



## Project Document Cover Sheet

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**Interim Reporting Template**

<b>Project Name</b>	The University of Exeter Business School Integrative technologies (INTEGRATE) Project
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<b>Reporting period</b>	November 2008 to August 2009

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## Section One: Summary

Over the first academic year of activity on the Integrate project a number of technology trials were carried out in the Business School. The focus of this activity was on the six first-year (core) modules central to the original bid - Principles of Economics, Theory of Management, Accounting 1/2, Statistics for Business and Management, Mathematics for Economists and Introduction to Econometrics. The initial benchmarking process revealed three key challenges facing the Business School, which has expanded considerably and has a higher intake of international students than ever before:

- How to promote a learning ethos in which students actively participate, engage and feel known, despite the ever- increasing numbers;
- How to manage assessment and feedback with large numbers;
- How to promote a collaborative community in which diversity is both valued and well-catered for.

The review of practice to benchmark current use of technology in curriculum delivery in the modules under scrutiny outlined that lectures were accompanied by PowerPoint slides, that the modules all had information and content provided through the VLE (WebCT), and some had electronic links to key textbooks, with formative assessment activities and instant feedback - which had proved to be extremely popular with students. However, overall, there was not a substantial use of technology in the selected modules, and it could not be said that technology was fundamental to the conceptualisation of curriculum delivery. It should be noted here that the Business School is highly successful and consistently ranked first in the NSS – highlighting that teaching and learning and the School environment is perceived as excellent and as fulfilling student needs. In addition, first-year student survey feedback suggested that, although the majority used technology to a fairly large extent in their personal lives, they were not particularly sure as to what extent it should be used for teaching – ie. the first year intake was not generally clamouring for technology to support learning and many had fairly traditional views on how teaching should be delivered (perhaps differently to what several national surveys have suggested – that students have raised expectations re technology use in HE). We hope to repeat a similar survey this academic year to see if there are any differences in cohorts, and possibly to explore why this sample has low expectations on entry.

The major focus has been on developing staff awareness and practices in order to impact on student engagement and interactivity, especially in taught contexts. After demonstrations and discussions, a number of technology-based interventions were selected for each module, specifically driven by the current practices, interests and requirements of each module leader to improve their teaching and to engage the students more deliberately in active participation and monitoring of their own progress. (In some ways the process could be likened to 'appreciative enquiry' - as being employed by Hertfordshire in its ESCAPE project (<http://www.herts.ac.uk/about-us/learning-and-teaching/blended-learning-institute/projects/blu-national-projects/escape-project.cfm>) - listening to teacher accounts of what worked for them and went well with students, in order to build on this and then to move beyond it). In addition, three other modules were included in the project, as the aspirations of the module leaders added the potential for trialling new technologies that would not be piloted elsewhere. The technologies identified were not new in the sense they have only recently seen use in education or are 'emerging', but are new in terms of use in each of the modules. Further detail is given under Section 4 of this report, but technologies include the use of flip video for learning (as an outcome of being given a flip camera at the JISC introductory meeting), Audience Response systems, computer-aided assessment for formative and summative purposes, SMS, Turnitin, electronic marking and Echo 360 for streaming lectures. Over 1000 students have been engaged in technology use across the first year and beyond as a consequence of the project, usually in several different ways, and no first year student should be able to say that there have been no opportunities for technology-enhanced learning during this period. Indeed evaluations of expectations and experiences suggest that almost all have thoroughly appreciated new ways of working, and complain if some of these opportunities are not available as they now anticipate (for example, if their streamed lectures are not on the VLE at the time they expect). Hence it seems that the project has changed the expectations of at least some students since they have become more demanding than we might have expected from the initial survey.

In addition to the successful technology-based interventions, the Integrate project has led to a greater awareness of technology for learning both within and without the Business School. The hive of activity created by the project and subsequent positive informal dissemination by people involved in the project has already caused other members of staff not directly involved in project activities to come forward expressing interests in a range of areas.

A particular highlight has been the decision by the School to purchase sufficient audience response system (ARS) handsets for the entire first-year intake for the 09/10 academic year, and enough spares for dedicated use on at least one more module from a different year group. This is a direct result of the Turning Point ARS system being

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trials in a number of modules through the Integrate project, as well as in meetings with teaching fellows. This purchase has seen a highly effective drawing together of staff from a range of service providers in different departments, including Desktop Support (to install the ARS software on lectern PCs and decide the best way forward for managing response dongles, including operating frequencies in adjacent rooms), AV Support (as they are the first port of call for academics using technologies in classrooms and lecture theatres and will undoubtedly be called upon to answer ARS queries) and Education Enhancement (for training and guidance on using ARS in teaching and learning, across a number of contexts within and beyond the project). To us, this also represents an aspect of the integration of technology we are seeking for, with several parties working together in an integrated way to support student learning.

Use of computer aided assessment (CAA) for a formal M-level exam (use of ABC by Assessment21 in Entrepreneurship: New Venture Development) has prompted other lecturers to come forward expressing an interest in managing assessment in this way. Some are interested in using CAA for summative assessment, some for formative. Invigilation through ABC was perceived as outstanding by School administrators, but the system is likely to be costly to run beyond the pilot, and discussions have started around how best to manage this or similar packages in future – which software to use, how and where students might undertake assessments, what types of questions are most appropriate etc. These discussions have become even more crucial as numbers rise, and effective assessment is something that takes on ever-increasing urgency.

An important part of project progress to date has been the winning of hearts and minds and fostering a collaborative approach to working. The central project team has built up very good working relationships with many members of teaching and support staff in the Business School, through providing ongoing coaching, support and guidance. The synergies in play have led to the project team becoming involved in other areas, such as planning for the new Business School Personal Development Module (BSD1000) that will see all first-year students undertake a programme of coherent, integrated activities that complement their academic programmes and provide a framework for personal tutor support.

An interesting aspect has also been in the gradual building of conceptions of the meaning of 'integrative technologies' to the various stakeholders or, more broadly, of the meaning of 'integration of technology' into practice, for comparison with the meaning of integration within, for example, the Carnegie Institute and the CETL on Integrative learning at Nottingham University. In addition, the trialling of a hub and spoke approach to bringing about change seems to have been highly successful. Staff appreciate the time, expertise and effort that has been offered them, alongside the challenge of being 'obliged' to engage in a way that they might not otherwise have done without the central support and the external targets set through the project bid.

## Section Two: Activities and Progress

There have been no major changes to the overall approach outlined in the project plan and the core project team remains the same. However, a number of appropriate changes have been made and are documented as follows:

### **BSD1000 Module**

Some adjustments have been made in the Business School with regard to who is delivering some modules and a new core module for all students has been incorporated into the project (BSD1000). Activities for BSD1000 have been added to the project plan (see Appendix 2).

### **Workpackage 5**

Workpackage 5 has been updated (see Appendix 2) to reflect the removal of item 29 and 29.1 (use of Skype and/or Adobe Connect to join groups separated by time and distance). The first-year Business School modules are taught face to face and there has been no call for synchronous interaction of this kind. The project plan has been updated to reflect this change. In particular because of the constant pressure of large numbers, the project team have given serious attention to support staff in what they want to do, and in implementing and managing new developments well, allowing room for experimentation but not putting excessive and additional pressure onto staff. The focus on improving more traditional teaching methods (such as large lectures) may not entirely fit with some of the current perceptions of student-centred learning, but we are of the strong opinion that well-prepared teachers who feel comfortable in the use of technology to develop their pedagogy is an equally important factor in promoting student progress and satisfaction. The focus on improving face-to-face teaching through technology has meant that there has been less emphasis on Web 2.00 technologies than we might have hoped. However, this will certainly be picked up next year, along with a focus on group-work and peer-to-peer interactions.

