Managing Curriculum Change
Transforming curriculum design and delivery through technology

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Institutional approaches to curriculum design

Transforming curriculum delivery through technology

Participating projects

The following projects have been funded under the JISC Curriculum Design and Delivery programmes.

Staffordshire University
Institutional Change Initiative for Curriculum Development (ENABLE)

The Open University
Transforming Curriculum Delivery through Technology programme

References

JISC e-Learning programme
www.jisc.ac.uk/elprogramme

Institutional Approaches to Curriculum Design programme
www.jisc.ac.uk/curriculumdesign

Transforming Curriculum Delivery through Technology programme
www.jisc.ac.uk/curriculumdelivery

JISC infobrief
www.jiscinfobrief.ac.uk

The Design Studio
www.jiscinfonet.ac.uk/curriculum

The Higher Education Academy
www.heacademy.ac.uk

Becta
www.becta.org.uk

The Curriculum Design and Delivery projects are supported by a network of organisations and community experts participating in a Support and Synthesis project led by JISC infoNet in partnership with other JISC Advance services, JISC CETIS, the JISC Regional Support Centres and the Higher Education Academy.

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Curriculum delivery focuses on the processes that take place when learners engage with a designed curriculum. A two-year JISC programme, Transforming Curriculum Delivery through Technology, explores how technology can enhance the experience of learning.

A four-year JISC programme, Institutional Approaches to Curriculum Design, is investigating how processes involved in the design of programmes of study can be made more agile and responsive through the use of technology.

Reconsidering curriculum design

Curriculum design touches every aspect of an institution’s core business – from aligning its portfolio of courses to its mission and vision, through market research and product development to quality assurance, recruitment, assessment, resource allocation and timetabling.

The importance of curriculum design is prompting many institutions to rethink the processes, systems and procedures involved in planning, designing and administering programmes of study. In the 21st century, institutions aim to be increasingly demand led, responsive to cultural and economic change, and capable of providing opportunities for learners to acquire both knowledge and skills for employability and lifelong learning. Joined up, adaptive processes and interoperable systems are vital to the realisation of these aims.

Revising approaches to curriculum delivery

Because it impacts directly on the student learning experience, the quality of curriculum delivery is of institution-wide concern. But curriculum delivery presents many complex challenges – for example, responding to changing learner needs, ensuring availability of high-quality learning resources and environments and delivering a more engaging and flexible learning experience.

Learners’ needs also vary widely. Mature work-based learners and younger campus-based learners experience the curriculum in different ways, yet the quality of their experience must be consistent and equitable. Improving learners’ experience of taught curricula and the assessment of learning, in particular, remain priorities for most further and higher education institutions.

In response to these challenges, institutions are seeking to exploit technology to achieve more innovative, personalised and learner-centred approaches to curriculum delivery. The JISC Transforming Curriculum Delivery through Technology programme is funding 15 projects to explore technology-enhanced ways of enabling learners to achieve the outcomes offered by their curricular choices.

Benefiting from enhanced curriculum delivery

Learners are clear beneficiaries of effective and engaging curriculum delivery, but institutions that seek to continuously improve the learner experience gain in a variety of ways.

For example, supporting and enhancing curriculum delivery through the appropriate use of technology can:

- Develop experience and knowledge that can be shared between as well as within subject disciplines
- Enable innovative initiatives with regional and international partners
- Enhance the institution’s provision for its learners and improve learner satisfaction
- Increase the institution’s competitiveness in regional, national and global markets
- Enable a broader range of outcomes for learners

The JISC Institutional Approaches to Curriculum Design programme aims to explore how technology can help address particular design challenges and so provide benefits for institutions, learners, employers, professional bodies and the wider community. This innovative programme of 12 projects led by teams in UK universities is to run until 2012.

Integrating technology into curriculum design

A number of institutional systems support the design of a curriculum. These systems include quality assurance and validation processes, learner record systems, virtual and managed learning environments, assessment systems and procedures, repositories of learning resources, systems of timetabling and physical space allocation, and the production and updating of course-related documentation such as programme specifications and learner-focused information.

Projects within the Institutional Approaches to Curriculum Design programme are testing process modelling tools to achieve more agile and adaptive working procedures, exploring ways of integrating a wide range of stakeholder views and enabling learners to benefit from more personalised curriculum designs.

However, technology is not the driving force. Technology-enabled systems may benefit institutions – for example by improving workflows, involving stakeholders in more active and timely ways and by making possible more flexible, learner-defined curricula – but enhanced curriculum design also involves engaging the interest and participation of all concerned.

