Institutional Approaches to Curriculum Design: Bolton's Institutional Story

Project Information			
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Partner Institutions	None		
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1. Summary

The JISC Curriculum Design Programme funded 12 projects over a four-year period with the aim of supporting Higher Education Institutions (HEI) to transform their approaches to curriculum design through the innovative use of technologies. This report explains the work of the Coeducate project including the projects achievements, findings, recommendations and what might be valuable to other Higher Education Institutions (HEI's). The context in which the project operated is explained including the University technical systems.

The 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, thus addressing an ***unserved*** market segment. To meet this market segment, a curriculum model for delivery online, based on inter-disciplinary, inquiry-based approaches to learning (IDIBL) was developed and the IDIBL Framework validated for use at the University. The approach described by the Framework enables people to obtain a certificate, diploma or a degree, whether undergraduate, or Masters, ***while remaining fulltime at work, by making their current work the focus of their study***. It enables learners to study at a time and place convenient to them, supported wholly online. Students are required to undertake projects for improvement 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 pedagogical approach of work-focussed learning used for the IDIBL Framework was based on the work of the Ultraversity project at Anglia Ruskin University (Powell, Tindal and Millwood 2008a; Powell and Millwood 2008b; Powell, Millwood and Tindal 2009). The Coeducate project also aimed to support staff to embed this curriculum model across the

University and to promote the use of technology in enabling, 'streamlined, dynamic and responsive curriculum development'.

This was an ambitious aim, and in seeking to make transformational impact in the capability of the institution it was necessary for the project to address: technical systems and business processes impacting on course development; and staff capability and capacity building focussed on adopting new approaches to teaching, learning, and assessment.

The report's key findings are:

1. **IDIBL Framework**
   The approach successfully provides a way for delivering a higher education that is highly personalised, enables learners to continue to work and leads to improvements in their working practices and the effectiveness of the learner's organisation. The Framework introduces a set of innovations: it is work and process focused, rather than content focused; it is work, rather than campus based; it is online rather than face-to-face; and the teacher's role is facilitator rather than source of knowledge. Any one of these makes adoption difficult, but taken together present a considerable challenge to existing practices. Our findings suggest that adoption of such a radically innovative approach, beyond pockets of innovation, would require investment in an autonomous business unit with the express aim of supporting the full involvement of learners, teachers and administrators to develop the new supporting systems, processes and practices, required to implement these innovations;

2. **Workflow and Document Handling Tool Deployment**
   The 'challenge' of deploying workflow and document handling tools and their ongoing support and development for the validation process alone, does not offer sufficient benefits to justify the resource required for what is a relatively low frequency activity. However, the implementation of generic document and process support technology, able to support a wide range of university processes, is attractive to institutions but requires a significant effort and cross department support; and

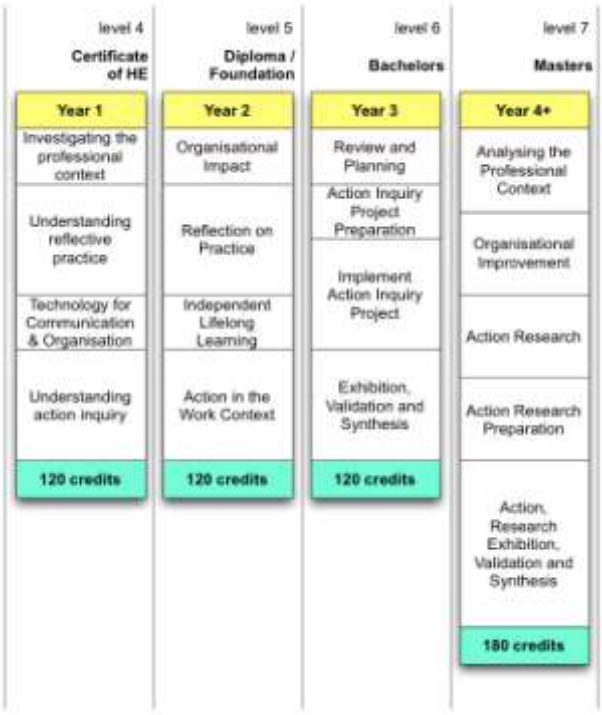
3. **Course Business Planning Tool**
   There is an increasing emphasis on providing a robust business plan, for both new and existing courses, alongside the development of an attractive curriculum for learners. Technology to support planning activities and focussed staff development can provide a sustainable capacity raising approach for an institution.

We have created a story line that provides an overview of the Coeducate project, setting out the main activities and events in the project, the University and the wider national and international context in which it is embedded. Each entry has a link to further information. Something unique for those who want a different interpretation of and way to find out about a project!

