

Cover Sheet for Proposals to Circular X/06: Learners Experience of e-Learning Programme (All sections must be completed)	Bid for a: *A) The Learners' Journeys project; *B) Institutional Studies project; *C) Support and Synthesis project; <i>* Delete as appropriate</i>
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Name of Institution/Organisation:
The Open University

Name of Partners: N/A

Name of Proposed Project:
Learners' experiences of blended learning environments in a practice-based context (PB-LXP)

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Length of Project: 24 months

Project Start and End Dates: March 1st 2007 to February 28th 2009

Total Funding Requested from JISC: £80,000

Funding Broken Down over Academic Years: 06/07 £3,600, 07/08 £44,900, 08/09 £31,500

Total Institutional Contribution: £92,525

Outline Project Description

This project focuses on students studying work-based courses where, of necessity, students experience and use technologies in different locations, including their work places. Our definition of work-based courses include those where the practice element is a professional requirement (such as nursing, social work, etc.) and those where the course is designed to meet the work requirements in relevant employment sectors and requires professional practice to be developed through completion of course work and assessment. We use the term 'practice-based' to cover both types of courses. The project will run over 2 years (3/07-2/09) and will provide a richer understanding of how students are learning with a range of technologies across different boundaries, the strategies they use to manage the process, barriers/enablers, key critical moments and the relationship between student practice and institutional practice/policy.

Learners' experiences of blended learning environments in practice-based contexts (PB-LXP)

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1. Introduction

Sharpe et al. (2005)¹ highlighted a lack of understanding of students' experiences of elearning. The LEX and LXP projects began to address this and provided a picture of a changed landscape of students' working practices and interaction with technologies which we take further in this proposal. This project focuses on students studying work-based courses where, of necessity, students experience and use technologies in different locations, including their work places. Our definition of work-based courses include those where the practice element is a professional requirement (such as nursing, social work, etc.) and those where the course is designed to meet the work requirements in relevant employment sectors and requires professional practice to be developed through completion of course work and assessment. We use the term 'practice-based' to cover both types of courses. The project will run over 2 years (3/07-2/09) and will provide a richer understanding of how students are learning with a range of technologies across different boundaries, the strategies they use to manage the process, barriers/enablers, key critical moments and the relationship between student practice and institutional practice/policy. Previous research has emphasised how students fit study around work. In this project, students will be using their work experience directly as part of study and the development of professional qualifications. This creates an added and important dimension. This also introduces an additional set of contextual practices arising from the work situation of each student. Our data will derive from three points of connection – the students' institutional study context, their work context and their personal and social context. These generate a wide range of sites for technology use, and of social roles and practices that influence the student user. The importance of this triangulation across three domains (work, institution, personal/social) is relevant to lifelong learning, where practitioner development ought to create foundations for continuing professional development, beyond the courses being studied. We anticipate therefore that our findings will explore a wider range of practices and outcomes than previous research. Collaboration with the CETLs² for Practice-Based Professional Learning (PBPL) and Centre for Open Learning in Mathematics, Science, Computing and Technology (COLMSCT) will enable us to validate and translate our findings to match the experience of a wider range of institutions, and this will enrich the outcomes for dissemination across the sector.

2. Project description

The focus of this project is on students using practice-based OU courses which blend independent study using a range of technologies, with practice and application in the work context. In some cases attendance at face-to-face teaching sessions is required. This provides a rich intersection of contexts and settings within which to study both formal and informal uses of technology by students ranging from the inexperienced to computing specialists.

2.1 In-depth case studies

In-depth case studies will be used to capture practice in the use of technologies across the different aspects of students' learning and different learning settings (home, work, institution, elsewhere). Data from 20/24 in-depth individual case studies will track students through their study of courses typically completed over one semester. These courses have been selected in relation to two criteria: their use of practice-based learning, in conjunction with their use of technology. We have also carefully chosen our sample to elicit innovative and unusual uses of technologies as a means of highlighting interesting stories which can be used to extrapolate implications for future practice and policy. Our experience on previous projects has highlighted the importance of early identification of appropriate students to study through consultation with relevant stakeholders, so that data collection can begin in earnest when the project starts. Identification of courses for inclusion was achieved by examination of an audit of technology use across OU courses³ aided by discussion with specialists currently leading implementation of the Moodle VLE and individuals involved in developing and delivering the courses. A minimum of three students willing to participate in the study will be selected from each of the course populations listed in the table below. These courses combine a range of pedagogies (working in teams, online communities, compulsory residentials and workshops, mentoring etc.) using a range of technologies (e-portfolios, e-assessment,

¹ See http://www.jisc.ac.uk/whatwedo/programmes/elearning_pedagogy/elp_learneroutcomes.aspx