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Curriculum delivery focuses on the processes that take place when learners engage with a designed curriculum. A two-year JISC programme, Transforming Curriculum Delivery through Technology, explores how technology can enhance the experience of learning.
In practice, there is overlap and interplay between the processes we are calling “curriculum design” and “curriculum delivery”... For example, the educational rationale for design decisions should be understood by staff involved in the delivery process, and ideally by learners too, while evidence from learners’ engagement with the curriculum should inform future iterations of design. JISC, 2008

Technology as an enabling factor: curriculum design

**Develop or redevelop**
Interoperable learning and administrative systems make it possible to share information across elements in the curriculum lifecycle. Learning design and pedagogic planning tools can aid exploration of new designs, inform the choice of pedagogic approach and facilitate collaborative work between members of internal curriculum teams or between teams in partner institutions as they work to common standards, established, for example, by subject benchmarks or professional bodies.

**Initiate or review**
e-Enabled learning, management and administrative systems can integrate data generated during the delivery and evaluation phases into documents for audit and course reviews: interoperable systems, for example, can capture the relationships between courses, modules, subject benchmarks, learning outcomes and assignments.

**Approve**
Committee processes can be enhanced through e-administrative systems, enabling validation panels to address a wide range of validation-related concerns such as audit, employer and professional body requirements, staff development needs and constraints on time, location, workload and resources.

**Communicate**
Outcomes of the JISC projects eXchanging Course-Related Information (XCRI) and Course Validation Reference Model (COVARM) can facilitate the exchange of course-related information and support inter- and intra-institutional collaboration on course validation, the development of programme specifications and the production of information for learners and other external stakeholders.

**Resource**
Digital learning environments and resources can offer adaptive and accessible learning opportunities for learners. Pedagogic planning tools can support logistical planning of sessions. Electronic timetabling systems can be synchronised with data on staff, student and room availability. Digital learning resources stored in flexible, searchable systems can be found easily and re-used.

**Evaluate**
Data from virtual learning systems can be integrated with data from other e-administrative systems to produce a more rapid and accurate overview of the curriculum. Information can then be shared to inform other stages of the curriculum lifecycle.

**Assess**
Technology-enabled formative and summative assessment can ensure prompt feedback and promote active learning. Technology can record assessment outcomes for internal course reflection, evaluation and review. Aspects of learning stored electronically by individual learners can be transferred into e-portfolios, transcripts and records of achievement and made available to admissions tutors and employers.

**Deliver**
Technology-enhanced practice can engage a wide diversity of learners and increase choice and entitlement. Institutional, Web 2.0 and personal mobile technologies can be combined to support learners in a variety of learning activities, including work placements. Multimedia and virtual world technologies can help unite dispersed groups of learners and provide authentic learning opportunities.

**Support**
Online systems of support can offer guidance to learners wherever and whenever they need it. Learners with appropriate digital literacy skills can also support one another through forums, chat and social media – learning designs can recognise the importance to learners of using their preferred tools and software and, where possible, offer choice.
There has to be widespread stakeholder agreement about the desirability and feasibility of the proposed changes, and so how stakeholders feel about them will be critical to their success.

Professor Stephen Brown, Critical Friend to the JISC Transformational Approaches in Curriculum Design programme

A vision for curriculum design

The emphasis of the Design Studio will be on practical the effective integration of technology into curriculum design and delivery. The work of the Design Studio could lead to results from the work of the Curriculum and Delivery programmes and resources from previous JISC and Higher Education Academy programmes and other relevant sources.

It is envisaged that the Design Studio will offer institutions a single coherent source of information and guidance to enable the effective integration of technology into curriculum design and delivery. The Design Studio responds to the specific needs of the sector to deliver a dedicated, dynamic web-based toolkit to support the design and delivery of high-quality curriculum. The Design Studio responds to the specific needs of the sector to deliver a dedicated, dynamic web-based toolkit to support the design and delivery of high-quality curriculum.

A vision for curriculum delivery

The Design Studio is a dynamic web-based toolkit which draws on a number of institutional case studies and guided resources, and delivers a single coherent source of information and guidance to enable the effective integration of technology into curriculum design and delivery, and a structured, dynamic web-based toolkit to support the design and delivery of high-quality curriculum.

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Managing transformation

Adapting systems and procedures to bring about transformation change poses a significant challenge and requires an institution-wide approach. Technology may offer potential solutions to currently encountered challenges, but equally important is the effective management of a diversity of roles and perspectives. Effective curriculum change depends more on people than on technology, so supporting staff through the change process is critical to the success of any project or initiative.

The Design Studio has been designed to provide a structured case study that focuses on the development of curriculum as well as the delivery of high-quality curriculum. The Design Studio is a dynamic web-based toolkit which draws on a number of institutional case studies and guided resources, and delivers a single coherent source of information and guidance to enable the effective integration of technology into curriculum design and delivery, and a structured, dynamic web-based toolkit to support the design and delivery of high-quality curriculum.

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One of the key challenges... is how to engage students, peers and tutors in creative and mutually beneficial dialogues characterised by innovative and reflective critical thinking – both in face-to-face, distance and work-based flexible learning contexts.