### **Steering Group**

The Steering Group has now been split into two groups, one dealing with day-to-day project issues and the other dealing with senior management level issues (such as sustainability) and institutional strategy and dissemination. It was agreed by the deputy Director of the Business School that the needs and interests of the original group were too broad and that a clear separation of interests would provide greater focus. The members of the two different groups are as follows:

### **Integrate Strategic Management Steering Group**

**Purpose:** To review project processes and outcomes and to provide maximum transfer of technological and pedagogic experiences and findings into University strategy

**Meetings:** Three meetings before end of October 2010 (Nov 2009, May 2010, October 2010)

**Exeter Participants:** Janice Kay (DVC Education, Chair), Jonathan Barry, Michele Shoebridge, Alison Wride, Juliette Stephenson, Sue Burkill, Liz Dunne, Matt Newcombe, Ali Press

**External Consultants:** Betty Collis, John Sloman

### **Integrate Project Management Steering Group**

**Purpose:** To guide and inform project processes and outcomes including participation within the Business School and dissemination across the University

**Meetings:** Three meetings before end of October 2010 (Nov 2009, May 2010, September 2010)

**Exeter Participants:** David Boughie (newly created position of Director of Education, Chair), Juliette Stephenson, Carlos Cortinhas, INTO representative, Liz Dunne, Tom Browne, Ali Press, Student Chair of SSLC

**JISC-appointed critical friend:** Malcolm Ryan

Section 12 (Project Management) of the Project Plan has been updated accordingly. See Appendix 1.

### **Project Budget**

The success of the Bursary Student programme in year one of the Integrate project and the complementary Students as Agents of Change project has led to a greater emphasis on student-led activities for the 2009/10 academic year.

The Students as Agents of Change project has been remarkably successful across this University, is currently unique (we think), has been commented on by Paul Ramsden (HEA) as just the kind of student initiative that is needed, has created international interest from conference presentations, and the ESCalate subject centre is currently discussing our writing a glossy publication about the project, plus a conference and initiatives to engage

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other universities in this kind of practice. This year, there have been some key outputs from students: an evaluative research paper on students views on engagement with lectures, taking into account streamed lectures, Audience Response systems and mobile phones for learning; a short video about the buddy system - to be used in induction sessions for new students - using video caught on flip cameras; and a video on The Exeter Award - to be used for publicity for the award (which is very popular with Business School students) and to support student employability skills.

As agreed with our Programme Manager, an amount of surplus funding from the Travel and Subsistence and Consumables categories will be diverted to partially fund a graduate student to coordinate the student projects for Integrate (a mixture of research/evaluation activities and the production of web-based resource materials for induction, employability, international students, etc.). Although a certain amount of such activity was planned for in the initial bid, the graduate student will provide constant and consistent support and training in relation to research methodologies, presenting data, and critical factors in managing change so as to gain the best possible quality outcomes.

Hence Integrate will provide an even higher profile for student-led work that will be good for everyone involved. An output of this strand of activity will be a framework model describing the types of ways students can be integrated into educational change processes and strategies, and whether emphasis is on the student voice or on student action, and with the University or the student as driver. The Integrate project will add a dimension to the model outlining the integration of students into technological changes to curriculum delivery.

The relevant sections of the project plan have been updated to reflect these changes and are attached to this report (see Appendix 3)

This post will also be used to continue data collection for podcasts on how students perceive that they learn, with a particular focus on international students. It was not possible to complete this activity effectively in the first year of the project, partly due to not starting project implementation till fairly late on in the academic year; however, we are now well placed to engage with this from the beginning of the current academic year.

See Section 4, Outcomes and Lessons Learnt for a breakdown of activities by module addressing the challenges emerging from project baselining.

### Section Three: Outputs and Deliverables

The first year of activity on the Integrate project has been about managing change through the trialling of a number of different technologies, the results of which are currently being analysed and written up into shareable best practice models. At the time of writing this report a number of outputs (mentioned below) are still in production.

The following project deliverables, as specified in the project plan, have been achieved during the reporting period to date:

- (WP1) A detailed project plan.
- (WP2) A review report detailing current practices in curriculum delivery and use of technology in the Business School.
- (WP2,8) Project blog (ongoing). <http://blogs.exeter.ac.uk/integrate/>
- (WP2,8) Project website (ongoing – not as complete as we would have wished due to a complete reconstruction of the Academic Services website, but this will be a priority over the coming year). <http://projects.exeter.ac.uk/integrate/>
- (WP2) A brief outline of literature that relates to and can specifically inform the project (ongoing).
- (WP3) An action plan detailing technological interventions for each of the identified modules (ongoing).
- (WP4) A report of training activities undertaken (ongoing).
- (WP4,8) Outline training packages, and resources, that could be used in different contexts in the University and more widely (ongoing).
- (WP5) Identified technology pilots underway in all of the specified modules.
- (WP6) A report focusing on the views and experiences of students (ongoing).
- (WP6) A student-led case-book of technology practices students appreciate, and why (ongoing).

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- (WP6) A series of profiles of international students put together by one of the project's bursary students.
- (WP6) A student-produced induction video of students reflecting on the University buddy scheme.
- (WP6) A framework model for integrating students into educational change through technology (ongoing).
- (WP7) Evaluation activities, a core part of the project, are ongoing.
- (WP8) Interim Reports.
- (WP8,9) Case studies detailing the outcomes of the identified pilots (see project plan) (ongoing)

Please see attached outputs mapping tool (Appendix 4). The mapping tool has also been appended to the Project Plan (Appendix C to Project Plan).

### Section Four: Outcomes and Lessons Learnt

Collaborative working between the Business School and Education Enhancement specialists throughout the initial mapping process revealed a number of areas and ideas to prioritise over the course of the project, some of which will support an overall change in culture from largely didactic curriculum delivery to a more flexible and process-oriented approach, with student engagement at its heart. Two main challenges arose in each of the six modules: firstly, the large increase in student numbers; and, secondly, an increase in diversity of students, particularly international students. In addressing these challenges, the project has made use of technologies that:

1. are routine for some, but by no means all, academics (such as use of WebCT to provide lecture notes and additional support materials, formative feedback from web-based quizzes and tests);
2. have been tested within the institution but are far from embedded (such as electronic submission of assignments both to support plagiarism detection through Turnitin and to enable efficient administrative processes);
3. are presently untried at Exeter (such as the use of personal response systems during large group lectures, video-streaming of lectures so that all content can be constantly available for reviewing and revision, and use of SMS; the extension of electronic submission of assignments for online marking and feedback; electronic examinations).

Mapping has also highlighted the potential for linking with other institutional projects and developments, for example, the rolling out of BART (an electronic tool for monitoring submission of assignments) across the institution and BART's redevelopment to incorporate attendance monitoring (LISA), as well as a bid for alumni funding (DARO) that is exploring the use of personal response systems with students. The project will also serve as a demonstrator for the benefits of a 'hub and spoke' model that has been considered by the University's e-Learning Review group. This model would see Educational Technologists embedded within Schools and supported by a central unit, which is similar to the way in which the Integrate project has been working.

#### Challenge to be investigated by the project:

How to promote a learning ethos in which students participate, engage and feel known

##### Academic Viewpoint

Specific project foci:	Support through technology:
Student attendance	Attendance monitoring system (RFID?)
Student engagement and participation in class (lectures and seminars) and out of class (practice and consolidation)	In-lecture feedback (audience response system (ARS), SMS, Twitter?)
Student motivation	Support resources (WebCT, textbook link sites, blogs, wikis, streamed video?)
Communication routes	Peer-led support (Ning?)

