

Cover Sheet for Proposals to Circular 05/06: Learners' Experience of e-Learning Programme (All sections must be completed)	Bid for a: B) Institutional Studies project
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Name of Institution/Organisation: OXFORD UNIVERSITY COMPUTING SERVICES
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Name of Partners NONE

Name of Proposed Project: THEMA: EXPLORING THE EXPERIENCES OF MASTER'S STUDENTS IN TECHNOLOGY-RICH ENVIRONMENTS

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Length of Project: 21 months
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Project Start and End Dates: 01/03/07 – 30/11/08
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Total Funding Requested from JISC: £ 79,374

Funding Broken Down over Academic Years: Y1 £ 14,617 Y2 £ 43,552 Y3 £ 21,205
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Total Institutional Contribution: £ £ 52,915
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Outline Project Description The Thema project seeks to extend the work carried out in Phase 1 of the Learners' Experience of e-Learning Programme by conducting an institutional study of students engaged in full-time and part-time Master's degree programmes at the University of Oxford, in blended environments. Areas to be addressed are: <ol style="list-style-type: none"> 1. The impact on students' learning of the choices that they make in relation to the timing and location of their studying, their study partners and the supporting technologies that they use; 2. The critical moments in their experience of technology for learning; 3. The extent to which they personalise their learning tools and environments and involve "personal" technologies in their learning, and the practical issues that they encounter; 4. Whether "effective" strategies for learning in technology-rich environments can be identified and used to help students who are less effective in this respect. The study will last for 21 months and will use surveys, interviews and data reported at significant or memorable moments to create a broad-brush picture enhanced by in-depth case studies.
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1. INTRODUCTION

This proposal seeks funding for one of the Learners' Experience of Blended Environments (institutional studies) projects in the JISC Learner Experiences of e-Learning programme. Codenamed Thema, the project will be carried out by the Learning Technologies Group (LTG) at Oxford University Computing Services (OUCS) with the co-operation of the Technology-Assisted Lifelong Learning Unit (TALL) in the Oxford University Department for Continuing Education and Oxford University Department of Educational Studies (OUDES). It will investigate the learning experiences of students on Master's level programmes at Oxford University with a strong emphasis on students' use of personal technologies to support their learning. The project will run from 1st March 2007 to 30th November 2008.

1.1 Context: A holistic vision of students' learning and the technology they use

As Dr Rhona Sharpe and her colleagues note in their scoping study conducted in Phase 1 of the Learner Experiences programme (Sharpe et al. 2005),¹ students' holistic experience of e-learning has hitherto been an under-researched area. Although student feedback has been reported in the myriad studies of individual e-learning interventions, the data is normally directed towards a different end (i.e. demonstrating the efficacy of a particular technological or pedagogical approach), and thus any picture of their learning aggregated from such studies will be both fragmentary and unfocused.

However, a truly holistic picture of students' e-learning must take into account not only their formal, teacher-mediated experiences in the classroom, laboratory or field using the technologies provided by their institution, but also the use they make of the technologies – hardware and software – that they themselves own. Interest in these personal technologies has come to the fore in recent years with the increasing computational power of mobile telephones and the proliferation of "Web 2.0" social software, including blogs, wikis, social bookmarking tools, RSS feeds, podcasts and file-sharing sites such as Flickr.² Web 2.0 tools are "characterised by a dynamic social element, with a focus on collaboration and sharing of material that distinguishes them from the traditional Web technologies that merely transmit information from website to client and vice versa."³ Unpublished data from Oxford's annual survey of IT literacy among new students indicates a steady increase in familiarity with these technologies. The question current in e-learning research circles is whether – and how – informal tools which have developed primarily for social purposes can be productively integrated into students' formal learning.⁴ Indeed, a recent JISC-funded LTG project – RAMBLE⁵ – addressed precisely this question, albeit primarily from a technological perspective.

1.2 Rationale for investigating learners' experiences: global and local interests

The overall rationale for investigating learners' experiences is encapsulated in paragraph 12 of JISC Circular 05/06, which can be summarised as: i) to provide guidance to those involved in planning and orchestrating learning experiences; ii) to contribute to the design of effective technologies for learning; and iii) to uncover the strategies that may account for effective technology-mediated learning.