² <http://cetl.open.ac.uk/>

³ Policy Development Group, ICT Data, Open University Courses ICT Audit 2003-2006

wikis, blogs, e-content, conferencing tools, simulations, etc.). Two of the Health and Social Care courses require employer sponsorship (who provide appropriate practice contexts and allow 1-day a week for study purposes) and registration with the relevant Social Care Council. Our aim is to explore *all* the technologies used by students to support their studies. The courses chosen also include tools which are not extensively used yet. Student experience here gives insights into how these tools might be used more widely in future and our sampling strategy is in line with the recommendations arising from the LEX study.⁴ Also our volunteers will represent a very wide range of ICT expertise, but all will be active users of technology for study and therefore in a position to give us data on detailed and varied experiences that point the way to improvements that will benefit others. A small recompense (£50/student) for their involvement is included.

Code/ title	Key elements of the course in relation to the proposed study	Tools			
		1	2	3	4
T228 Cisco Networking	Provides knowledge and skills needed to configure a LAN/WAN using Cisco equipment. Students can go on to gain the industry-recognised certification through the CCNA examination. Students study the CCNA program using an online curriculum provided by Cisco, and most study is online. There are 4 compulsory day schools focusing on skills development and team working, with preparation using simulation tools, 4 formative online assessments, 3 tutor-marked assignments and an examination. Some tutors use Instant Messaging. No prior knowledge assumed. 30 points	√		√	
T885 Team Engineering	Requires students to work in small teams on addressing an engineering problem in depth. There is a compulsory residential weekend at the beginning and end of the course and students work collaboratively with their team and their tutor, using FlashMeeting, conferencing and individual and team blogs. Students identify the resources they require using the Internet and eLibrary, and course materials focus on group working, project management and the project brief. Students must have completed 90 points of approved postgraduate study and the course is a compulsory component of the MEng and the Postgraduate diploma in Engineering. 30 points			√	√
K113 Foundations for Social Work Practice	Compulsory component of the Degree in Social Work. Focuses on information literacy and ICT skills via European Computer Driving Licence (ECDL). Students must be registered for the Degree in Social Work and sponsored by their employing agency. Assessment is via 5 tutor-marked, 3 computer-marked and an end of course assessment. There are 8 tutor-led compulsory workshops and practice is verified. 60 points	√		√	
K216 Applied Social Work Practice	Students must be registered for the relevant (UK national) Degree in Social Work and registered with the General Social Care Council/Scottish Social Services Council. Students must be sponsored by their employing agency and working in a practice context, and have passed all level 1 courses. Students have 1 day a week free for study from their sponsoring agency. Students undertake a practice learning opportunity of 100 days as part of the course, supervised by a practice assessor. Required to build ICT skills using ECDL requirements. Tutors run a series of 8 tutorials that are obligatory. Students also complete interactive computer marked assignments, which use audio and animation. 60 points	√		√	
K214 Extending Professional Practice	Students must apply through their employer. The course is a core course in the Foundation Degree in Health and Social Care. Students negotiate a learning agreement with their employer, using an online template that links them to specific resources. Online community discussion and a wiki are used. Students are supported in finding resources that suit their particular learning needs – the emphasis is on an ‘empty box’ approach, to ensure that content is relevant to the workplace/student needs. 60 points		√	√	√
M883 Software Requirements for Business Systems	This is a 15 point course at masters level focusing on requirements engineering. Students use a computer for a major proportion of the study time, downloading articles, software and assignments from the course website. There are three assignments and an examination. Students are also provided with a software requirements tool for use in recording requirements. Students are also invited to use the Moodle Personal Journal tool. 15 points		√	√	√

Specialised use of particular technologies: 1. E-assessment, 2.E-Portfolios, 3. Conferencing, 4. Wikis or blogs

2.2 Research Questions

The findings from our previous work cross a wide range of institutional contexts and discipline areas and provide persuasive evidence of the interaction of factors deriving both from students’ personal learning contexts and from the disciplinary practices of their institution.⁵ The LXP study in particular documents the opportunistic and imaginative use of technologies students use regularly in their personal lives, rather than anything their lecturers recommend. We take this forward into our current project, which will not be limited to technology usage recommended by the institution but will draw into the findings any technology that students use in support of their study. All the research questions listed at 2.1.2 will be addressed, and added to in the context of our focus on practice-based learning contexts, as the following suggests:

⁴ Mayes, T. (2006), LEX methodology report, p. 18, http://www.jisc.ac.uk/elp_lerneroutcomes.html

⁵ The LXP project, Thorpe, M. and Godwin, S. (2006) Interaction and elearning: the student experience, *Studies in Continuing Education, Special Edition on elearning*, vol 28(3), 203-221; Kirkwood, A. and Price, L. (2005), Learners and learning in the twenty-first century: what do we know about students’ attitudes towards and experiences of information and communication technologies that will help us design courses?, *Studies in Higher Education*, 30(3), 257-274.