2. Headline achievements

2.1 Development, validation and use of the IDIBL approach

The project team developed and validated an innovative framework for interdisciplinary, inquiry-based learning (IDIBL) described in the approved academic proposal document and revised and revalidated in academic year 2011-12. The Framework enables staff to adopt, and adapt if required, the approach to create new courses, with subsequent validation only needing to evaluate the arrangements for delivery and the business plan. The IDIBL Framework, available under a creative commons licence, presents a holistic curriculum including module descriptions, an approach to teaching, learning and assessment that is radically different from the current ways of working in the University.



It describes an approach that is highly personalised, enables learners to continue to work full time, to study at a time and place convenient to them and is delivered and supported wholly online by largely asynchronous communications through the institution's VLE, Moodle in this case. The approach requires students to undertake projects for improvement for the benefit of their workplace and to gain academic credit from the scholarly practices used to inform and evaluate their activities - work focussed learning. Learning facilitators support students through the inquiry process with expert 'hotseat' guests proving addition subject, specialist or discipline expertise.

Figure 1 IDIBL Framework

It was a significant achievement to get the Framework validated and then used as the basis of three further course validations. A key value of the validation of the Framework, beyond providing different route for learners to access higher education, is that it demonstrates what is allowable within University regulations and provides a valuable source of inspiration to course developers and teachers.

Under this project, staff have then used the approach described by the Framework to develop their own programmes and have recruited and taught students successfully on a Masters in Learning with Technology and a suit of programmes around Regeneration and Sustainable Communities. This project also carried out a detailed evaluation of these courses and the IDIBL Framework itself, for more details read the peer reviewed paper Evaluation of IDIBL Framework as a university-wide curriculum innovation.

2.2 Raising capacity and capability around curriculum design & development

In keeping with the Coeducate project's aims of making a systemic impact around curriculum design across the University, a raft of related activities were undertaken that were both planned in advance and also responded to the changing context within the University. The significant achievements and valuable approaches for other Universities to consider adopting included:

1. using Moodle as a vehicle for coordination and as a shared repository alongside a series of workshops addressing key issues to support a cross institutional re-validation process to align with a new University curriculum framework. See an evaluation of the workshops and the Moodle site;

2. connecting the Postgraduate Certificate in Teaching and Learning module on Curriculum Design and Assessment with the curriculum development initiatives in the University through project staff teaching on the course including sharing of curriculum design software developed and online activity design workshop;

3. bringing to the fore the organisation-wide debate around the deployment of generic enterprise tools to support business processes and document flows rather than implementing bespoke technical solutions for the activities of different organisational silos;

4. developing the Innovation Support Networks as a recognised university process to support staff around particular issues; and

5. developing open courses and resources for students and staff to build the skills needed for Patchwork Media Assessment Effective Social & Digital Media Storytelling Blog.

2.3 Developing generic tools for the HE sector

Two tools have been developed and released as open source software that we hope will be of widespread use:

1. Generic Canvas Modelling toolkit that allows the easy creation of templates with context specific help for recording workshop activities or for individual and small group problem solving; and

2. based on workshops using physical cards, we developed a Design Widget that allows virtual cards to be drawn from 'decks' to be placed on a design canvas, annotated and shared for curricula evaluation and design purposes.

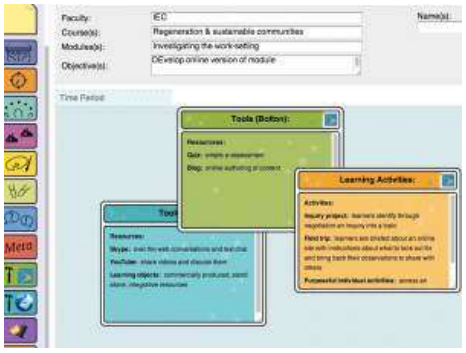


Figure 2 Design Widget

3. Key drivers for undertaking the project

For a small, relatively new Higher Education Institution there is an ongoing business imperative to sustain and grow student numbers to remain a financially viable organisation within the changing constraint of student control numbers on full-time undergraduates. The Coeducate project set out to develop ways in which new types of learners outside of control numbers, unable to access current provision, could be catered for. This fits well with the UoB mission and strong and proudly held tradition of widening participation and serving the needs of the local and regional community. There was, therefore, the opportunity for the project to support this drive for process renewal while at the same time making way for courses of this more flexible kind to be more easily validated.

A baseline review activity undertaken across the academic year 2008-9, found that the UoB strategic plan was generally well understood by staff at the University. However, there was a significant discrepancy between the senior management's sense of urgency and university staff attitudes with respect to the need to develop new curricula that directly addressed the needs of new groups of learners to ensure the medium to long-term viability of the institution.

The majority of teaching staff prioritise the incremental development of current provision based on their experience of running courses to meet existing demand from students. Some staff were actively developing professional or work-based provision, but these represented isolated pockets of activity with departments and were not viewed as part of the mainstream.

