection on project processes</td>
<td><strong>Document</strong> analysing current state of play relating to flexible learning within the university. New institutional e-portfolio system. New students as agents of change programme: see <strong>Case Study 3: Coaching Ambassadors</strong></td>
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</table>

**Staffordshire/Enable**

<table>
<thead>
<tr>
<th><strong>Process now supported by</strong></th>
<th><strong>Pedagogic guidance integrated into FLAG. Technology Supported Learning Development</strong></th>
<th><strong>A database application to support external examiner business processes</strong></th>
<th><strong>Message of the requirement for central Change Management has been picked up by</strong></th>
</tr>
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<tbody>
<tr>
<td><strong>Flexible Learning</strong></td>
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<tr>
<td>Learning opportunities</td>
<td>Process enhancements</td>
<td>Support for curriculum design</td>
<td>Systems development</td>
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<tr>
<td>MMU/SRC</td>
<td>Re-design of the entire</td>
<td>A number of strategies</td>
<td>Course planning cards</td>
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</table>

Advice and Guidance (FLAG) Tool
Ongoing document management project supports staff to develop and input course documentation once, ensuring it is suitable for its users, and embed it into workflows.

Planner

Developments in managing information across the institution

The XCRI framework has now been recognised as of value by the Quality Service. Experience gained in EA modelling and TOGAF

Enterprise Architecture now being used by Partnerships and the Learning Development and Innovation (LDI) team.

a number of senior staff in the University and a new role, Head of Change Management, has been created and filled.

Successful pioneering of a ‘hub and spoke’ (later a P3M3) approach to change management across the University.

Work on the governance of innovation embedded into institutional thinking.

A lightweight web application - a 'Change Heap' - scoped as a means of raising awareness of change across the University.

Range of stakeholder engagement initiatives.
<table>
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<tr>
<th>Learning opportunities</th>
<th>Process enhancements</th>
<th>Support for curriculum design</th>
<th>Systems development</th>
<th>Organisational change</th>
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<tr>
<td>undergraduate curriculum, some 2400 course units, to focus on learning outcomes, standardise the number of credits, streamline the number of assessments per unit and link assessments to learning outcomes. A sharper focus on employability by embedding an <strong>Employability Curriculum Framework (ECF)</strong> into the whole curriculum. <strong>ECF evaluation</strong> and support for ongoing employment of a 0.5 SL post to further investigate and embed employability. <strong>Contribution to Futures initiative</strong></td>
<td>and tools for managing curriculum change and programme approval. Model for <strong>measuring curriculum responsiveness</strong> Reduction in effort and frustration with course structures and related processes: moving towards simplicity in QA/QE. Reduction of workload for both staff and students, freeing time for more productive activity.</td>
<td>A board game which looks at the curriculum design and approval process known as <strong>Accreditation!</strong></td>
<td>the university’s 1,600 individual modules at levels 3-6, fully implemented and visible to both staff and students. Use of the course database to support assessment management as well as curriculum management. <strong>Requirements and issues</strong> in developing single online academic database and technical lessons learned. New VLE and “mash-up” of information so students can view the curriculum, assignment information, personalised timetabling and other systems (e.g. library and assessment information) from a single point.</td>
<td>managing multi-level, cross-institutional change: In the Throes of Change report. Experiences of managing stakeholder engagement through a whole institution change process (EQAL) Streamlined quality processes that remain committed to enhancement: the institution is delivering the new EQAL curriculum at the same overall cost base but to achieve better student and staff experience. Institutionally embedded commitment to flexible management and IT systems <strong>responsiveness enabling institutions to review their capacity and processes</strong></td>
</tr>
<tr>
<td>Learning opportunities</td>
<td>Process enhancements</td>
<td>Support for curriculum design</td>
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<td>employers and professional bodies in four key curriculum areas (Law, Accounting and Finance, Creative Digital and Physiotherapy). Pro-Dev days for creative digital students involving over forty companies and 1500 students.</td>
<td>Utilised Lean Thinking methodology to develop revised processes for the approval and management of curriculum development: see Approval Process Map and Programme Management process. Developed key programme management principles, endorsed by the University’s Academic</td>
<td>Programme of face-to-face workshops to explore new ways of supporting curriculum design and of engaging students.</td>
<td>Core-Plus model of VLE integrated with business systems e-Portfolio review and recommendations</td>
<td>Project gains embedded into new Strategic Framework for Learning Teaching and Assessment and Threshold Standards for the Student Experience</td>
</tr>
</tbody>
</table>

