Transforming curriculum design: transforming institutions

Against a backdrop of economic constraint, JISC is running an ambitious programme into how technology could transform the central pillar of universities: the curriculum.

This briefing looks at lessons and resources from the ongoing Institutional Approaches to Curriculum Design programme that may benefit others undertaking institutional transformation.

What is curriculum design?

Business process: curriculum design touches every aspect of a university’s business, 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. In this sense the curriculum lifecycle is very like the lifecycle for any other type of product development. The product is the curriculum that will meet the needs of the economy and society and keep the UK a global leader in research.

Learning experience: 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. Learning transforms life chances, and the relationship learners have to the curriculum is not simply as consumers of educational product. Accreditation remains an important goal of higher education, but a curriculum for the 21st century must also inspire a lifelong capacity to learn. This means changing not only what is learnt at university, but how it is learnt, so that learners become co-creators of knowledge and collaborators in networks of research and professional practice.

Why change the way we develop the curriculum?

The current reform of the sector brings both business processes and the learning experience sharply into focus. Financial constraints demand efficiencies that are not easy to achieve when dealing with interconnected systems and processes and pedagogic practice must fit new cost models and modes of study to deliver quality learning for 21st century needs. The projects in the programme are an integral part of institution-wide change initiatives transforming strategy and policy, culture and practice. They are seeking solutions to challenges including:

» Widening participation and access
» New markets and new learners
» Employability and workforce development
» Business and community engagement
» Flexible and agile processes

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.
What key areas are we improving?

The programme began with a baselining exercise that has given us a rich picture of the state of play in the sector. The outcomes of the baseline review have already led to strategic overhaul and revised procedures in a number of universities. The following sections identify common issues and the solutions that are being developed.

Markets

Curriculum design is a highly devolved activity often leading to a mismatch between institutional strategy and the way this is operationalised in the development of the course portfolio. Many staff are unaware of the importance of new markets and income streams, viewing “non-traditional” courses as marginal especially when existing targets are being met. This is exacerbated by an uplift in recruitment, as in previous recessions, that masks longer term trends.

Market research is often a weak point in the process. Many course teams do not involve their in-house professionals until they are ready to market an approved course. A significant percentage of the courses developed across the sector never recruit. This situation is less marked in disciplines with a clear professional focus, but the importance of the creative industries to our economy highlights the need for better market intelligence across the full range of disciplines. Related to this is the fact that development of a new course can typically take between one and four years in a UK university. The average appears to be around two years.

Approaches to enhance this area:
» Making business planning an explicit stage prior to the course approval process
» Development of a set of course views that range from pedagogic profile to learning outcomes and cost effectiveness
» A risk-based approach to course approval

Quality assurance and enhancement

Processes for developing the curriculum tend to be rigorous, well-established and consistent with a focus on quality assurance (QA). These characteristics tend to be achieved by a cyclical regime with paper-based processes and an emphasis on “set-piece” committees. The downside of this is that the processes are less well-suited to ongoing quality enhancement. Course approval takes place in advance of delivery to learners, which is where real academic practice develops. The bureaucracy associated with making relatively minor modifications to approved courses inhibits innovations and/or leads to a mismatch between formal descriptions and actual practice. Many “non-traditional” offerings rely heavily on workarounds to the formal processes.

Approaches to enhance this area:
» Streamlining processes for minor modifications
» Revised processes making approval and review an iterative continuum
» Approval based on the academic design process (using rich multimedia evidence) rather than a set-piece event
» Tools and staff development activities to ensure formal processes incorporate sound pedagogic principles

Employability and responsiveness

Words such as flexibility, agility and personalisation are regularly used in relation to transforming the curriculum. They often describe the need to be responsive to the needs of employers and learners. Needs and demands are of course different things. Employers can not always articulate the competences they require and still tend to weight degree classifications and the awarding institution over course content. Learners used to traditional teaching methods may value lectures over activities better suited to promoting deeper learning. Modularisation and the tendency towards bite-sized chunks of learning represent a challenge in terms of designing an overall learning experience and the diversity of the student body makes it important to understand the profile of individual learners and cohorts.

How do we prepare people for careers and industries that don’t yet exist?

Approaches to enhance this area:
» Learner profiling, both as part of course development and prior to delivery to individual cohorts
» Validation of open frameworks that can be used to tailor courses to employer and learner needs
» The use of coaching as an approach to professional development
» Specification of competences and graduate attributes

Assessment and feedback

Assessment and feedback are priority areas in relation to the learning experience, as the National Student Survey regularly finds students most disappointed with this aspect of their studies. There is also evidence from educational research that assessment and feedback are critical drivers of learning. Examinations remain the dominant form of assessment in some disciplines, occupying 70–80% of the final grade. Some projects are considering how interventions in the design process can help produce
curricula in which feedback and assessment are more supportive of learning. Innovating in assessment can require changes to costing models, documentation and general resourcing, and giving students more choice over how they are assessed, and when, has organisational implications. The use of e-portfolios ranges from being mandatory in some professional areas to an area of resistance in others.