Five key findings of the baseline activity were:

1. many courses were heavily reliant on a content delivery model and associated teaching practices to support this, with ownership of a curriculum by the teaching staff being a key issue. Because this approach was well entrenched, curriculum design and quality assurance processes were oriented towards supporting the development of programmes that were constructed from mainly content-based modules and the systems and processes for organising the delivery of these programmes assumed a stable, content-oriented mode. The assumption is that modules need to have a reasonably long shelf life, and so curriculum development can be slow as long as it is rigorous;

2. cross-departmental development was inhibited by anticipated complexity in delivery and financial issues arising from the operation of costs centres and rivalry between schools over control of boundary subject or discipline areas;

3. the challenge in developing a credible business case was substantial, that is identifying winners from losers in terms of recruitment. This was believed to be significantly more difficult because of the lack of market intelligence;

4. amongst senior managers there was a belief that assessment practice needing to change to increase formative and reduce the overall amount of summative assessment. This could include different approaches to evaluating what students knew and could do without the use of examinations; and

5. many staff had been at the University for a significant period of time and the job they were now being requested to do was significantly different to that when first employed and to their capabilities and predisposition.

In summary, there were some valuable qualities identified in the University that meant it was a receptive place for new ideas and approaches to courses and their design. However, any proposal that contained radically new ways of delivering higher education that were significantly new to the majority of university staff would be challenging to operate.

As explained previously and shown by the storyline, there have been dramatic changes in the Higher Education landscape brought about by the international economic turmoil from Autumn 2008 and the change in national government in spring 2010 and resultant changes to funding arrangements. There have also been significant developments since the baseline activity within the institution with changes to personnel, organisational structure, and, perhaps most significantly, the business model of the University from September 2012.

However, it is probably the case that of the five key challenges identified by the baseline activity they remain valid and in this time of increased stress on the institution they are even more pressing concerns.

4. Educational & organisational & political context

The University of Bolton is a relatively small HEI (302 FTE academic staff, 54 research staff, and 251 support staff and 5151 FTE students at the start of the project, 2008). It has a stable staff profile with many academics having extensive industrial experience. Compared with other HEI's (Baseline review 2009), we found the University is relatively agile in bringing new courses to the market although there are challenges around the viability of some of the new provision developed.

In 2008, in response to developments such as the Leitch review (2006), the University of Bolton had a strategic aim; to be a "Professional, Employer and Community Facing University where the needs of employers and learners drive both curriculum content and mode of delivery" (UoB, 2006). The University intended that its academic practitioners would deliver professional higher education in partnership and in negotiation with employers and learners. This model of higher education has as the starting point for curriculum development and design the needs of the learner and their organisation, negotiated and delivered in partnership with full recognition of in-work and experiential learning determining the time and place in which it is delivered.

The University identified that traditional models of curriculum design at Bolton are predicated upon the notion of the educational professional as expert. The curriculum is therefore usually

'handed down' to employers and employees as fixed and non-negotiable (Baseline review 2009).

This analysis oversimplifies what is a very complex picture, in fact there are many good examples of academic with close links to employers working in the way envisaged above. However, at this time the long-term sustainability of the Institution was seen as being underpinned by a growth in student numbers through working more closely with employers.

The above context at the outset of the project has now significantly changed. In September, the first cohort of students will be recruited who will largely pay all of their students fees albeit supported through the Student Loans Company. The total numbers of students that Bolton is allowed to recruit is restricted by a Student Number Control that has built in an 8% reduction in numbers from 2012. The assumption held throughout the previous government of increasing student numbers is now replaced by a reality of decreasing numbers and income. In the light of this, university efforts are focussed on streamlining provision, reducing costs and a major effort reviewing and enhancing the existing curriculum offering in an attempt to make it more attractive to students by increasing their employability.

It is anticipated that by demonstrating enhanced added value the university will attract a higher calibre of student (as measured by A Level results) and as a result, retention and progression will improve. In addition, it is the case that there will be a wholesale re-alignment of part time and postgraduate course fees to approximately equate to the same cost per credit. As with many Universities, this would lead to large increases in fees for Continuous Professional Development modules and level 7 qualifications that will significantly impact on the marketability of these products as discussed in the IDIBL re-validation planning documents. Representing courses such as these in Key Information Set (KIS) data will pose challenges around measures of contact hours. We are concerned that KIS requirements may unintentionally inhibit the development of online provision.

The response to the above analysis are manifested in the UoB by the Curriculum Review which has required all undergraduate courses to demonstrate their viability and undergo a re-validation process. Although not anticipated at the outset of the project, over the past two years the Coeducate project has adapted and offer support and expertise to help the University through this process. The downside for the IDIBL model is that the university has become more risk averse and is pulling back on the development of radically innovative ideas, and instead is now focusing on incremental innovation through its policy of 'Platinumisation' of courses to improve existing offerings, as it adjusts to the new climate.