##### Administration Viewpoint

Communication routes	Requests, information, feedback (email/website/discussion)
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	fora/synchronous online support?)
Student Viewpoint	
Specific project foci:	Support through technology:
Student engagement and participation in class (lectures and seminars) and out of class (practice and consolidation)	In-lecture feedback (personal response system, SMS, Twitter?) Support resources (WebCT, textbook link sites, blogs, wikis, streamed video?) Peer-led support (Ning?)
<b>Distance travelled:</b>	
<p><b>Attendance monitoring</b> Various ways of monitoring attendance have been considered over the 2008/09 academic year, including RFID, using ARS handsets and tracking virtual attendance for electronically delivered skills modules through the VLE. and will be trialed through the BSD1000 module in 2009/10. RFID offers the greatest potential as The Forum, coming on-stream in 2011, will have the capability to monitor RFID tags in University Cards (UniCards). In preparation all UniCards issued to 2010's intake will contain an RFID tag and the project will be pushing to initiate a pilot with the Business School in 2010/11.</p> <p>In 2009/10 attendance monitoring using LISA will be implemented for BSD1000, most likely in Semester 2 (Jan 2010) when LISA's roll-out begins.</p> <p><b>In-lecture feedback</b> SMS and ARS were used in a number of modules to gain real-time feedback from students both with regard to their understanding of content and as a way of collecting answer to specific questions. Further information about the benefits of ARS over SMS and vice-versa can be found on the project blog.</p> <p><b>Support Resources</b> All modules now have a greater range of resources available through WebCT (where this was seen as an area to be addressed) and formative quizzes have been created for a number of modules. Where lecturers are using streamed video (Principles of Economics, Theory of Management, Accounting) the streams have been added to WebCT manually. In the next academic year these links will be created automatically as soon as the streams have been processed by the Echo360 appliances.</p> <p>Blogs and wikis will only be made available to lecturers in the 2009/10 academic year and we will be working with lecturers to incorporate these into curriculum delivery where there is interest to do so. Textbook link site (created by textbook publishers) have being used in Principles of Economics in 2008/09 and it is hoped this will extend to include Theory on Management in 2009/10.</p> <p><b>Peer-led Support (Ning)</b> End of year discussions with module leaders and Student Services in the Business School has identified a need for a pre-arrivals site for new students. Over the course of the 2009/10 academic year Bursary Students will be tasked with collecting together and publishing content to a Ning site on a variety of topics such as the differences between lectures and seminars and how to get the best out of them, how group work works, being creative about sources of information (e.g. using current affairs instead of just text books) and the Business School buddy system as well as non-academic subjects such as going to football matches, supermarkets and different types of eateries. The site is expected to appeal to both international and home students and we expect a range of information being made available. The content will be student led and student created, leading to a rich resource for future year groups.</p> <p><b>Communication Routes (requests, information and feedback)</b> The central project team have been working on ways to make more effective use of communication routes between lecturers, support staff and students. To an extent a lot of what can be achieved relies on systems and processes outside the remit of the project, so investigations have centered around routes of communication we can influence, such as the School's Intranet site.</p>	

<b>Challenge to be investigated by the project:</b>	
How to manage assessment and feedback with large numbers	
Academic Viewpoint	
Specific project foci:	Support through technology:
Summative examinations / tests Formative tests / assignments with associated feedback Plagiarism detection	Electronic examination with electronic marking (Assessment21?) Online testing with instant feedback (WebCT, QMP?) Individually tailored e-feedback (Captive?) Audio feedback e-submission, e-marking, e-feedback Turnitin
Administration Viewpoint	
As above	e-submission system (online, BART?) e-feedback forms Turnitin, to include Grademark for marks and feedback
Student Viewpoint	
Formative tests with timely feedback	Online testing with instant feedback (WebCT, QMP?) Individually tailored e-feedback (Captive?) Audio feedback e-submission, e-marking, e-feedback
<b>Distance travelled:</b>	
<p>Electronic examination with electronic marking</p> <p>A trial of Assessment21's ABC computer aided assessment (CAA) tool was undertaken with 115 M-level Business School Students in May 2009 for a summative component of their module weighted at 50%. CAA could be an effective way of streamlining exams for large groups of students, particularly where marking is concerned, as it seems from the trial a fair amount on time can be saved in marking. However, holding a computer based exam under invigilated conditions presents logistical problems, as the largest single computer suite at the moment seats 94. When factors such as computer or seating failure are factored in the actual number available in that single room may only be 90. In order to handle large cohorts of student, multiple rooms would be required, creating an extra layer of complication for the management and invigilation of those groups; or student should be tested in groups using a question bank – which takes considerable time to develop from scratch.</p> <p>Online testing with instant feedback</p> <p>Online testing with instant feedback has been incorporated into four of the six core first-year modules (two delivered in VLEs managed by textbook publishers, two delivered through the University's VLE based upon questions from publishers), with one module leader electing to assign a small percentage of final marks to completion of the VLE quizzes (Introduction to Econometrics). Perhaps unsurprisingly, the quizzes counting towards the final marks for Introduction to Econometrics proved more popular than the other quiz delivered in-house for Statistics for Business and Management.</p> <p>Individually tailored e-feedback</p> <p>e-Feedback was given via video to students who made group presentations in the module Theory of Management.</p> <p>e-Feedback was also used in conjunction with e-submission and marking in a trial of Turnitin in the module Statistics for Business and Management. See below.</p> <p>e-submission, marking and feedback / Turnitin</p> <p>Students sitting Statistics for Business and Management undertook two mid-semester assessments worth 10% and 20% respectively as well as an end of module exam. Students submitted their work through Turnitin, where it was checked for plagiarism. The module leader then marked the assignments electronically using Turnitin's GradeMark feature and once marking was complete the marks and feedback were released back to students through Turnitin. This turned out not to be a suitable way delivering feedback to students as moving from assignment to assignment was very time consuming and it was also necessary to download papers one at a time for saving to disk to give to the undergraduate administration office.</p> <p>Due to the amount of time taken to mark and give feedback in this way the module leader has decided not to continue with another cohort. Part of the issue is the administrative requirement still to work with paper copies of all assignments, which defies some of the purpose of using an electronic system.</p>	

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<b>Challenge to be investigated by the project:</b>	
How to promote a collaborative community in which diversity is both valued and well-catered for	
Academic (Pastoral) Viewpoint	
Specific project foci:	Support through technology:
Induction / team development	Podcasts, student-created video, photos
Pdp / employability	e-pdp
Online support for academic skills	Online support for presentations/essay writing/revision?
Administration (Pastoral) Viewpoint	
Communication routes	Requests, information, feedback (email/website/discussion fora/synchronous online support?)
Student Viewpoint	
Student induction	Student created content (podcasts, vodcasts)
<b>Distance travelled:</b>	
<p>Podcasts, student-created video, photos</p> <p>Student created content has been used to create a video about the Business School Buddy Scheme (where international students are paired with home students to help them settle in the UK). The video will be used as part of the 2009/10 induction to promote the benefits of the scheme to students and encourage interest. Further video projects are planned for the 2009/10 academic year, with short videos being produced on a variety of different facets of University life to create a pre-arrivals social networking site for new students.</p> <p>e-PDP</p> <p>The benefits of e-PDP will be the focus of a student project for the 2009/10 academic year and it is envisaged both the staff and student perspectives will be represented.</p> <p>Online support for presentations/essay writing/revision</p> <p>As part of the BSD1000 Development Module all students will be required to complete a series of face to face or online skills modules. Online modules will be made available through the VLE and students will be required to complete a short quiz at the end of each one. Completion of the quiz will be used as proof the online module has been completed and this information will be added to the attendance monitoring data collected for all other areas of BSD1000.</p> <p>Requests, information and feedback (communication routes)</p> <p>The central project team have been working on ways to make more effective use of communication routes between lecturers, support staff and students. To an extent a lot of what can be achieved relies on systems and processes outside the remit of the project, so investigations have centered around routes of communication we can influence, such as the School's Intranet site.</p>	

### **Section Five: Communicating and Dissemination Activities**

The project has engaged in informal dissemination both internally (in the Business School and more widely across the University) and externally at various workshops and events project team members have attended. Project leaflets were distributed at ALT-C 2009 from the JISC stand and more informal dissemination took place at this event. A PDF of the leaflet is appended to this report (Appendix 5). Liaison has taken place with other Curriculum Delivery projects at various conferences and workshops in the reporting period and also at CAMEL meetings.

During the reporting period a successful Steering Group meeting took place with both internal and external Steering Group members and ongoing liaison has taken place with many members of this group, which has been highly supportive of the project. Another Steering Group meeting is planned for November.

Formal dissemination was undertaken by Juliette Stephenson, Senior Teaching Fellow, and Carlos Cortinhas, Teaching Fellow, at the Developments in Economics Education conference in Cardiff. This has been an exciting dimension to the project as it indicates a full commitment to the activities undertaken and to the desire to share in the learning with their subject network.

Informal dissemination is also vital to the success of the project, and this is certainly taking place within the School.

Dissemination will become increasingly important through the coming year

## Section Six: Evaluation

Evaluation of project activities has taken place as a matter of course throughout the project. The technologies are constantly being informally evaluated for their fitness for purpose, both by talking to staff about whether they achieve what was hoped for and by observing their use in practice. Action has been taken dependent on whether the technology has been inappropriate or not working as well as needed, or whether problems are more a question of pedagogy. We have mostly stuck to technologies and worked to iron out problems, but the use of a tablet PC for demonstrating long mathematical calculations was abandoned fairly rapidly since we agreed as a team that we could find a better way of working. This iterative and incremental evaluation process has been documented and will form part of formal case studies to be produced later on in the project, highlighting benefits and difficulties, and staff and student views.