Reasons i) and iii) have particular resonance within Oxford's collegiate university, where some teaching staff – and even departments – have yet to be persuaded of the potential advantages to themselves, as well as to their students, of technology-mediated learning.⁶ This may be in part because of the Oxford undergraduate tutorial system, and so it is noteworthy that a recent investigation into Oxford students' experience of IT (Hanganu & Lee, 2004)⁷ reported that postgraduates appeared to employ e-learning more than undergraduates. The same report also recommended that "an overall evaluation strategy for assessing students' e-learning experience should be devised," and that "more research should be carried out on the ways in which their learning activities relate to the contexts of their department and college social lives."

Reason ii) is of interest because the LTG's remit includes recommending tools to teaching staff, and developing both custom e-learning solutions and the university's open-source VLE, WebLearn. Relevant in this respect are a) the Group's annual survey of new students at all levels, which began in 2004 and is yielding a dynamic picture of students' use of technology that will inform the future provision of services to them, and b) the new JISC-funded FROCKLE project, which is developing an extension to the personal storage area of WebLearn to allow students to create social links via FOAF ("Friend of a Friend") technology.

The work commissioned in the JISC Learner Experiences of e-Learning programme is therefore timely, both for post-compulsory learning in general and for Oxford University as an individual institution.

¹ Sharpe, R., Benfield, G., Lessner, E. & de Cicco, E. Scoping Study for the Pedagogy strand of the JISC e-Learning Programme. http://www.jisc.ac.uk/whatwedo/programmes/elearning_pedagogy/elp_learneroutcomes.aspx

² www.flickr.com

³ <http://www.oucs.ox.ac.uk/ltg/events/shock2007/>

⁴ See, for example, Christina Smart's report on discussions at the ALT-C 2006 conference at <http://www.elearning.ac.uk/features/altc2006/view?searchterm=ALT-C%202006>

⁵ Remote Authoring of Mobile Blogs for Learning Environments:

http://www.jisc.ac.uk/whatwedo/programmes/programme_edistributed/deletetramble.aspx

⁶ As uncovered by research conducted as part of the Phoebe Pedagogic Planner project (ongoing: for a project overview, see http://www.jisc.ac.uk/whatwedo/programmes/elearning_pedagogy/elp_phoebe.aspx).

⁷ Hanganu, G. & Lee, S. (2004). Student IT Literacy Survey 2003-4: Final Report. <http://www.oucs.ox.ac.uk/ltg/reports/ITlit.pdf>

1.3 Contribution to the Learner Experiences of e-Learning programme

While recognising the undoubted benefits to be accrued locally from the outcomes of the proposed project, the LTG is fully cognisant of its broader commitment to “develop further the community’s understanding of how learners experience and participate in e-learning” (paragraph 1 of JISC Circular 05/06). The project proposed in this document therefore explicitly addresses all four aims of the programme stated in paragraph 12 of the Circular: namely, to investigate how learners – here, Master’s students – experience learning in technology-rich environments (aim 1); to derive sets of recommendations that might be generally applicable to those responsible for supporting student learning and developers of e-learning technologies (aims 2 and 3); and to attempt to identify the strategies, beliefs and intentions that are characteristic of “effective” e-learners (aim 4), with a view to giving appropriate support to “weaker” learners (an elaboration of aim 2).

1.4 Institutional strengths

The Thema project will be carried out by members of the LTG, which has a strong background in e-learning development and evaluation,⁸ and a proven track record in other projects within JISC’s various e-learning programmes. These include the LAMS Practitioner Trial and the research-based Evaluation of Learning Design Tools projects (e-Learning Pedagogy programme);⁹ the Phoebe Online Pedagogic Planner and Constructing2Learn projects (Design for Learning programme);¹⁰ and eLISA: selecting, delivering and evaluating study skills materials in innovative e-learning environments (Distributed e-Learning programme).¹¹

The Thema project will be undertaken with the co-operation of TALL,¹² which has extensive experience of designing and running courses in blended, as well as online, environments, and OUDES,¹³ which runs a range of highly respected Master’s programmes. The LTG enjoys a longstanding and productive relationship with both of these departments. It is currently collaborating with TALL on the Phoebe project and a number of LTG staff teach on OUDES’ MSc in e-Learning.