5. Technology context

5.1 Overview

Following the baseline activity at the start of the second year of the project, we expected to develop working software solutions as part of the project. The issue of sustainability of solutions for the University was also a question we wanted to address and from the outset, engaged in conversations with the Information Services team. Reflecting on these conversations and the findings from our baseline activities lead us to the conclusion that there

is a systemic issue in the way that technological innovations are initiated, developed and then moved through to a sustainable service within our institution. This issue isn't yet solved, but the activities of the project have contributed to better planning and consideration of technological issues through newly established infrastructure and management information groups on which the Coeducate project is represented.

The activities of the Coeducate project in the technological space discussed below helped us develop our understanding of how technology is introduced into the University and the challenges that this results in.

5.2 Use of Wookie Server

To support course using the IDIBL Framework, we initially used a tailored version of Wordpress.com. While this worked well, it was judged that to encourage wider adoption within the university, it would be necessary to use the institutional VLE, which at that time was switching from WebCT to Moodle. As one of the first serious users of Moodle in UoB, it was necessary for it to be linked with the Student Information System[1], SITS, so this was an early action undertaken by project programmers.

We wanted to avoid developing special software for IDIBL-based courses. However, there were features implemented in Wordpress.com that made use of the Wordpress.com widgets approach which we wanted to re-implement in Moodle. We therefore explored the recent integration of the Wookie widget server with Moodle.

Wookie implements the W3C widget specification which allows this type of widget to be deployed on a wide variety of platforms, including smartphones, so developments made using it can be made widely available. This work is in its infancy, but it or other similar approaches offer much by way of interoperability of tools between different platforms.

5.3 Technology for course design and validation

5.3.1 Course Design

We also sought to provide generic support for course design and validation and seeking closer integration between the two processes. With background experience in IMS Learning Design and tool development, this was a natural starting point. But we were equally aware that it was too 'fine grained' as starting point for most teachers. Arguably, it is necessary for academics to have first developed a higher-level design, possibly based on no more than intuition and previous experience and not necessarily codified. It is then possible to set out the design for a series of learning activities and resources at the IMS LD level (LD).

Thus, when invited to become involved in the LDSE project, we accepted, both as a board member and as evaluators. This highly ambitious project sought to provide the kind of higher-level tool which might provide what we needed. Using a typology of learning activities, it set out to present learning designers with an analysis of the types of activity they were proposing

[1] *The Integration of Moodle with Bolton University's Systems:* 1. Technical Perspective & 2. Technical perspective of the Category Structure

that would let them adjust the balance between them to provide an improved experience for learners.

The Learning Design Support Environment (LDSE) was evaluated, or Learning Designer (LDer) as it is now called, at Bolton with a number of staff. Overall while finding it interesting, staff felt that the effort required would not be repaid by the benefits, unless they were planning a major new course or an existing course was to be redesigned as an online course. So it had potential in specialised applications. But a more serious consideration was that, although the user interface improved towards the end of the project, the software was still unstable and, with uncertainty regarding future support for the software as a complex product, it was not possible to recommend it for adoption by the university.

It became apparent that part of the difficulty with developing technology to support course design is that there is significant complexity, with at least three 'pedagogical' levels including:

1. the fine grained IMS LD level, with activity sequences, resources and roles;
2. the mid level, as addressed by the LDer, described by lesson plans and schemes of work ; and
3. the higher level of pedagogical choices, as addressed by the Ulster Viewpoints project, described by module and programme specifications.

It is in this higher level where our own efforts in this space have focussed. We began by running a set of workshops for the PGCHE course using various sets of physical cards, refining their design in the process. However the aim was to provide online support and this has resulted in a pedagogical Design Widget. While this can support a variety of card sets, we have started with the Viewpoints cards based on the Eight Learning Events Model (8LEM) 'activity cards' to support curriculum design processes and activities, closely modelled on those developed by the Viewpoints project. The tool developed can be used both to record and share the results of a face-to-face session as well as for planning purposes.

5.3.2 Course Validation

A key purpose of the validation process is the establishing of a business case for a proposed new course, something that is widely recognised as being very difficult to do and not well supported by the institution as identified by the Coeducate baseline report. To this end, we identified the Business Model Canvas as providing a set of categories that already mapped quite closely to aspects already taken into account in course design. With relatively small modifications the original Business Model Canvas wording could be adapted for the purpose of setting out the factors needed to feed into a course business plan. Typically this is provided as a large sheet with the canvas framework. Groups can place post-it style ideas, evolve and link them to produce the outlines of a business model. Estimates of numbers, costs and revenues can then be made to produce the input needed for a business model spreadsheet. We trialled the business model canvas in two face-to-face workshops with a positive response, and used this as the basis for developing a supporting tool.