The project evaluation plan has proven to be a robust document and has worked in all ways – the evaluation questions posed are still relevant for the project, both in distance travelled and for planned activities for the next academic year, and the plan has not changed.

Evaluation activities planned for the next six months include ongoing: evaluation of technologies tried by the new cohort of Teaching Fellows, plus continued evaluation of previously used technology, or adapted versions of implementation being used by the first 2008/09 cohort of Teaching Fellows.

Evaluative papers will be submitted to all or the majority of:

- International Blended Learning Conference 2010, University of Hertfordshire
- Plymouth e-Learning Conference 2010, University of Plymouth
- Shock of the Old 2010, Oxford University
- JISC 2010, London
- e-learning @ Greenwich 2010, University of Greenwich
- ALT-C 2010, TBC

Journal articles will be submitted to journals such as:

- Computers and Education
- International Journal on E-Learning
- Journal of Computer Assisted Learning

An area the project would specifically like feedback on is further suggestions of journals or additional conferences to submit practical or research papers to.

**Section Seven: Issues and Challenges**

[Redacted content]

[Redacted content]

[Redacted content]

[Redacted content]

*What strategies have you found useful for engaging stakeholders at this stage of the project?*

Key to engaging Business School stakeholders has been the central project team's enthusiasm and commitment to the project, despite the many and disparate activities they have engaged in. Feedback from module leaders has highlighted the team's professional attitude and appreciation of their usually speedy response to queries. Criticism was levelled at the central team in early stages of the project as there seemed to be more planning taking place than piloting of technologies. However, this was an essential part of the project at this stage and careful planning has resulted in a robustly planned project with clear work-packages, outcomes and deliverables, and these criticisms are no longer applicable.

The strategy in this instance has been to ensure that we are working from the ground up, to encourage ownership of new ways of working, though with the full and active support of more senior staff in the Business School and the University. This has been essential so as to achieve what staff want to do and to implement with their students, rather than imposing this from outside. However, the project has provided a focus, drive and momentum, and in particular has enabled experimentation without fear of disastrous repercussions (things going wrong, or not achieving what was wanted, may be annoying but do not amount to failure in this kind of environment where we have tried to work openly and honestly and to provide as much support as we possibly can). In terms of strategy, it has also been important to recognise that the project is as much about pedagogic strategy as technology use. Many of the technologies we have tried have been highly successful, but still need further re-thinking for the context of significantly increased numbers.

A selection of stakeholder comments about the central project team follow:

Regarding the trial of CAA in the Entrepreneurship: New Venture Development module:

"I think it was an excellent exercise, one I certainly enjoyed working with you and your team on, and I thought you were exemplary in your support, so many thanks for that."

"It has genuinely been a pleasure, working with you and Laura. It was really helpful in getting things done and I knew basically when there were issues you would get them sorted which, when you are busy, is really helpful."

Regarding use of video in Theory of Management:

"One of the best things about working with this team and the use of technology in teaching is because it's about moving things forward and engaging with the educational process in a more contemporary way."

From School administrators:

"...actually at this point I am wishing we had three years..."

"I just think we are very lucky to have access to this and the thing is to make as much use of you guys as we possibly can."

"I think it's wonderful you can just keep moving forward with it and getting the messages spread out across more people."

Regarding the new BSD1000 module:

"You know, the support from you is going to be so important."

In relation to the ethos of the whole project:

"It was really good to spend some relaxed time with some really interesting people. You run a great team and a nice atmosphere and it feels very 'normal' and at home both intellectually and personally - so a very big thanks for that."

SSLC feedback has also been very positive, with real interest taken in the broader thinking brought in by the project, and the willingness to engage with feedback from students. Individual feedback from student projects also confirms that those who volunteer engage in new ways that they find exciting and even life-changing. The shift in power structures to students acting as collaborators and co-producers has been one that they find exhilarating and purposeful.

## Section Eight: Collaboration and Support

Members of the project team have attended a number of programme activities in the reporting period, such as attendance at the programme start up meeting, the May 2009 programme meeting, the evaluation workshop and a number of other supporting workshops. Contact has also been made with JISC CETIS and TECHDIS.

The project has made strong links with other projects in cluster D through attendance at CAMEL meetings, the first of which was held in May 2009. Since then members of each of the project teams have met at various conferences and events around the country at which further networking has taken place. These informal links have proven to be valuable as there has often been common ground between us in areas such as producing project documentation and the timing of programme events (their appearance in delivery time as opposed to times when lectures are not scheduled and students are not expecting lectures and seminars). The cluster's feelings about timings were fed back to the programme team through the cluster's critical friend, although as dates have already been set there was little that could be done about moving programme events outside delivery time.

The CAMEL meetings have proven particularly useful as the exchange of ideas, progress and frustrations has lessened potential feelings of isolation and struggling alone to achieve project goals. Whilst all of the projects have different work plans, there are many commonalities to tap into, such as stakeholder engagement, recording project activities and delivering measurable change. The role of the critical friend is also important in engaging this group, encouraging open discussion and being someone we can turn to if we really need help.

Our Programme Manager has made one visit to Exeter to see the project and we have made contact with her face to face at programme events, by telephone and by email. We have also made contact with JISC services through our attendance at a number of face-to-face and online events and also by telephone. Further engagement with both the Programme Manager and the support and synthesis team is planned for the second academic year of the project.

We have planned that one of our external steering group members, the internationally-renowned Betty Collis, will be running a session on Web 2.0 technologies in November, and we hope to engage with further external expertise through the year.

## Section Nine: Financial Statement

<b>Total Grant</b>	<b>£199,840</b>	<b>Duration of project</b>	<b>2 Years</b>
<b>Reporting Period</b>	<b>November 2008 to August 2009</b>		

<b>Budget Headings</b>	<b>Total budget allocated</b>	<b>Expenditure this reporting period</b>	<b>Total expenditure to date</b>	<b>Further information</b>
Staff	£147,130	£55,173.56	£55,173.56	

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Travel & Subsistence	£21,170	£1,880.21	£1,880.21	
Equipment	£1,340	£1,131.85	£1,131.85	
Dissemination activities	£4,200	£0	£0	
Evaluation activities	£			
Bursaries	£12,000	£0	£0	
Consumables	£14,000	£2,760.39	£2,760.39	
Other (please specify)				

### Checklist:

Before you return this report:

- Ensure that your project webpage on the JISC site is up to date and contains the correct information. Attach details of any required amendments to this report. Project webpages can be found from: [www.jisc.ac.uk/curriculumdelivery](http://www.jisc.ac.uk/curriculumdelivery)
- If there have been any changes to the original project plan and/or work packages, ensure that amended copies of the relevant sections of your project plan are attached to this report.
- Identify and name any areas within this report that you'd like removed before the report is made public (\*see below)

**\*Please note** the interim reports will be made available on the JISC website and on the Circle site with the budgetary information removed. We recognise that projects may occasionally address very sensitive issues. We would like you to present as full a picture in this report as you can as the lessons you learn are valuable to us. We assure you that any issues you identify as confidential are removed before the report is made public. Where such issues do represent valuable lessons for the community we will involve you in further discussion as to how they could be passed on without identifying institutions or individuals.