2. PROJECT DESCRIPTION

2.1 Research questions

The Thema project proposes to adopt the third of the three perspectives on blended learning identified by Sharpe et al. (2006):¹⁴ namely, a holistic view of the use of technology to support learning. From this perspective, it will address the following three questions from the Circular:

1. What *choices* are students making in their study strategies e.g. about when and where to study, with whom, and using what technologies and services? How do these choices impact on their experience of e-learning?
2. What are the *critical moments* in students’ experience of technology for learning (e.g. induction, transition, key dialogues and collaborations)?
3. How are students *personalising* their learning tools and environments, and how are they involving “personal” technologies in their learning? What kinds of personalisation and adaptation would they value in their learning? Moreover, what practical issues do they encounter, such as privacy, the ease of aggregating materials held in different tools, and the ease of uploading materials from these tools to institutionally-owned tools (e.g. VLEs)?

In addition, it plans to use the data and findings from these questions to address a further question:

4. Can we characterise “effective” e-learning from students’ self-reports and, if so, what are its salient features? What can we learn from effective e-learners and from students’ evolving experiences that can help less effective learners and/or novice e-learners to develop appropriate strategies?

2.2 Participants

The participants will be 50-80 students on taught Master’s degrees, both full-time and part-time. This group is of particular interest because of its heterogeneity in terms of, for example, educational history (some will be recent graduates, others returning to study after a long period), life situation (part-time students may also have work and/or family commitments) and extent of IT experience (“returning” students may have less experience – and, hence, less confidence – in using IT than younger and/or recent graduates). Moreover, a substantial number will be planning to embark on doctoral programmes and thus making the transition from taught to independent study.

⁸ <http://www.oucs.ox.ac.uk/ltg/>

⁹ See the links at http://www.jisc.ac.uk/whatwedo/programmes/elearning_pedagogy.aspx

¹⁰ See the links at http://www.jisc.ac.uk/whatwedo/programmes/elearning_pedagogy/elp_designlearn.aspx

¹¹ http://www.jisc.ac.uk/whatwedo/programmes/programme_edistributed/elisa.aspx

¹² <http://www.tall.ox.ac.uk/tallinternet/>

¹³ <http://www.edstud.ox.ac.uk/index.html> and <http://www.edstud.ox.ac.uk/masters/index.html>

¹⁴ Sharpe, R., Benfield, G., Roberts, G. & Francis, R (2006) The undergraduate experience of blended e-learning: a review of UK literature and practice. Higher Education Academy. http://www.heacademy.ac.uk/research/Sharpe_Benfield_Roberts_Francis.pdf.

The Thema project will investigate students' experiences in three distinct modes of engagement:

- Full-time programmes conducted in a primarily face-to-face environment supported by technology (including the full-time Masters' programmes in OUDES);
- Part-time programmes in which online (distance) and face-to-face learning complement each other (including the Bioremediation programme in OUDCE);
- Part-time programmes in which online and face-to-face learning are compartmentalised: i.e. some modules are studied purely online, and others purely face-to-face (including the Bioinformatics programme in OUDCE).

2.3 Proposed methodology

The project will adopt a methodology consonant with its exploratory nature, elaborating on those themes and issues already identified by the LEX and LXP projects in the "Understanding my Learning" programme, as well as eliciting new ones. We envisage using online surveys to gather broad-brush quantitative data, triangulated by qualitative data in the form of case studies. In designing the investigation we will follow closely Professor Terry Mayes' recommendations in his Methodology Report on the LEX project (e.g. the "interview plus" technique),¹⁵ and where appropriate will re-purpose the tools developed by LEX and LXP. We will also collaborate with the Support project to ensure sufficient consistency with the other institutional studies for cross-project data to be collated.

Although the Circular does not appear to require a longitudinal study, we plan to capture some form of change over time for research question 4. In broad terms, we envisage the following approach:

1. Survey all students in the identified cohorts at the start of their course, to elicit baseline data on, inter alia, their current use of personal technologies, and their expectations and intentions for such use during the course. Use this survey to identify potential candidates for the case studies (10-12), to be selected either a) for their typicality or b) for their variation from the "typical" pattern.
2. During the course, invite students to contribute general reflections and/or snapshots of usage that they consider to be significant or memorable. We may use eLGG¹⁶ for this purpose, depending on the outcome of an unrelated forthcoming investigation by the LTG into its feasibility as a reflective tool.
3. After 9 months (or, for students starting courses in January 2008, 6 months), conduct a "reflective" online survey to capture students' experiences, their use of the tools and the extent to which their expectations and intentions have been realised. This will be followed up with a small number of interviews, and 10-12 case studies will be compiled from these, the survey data, ongoing logs and any relevant contributions captured through formal means or made available to us by the students.

