

MLEs for Lifelong Learning – Final Project Report – 11/8/2005

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MLEs for Lifelong Learning – Final Project Report – 12/8/2005

Project Name

Union Education Online (UEO)

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Executive summary

This is the Final Project Report to JISC from the Union Education Online (UEO) Project, which received £100,000 from JISC between September 2003 and July 2005 under Phase 2 of the MLEs for Lifelong Learning Programme.

The main partners in UEO were Stow College (lead institution), the TUC, Tameside College, TROCEN, the Open Learning Partnership, and WebCT. The Sheffield College played a significant unfunded role in the project.

The overall objectives for UEO were to apply know-how from previous JISC funded activities to the online distance delivery of TUC courses for trade union representatives, with a particular emphasis on:

- several colleges each sharing access to a single VLE;
- data-sharing between the TUC and individual colleges, and between the awarding body, individual colleges, and a single VLE.

This report provides an overview of UEO, and summarises the results of the project, and the lessons learned.

It concludes that although not all of the project's ambitious objectives have been met, UEO has enabled the partner organisations to lay down strong foundations for the long term implementation of the TUC's online learning strategy, and has had a major impact on the partner organisations' internal understanding of interoperability issues, and their capacity to conduct projects of this kind. Furthermore, several key UEO outputs have been central to the TUC's current procurement of an on-line enrolment system.

The report contains 5 recommendations to JISC and to institutions, and concludes with a series of detailed appendices, which between them document much of the project's outputs.

Project overview

Background

TUC

The Trades Union Congress (TUC) represents around 6.5 million workers in 67 unions across the UK. The TUC brings unions together to draw up common policies on issues that matter to people at work by:

- making representations to government – through national, regional, EU and international bodies;
- campaigning on workplace issues such as pensions and equal pay;
- carrying out research on employment related issues.

TUC Education is the flagship service provided by TUC for union reps, officers and senior staff. Training more than 40,000 union reps and 500 paid officers every year through dedicated units based in more than 75 colleges of further education throughout the UK, the service has an unrivalled reputation for quality and innovation, and delivers accredited classroom-based and online courses. Courses are typically of between 12 and 60 hours, delivered on a block or day release or equivalent basis. A smaller proportion involve up to around 200 hours.

TUC On-Line Learning Strategy

22 months ago the TUC adopted an On-Line Learning Strategy, the thrust of which was to explain how the TUC would provide online distance learning versions of nearly all its face-to-face courses, working in partnership with the awarding body for its courses, and with a small number of FE providers.

Key features of the strategy included:

- learners to have a choice about whether to study face-to-face or online;

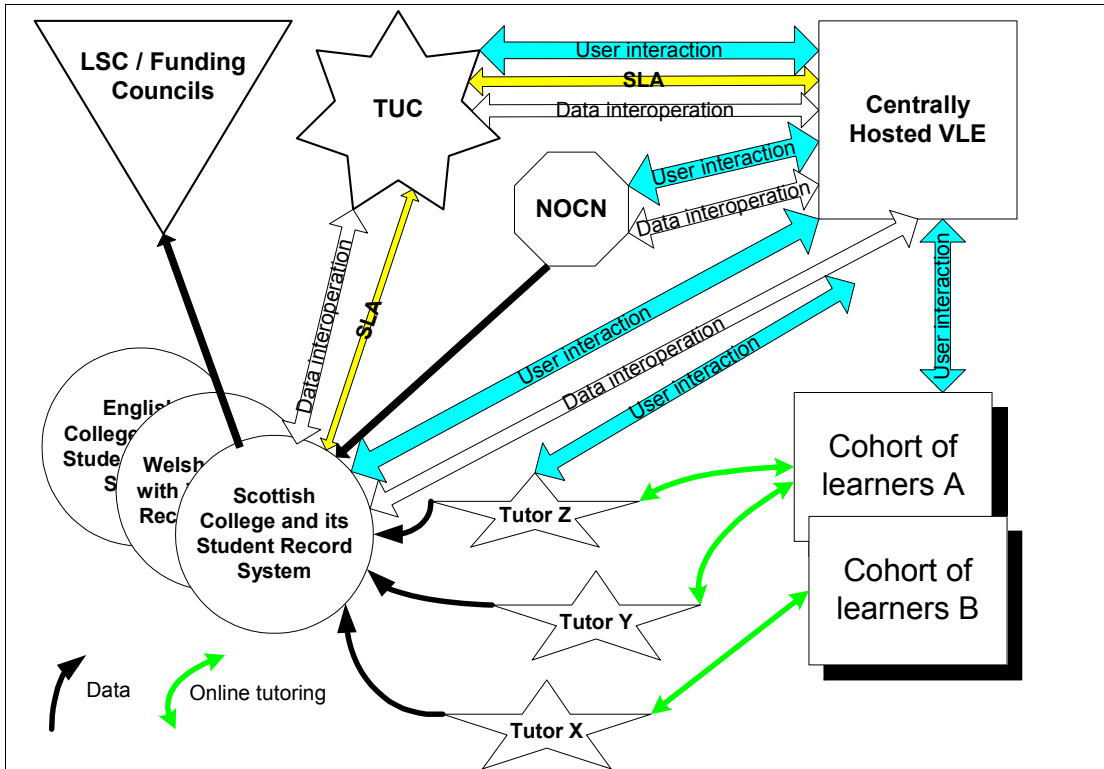
- on-line courses to include the same emphasis on collaborative work between learners, and workplace focus as face-to-face courses, with learners allocated to cohorts rather than joining courses on a “roll-on, roll-off” basis;
- TUC to retain central control over on-line learning materials (with central hosting, on a commercial rather than home-grown VLE) in the same way as it controls paper-based materials used in face-to-face provision;
- recruitment to on-line courses to be handled centrally by the TUC, enabling common pre-course assessment and guidance to be provided, and avoiding the same data about learners being repeatedly captured at several successive stages in the enrolment process (by the TUC, by colleges, by the VLE host).