## Appendix 1 – Changes to Project Plan: Section 12 Project Management

### 12. Project Management

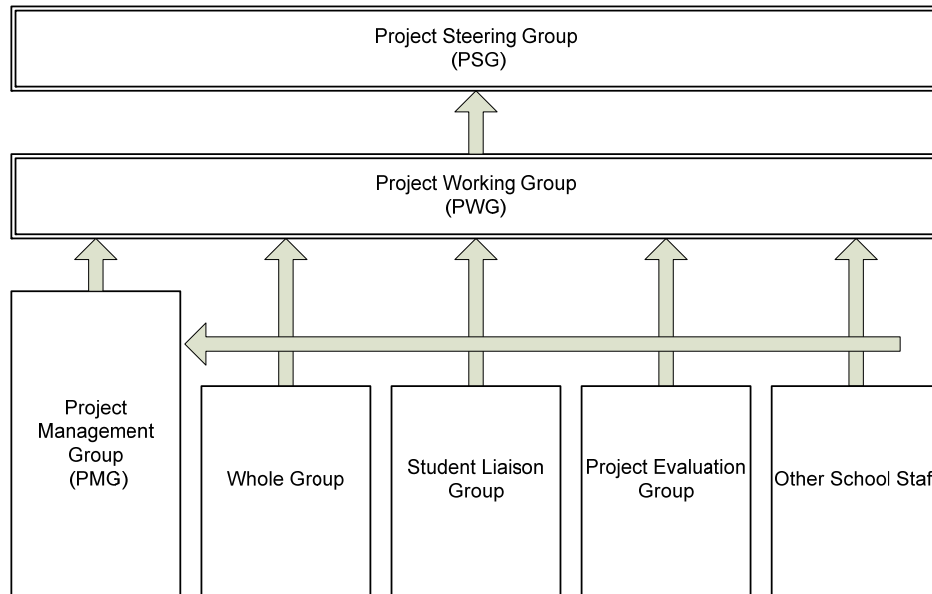


Figure 2 – Project Management Structure

- The project steering groups (PSGs) will advise on the direction and implementation of the project, monitor project progress and adherence to the project plan and consider and recommend strategies for the continuation and development of project initiatives after the life of the project. The steering groups will comprise senior institutional managers, the student-chair of the Staff Student Liaison Committee, members of the team delivering the project and external consultants. Membership and purpose of the two groups is as follows:

#### **Integrate Strategic Management Steering Group**

**Purpose:** To review project processes and outcomes and to provide maximum transfer of technological and pedagogic experiences and findings into University strategy

**Meetings:** Three meetings before end of October 2010 (Nov 2009, May 2010, October 2010)

**Exeter Participants:** Janice Kay (Chair), Jonathan Barry, Michele Shoebridge, Alison Wride, Juliette Stephenson, Sue Burkill, Liz Dunne, Matt Newcombe, Ali Press

**External Consultants:** Betty Collis, John Sloman

#### **Integrate Project Management Steering Group**

**Purpose:** To guide and inform project processes and outcomes including participation within the Business School and dissemination across the University

**Meetings:** Three meetings before end of October 2010 (Nov 2009, May 2010, September 2010)

**Exeter Participants:** Alison Wride (chair), Director of Education, Juliette Stephenson, Carlos Cortinhas, INTO representative, Liz Dunne, Tom Browne, Ali Press, Student Chair of SSLC

**JISC-appointed critical friend:** Malcolm Ryan

- The Project Working Group (PWG), internal to the Education Enhancement Unit and led by the Principal Investigator and Project Manager, has oversight of the day to day running of the project and will liaise regularly with Whole Group, the Student Liaison Group, the Project Evaluation Group and Other School Staff (e.g. other academics and teaching staff, school managers, school administrators).
  - Whole Group comprises members of PWG, Academics and Teaching Fellows leading the Integrate pilot modules and other members of Business School staff close to the project.

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- Student Liaison Group comprises members of the Staff Student Liaison Committee (SSLC) and bursary students.
  - Project Evaluation Group comprises members of all other groups (except Project Steering group) and will advise on matters regarding project evaluation.
  - Other School Staff is made up of any other members of Business School staff who have an interest in the project.
- The Project Management Group (PMG) will have oversight of School-level issues, both administrative and managerial, within and surrounding the project.

Name	Role in Integrate	Time allocated to project	Previous experience
Liz Dunne	Principal Investigator (PI)	20%	Education Enhancement's Head of Project Development at the University of Exeter. Her career over 30 years has been devoted to the promotion of innovation, change and strategic development in education. She has coordinated and directed many major research, development and evaluation projects on aspects of learning and teaching of national interest, most recently as director of a Pathfinder project on video-conferencing.
Ali Press	Project Manager (PM)	100%	e-Learning Advisor. Successful involvement in TEL projects for over 6 years and supporting colleagues' use of ICT and ILT for over 10 years.
Laura Taylor	Education Technologist (ET)	100%	Education Technologist
Nick Birbeck	Co-Investigator (CO1)	5%	e-Learning Advisor
Matt Newcombe	Co-Investigator (CO2)	5%	Head of e-Learning
Sue Burkill	Co-Investigator (CO3)	5%	Head of Education Enhancement
Tom Browne	Co-Investigator (CO4)	5%	Education Research & Evaluation Advisor
Juliette Stephenson	Key Business School Link (OS1)	5%	Senior Teaching Fellow

Training needs will be addressed as the project progresses and sourced either internally or externally depending on need.

**Appendix 2 – Changes to Project Plan: WP5**

Workpackage and Activity	Earliest Start Date	Latest Completion Date	Outputs (clearly indicate deliverables & reports in bold)	Milestone	Responsibility
<p><b>WP5: Piloting and Implementation</b></p> <p><b>Objective:</b> To trial technologies aimed at transforming curriculum technology in live module teaching</p>					
<p>1. BEE1001 - Principles of Economics (core)</p> <p>1.1. Personal response systems</p> <p>1.2. Attendance monitoring</p> <p>1.3. Lecture capture/streaming</p> <p>1.4. Assessment marking overlays</p> <p>1.5. Secondlife?</p> <p>1.6. How I Learn podcasts</p>	Jan 09	Dec 09	<p><b>Case Study</b></p> <p>Student created podcasts</p>		PM, ET, OS2, BS
<p>2. BEE1025 - Statistics for Business and Management (core)</p> <p>2.1. Formative CAA - MCQs in VLE</p> <p>2.2. Summative assessments submitted through Turnitin</p> <p>2.3. e-feedback (vodcast) using captive through VLE?</p> <p>2.4. Individual feedback through VLE</p> <p>2.5. Student to student platform</p> <p>2.6. How I Learn podcasts</p>	Jan 09	Dec 09	<p><b>Case Study</b></p> <p>Student created podcasts</p>		PM, ET, OS2, BS
<p>3. BEM1007 - Theory of Management (core)</p> <p>3.1. Lecture capture/streaming</p> <p>3.2. Streaming media in tutorials</p> <p>3.3. Improved resources</p> <p>3.4. CAA - VLE MCQs</p> <p>3.5. How I Learn podcasts</p>	Jan 09	Dec 09	<p><b>Case Study</b></p> <p>Student created podcasts</p>		PM, ET, OS2, BS
<p>4. BEA1006/7 - Accounting 1/2 (core)</p> <p>4.1. Textbook quizzes (online)</p> <p>4.2. CAA - VLE MCQs</p> <p>4.3. Lecture capture/streaming</p> <p>4.4. How I Learn podcasts</p>	Jan 09	Dec 09	<p><b>Case Study</b></p> <p>Student created podcasts</p>		PM, ET, OS2, BS

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5. BEE1024 - Mathematics for Economists (core) 5.1. Personal response systems 5.2. SMS 5.3. WebCT repository 5.4. Videoed tutorials 5.5. Lecture capture/streaming 5.6. Use of tablet PC 5.7. How I Learn podcasts	Jan 09	Dec 09	Case Study Student created podcasts		PM, ET, OS1, BS
6. BEE1023 - Introduction to Econometrics (core) 6.1. Summative CAA - MCQs in VLE 6.2. How I Learn podcasts	Jan 09	Dec 09	Case Study Student created podcasts		PM, ET, OS2, BS
7. BEMM108 - Entrepreneurship: New Venture Development (extra) 7.1. Summative CAA using MCQ and short answer questions - Assessment21	Jan 09	Apr 09	Case study		PM, ET, OS2
8. BEE1015 - Philosophy of Economics (extra) 8.1. Personal response system	Jan 09	Dec 09	Further evidence of use of response systems		PM, ET, OS1
9. BEAM034 - Corporate Finance (extra) 9.1. Game-based learning	Jan 09	Dec 09	Case study		PM, ET, OS2
10. International Students and INTO 10.1. Capture videos for induction	Jan 09	Jun 09	Student-created video content		PM, ET, OS1, OS2
11. BSD1000 - Business School Personal Development 11.1. Investigate ways of recording and monitoring attendance 11.2. Investigate ways of tracking completion of online (VLE delivered) skills modules	Jul 09	Sep 09			PM, ET, OS1, OS2