Professor Peter Chalmers, Critical Friend to the JISC Transforming Curriculum Delivery Through Technology programme

Successful initiatives are based on a shared and common purpose.

The Design, Project Manager, CRUISE, Kingston College

Innovative approaches can enhance the learning experience.

WyseCo, SuccessLive and e-book readers into curriculum delivery to enhance the work-based experience of learners studying at a distance.

Enhancing the institution’s standing is a unifying force.

At the heart of this project is the desire to create more effective communication about what is important about the educational experience at our institution.

Collective Sense, Project Manager, Paterson’s Privateers, University of Sunderland

Transformative uses of technology are those that empower learners.

Traditional methods of teaching learning and learning are being transformed by the use of technology to enable learners to become active participants in their learning.

Pybus, Project Director, Making the New Diploma, University of Huddersfield
There has to be widespread stakeholder agreement about the desirability and feasibility of the proposed changes, and so how stakeholders feel about their success will be critical to their success.'

Professor Stephen Brown, Critical Friend to the JISC Backbone Approaches in Curriculum Design programme

A vision for curriculum design
Curriculum-deciding processes that meet the diverse needs of learners.
Learning pathways are targeted, appropriately challenged and supported.
Learners are able to show evidence of their skills and achievements against the requirements of employers and professional bodies.
Learners are supported in developing digital literacy and lifelong learning skills.
Teaching practice is informed by current research and evidence.
Tutors and lecturers timely access to learner information.
Tutors able to give prompt, supportive feedback to learners.
Curriculum-integrated systems that not only support learners’ access to information and resources while learning, but also enable transfer of data as professionals.

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Adapting systems and procedures to bring about transformation change is a significant challenge and requires an institution-wide approach. Technology may offer potential solutions to commonly encountered challenges, but equally important is the effective management of a diversity of risks and perspectives. Effective curriculum change depends more on people than on technology, so supporting staff through the change process is crucial to the success of any project or initiative.

The emphasis of the Design Studio will be on practical Design Studio resources single coherent source of information and guidance to enable programmes and resources from previous JISC and Higher curriculum design and delivery, including those that result together a range of resources around technology-enhanced pedagogy.

The Design Studio is a dynamic web-based toolkit which draws on the experiences and evidence of many teams and initiatives to support institutional change.

A vision for curriculum delivery
Curriculum-deciding processes that meet the diverse needs of learners.
Learners are engaged, appropriately challenged and supported.
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One of the key challenges... is how to engage students, peers and tutors in creative and mutually beneficial dialogue characterised by innovative and reflective critical thinking – both in face-to-face, distance and work-based flexible learning contexts.

Professor Peter Chatterton, Critical Friend to the JISC Transforming Curriculum Delivery through Technology programme

Successful initiatives are based on a shared and common purpose.

One view technology as a liberating agent. It presents the means to address learner diversity and foster differentiated learning and reinforcement activities.

The Design Studio, Project Manager, Bletchley College

Awareness of benefit increases acceptance of change.

It is important that... the offering is more appealing to learners and employers as the processes are owned by schools with little or no increase in the administrative burden on academic and support staff.

Monica Gaddis, Project Director, UK-IBLES, University of Greenwich

Innovative approaches can enhance the learning experience.

We believe technology is essential, SecondLife and e-books readers into curriculum delivery to enhance the work-based experience of learners studying at a distance.

Catherine Owen, Project Manager, Patterns in Practice

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For more information on the Design Studio, see • Evidence such as video clips and quotes
• Findings, key messages and lessons learnt

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Staffordshire University
Institutional Change Initiative for Curriculum Development (EMULATE)

The Open University
Open University Learning Design Programme (OULD-JISC)

University of Bolton
Curriculum

University of Cambridge
Course Tools

University of Greenwich
UG-FLEX

University of Strathclyde
Principles in Patterns (PiP)

University of Ulster
Viewpoints

The following projects have been funded under the JISC Curriculum Design and Delivery programmes.

Institutional approaches to curriculum design

Birmingham City University
Technology-Supported Processes for Agile and Responsive Curricula (T-SPARC)

Cardiff University
Programme-Aware Learning Electronic Toolkit (PALET)

City University London
Process Re-engineering Design for an Interdisciplinary Curriculum with Technology (FREEDICT)

Leeds Metropolitan University
Personalised Curriculum Creation through Coaching (PC3)

Manchester Metropolitan University
Supporting Responsive Curricula (GRIC)

Institutional Approaches to Curriculum Design programme
www.jisc.ac.uk/curriculumdesign

Transforming Curriculum Delivery through Technology programme
www.jisc.ac.uk/curriculumdelivery

JISC e-Learning programme
www.jisc.ac.uk/elearningprogramme

The Open University Learning Design Programme
www.jisc.ac.uk/oledesign

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