In this we had the advantage of the separate development in IEC of Archi, and Enterprise Architecture visual modelling tool. This already had a very simple lightweight post-it style modelling tool which could be used as a foundation for developing a canvas tool. Although provided under a Creative Commons license, we early on received some emails about IP issues from its lead authors. This was enough for us to decide to create a generic tool that would allow any canvas to be created and subsequently used, resulting in a much more powerful and useful tool with a wide range of a potential applications.

The generic canvas generator was produced which enables anyone to produce their own canvas templates with the ability to add context specific help. This was trialled with staff at Bolton to help establish the viability of such planning activities for course teams. In addition, the Business Model Canvas Template was adapted to provide a bespoke template for Course Business Model planning in the University, which, as well as adapted headings for course design, included rich context help for each of the categories on the canvas. This application is available as a part of the Archi, Archimate Enterprise Architecture Software and as such has the potential for widespread take-up and has a reasonable sustainability path.

5.4 Enterprise tools

Developing and deploying a bespoke document-handling tool to support the validation process is a relatively straightforward thing to do. However, The 'challenge' of deploying workflow and document handling tools, whether internally developed, open source stacks, or cloud tools, was something, informed by the baseline report, the Coeducate project intended to do. However, this has proved to be significantly more of a challenge than we anticipated. This isn't a technical challenge, but more one of the institution having the capacity to take an organisational wide view of technology and resource requirements so that real benefits and gains can be realised at an institutional level. This is rising up the University agenda with now widening interest in technology to support process and document flows. This was helped by the work of the Coeducate project that demonstrated that much can be achieved through appropriation of existing technology, such as Moodle, to support validation activities. The challenge over the coming months will be to coordinate all of this activity and interest so that solutions that are implemented are not piecemeal but instead are sustainable and support the enterprise as a whole.

6. Project approach

6.1 Project design and stakeholder engagement

The Coeducate project was designed as a collaborative action research. The development and use of the IDIBL Framework provided a context within which the other project activities could fit, even though they themselves had wider implications for course design and development. For our institution, the Framework was an innovative and challenging approach to delivering a higher education that exposed the systems, processes and working practices of the institution to critical inquiry.

6.2 Tools and techniques

Soft Systems Methodology (SSM) – the approach developed by Peter Checkland (Checkland and Poulter 2006) is essentially a form of participatory action research that relies heavily on the development of models of the systems in focus. As such, its strengths lie in the joint identification of a shared issue and the changes required by individuals to bring about an improvement in an organisation. This overall approach was used throughout the project where possible although the rapidly changing context made this difficult for some aspects of our work – as a practice action research is often messy, complex and imperfect. Ideally, iterative cycles of actions make improvements on those that went before and inherent in this approach is the evaluation of and reflection on actions taken by problem solving participants.

Once underway, the project undertook a complete review of the curriculum development process across the university. This included the initial identification of curricular need through to validation and was designed to enable us to implement targeted interventions to result in a streamlined, dynamic and responsive curriculum development approach across the University.

The review involved modelling academic, departmental and whole university processes, and provided our baseline data to allow comparison with other institutions. Following the review, we worked with staff and schools to develop processes and adapt technologies. These processes included support for developing new ideas for courses, examining their fit with existing provision, and course planning. As the project progressed, we made increasing use of the Arch tool to develop Archimate models of specific processes and technology that we were concerned with.

Not wishing to re-invent the wheel, we were keen to evaluate existing tools based on JISC funded work including Phoebe and, as discussed earlier in the story, the next iteration of the London Pedagogic Planner, the Learning Design Support Environment and approaches developed from other Curriculum Design projects.

6.3 Changes in direction during the project and reasons behind this

The discussion in section 4, the organisational context, and section 5, the technology context, explain how at the tactical level the Coeducate project had to adapt to meet the unfolding organisational context and to take account of our better understanding of how and why technological change comes about within the institution. However, at the strategic level the project aims remained broadly the same; that is to develop the IDIBL model and to work towards more efficient and effective course development and design supported through the use of technology and to build staff capability and capacity to adopt different approaches to learning, teaching and assessment.

6.4 Project evaluation

The project evaluation is dealt with in a separate report but the main goal of the evaluation was to try and offer some indicators to external parties about *what is likely to happen and in which circumstances* if interventions similar to those on the Coeducate project are undertaken. This is informed by a Realistic Evaluation approach (Pawson and Tilley, 2002).

The evaluation process has involved focus-group activities with over 50 staff involved over the life-time of the project, stakeholder interviews, and other methods of extracting stakeholder views, theories, and experiences of curriculum design.