**Appendix 3 – Changes to Project Plan: WP6**

Workpackage and Activity	Earliest Start Date	Latest Completion Date	Outputs (clearly indicate deliverables & reports in bold)	Milestone	Responsibility
<p><b>WP 6: Students Supporting Staff and Students</b></p> <p><u>Objective</u>: 24 first and second year students will be offered bursaries for undertaking an amount of project directed work</p>					
12. Employ 8 students for 2008/09	Jan 09	Feb 09	8 employed students		PM, PI, ET
13. Student induction	Feb 09		Students ready to engage with school		PM, ET
14. Student engagement with Business School	Feb 09	Jun 09	Students lead on areas identified in WP description		PM, ET, BS
15. Employ 16 students for 2009/10	Sept 09	Oct 09	16 employed students		PM, PI, ET
16. Student induction	Oct 09		Students ready to engage with school		PM, ET
17. Student engagement with Business School	Oct 09	Jun 10	Students lead on areas identified in WP description		PM, ET, BS

**Appendix 4 – Outputs Mapping Tool**



**Institutional Approaches to Curriculum Design and Transforming Curriculum Delivery through Technology Programmes**

**Guidance tool on mapping outputs**

**What kind of outputs do you expect your project to produce?**

Type of output (see indicative list)	Details e.g. theme, topic, number (of this type), size/scope	Proposed audience ( <b>internal or external</b> ) and/or use (who will use this output and why?)
(WP1) A detailed project plan	The highly detailed project plan underpins all work undertaken by the Integrative technologies project and as such its scope is all encompassing.	<p>The plan will be used by the internal project team to formalize planned activities and to audit progress against targets. The plan will be updated as necessary to include appropriate changes.</p> <p>The plan will also be used externally by the JISC programmes team to better understand what the project will do and how.</p>
(WP2) A review report detailing current practices in curriculum delivery and use of technology in the Business School	The review report details current practices in the Business School at the time the baselining activity was undertaken.	The report will be used to evidence a starting point for distance travelled during and at the end of the project. The report will primarily be used internally for the project team to plan interventions for the Business School and as a basis upon which to plan activities for the duration of the project.

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(WP2,8) Project blog (ongoing)	The project blog will provide an ongoing record of project progress.	Audiences for the blog are both internal and external and it is envisaged those interested in keeping up with project progress will use the blog as an informal method of doing so. The blog will also contain links to other project outputs (e.g. case studies, reports, student profiles etc.)
(WP2,8) Project website (ongoing)	The project website will form a repository for project outputs and a locus for project dissemination. The website will document all areas of the project.	The audience for the website will be both internal and external. It is expected that anyone interested in learning more about the project and accessing project outputs will use the website. The website will be signposted in all other project dissemination and as such will form a one-stop-shop for interested parties. Through the website people will also be able to access contact details for the project team.
(WP2) A brief outline of literature that relates to and can specifically inform the project (ongoing)	The outline literature is being collected using Delicious and made available as a tag cloud through the project website. The cloud will comprise tags for articles related to or informing the project as it progresses.	The tag cloud will be of interest to people internally and externally. Project stakeholders will be able to use the linked information to gain further insight into how project activities relate to the wider world and will also be able to suggest further articles through Delicious' network feature. Audiences will be able to see the context within which we have situated the work of the Integrate project. This will be of interest to external audiences as it will provide background information on project themes.
(WP3) An action plan detailing technological interventions for each of the identified modules (ongoing)	The action plan was created during the baselining phase of the project in order to inform early work. Iterative and incremental work on the interventions planned will augment the action plan – as such it will form an ongoing record of activity and any changes made as a result of evaluation.	The action plan is designated for internal use and will inform externally published outputs, such as the case studies describing different aspects of project activity and project reports.

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<p>(WP4) A report of training activities undertaken (ongoing)</p>	<p>The report will comprise a record of training activities undertaken under the auspices of the Integrate project throughout its lifecycle.</p>	<p>The report will initially form an internal document as during the project it will constantly be in flux, with additions being made regularly. At the end of the project the report will be of use externally as it will document the training and coaching sessions undertaken in order to embed the technologies used to transform curriculum delivery in the project. As such, it will form a methodology for others to implement the same changes and will be of use to both internal and external audiences.</p>
<p>(WP4,8) Outline training packages, and resources, that could be used in different contexts in the University and more widely (ongoing)</p>	<p>For each technology used, there will be a package of materials made available comprising, at the very least, a lesson plan for training interested parties in its use (the way it has been used in the context of the Integrate project) and any supporting materials or resources. Packages will also comprise hints and tips for other people wishing to embed the same technology/technologies in their own curriculum area.</p>	<p>The training materials will be of interest to audiences internally and externally. They will ultimately be transferrable (perhaps with some modification) to different contexts and will form a guide for embedding the technologies used in the Integrate project.</p>
<p>(WP5) Pilots of technologies identified during baselining process</p>	<p>Around ten technologies will be trialed in the first year of the project with some of them being continued in the second year. In addition some different technologies may also be introduced in the second year according to curricula needs. Each of the trials will for a case study of use and will document why we chose a particular technology, how we used it, how use was received by tutors and students, what were the benefits/drawbacks and what should someone else considering using the same technology be aware of.</p>	<p>The pilots will be used internally to ascertain the benefits of using a number of different technologies in learning and teaching and how they can be used to transform curriculum delivery. The processes we went through during the trials, the pitfalls we found and how we overcame them, and what we learnt as a result. All of these finding will be written up into case studies for dissemination both internally and externally.</p>

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<p>(WP6) A report focusing on the views and experiences of students (ongoing) and a student-led case-book of technology practices students appreciate, and why</p>	<p>Student opinions will be elicited at a number of points during the project. Baseline data will be collected as to their prior experience with using different technologies both socially and educationally. Student feedback will also be elicited in a number of other ways, such as videos, profiles, interviews etc.</p>	<p>The student feedback will be incorporated into case studies about different technologies (as appropriate) but will also form standalone outputs. The information gathered will be used internally to evaluate the activities of the project and will also be used in dissemination activities for internal and external audiences.</p>
<p>(WP6,8) Student-made video and audio.</p>	<p>Students will be producing audio, video and written content as part of the Bursary Students strand of the project. Students will be working in various areas alongside the core project team and will produce a number of outputs such as induction materials, guides for using the library, the benefits of being part of the Business School's buddy scheme and how to make the most of campus facilities as well as academically-focused material such as how to get the most out of lectures and seminars.</p>	<p>The content will primarily be aimed at internal audiences – University staff, current students and pre-arrival students. Some of the content may be of interest to external audiences, but we expect more interest to be generated by our framework for integrating students into educational change.</p>
<p>(WP6) A framework model for integrating students into educational change.</p>	<p>The framework is being used as a model both as part of the Integrate project and for the Students as Agents of Change project and outlines four different areas within which students can be integrated into educational change: students as evaluators of their HE experience; students as participants in the decision making process; students as partners, co-creators and experts; and students as agents for change. The framework can be used in all areas where the student voice or student action can be used as an emphasis in either student- or University-led change.</p>	<p>The framework model aims to distinguish between different kinds of student activity and builds upon work undertaken by JISC and others in incorporating students in institutional change. As such the framework will be used internally to describe how students have been already been used as change agents within the University of Exeter, and how they could be used in the future. The distinctions made will also be of value to external audiences who also wish to use students as change agents within their own contexts.</p>

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(WP7) Regular updates are made to the DVC for Education by the Head of the Education Enhancement Unit		The audience for this output is internal.
(WP8) Interim Reports	Two interim reports will be made over the course of the project and will provide a snapshot of all project activities to date.	The audiences for this output are both internal and external. Interim reports will be used to formalise project progress and to report any exceptions or changes to the project plan. The project plan will be updated accordingly. The reports will be used externally as a dissemination tool for project progress and will be used by project funders to audit progress on the project and adherence to planned activities.
(WP8,9) Case studies detailing the outcomes of the identified pilots (see project plan) (ongoing)	Each of the case studies will document why we chose a particular technology, how we used it, how use was received by tutors and students, what were the benefits/drawbacks and what should someone else considering using the same technology be aware of.	The case studies will be of interest to audiences across the education sector as well as internally. The technology pilots and case studies will be of use to anyone considering using the same technologies in their area of teaching and learning.
Final report	The final report will record all project activity and any variances from the original plan of activity. The report will be a formal record of all work done as a result of the integrate project and will describe what curricula transformations have been made and how.	The audiences for this output are both internal and external. The final report will be used to formalise work undertaken under the auspices of the Integrate project and to report any exceptions or changes to the project plan. The report will be used externally as a dissemination tool for project progress and will be used by project funders to audit progress on the project and adherence to planned activities. The final report will also be of use to other external audiences interested in what the project achieved and how.