It was ambitious for the TUC to include in the Strategy the diagram below – which quickly became known as the Diagram from Hell – but which has guided the TUC ever since.

Union Education Online (UEO)

Around the time that the TUC's On-line Learning Strategy was being finalised, a consortium led by Stow College in Glasgow, and involving the TUC, Tameside College, TROCN - the National Open College Network's northern arm, the Open Learning Partnership, and WebCT bid successfully under the JISC MLEs for Lifelong Learning Programme for the UEO project.

Diagram from Hell



Rubric to the Diagram from Hell

- Data arrows (black)** represent the supply of "audit-robust" data by:
 - tutors to the college(s) to which the TUC's online learners are enrolled;
 - the college(s) to the funding council for the country in question;
 - NOCN to the college(s) to which the TUC's online learners are enrolled.
- Online tutoring arrows (green)** represent the tutoring activity of tutors, with one of the represented cohorts of learners being team-taught by two tutors.
- User interaction arrows (blue)** represent interaction between:
 - learners and the proposed centrally hosted virtual learning environment, including discussion support tools (VLE);
 - online tutors and the VLE;
 - administrative staff in the enrolling college, NOCN, and the TUC, and the VLE.
- Data interoperation arrows (clear)** represent the passing of data between the record-systems of the TUC, NOCN, enrolling college, and the VLE – for example in the automated creation of learner and tutor accounts on the VLE, or the enrolling of learners to courses.
- SLA arrows (yellow)** represent service level agreements between the TUC and the enrolling college(s) and the TUC and the "owner" of the centrally hosted VLE.
- The diagram omits (1) the employment relationship between tutors and their employing colleges, (2) funding flows, and (3) service level agreements between the enrolling institutions and these employing colleges.

Parallel activities

Meanwhile, a number of other parallel activities were underway within the TUC, all of which should now be seen in the context of the TUC's plan to establish a Union Academy, which was described in the 2005 Labour Manifesto as part of the Government's "strong partnership with trade unions to boost workplace training". Here is a selection of headline outputs from these projects.

- Producing a comprehensive Manual of Guidance covering all aspects of the production and delivery of on-line courses.
- Converting the TUC's main face-to-face courses for delivery on-line.
- Ensuring conformance of TUC on-line provision with "BS8426 - A code of practice for e-support in e-learning systems".
- Producing "E-Learning in the Workplace - A Union Negotiation and Implementation Guide".

Aims and objectives

The overall objectives for UEO were to apply know-how from previous JISC funded activities to the online distance delivery of TUC courses for trade union representatives, with a particular emphasis on:

- several colleges each sharing access to a single VLE;
- data-sharing between the TUC and individual colleges, and between the awarding body, individual colleges, and a single VLE.