7. Benefits and beneficiaries

At the outset, the Coeducate project sought to bring benefits to a wide range of stakeholder groups and these are dealt with, each in turn. It was the intention of the Coeducate project to:

1. provide access to higher education to groups of students unable to take advantage of existing provision. This has happened, although the numbers of students recruited on courses based on the IDIBL framework have been fewer than hoped for;

2. make the activity of course design easier in the areas of planning activities for teaching, learning and assessment and creating validation documents. This has been a partial success with course developers reporting the advantages of having such a framework to support their thinking around curriculum design and also as a practical starting point for documentation that could be adapted such as Programme and Module Specifications (Powell and Millwood 2011, p265);

3. allow lecturers the freedom to teach in different ways that support the needs 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);

4. support the institution re-validation activities, as indicated by the evaluations of this work, and through the development of a Staff Teaching and Learning Portal in Moodle to showcase innovation practices such as those supported by the Coeducate project; and

5. offer to the wider HE community through the release on either Creative Commons for open source of the IDIBL Framework, Widget design tool, and the Generic Model Canvas generator (currently being evaluated).

As well as the intended benefits outlined above, our activities around the university have had an impact in many other areas as we have engaged vigorously with departments and other individuals who are interested in making change for the better. Examples include:

1. work with school office managers to help them adopt action research and modelling approaches to improve their working practices around curriculum issues;

2. work on the Technology Infrastructure and Management Information group;

3. exploring Course Data Analytics and using that work to successfully bid for further funding to explore this avenue of work in the university; and

4. developing a culture of Enterprise Architecture around the institution.

8. Outputs

Output	How it can be used	What we got out of it
IDIBL Framework	As a basis for the development of new courses with a particular approach to teaching, learning and assessment that supports work-focussed learning.	We have found this resource useful in two ways: 1. as intended to develop new courses that adopt the model in full; and 2. as a way of encouraging staff to think about their current practice and adopt parts of the model such as patchwork media assessment that address their particular needs.
Generic Canvas Generator for staff development and other workshops. Read about it here and then download.	These are additions to the Archi enterprise architecture tool and are designed to be used for high level planning activities that would benefit from templates that are easily developed and customised. The project has created a Course planning Business Model Canvas Template.	The canvas generator tool has been used to analyse the business case for courses through the Business Model Canvas framework. This work was exploratory as the changing context at the University means that new courses have been largely put on hold for the past couple of years as re-validation activities have dominated.
Design Widget including 'activity cards' to support curriculum design processes and activities.	This generic tool can be used for a wide range of planning activities such as those developed by the Viewpoints team either simply to record the outputs of face-to-face sessions or to work individually or in groups in a distributed way.	The Online Activity Design Cards developed by the project have been used extensively with colleagues to enable them to think about the design and delivery of online courses that are currently delivered by face-to-face means.

9. Unexpected consequences

It is difficult to identify specific unintended consequences as the project context was very fluid. It may be useful, however, to reflect on the changes to staffing over the life-time of the project as these were unexpected and significant to the project. The retirement of the project director, Deputy Vice Chancellor and ill health of the Director of the Quality unit posed significant challenges to the project. The effect of these changes was to reduce the understanding and representation of the project at the higher levels in the University. This wasn't so much a barrier to project activities, but was a 'loss of enablers' that could of made the project activities more effective. This risk was identified and steps taken to mitigate against it by actively engaging with staff new to post. To some extent this was successful as shown by the Coeducate projects involvement in the undergraduate re-validation.

10. Sustainability

The cornerstone of our sustainability plan was to embed the project work within the University Learner Experience and Professional Development Unit through the development of the

Learning and Teaching Portal to showcase and share innovative practice (including the IDIBL model). In addition, through the development of an Ongoing Innovation Support Network we planed to take forward various ideas and activities that staff believed had merit. At the end of March 2012, this unit was unexpectedly closed down although some of the activities that it undertook are being maintained by other parts of the University. The Coeducate project has put forward a Capability and Capacity raising proposal to the University as a new innovation development strategy, but with an approach to change based on Teaching and Learning Regimes (Trowler, 2008).

The sustainability of the generic canvas generator is bound into the plans for the development for the Archi tool. In this respect, it is less prone to the vagaries of the University decision making and has a good sustainability route for some time to come.

The IDIBL Framework itself has been re-validated and is in use by one university faculty and the IEC research centre. The work of the Coeducate project has demonstrated that this is an uneasy fit within current University and although one sense it has been adopted by the university take-up is limited. Examples of issues identified include: staff cost centres when interdisciplinary working is being developed; admission processes that are geared towards full-time undergraduates starting only in September; and teaching practices that are at odds with common practices. Therefore, in collaboration with staff in the faculty currently using the model and other colleagues we plan to put forward a proposal for the establishment of a separate business unit with the freedom and flexibility to develop new working practices required for such innovative curriculum design.