Approaches to enhance this area:
- Reflective tools to aid understanding and planning of effective assessment practice
- Programme and module specifications where assessment criteria are explicit and aligned to learning outcomes and competences
- Greater emphasis on formative assessment for non-traditional learners

Course information

The primacy of the course approval process in institutional QA and the fact that systems are often paper-based inhibits the ready re-use of this information for other purposes. Documents are designed with the approval process in mind and information is later supplemented and modified as it is input to a variety of information systems. The mismatch between formal documented sources and practice, already noted, has resulted in mistrust of central systems and the development of “feral” systems, especially where “workarounds” are required. Core information is rarely well-suited to either academic decision-making or supporting student choice. Course-related documents such as student handbooks, website entries and virtual learning environment module shells tend to be produced quite separately with local ownership of the tools and data that produce these representations.

There is also a need for better aggregation and use of information that can support decision-making while the curriculum is in development. Examples might be progression statistics, external examiners’ reports, module and programme evaluations, market research, cohort profiles and assessment statistics, student needs analyses, subject benchmarks etc. Much time is spent locating (or failing to locate) information of this kind.

The potential both for improving the learner experience through informed choice and for administrative savings is considerable. The aspects of the programme related to course information can be expected to have increasing significance for the sector as a whole as a result of government drives to require universities to provide increased and more consistent information to potential students.

Most curriculum innovations take place in the period between course validations

Approaches to enhance this area:
- Creation of core data sets that can be exposed to other systems requiring the information
- Investigation of possible extensions to the XCRI (eXchanging Course Related Information) specification
- Development of documentation that stimulates reflection on educational design and the learning experience
- Staff development in the creation of student-facing programme and module specifications

» Innovative use of technology to give learners a more authentic sense of what learning will involve

How are universities achieving change?

Despite the magnitude of the organisational and cultural changes involved the projects have already made significant progress. Several universities have acted upon the outcomes of the baseline review to revise strategic direction and implement policy and process change, especially with regard to programme approval. There is evidence of more robust approaches to experimentation, risk-taking and creativity as well as recognition that quality processes should enhance and not distract from the core business of building effective, responsive and relevant curriculum offerings. In some institutions this is being reflected in more integrated/clarified leadership, e.g. at deputy vice chancellor level. In others, diverse services and roles with responsibility for curriculum processes are being brought together in new structures such as programme offices or revitalised Academic Development units.

The projects are developing frameworks for curriculum design (including ensuring appropriate decisions about educational design are taken at appropriate times), identifying, developing and using catalysts for change (e.g. approval and review processes), creating tools to manage data and workflows, promoting a language for discourse about curriculum design and encouraging and supporting collaboration, reflection and dialogue.

» Students would find looking at a module specification almost meaningless in terms of what is actually going to be their learning experience
Two approaches have been key:

**Process review and modelling**

Universities have been relatively slow to undertake an enterprise approach to processes, instead preferring to “reach uncomfortable agreement over suboptimal processes.” The requirement for projects to undertake a baseline review initially met with a mixed response, but in practice the review was found to be immensely valuable. The activity of creating “process maps” of existing curriculum design processes was a useful means of engaging stakeholders in productive conversations. The projects used a range of different approaches and tools in their baselining work, from Rich Pictures to modelling languages such as UML and Archimate. The important element was not the maps themselves but rather the issues for discussion they generated. The approach revealed a lot of “urban myths”, especially around the extent to which IT systems caused bottlenecks in processes. A number of projects also found significant “gaps” in the processes in terms of critical elements of the learning experience. Many formal institutional processes do not encompass the practice of “educational design”, which is often done informally and undocumented. Key achievements include the insertion of appropriate “design prompts” into existing processes and finding ways to capture the “lived experience” of educational design. Rather than being a one-off exercise, the baseline reviews have supported an ongoing dialogue. The time spent in this review stage has led to the identification of appropriate solutions that meet with stakeholder approval. Developing the tools and capabilities to engage in this sort of dialogue about process will help universities enormously in the times to come. The projects have been keen to share the tools and approaches that worked for them.

**Engagement and partnership**

Universities are unique organisations, often better known for tradition than for organisational innovation. Many staff are highly autonomous, intrinsically motivated and most closely allied to peer communities outside their employing organisation. This makes them much less susceptible to the kinds of incentives and sanctions used to drive change in commercial organisations. Learners are under-represented in decisions about the curriculum and dialogue with employers is beset with issues of terminology. One of the success factors in these projects is that they have been highly effective at developing pervasive interventions that engage and involve stakeholders who are thus able to engineer their own solutions. Stakeholder engagement, including active partnerships with learners, is a major focus of the published outputs of the programme.

---

**Further information and resources**

The emerging outputs of the programme, along with other resources supporting curriculum design and delivery, are available in a dynamic web-based resource known as The Design Studio: [http://jiscdesignstudio.pbworks.com](http://jiscdesignstudio.pbworks.com)

Information about the Institutional Approaches to Curriculum Design programme and its partner programme Transforming Curriculum Delivery through Technology can be found at: [www.jiscinfonet.ac.uk/curriculum](http://www.jiscinfonet.ac.uk/curriculum)

as well as [www.jisc.ac.uk/curriculumdesign](http://www.jisc.ac.uk/curriculumdesign) and [www.jisc.ac.uk/curriculumdelivery](http://www.jisc.ac.uk/curriculumdelivery)

Resources to support process review: [www.jiscinfonet.ac.uk/infokits/process-review](http://www.jiscinfonet.ac.uk/infokits/process-review)

Resources to support change management: [www.jiscinfonet.ac.uk/infokits/change-management](http://www.jiscinfonet.ac.uk/infokits/change-management)