1. **Choices:** How are choices constrained or enabled by work practices and work roles? How do learners use technology to fit learning into work and study time? Is there a mismatch between course designed use of tools and students' actual use?
2. **Critical moments:** How do relationships with mentors, tutors, colleagues, *etc.* influence technology usage? Is there evidence of a learning trajectory in successful use of technology, over the period from entry to completion? Were there critical moments in their personal circumstances and/or environment (work, institution, personal/social) leading to changes in the use of technology?
3. **Institutional policies:** Do institutional practices undercut or support technology use for practice-based learning? Are there ways in which positive workplace practices could be recognised and highlighted in course guides, with the possibility of increasing their adoption?
4. **Institutional systems:** How do these support student use of technology across multiple settings?
5. **Highly skilled e-communicators:** What are the strategies they use and how can these be used to develop both course design and practice-based learning?
6. **Personalising tools and environments:** How are students appropriating tools across their different learning contexts (work, institution, personal/social)? How do they envisage future use of tools to support their professional practice and Continuing Professional Development?

2.3 Timetable of activities

The main method will be qualitative case studies of 3/4 students from each of 6 courses (20/24 total), involving a series of in-depth interviews and audio logs (as used in the LXP project), supported by analysis of appropriate institutional documentation (course documents, policy documents) and ongoing consultation with those involved in the development and support of the courses. Some flexibility in terms of data collection will be needed to fit with the different schedules of each student, but an outline of the planned activities is given below.

- **Baseline data:** At the start the student volunteers will be asked to complete an online survey about their experience of technology use, access and other contextual factors in their study and work environments. Contextual data will also be gathered through analysis of course documentation and relevant institutional documents (policy documents, guidelines, *etc.*).
- **Audio logs:** Students will be asked to contribute audio logs (as in the LXP project) at critical moments documenting their experience during the moment of use of particular technologies.
- **Interviews:** End of course interviews will be carried out with students and course chairs by phone or email, with prompts enabling the interviewer to pursue interesting lines of enquiry.
- **Issues log:** An ongoing issues log will be kept noting issues arising from institutional events and policy directions of relevance to the findings of the study and noting emergent issues from the data which have policy implications.
- **Capture of opportunistic data:** We will build on the work of the Mobilelearn project (Brasher and Taylor, 2005)⁶ by exploring ways of extending laboratory techniques into students' environments, such as use of Mp3 or webcams to capture 'think aloud' data using particular technologies or to capture unplanned peer group discussions in practice/social settings, providing data on understanding through peer interaction, automated capture of students' working environments via webcams triggering image capture at intervals (with student control of images selected for analysis) and exploration of the web tracking facilities of Moodle (using a methodology currently used by the OpenLearn initiative⁷).
- **OU and CETL workshops:** A series of virtual and face-to-face workshops will ensure validation and transferability of the findings. Our team includes the Directors of two CETLs, who will identify interested staff from 2 institutions/CETL, who will participate in the workshops, discuss findings and calibrate our students' experience against their own on comparable courses. Partner institutions will be introduced to the project instruments at a meeting in June '07 to offer them the opportunity to undertake parallel studies. The virtual workshops (using FlashMeeting) are scheduled for Jan and Sept. '08 and the concluding workshops in Feb. '09. FlashMeeting has a sophisticated in-built recording facility which enables capture of audio, text and other contributions made by participants and a facility for easy analysis. We have experience in the OU of using vignettes to create narrative personas of potential student types to inform course/software designers. We plan to develop these using our data and to annotate and amend them at the workshops, in order to reflect the experience of participants from our four university collaborators.

⁶ Brasher, A. & Taylor, J. (2005) Development of a research plan for use of ambient technology to test mobile learning theories, in J. Attewell & C. Savill-Smith (eds) Mobile learning anytime everywhere, Learning and Skills Development Agency

⁷ <http://openlearn.open.ac.uk>

2.4 Project Deliverables⁸

The major outcome of the research will be a series of in-depth case studies which will provide a rich description of learners' experiences of practice-based blended learning, focusing in particular on:

- characteristics of the learner group (age, experience, level of study, work demands, *etc.*) and how these affect the use of technology and the role it plays in their learning,
- stages and processes of technology use as these develop during study, and across courses and different sites of learning,
- the interaction between work, institution and personal/social sites for learning and the impact this has on the quality of learner experience,
- contrasting experiences of highly skilled and novice technology users and the impact of institutional practices and expectations.