11. Summary and Reflection

Looking back over the Coeducate project much was achieved through a combination of an opportunistic approach combined with following through on our planned interventions within the institution. We also think that it was important that we engaged at different levels within the organisation; the individual lecturer, learning and teaching regimes, committees, senior managers, and central support centres.

The IDIBL model was a bold attempt to re-model the curriculum in a particular way. It was initiated by the then Deputy Vice Chancellor as a strategic response to the post Leitch context and his analysis of how curriculum development needed to change. However, for adoption, it relied on academic staff 'buying into' the project. Subsequently this, and other initiatives, were overtaken by the mandated re-validation of all Undergraduate provision, the new strategic response to the post Brown changes in funding arrangements from September 2012. This dominated the curriculum agenda across the institution for last two years of the project, creating a period of consolidation rather than innovation.

When the consequences of these changes become clear, we believe that there will then be further opportunities for the IDIBL approach, opening up access to significant, but currently unserved market segments through work-focussed learning.

11.1 Lessons learned

Gathering the project experience together, the key lessons learned are itemised below.

11.1.1 Introduction of IDIBL Framework:

1. the introduction of the proven, but, to the institution, radically new model of interdisciplinary, inquiry-based learning, was a significant challenge to current ways of working because it requires the simultaneous adoption of a number of significant innovations;

2. the institution was capable of adopting interdisciplinary, inquiry-based approaches where there was sufficient autonomy of a teaching group who were philosophically committed to the ideas and approach; and

3. the validation of a radical curriculum model that included modules and an approach to teaching, learning and assessment had a positive impact on learning and teaching beyond the specific intentions of the project.

11.1.2 Supporting Course Innovation and Validation:

1. difficulties around developing courses: the gaps between course design and validation, session design and learning activity design, and delivery in practice (students' experience);

2. identifying three levels of tool support: Pedagogic Design, Course design and Session design (8LEM, Learning Designer, LD).

3. the development of 'light weight' widget technology to support the professional development of academic staff in formal and non formal contexts was effective; and

4. producing robust business models for new courses has become increasingly important part of the validation process and so software to help academics develop them would be useful.

11.1.3 Course Validation Support:

1. the introduction of bespoke software solely to support University validation processes was not justified in terms of the effort required to maintain it sustainably;

2. the introduction of generic document and process support technology is attractive to the institution but requires a significant cross department and functional effort; and

3. the appropriation of existing and embedded technology such as Moodle to provide information and coordination to support the revalidation process proved effective and relatively easy to implement.

11.1.4 The Wider Context:

1. the national and international, and consequently the structure and operation of the University has changed continuously through the latter half of the project, requiring parallel adaptation of plans and activities.

11.2 What is of value to other institutions

We believe that other institutions will find value from the:

1. idea of developing their own self-contained models of teaching, learning and assessment and validating them as a way of giving permission to staff to adopt new ways of working and as starting points for planning their own courses either by adopting something wholesale or taking bits as and when required;
2. using the IDIBL Framework as it stands for in the way described in point 1 above;
3. using the Generic Canvas Modelling toolkit for course business models;
4. ease of use of Moodle to coordinate and support a cross-institutional re-validation process or other large scale initiatives;
5. design widget to support thinking around curriculum design and development; and
6. thinking around innovation in curriculum design outlined below.

11.3 Considerations Setting up an IDIBL-based Programme

11.3.1 Structure

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.

11.3.2 Staffing

Specific, non-traditional skills and attitudes are needed to facilitate programmes, so staff will need to:

1. Have an interdisciplinary, rather than a single discipline focus
2. Support process - rather than subject/topic-based learning
3. Support online rather than campus-based learning
4. Provide facilitation of inquiry activities, rather than lectures
5. Work in a facilitation team, rather than a solitary lecturer
6. Be adept at negotiating learning plans with learners

This will probably require specific recruitment of new staff. Both new and existing staff will probably require training in one or more of the above areas.

11.3.3 Marketing and Communications

It (initially) targets those who for various reasons do not or are not able to attend a traditional university course and who are in a position to innovate or make a change in their work, whether paid or voluntary. This is in contrast to many Undergraduate courses that are designed to develop subject or discipline specific knowledge.

There is a need to communicate clearly the nature of this type of programme as it is differs from all traditional courses.

11.3.4 Finance

The real costs of running this kind of course are typically significantly lower than running traditional courses, with all students working remotely, resulting in lower campus overheads. The actual costs need to be worked out as a baseline, and then set against a range of fee points and projected student numbers, with a break even point established.

Fees need to reflect the real costs, rather than carry the overheads of more expensive face-to-face campus based teaching.

11.3.5 ICT Platform

The provision of an appropriate ICT platform is needed. This should include facilities to handle admissions and enrolment without attending the University; the learning support system with: discussion forums; multimedia blogging with commenting; a portfolio element to draw out achievements against required outcomes; linking of assessments with a student record system; a student record system that links with the administrative, finance and learning support systems.