Cardiff/PALET

New process ensures curriculum is relevant and fit for purpose

Implemented SITS as the single ‘source of truth’ for programme data, and streamlined programme in SITS New templates for a more streamlined and consistent approach to the management of programme and module information. Developed web

Baseline report

Curriculum Design identified as a key priority in the University’s new Education Strategy

Engaged a range of stakeholders and worked with the ‘Student Voice’ initiative to ensure that students are involved in curriculum design.

Implemented change management approach and defined scope of
<table>
<thead>
<tr>
<th>Learning opportunities</th>
<th>Process enhancements</th>
<th>Support for curriculum design</th>
<th>Systems development services and a Programme Management Portlet to enable schools and directorates to view, download and print the programme information held in the SITS system in different formats. By requiring data to be entered only once, the University has calculated a saving of around £13.35 per module.</th>
<th>Organisational change project in relation to institutional decision-making processes</th>
</tr>
</thead>
</table>
| City/PREDICT | Involved in audit of programme and module specifications across institution. Supported staff to make use of new Moodle, system to improve teaching rather than a document repository:  
• Better use of the assessment tools | Revised programme and module specifications to include clearer and more student-friendly language  
Documentation for annual review changed to focus on the student voice  
Periodic review process revised to focus less on | New module added to MA in Academic practice [Technology Enabled Academic Practice](#) - 42 staff in three years and existing module on Curriculum Development and Evaluation strengthened (77 staff in four years) | Changes to the core screens of PRISM and the reports generated from this system. This has positioned City well to meet the new requirements of the KIS. PREDICT has modelled an integration flow that would create a module space in the VLE based on Baseline report Cycle of change model of organisational change and Cascading Ripple approach to influencing. Focus has shifted from the documentation and approval event to the educational process of |
<table>
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<th>Learning opportunities</th>
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| • Integration with plagiarism tools                                                   | documentation and more on the student experience of the programme also has included students on the panel this year. | Workshops on curriculum design and the changes to programme and module specifications (around 300 staff) | on an instance being created in the SRS. Development work has taken place on the interface between PRISM (course specifications), Moodle and the SRS, though this has not been deployed to production or fully tested. PREDICT supported the adoption of the new strategic learning environment (Moodle) and the following:  
  • Sciatica Exam Scheduling  
  • Evasys  
  • ProgressPlatfo  
  • Talis Aspire (in review) | curriculum design, as evidenced in new strategic plan: *Focusing staff time on curriculum innovation that will enhance the employability of our students* (Strategy map 2012 – 2016). Consolidation of academic staff development centrally, with new [School Liaison model](#). |
<p>| • Online submission of assessments with the strategic objective of cutting down the turnaround time to 3 weeks |                                                                                       |                                                                                             |                                                                                      |                       |
| • Online dissemination of results                                                     |                                                                                       |                                                                                             |                                                                                      |                       |
| Case studies in module redesign                                                        |                                                                                       |                                                                                             |                                                                                      |                       |
| MA Academic Practice Programme Case Study Learning Development projects (26 staff supported, focus on Curriculum Design) |                                                                                       |                                                                                             |                                                                                      |                       |</p>
<table>
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<tr>
<th>Bolton/Coeducate</th>
<th>Learning opportunities</th>
<th>Process enhancements</th>
<th>Support for curriculum design</th>
<th>Systems development</th>