Recommendations for policy, research and practice will be made and will draw together the implications of the case studies and their analysis. The project brings together workplace and personal/social settings together with institutional course and support structures. The relevance of this for campus-based institutions is that their students on work/practice-based learning are similarly 'off site' vis a vis the campus, and we share the same challenges in terms of integrating our academic context with the opportunities and requirements of workplaces. The OU has a long history of supporting students in different learning contexts. ICT has expanded the number and sophistication of the tools with which to achieve this support, and these are available and potentially useful to campus-based universities as much as the OU. The boundaries between the OU as a 'distance learning' provider and campus-based institutions are blurring and this project will make a significant contribution to building shared understandings about technology use and the lessons for institutional policies and practice.

2.5 Project management

See Appendix A for mini-biographies. The project will be jointly directed by Gráinne Conole and Mary Thorpe. The main research activities (liaison with course teams and student volunteers, workshop organisation, data collection, input into data analysis, contribution to project dissemination and report writing) will be primarily carried out by the research fellow. The project team will include Maarten De Laat (University of Exeter) as an external expert consultant, the CETL directors (Pam Shakespeare and Stephen Swithenby) and course representatives for the courses involved in the in-depth case studies. The project directors will meet with the researcher once a week. The project team will meet monthly to discuss progress and to provide input at key stages in the project plan (sign off of instruments, finalisation of student population, mid-course review of data collected, data analysis and report writing). Face-to-face meetings will be supplemented by discussions on a project team mailing list and a shared web space for project documentation using the OU's Knowledge Network. We will keep in regular contact with JISC and the support and synthesis project to keep them informed of progress and to ensure that our work meets the needs of the overall programme. Project team meetings will also be open to others across the OU who have expressed an interest in being involved in the project and carrying out parallel studies.⁹ In addition we will make our research instruments available within the OU and to partner institutions so that parallel studies on other courses can be carried out. The OU and CETL workshops will provide opportunities to discuss progress on these parallel projects.

Evaluating students' experiences of learning and use of technologies is an established and important cross-cutting theme in the Open University and several of the nominated course representatives intend to be active researchers in the project. The involvement of the CETL directors will ensure that the project is closely aligned with CETL research and development activities. The OU is well placed to undertake this work, having a Centre for Institutional Research within IET that has over 30 years experience in use of both large-scale surveys and qualitative research for the evaluation of the University's courses and their use of teaching media and technologies. OU research funded by the Andrew Mellon Foundation (2004-2006) identified positive and negative impacts on learners arising from their experience of interactive elements in their courses. This will inform the early data collection instruments and contribute to interpretation of the data. The University is also undergoing a major re-engineering of its teaching as it introduces the new tools and functionality of the Moodle VLE. Specialist groups of academics and

⁸ To include: 3 interim case study reports (1/08, 9/08, 1/09), a methodology report (1/09) and the final report (2/09)

⁹ Innovative instruments for capturing student experiences (A. Basher, C. Blake), pedagogical aspects (A. Kirkwood, J. Pettit, A. Kukulka-Hulme, S. Rae, P. Williams), using the Digilab space (S. Eales) and synergies with OpenLearn (P. McAndrew)

software design staff are engaged in this process across the university. They are eager for evidence at the earliest stage of the effectiveness of the new teaching resources and tools developed. Policy is being developed as an emerging response to this dynamic process of change and we anticipate that our findings will make a major contribution to policy debates and policy formulation around the VLE.

2.6 Dissemination, risk and ethics

We will identify appropriate dissemination routes to ensure maximum reach of the findings of the study. This will include active consultation during the lifespan of the project, through involvement in: the CAL and Networked Learning conferences (to reach the academic research community), HE subject centre events (the subject practitioner base), JISC events (the JISC community and policy makers), the ALT-C conference, FERL/BECTA and NIACE events (FE/HE and adult learning practitioner communities), and the JISC e-pedagogy expertise forum (in terms of validation of approach and findings). This extensive networking is reflected in the project costings, but will also be achieved by alignment with other projects/invited participation. We will also identify mechanisms for dissemination post completion of the project and contribute to the development of an effective practice booklet in line with the existing JISC effective practice booklets.

We anticipate two major areas of risk. The first arises from key members of staff being unable to contribute to the project. In relation to project leadership, with two people sharing the director role, it is feasible for the workload of one to be taken on by the remaining director, with the possibility of some support from others in the Institute of Educational Technology. As a unit of over 100 staff, about half of whom are academics or researchers, there is flexibility to cover for unavoidable impacts of this kind, including that of the research fellow. The second risk area arises from lack of student volunteers or wastage. Fortunately several of our case study courses have more than one presentation over the period, and we can use these as a form of contingency. We also have a number of other courses that could be used in the study, if any of our case studies becomes unavailable. The OU has well established procedures to protect the interests of its students in the context of research. Permission will be sought from the Ethics Committee and the Student Research Projects Panel, requiring completion of a detailed questionnaire and checks that students selected for feedback data will not be exposed to too many surveys and data collection activities.