11.4 What we would have done differently and future plans

11.4.1 Disruptive innovation reflection - IDIBL where next?

In reflecting on the project experience, the introduction of a complex set of innovations targeting currently unserved customers or clients provides a classic example of disruptive innovation theory (Christensen, 2003). In particular, the theory provides a credible explanation of the contrasting experiences of the Ultraversity (the inspiration for the IDIBL approach) where it initially worked well and the Coeducate project where adoption has proved difficult.

In his work on business innovation, Christensen makes a distinction between 'sustaining' and 'disruptive' innovations. 'Sustaining Innovations' may be radical in nature or incremental in the way they develop a product, but in either case enhance existing products along a trajectory that would be recognised and valued by existing customers. Disruptive innovations on the other hand, bring a new 'value proposition' to the market and it is arguable that technologies that make online, distance learning are a potential enabler for disruptive innovation in the educational field (Christenson, et al., 2011, p.3).

However, according to the disruptive innovation theory, the reason why market leaders can be overthrown by new upstarts, is that they have strong in built filters that weed out any

innovation proposals that do not directly enhance existing products or services being offered to existing markets. Those that do manage to get by are quickly deprived of the resources needed to get to market for more 'important' existing products. In the cases where a company has succeeded in introducing a disruptive innovation, it has been done by setting up a separate and largely autonomous business unit with adequate start-up resourcing.

The IDIBL approach fits the disruptive innovation model well in that it is designed for an 'unserved' market segment. Its first instantiation as the Ultraversity at Anglia Ruskin proved successful with 148 graduates from its first cohort. However, it was set up as an autonomous unit, with its own enrolment and significantly reduced fee structure, with its own dedicated staff, wholly focused on supporting students online, and it addressed students in full time employment who were unable to stop working and devote the time needed to get a degree and were looking for a more convenient, and less expensive route to gaining a degree. In contrast, at Bolton, the IDIBL Framework was provided as a way of enabling existing staff, teaching existing courses, to take on a different kind of work-based and work-focused student. As outlined above, it has met with more limited success.

The Disruptive Innovation theory thus appears to provide a good explanation of the contrasting results between the two, as well as suggesting how best to take it forward. The IDIBL approach challenges existing modes of working, requiring staff to abandon much of their current knowledge and skills and develop new ones. It does not enhance their existing ways of working or address their current student segment. Further, it did not offer a separate course fee structure, nor were there administrative procedures in place to handle this kind of student. It therefore has all the characteristics of a disruptive innovation. Given this, the fact that it has actually made some degree of headway, is probably due to there being existing members of staff already in tune with its way of working and willing to take it on.

In general, institutions can be expected to be hostile to these types of innovation since they are challenging to ideas of quality, the assumptions and the practices embedded in the organisational culture. In turn, this implies that, at an institutional level, a separate business unit will be required for these types of innovations to be adopted (Christensen, 2011, p.3).

This reflection needs more work to establish its validity, but the IDIBL approach is arguably a classic example of a disruptive innovation, with the University internal filters (such as objections to its lack of discipline focus as a reason to reject it), but the overall approach has been proven to work at Ultraversity when it operated as separate unit. Knowing what we know now, we would not have tried to spread the innovation across the whole institution - instead we would have worked with a small group who would take it forward as a generic mechanism, with the goal of establishing it as a separate working unit as a key aim of the project, and this is what we are now working towards.

11.4.2 Institutional process support

It is impossible for IT Services to support different software products for every process, so as far as possible we require a single platform for all processes. This may not be popular approach as process owners like the idea of something tailored to their specific requirements.

In our institution we already have but MS SharePoint 2007 although it is very little used and has a poor reputation for usability, but its strength is that it integrates well with other systems.

Starting again, we would have first established an agreed platform for all process support across the institution with senior management and heads of functional departments and are now investigating an upgrade to (the more usable) Sharepoint 2010 as the default platform for process support as it is can integrate well, which allows a greater degree of user control over the way in which processes are supported.

11.4.3 Workshop support software

We would now have focused more on creating collaborative widget-based web tools which could be used by a group in a face-to-face workshop for creating and capturing activities, but also, as it became more established, in a synchronous and asynchronous but distributed activity. Widgets are a good way to go as they offer portability across devices.

12. Future progress

We believe that the two original ideas embodied in the IDIBL Framework including the work-focussed approach to learning and the approach to enable 'light weight' validation of courses by re-using and re-purposing documentation designed for that purpose are valuable.

In the current climate, there is little appetite for radical innovation, but finding an institutional context that is able to respond to these ideas would, we believe enable the development of viable provision of courses that meet the needs of currently unserved and underserved market segments.

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