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<td>IDIBL framework developed, validated and used, allowing learners to obtain a University qualification while remaining full time at work. Students recruited to and taught on a Masters in Learning with Technology and a suite of programmes around Regeneration and Sustainable Communities. Developed open courses and resources to build skills for Patchwork Media Assessment: see Effective Social &amp; Digital Media Storytelling Blog.</td>
<td>Used a Moodle site to support a cross institutional re-validation process to align with a new University curriculum framework. Developed Innovation Support Networks to support staff around particular issues. Raised debate about using enterprise tools to support business processes and document flows, rather than implementing bespoke technical solutions for the activities of different organisational silos.</td>
<td>Connected the PGCert Teaching and Learning module on Curriculum Design and Assessment with curriculum development initiatives. Evaluated LDSE. Delivered workshops in online activity design.</td>
<td>Integrated Moodle with the SITS student data management system: code and lessons learned. Moodle category structure tool to enable courses to be moved into appropriate hierarchy structures: code and lessons learned. Developed generic tools for use by the sector: Generic Canvas Modelling toolkit with context specific help, and a Design Widget that allows virtual cards to be placed on a design canvas, annotated and shared during design.</td>
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<th>Cambridge/Course</th>
<th>Learning opportunities</th>
<th>Process enhancements</th>
<th>Support for curriculum design</th>
<th>Systems development</th>
<th>Organisational change</th>
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<tr>
<td>Case studies in ICT</td>
<td>Informed a proposed</td>
<td>13 Things a staff</td>
<td>Opened up data</td>
<td>Baseline report</td>
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<td>Tools</td>
<td>Learning opportunities</td>
<td>Process enhancements</td>
<td>Support for curriculum design</td>
<td>Systems development and Organisational change</td>
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<td></td>
<td>use for course management and delivery</td>
<td>School-level curriculum reform project that will draw heavily on the data provided by the project.</td>
<td>development resource developed collaboratively with the Open University. Evaluation of the Phoebe course planning resource.</td>
<td>sources for improved discovery tools through an individualised timetable system and a searchable examination question database. Validated the design goals of the Kuali Student project and so we conclude that as the project matures it should be a viable candidate student information system for UK universities.</td>
<td></td>
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<tr>
<td>Ulster/Viewpoints</td>
<td>Adoption of Viewpoints resources by staff in departments engaged in curriculum design and support (CHEP, Staff Development, Technology Facilitated Learning, Lifelong Learning, Library). Use of Viewpoints resources by 370+ staff/students, 2009-2012</td>
<td>Inclusion of Viewpoints resources and processes in briefing events for course teams approaching revalidation;</td>
<td>Development of four sets of activity/issue cards (prompts) and a planning canvas/timeline to support curriculum planning. Assessment and Feedback cards based on REAP principles; Information Skills cards based on the SCONUL Seven</td>
<td>Two other projects (Cambridge Coursetools and the Bolton Coeducate project) have developed prototype annotation tools based on Viewpoints resources. Embedding work into the Assessment and Feedback for Learning and Creativity in the Curriculum working groups. Embedding the assessment and feedback principles into University policy, and thus into a range of contexts (e.g. revalidation, course</td>
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<td>Process enhancements</td>
<td>Support for curriculum design</td>
<td>Systems development</td>
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<td>Capture of digital stories and real-life examples to inform other curriculum teams.</td>
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<td>Pillars Model of Information Literacy Learner Engagement cards based on the Hybrid Learning Model, itself based on the 8 Learning Events Model; Creativity cards adapted from the work of the University of Ulster’s Creativity in the Curriculum Working Group, Viewpoints Handbook and facilitator guidance manual.</td>
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<td>review, staff development programmes, as a framework for lifelong learning support).</td>
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Range of face to face intensive workshops to embed use of these resources by curriculum teams. Inclusion of Viewpoints in key academic staff development activities including PGCHEP Academic Induction.
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<thead>
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<td>Development of <a href="#">PPD119: Enhancing Employability through Class Representation Module</a> Cards have been piloted in a number of Institutions including, Nottingham, Greenwich, City, Sheffield Hallam and the Open University.</td>
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