For data analysis, we will investigate using Activity Theory as a framework.¹⁷ This provides a means to capture and describe students' use of tools to mediate the different activities in which they are engaged – e.g. "formal" learning and social life – within a community context, and to theorise about the factors that facilitate or, conversely, impede the use of tools across multiple such activities.

Note that Dr Masterman is also associated with a proposal by TALL in the JISC Capital Programme, Supporting Lifelong Learning Call III (Technology-supported learning environments). Should both proposals receive funding, the projects will investigate overlaps in their methodologies and, where feasible, develop common tools and/or analytical frameworks.

2.4 Ethics, confidentiality and remuneration

The project will be submitted to the University's Ethics Committee before final acceptance of funding, although no specific problems are anticipated in this respect. All data supplied by students will be held in the strictest confidence by the project team (access by the students' teachers is not envisaged), and will be anonymised early in the analysis process. Students will be informed of the team's intentions and expectations, and their participation will be entirely voluntary with the right to withdraw at any point. Students will be remunerated on fulfilment of their commitments.

2.5 Project outcomes and their value to the JISC community

The outcomes of the Thema project are expected to promote the overall aims of the Learners' Experience of e-Learning programme, and hence benefit the JISC community, in the following ways:

- A deeper understanding of how students at Master's level engage with, and experience, learning in technology-rich environments. This will not only broaden the picture of learner experience as a whole, but might also raise interesting comparisons with experiences of learners at other levels.

¹⁵ Available from http://www.jisc.ac.uk/elp_learneroutcomes.html.

¹⁶ <http://www.elgg.net/>.

¹⁷ For an overview, see the general introduction by Y. Engeström at <http://www.edu.helsinki.fi/activity/pages/chatanddwr/chat> and <http://www.edu.helsinki.fi/activity/pages/chatanddwr/activitysystem>.

- A broader understanding of students' competencies, needs, preferences and habits, for input into recommendations for those involved in supporting student learning, including teaching staff who may either not yet have engaged in e-learning or who have reservations about its potential benefits, and who are experiencing pressure from their students to use technology in their courses. (Encouraging such teachers to explore e-learning is a key concern of the "Phoebe" pedagogic planner project.)
- Increased awareness of learners' needs and preferences among technical teams involved in designing, recommending and/or deploying e-learning systems, together with a mechanism for capturing this information and using it to inform requirements analysis and formative evaluation.
- A contribution to the community's understanding of the role of technology in "effective" learning among Master's-level students.
- Extensions to the methodology developed by the LEX and LXP projects in Phase 1 of the programme.

2.6 Sustainability and dissemination

Activities at three levels are envisaged to ensure the prolongation of the outcomes beyond the project's lifespan and to disseminate the findings both locally and to a wider audience:

- Within Oxford: through the LTG Website, publications, and individual consultations and workshops with teaching staff.
- Within the JISC community: progress to be publicised, and early outputs released through the project and/or programme wiki; finding and outcomes to be presented at programme meetings, meetings of the Pedagogy Experts' group and on the JISC Website.
- Within the wider community: case studies and staff development materials to be deposited in JORUM; outcomes to be presented at conferences such as ALT-C and CAL, also those aimed at the HE community in general; papers to be published in appropriate peer-reviewed journals.

3. WORK PLAN AND DELIVERABLES

The project will unfold through the work packages provisionally outlined below. Deliverables printed in *italics* will be generated for internal team purposes but reported in the project wiki; those in regular type are those specified in the JISC Circular 05/06.