### Outputs types might include:

- Final report (you do not need to detail the 6-monthly interim reports, but you will be required to summarise 'lessons learned' when submitting these)
- Structured case study or case studies: these will describe curriculum and/or institutional transformations using a template of sub-headings to

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ensure coherence in the lessons learned. You may offer a number of case studies dealing with different curriculum areas, different approaches to learning/teaching, different aspects of institutional transformation etc (please specify). See guidance on producing case studies

[www.jisc.ac.uk/casestudyguidelines](http://www.jisc.ac.uk/casestudyguidelines)

- Materials to illustrate and exemplify the new practices e.g. sample documentation, screen shots, photos, videos, learner created content (with the necessary consent to allow dissemination of these outputs to the wider community)
- Learning designs, learning resources and learning patterns (with copyright clearance as appropriate)
- Evaluation report, reflecting on the issues encountered, articulating what has been learnt through carrying out the project and recommending what requires further development or exploration
- Evidence, which may be presented separately from the evaluation report, e.g. statistical data and data sets, survey returns, transcripts and quotes (with the necessary consent to allow dissemination of these outputs to the wider community), other qualitative data anonymised where relevant
- Guidance materials: could include methods and protocols, conceptual models and frameworks, how-to guides concerning specific software and systems, staff development resources of various kinds
- Workflows, system and process models, e.g. business process models
- Key messages and lessons learned: these will be summated across the programmes but projects are invited to synthesise key messages in areas of particular relevance to their project, e.g. in the form of summaries, guides for different roles and briefing papers.

## Appendix 5 – Students as Change Agents Case Study



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### Students as Agents for Change in Learning and Teaching

Graduate Management Trainee and Research Assistant: Roos Zandstra

Project Director: Liz Dunne

Project blog: <https://blogs.exeter.ac.uk/studentprojects>

Project website: (temporary) <http://as.exeter.ac.uk/eeu/projects/studentprojects.shtml>

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### Case study 1 – The Business School: Report on Student Engagement in Lectures

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#### Introduction

The Business School Staff-Student Liaison Committee (SSLC) decided to engage in a project related to the JISC-funded research project being run by Education Enhancement specifically within this School. The JISC project is aiming to develop integrative, technology-enhanced learning experiences across all four subject areas in the school, in particular for the large cohort of first year students. The SSLC project described here was designed to provide information about how students used, and felt about using, aspects of new technology designed to support and enhance lectures. This is of particular importance to the School in the context of the increase in student numbers in general, and especially international students. The three forms of technology reviewed are outlined below.

- *Echo 360* - This is a system which automatically records (streams) lectures. It is currently available for four first year modules: Principles of Economics, Maths for Economics, Accounting 1 and Theory of Management. Students are able to view the recordings through WebCT, the University's virtual learning environment, alongside the associated PowerPoint slides. Students can pause the lecture at any time, as well as fast forward to selected parts of the lecture. The recordings are usually made available two weeks after the lecture is recorded, although it is possible for this to be achieved almost instantly.
- *Mobile phones* - Mobile phones were used as a response tool to provide answers to questions asked in the lecture. The lecturer is able to view the responses after the lecture; responses can be used for diagnostic purposes and/or feeding back to students at a later date.
- *TurningPoint* - The TurningPoint audience response system allows lecturers to question and gain feedback from students during the lecture. Students respond by choosing a relevant option button on their personal handset. The lecturer can immediately show the students what their overall responses were, for example in the form of a graph, and discussion around answers can ensue. Responses can be anonymous, or the unique code on the back of the handset can be used to isolate individual responses so that staff can monitor individual student performance if they wish.

#### Methods of data collection

With the support of SSLC representatives, a student-designed questionnaire was distributed to a module cohort of first year undergraduates to gain perceptions on recorded lectures (Echo 360) and on the use of mobile phones as a response tool in lectures. This was completed and returned by 207 students. Video and interview feedback was also gained on student views of use of the audience response system in lectures, with additional feedback gained through student responses via Turnitin within a lecture group of around 180 students.

**Analysis of data**

**Questionnaire results: streamed lectures and mobile phones**

**Streamed lectures**

Most students from the sample of 207 students reported using the video-recordings about once a month (40%), although 5% used them twice a week, 8% weekly and 16% fortnightly. They tended to watch the video recordings for different lengths of time. A quarter watched the lectures in full, four in ten students watched specific parts, and around a third used both methods of viewing. Three in ten students did not use the video-recordings at all.

▪ Student reasons for using streamed video

As highlighted by Table 1, the findings reflect that students use the streamed video for several different purposes, and the lengths of time students watched the videos were a reflection of the different uses they made of it. Three quarters used the recordings to look over specific material with which they had struggled, with about half saying they only used the video recordings if they had not understood something in the lecture. Over half used the recordings to write up notes and around half found they could use the recordings to aid them with specific assignments in mind. Students also used the video recordings to revise; over half indicated that it was an integral part of their revision process and that they used it as a memory jogging tool, with a fifth stating that they used the recordings only for revision.

	<i>Percentage of Students Who Agree</i>
I use the video recordings lectures to look over material that has troubled me.	75
I use the video-recorded lectures to write up notes.	61
I use the video-recorded lectures to aid me with assignments within the module in question.	47
I see the video recorded lectures as an integral part of my revision.	58
I use the video recorded lectures as a memory jogging tool whilst revising.	57
I am less likely to do extra reading if the lecture is video-recorded.	22
I only watch the video recording of lectures if I have not understood something in the lecture.	47
I use only the video-recordings to revise.	18

Table 1: Ways in which students use video-streamed lectures

▪ Attendance

Students were aware that lectures are considered mandatory by staff, although currently there is no enforcement or monitoring. An element of concern voiced by staff about the video recorded material is the effect this may have on lecture attendance. Two thirds of students thought the video-recorded lectures did not impact on their attendance in any way. Most students considered they would be missing out if they did not attend, and preferred to use streamed lectures as a back-up. Large numbers (87%) suggested that the value of attending lectures was more dependent on the lecturer and on the module content than whether it was streamed or not.

▪ Recordings - Quality and ease of use

Three quarters of students were satisfied with the quality of the video recordings. Two thirds were satisfied with the quality of the image. Most students (87%) knew where to find the lecture recordings and felt they were able to access the lecture recordings easily (80%). Two fifths did not know exactly when the recordings were made available, but most (58%) stated that they would prefer it to be the same day and a third stated the same week. The majority of students watched the recordings at home (77%) with a small minority watching them on campus (5%).

▪ Recordings - Usefulness

Over half of students felt that video-recording are particularly useful in modules with a high Mathematics content. They also found the video-recordings were useful in lectures which include a number of case studies. Half thought that video-recordings were particularly useful in lectures with

large numbers of students, where it is not easy to get individual feedback on questions, and two thirds thought the use of video recordings had enhanced their learning in the modules where it was available. Most of the students questioned (82%) wanted to see video recordings in all their lectures in the future.

### **Use of mobile phones**

Students were asked about the use of mobile phones as a response tool in lectures. A fifth of students surveyed had taken part in one of the exercises that used texting as a learning tool in their lectures. Of this group, half enjoyed using texting, though only around third agreed that they would like to see mobile phones used as a learning tool in other lectures. Responses as to how many text messages they would be prepared to use if texting became embedded as a learning tool in lectures are outlined in Table 2.

I would be happy to use the following number of texts per week as a learning tool in lectures	%
1- 5	32
5 -10	16
10-15	3
15 +	15
I am not happy to use texting as a learning tool	34

Table 2: Preparedness for using texts for responding in lectures

### **Personal response systems**

For this study, TurningPoint was reviewed in the context of one module, during two revision lectures at the end of the summer term 2008/09 for Statistics for Business and Management. The system was used to ask multiple-choice questions, enabling students to give answers and get feedback as part of a large group. The questions were based on aspects of the module that was about to be tested in the end of year exams. Students were shown a question and given time to calculate the answer, and then submit their answers using the voting technology. During this period students usually calculated answers themselves and then discussed methods with their peers. Once the lecturer was satisfied that most of the students had had the opportunity to answer, he closed the voting and revealed the answer to the question. This was usually followed by a mixture of groans and smiling faces. The answer was explained by the lecturer and student queries responded to before moving on to the next question.

Feedback on the system was gained from the lecturer and from students attending the sessions.