Work package	Start	End	Deliverables
A. PREPARATION AND PILOTING			
1. Set-up: Finalise work plan, contact MSc course directors, review previous projects in programme	01/03/07	30/04/07	Detailed work plan
2. Piloting: Conduct initial University-wide reflective survey of Master's students to establish tool usage & inform questionnaire design; draft data collection tools & pilot with existing cohorts; decide on use of eLGG	10/04/07	30/06/07	<i>Analysis of survey data</i> <i>Pilot tools</i> <i>Report on pilot</i>
3. Revision of tools in light of pilot	01/07/07	31/08/07	Initial survey questions <i>Drafts of other tools</i>
4. Identification of "critical moments" in e-learning: review course schedules & note planned use of novel tools, collaborative assignments etc.	01/09/07	30/09/07	<i>Schedule of "prompts" for contributions to continuous log</i>
MAIN STUDY			
5. Initial survey: a) Students starting courses in 10/07 b) Students starting courses in 01/08	01/10/07 21/01/08	15/11/07 07/03/08	Analysis of survey data <i>Provisional list of case-study candidates</i>
6. Set-up and monitoring of continuous log (eLGG or other tool)	01/10/07	31/08/08	Evidence of significant/ memorable experiences
7. Closing survey a) Finalisation of questions b) Students ending courses in 09/08 c) Students on 2-year courses	15/06/08 01/07/08 01/07/08	30/06/08 15/08/08 15/08/08	Closing survey questions Analysis of survey data
8. Case studies a) Identification of students b) Finalisation of questions & template; piloting c) Case-study interviews	01/03/08 15/06/08 10/07/08	30/06/08 30/06/08 31/07/08	Interview questions Case-study template Completed case studies

Work package	Start	End	Deliverables
d) Compilation of case studies	01/08/08	30/09/08	
REPORTING			
9. Progress reports	01/03/07	30/11/08	Progress reports
10. Final reports	01/10/08	30/11/08	Project report Methodology report Recommendations and guidance documents

4. RISK ANALYSIS

Risk	Prob (1-5)	Sev (1-5)	Score (PxS)	Action to prevent/manage risk
Alternative demands on staff time	2	3	6	Clearly delineate staff priorities.
Staff absence due to long-term sickness or resignation	2	3	6	Recruit alternatives or adjust internal workloads to free sufficient cover.
Recruitment and retention of students	3	2	6	Recruit more students than required; offer remuneration; gain tutors' support.
Low numbers of students engaging with personal technologies	3	3	9	Identify additional courses to which the study might be extended.
Reluctance to use personal technologies for learning	2	3	6	Support use that matches students' preferences.
Unanticipated technical difficulties hosting online tools for data capture	1	3	3	Ensure that alternative servers are available within OUCS.
Unexpected IPR and ethical issues	1	3	3	Work closely with university IPR experts and Ethics Committee to avoid these.

5. INTELLECTUAL PROPERTY RIGHTS

Under the University of Oxford's policy on intellectual property (which covers all University employees and students), the University claims ownership of a range of intellectual property rights with commercial potential. The University does not assert any claim to the ownership of copyright in artistic works, books, articles or lectures, apart from those specifically commissioned by the University. Results arising from projects funded by the JISC at Oxford would therefore usually be owned in the first instance by the University as the employing institution. The University seeks to maximize the commercial potential of its intellectual property through its wholly-owned technology transfer company, ISIS Innovation Ltd. In accordance with the desires of the JISC e-Learning Programme, however, it is proposed to release project deliverables under either a Creative Commons licence or, in the case of software, under an OSI-approved open-source software licence to maximize the benefit for the wider community.

6. BUDGET

This section has been removed.

7. KEY PERSONNEL

Dr Elizabeth Masterman (Lead Researcher & Project Manager). Liz has over 25 years' experience in IT, including 15 in commercial software development environments. She holds an MSc in Human-Centred Computing Systems from the University of Sussex, and a PhD in Educational Technology from the University of Birmingham. She has conducted evaluations at all educational levels since 1997, and since August 2004 has worked with the Learning Technologies Group at OUCS as lead researcher and evaluation specialist on the JISC projects listed in section 1.4. She is also a member of the teaching team on Oxford's MSc in e-Learning.

Katharine Lindsay (Researcher) works as a project manager for the Learning Technologies Group at Oxford University. She specialises in e-learning and research methodology and works closely with staff and students to embed technology effectively within academic practice. Katharine has worked on a number of JISC projects including ASK, TIP and the Evaluation of Digital Libraries in the Classroom Programme. She holds an MSc in Information Systems from the University of Sheffield, an MSc in Educational Research Methodology from Oxford University and is a member of the teaching team on Oxford's MSc in e-Learning.

Advisory Group

Dr Chris Davies: Director of Studies, MSc in e-Learning, OUDES (Research Adviser)

Dr Paul Davis: Acting Manager, Learning Technologies Group, OUCS

Marion Manton: Senior Manager, TALL

Peter Robinson: Manager, LTG Services

Dr Paul Trafford: VLE Administrator, LTG; manager of the RAMBLE project