#### ▪ Feedback from the lecturer

The lecturer reported using Turninpoint at the end of term for two purposes: to give students multiple choice questions (MCQs) to support their revision; and to gain feedback from students about his lectures and types of classes. His main aims were to:

- (i) Make lectures more interactive
- (ii) Find out about the level of knowledge of the student group
- (iii) Get feedback from students on particular points
- (iv) Make lectures more interesting for students
- (v) Enable students to self evaluate their level of knowledge and give them confidence about how much they actually knew.'

TurningPoint allowed instant feedback on the students' perceptions of using this form of technology, and from a lecture group of about 180 students, 95% considered that they would like to use this system more often, and 89% thought that revision classes planned in this way were really useful. Although there had been a few technical problems during the lecture with the slides not functioning properly, and so losing 15 minutes trying to get it to work, the lecturer reported that the system is fairly easy to implement and was convinced that his lecture had been enhanced by its use ('Yes. *Absolutely*'). He also strongly agreed that he would recommend the system to other

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colleagues and that he would use the system again in lectures, especially to gauge levels of understanding: *'Yes. I actually intend to use it in most of my lectures, in the last 5-10 minutes probably running a few MCQs to infer how well the students understood the topics we covered.'*

### ▪ Feedback from students

Students said that they enjoyed using the system. They reported enjoying the interaction between the lecturer and themselves and suggested that it helped them to focus and to maintain concentration. In addition, they thought it was useful because it gave them an idea of how well their revision was going in relation to other people in the class and because it gave them a chance to get feedback on exam style questions. Students said that they discussed what each of them had answered once they had selected the answers themselves. When asked about the need for having individual handsets, they felt that sharing a handset would change the activity to become more of a group activity rather than testing their own knowledge. One student suggested that it would be good to split the class into two teams and have a competition between the two sides. They thought the Statistics lecture was a good place to use an audience response system since there was usually a right or wrong answer, but they thought it could be used in other kinds of lecture as well and were keen to see it used more widely.

## Summary of Findings

The data suggests that most students watch the streamed lectures. They mostly use them to look over material that has troubled them in the lecture, to revise, to help with writing up notes and to support the completion of assignments. The majority of students did not feel that the availability of video-recorded lectures affected their attendance in lectures although they reported that content and delivery of modules were factors that did impact on their attendance. Students found the recordings useful, the majority were satisfied with the quality of image and sound, and most wanted to see all lectures video-streamed in all subject areas.

A large part of this sample had not used mobile phones as response systems. Of the students who had, about half enjoyed using them and a third wanted them to be used more often. Most would be happy to use between 1-5 messages a week for responding during lectures. Both staff and students thought that the TurningPoint system was very useful. Students thought it kept them focused in lectures and they appreciated the interactivity it allowed. Most students wanted to use the system in further lectures.

## Recommendations/Solutions

This small-scale study suggests that the Business School should continue to integrate the described technologies into learning and teaching. It also supports the view that further lectures should be streamed, as feasible with the small number of capture systems that are currently available across the University. Additional feedback suggests that streaming can be of positive benefit to international students as it gives the opportunity for repeated listening - supportive for developing language skills as well as understanding. Although the use of texting from mobile phones was not received with quite such enthusiasm, and was only trialled with small numbers of students, it did provide an interesting means of monitoring student understanding and allowed more flexibility in response than that possible through TurningPoint. As an outcome of the pilot with audience response systems and the highly supportive feedback that has been received from both staff and students (including the data gathered for this study), the School has now bought TurningPoint handsets for the whole of the first year cohort and beyond (a total of 1000 sets). It is recommended that these should be widely used in lectures, and that ways of monitoring both student engagement and understanding in lectures, as well as its potential in relation to student attendance, should be explored more fully.

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July 2009

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**Appendix 6 – Conference Leaflet**



## Use of Video in Lectures

Video in lectures has been trialled in two ways over the 2008/9 academic year. In the first, Flip Video cameras were used as a means of helping students improve their presentation skills in the *Theory of Management* module. In the second, lectures were captured using Echo360.



The idea behind recording students' presentations was not only to give them a chance to reflect on their performance, but also to consider how they may look from other people's perspectives. The cohort was divided up into groups and two recordings were

made of each group's presentation – one from close range so the speakers could be heard clearly, and one from a wider angle so the students' body language could be observed. The students took turns in taking responsibility for recording each other and the videos were uploaded to WebCT to be viewed back.

The module leader is keen to continue videoing presentations in the 2009/10 academic year: "I think it had a dramatic impact on the module with the emphasis that I put on group work and group dynamics and also in terms of attendance and behaviour. It was also well received by the students as they could look at a number of different presentations on a topic and use them for revision."

In a separate University project, Echo360 was piloted over the past academic year in a number of larger lecture theatres with a view to embedding it further into teaching and learning. The Integrative Technologies Project was able to make significant use of this technology. From a survey of 207 students, the majority considered streamed video to be highly supportive of their learning. They used it for several different purposes, and the lengths of time students watched the videos were a reflection of the different uses they made of it. Three-quarters used the recordings to look over specific material with which they had struggled. A significant proportion used the recordings to write up notes and the majority found they could use the recordings to aid them with specific assignments. Over half also indicated that revisiting videoed lectures was an integral part of their revision process and that they used it as a memory-jogging tool.

## Audience Response Systems

Student participation in lectures was encouraged using the TurningPoint audience response system (ARS). In one module the students were presented with a number of ethical dilemmas and asked to vote. The module leader was particularly keen as it 'showed the spread across the group in terms of the right ethics to have in different types of situation – that was lots of fun and it was good to be a bit playful, so I will be looking at ways of using it more.'

Student-led research into the use of ARS in another module reported that, from a lecture group of about 180 students, 95% considered that they would like to use this system more often, and 89% especially thought that its use for revision classes was really useful. They reported enjoying the interaction between the lecturer and themselves and suggested that it helped them to focus and to maintain concentration. The lecturer reported the system to be easy to implement and was convinced that his lectures had been enhanced by its use ('Yes. Absolutely'). He also stated that he would strongly recommend it to other colleagues and that he would use it in most of his lectures in future as it gave the opportunity for more interesting



and interactive sessions, getting feedback from students and knowing more about the knowledge-level of the group, as well as enabling students to self-evaluate and give them confidence about how much they actually knew.

The ARS kit trialled was purchased through a successful bid to the University's Development and Alumni Relations Office and saw 200 handsets made available to the Business School. Enthusiasm from students and module leaders alike has led to the purchase of 1,000 TurningPoint handsets – enough for one to be issued to every first year student in the 2009/10 academic year (around 740 students) and enough left over for dedicated use in at least one other module. Strategies for using ARS effectively in teaching and learning will be investigated over the coming year, as will their potential for attendance monitoring.

## Computer-Aided Assessment

The Integrative Technologies Project has introduced computer-aided assessment (CAA) into a number of modules. Four of the six core first-year modules now use formative CAA – two are using external sites made available by textbook publishers and two are using the University's Virtual Learning Environment (VLE). Of those using the VLE, one module leader chose to ascribe 10% of the module marks to the quizzes (*Introduction to Econometrics*). Another module leader used CAA summatively.

For the formative uses, the questions are all presented as multiple choice questions (MCQs) in order to automate marking. Feedback from students revealed they liked having the questions available in order to monitor their own progress, but on the whole they did not make heavy or persistent use of the MCQs outside of the *Introduction to Econometrics* module. One of the challenges with using this method of assessment is limitations with questions – mathematical formulae cannot be represented well without use of images (eg images of equations were used instead of the VLE's formula editor as it was not possible to construct adequately challenging questions in this way). However, use of images for questions presents challenges around accessibility.

A trial of Assessment21's ABC computer-aided assessment (CAA) tool was undertaken with 115 M-level students for a summative component of their module. ABC was found to be an effective way of streamlining exams for large groups of students, particularly where marking is concerned, as this can be undertaken question by question rather than script by script. One marker noted that a key benefit was readability – 'I didn't have to try and interpret the writing as well as the content, which actually made a surprising difference. The answers either clearly made sense or they didn't.'

Holding a computer-based exam under invigilated conditions presents logistical problems. Large computer labs are required and when factors such as computer or seating failure are considered room capacity may be reduced. In order to handle large cohorts of students, multiple rooms would be required, creating an extra layer of complication for the management and invigilation of those groups. A solution may be to use question banks with smaller groups.