The detailed project aims in the UEO Project Initiation Document, submitted to JISC in early December 2003, were as follows.

1. Capture know-how from previous and current JISC funded MLE-related projects and initiatives, in particular those of the Shell Project (<http://www.shellproject.net>).
2. Build on the extensive track-record of Tameside College in the transfer of data between student record system and MLE, taking particular account of its recent experience in the "dispersed learning model" of Tameside's Treasury-funded Passport to Learning project.
3. Apply this to a medium scale, UK-wide development involving adult work- and home-based online learners, an industry-based national training provider (TUC), a national awarding body (NOCN), a large non-FE learning partnership, and a number of FE institutions.
4. Achieve reliable, secure, production-quality, interoperation between:
 - a small number of individual college student record systems and a centrally hosted learning materials, discussion-support system, and portfolio-building and viewing system;
 - the TUC's online application system, a small number of individual college student record systems, and the centrally hosted learning materials, discussion-support system, and portfolio-building and viewing system.
5. Enable a national awarding body (NOCN), which is active in England, Wales, Scotland and Northern Ireland, to develop and trial systems and procedures for the effective quality assurance of on-line learners' work against nationally agreed standards of achievement.
6. Resolve the management and/or cultural and/or institutional and/or business issues that will inevitably arise during a radical implementation of the kind planned, documenting these (and their solutions) for dissemination purposes, taking full account of funding and organisational issues as they relate to Wales and Scotland.
7. Disseminate project findings within the JISC community and more widely.

These aims remained unchanged throughout the project, although it became increasingly clear that within the lifetime of the project that several of them would not be achieved. (For more on this see the section on Outcomes below.)

Methodology

Terms like "iterative", "developmental", "consensus-based", "distributed", "pragmatic", "reflective", "multi-partner", perhaps best describe UEO's methodology, which draws heavily on established practice within the TUC Education Service and amongst its partner organisations. Key features of the methodology include the following.

- Partnership Agreement (see Appendix A).
- Project Initiation Document, agreed with JISC at the start of the project.

- Project Implementation Document, revised every 6 months in line with the biannual reporting requirement to JISC, which provides a “one-stop” overview all the salient features of the project, including project personnel, Gantt chart, budget, risk assessment, deliverables, and arrangements for dissemination and evaluation.
- A three-weekly, minuted, 1-hour, telephone conference involving all the individuals involved in UEO, chaired by the Project Director, and known internally as the Project Implementation Group (PIG).
- A project Jiscmail list used for the overwhelming majority of project communications, including one-to-one communications, embracing all members of the PIG, and including the JISC Programme Manager and the JISC Programme Evaluators.
- Occasional face-to-face meetings to address specific issues (for example to produce the “walk-throughs” upon which some of the projects initial UML Activity Diagrams were based), and to enable exchange of information between the projects responsible for the parallel activities described in the background section above.
- Quarterly claims for funding, signed off by the Project Manager, with formal control exercised by the Vice Principal of the lead college.
- Biannual reports to JISC, of which an updated Project Implementation Document forms a part.

Implementation

We planned and implemented the project as follows.

During the initiation phase we concentrated on:

- establishing the UEO partnership;
- negotiating a viable agreement with WebCT;
- developing a formal Project Initiation Document (PID), with, for each deliverable, resources (person days of effort and/or funds) and responsibility for its production allocated on an indicative basis.

We agreed the PID with JISC in December 2003, and henceforth used it as a Project Implementation Document, with revisions to coincide with the bi-annual reporting cycle to JISC.

During the implementation phase those with lead responsibility took their deliverable(s) forward, reporting on progress, seeking support and advice via the project Jiscmail list or at the three-weekly Project Implementation Group telephone conferences.

To complement the helpful programme-wide formative evaluation undertaken by Glenaffric Ltd, UEO commissioned Linda Creanor of Glasgow Caledonian University’s Academic Practice Unit to write two interim external evaluation reports and one final external evaluation report on UEO, with the first two of these coinciding with the 2nd and 3rd biannual project reports to JISC.

The Gantt chart on the next page – which is retrospective – shows the approximate order in which things happened.

Retrospective Project Gantt Chart	2003			2004							2005													
	Q3	Q4		Q1			Q2		Q3			Q4		Q1			Q2		Q3					
M	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7		
‡ = completed																								
PROJECT MANAGEMENT AND REPORTING																								
6-monthly Project Steering Group (PSG) meetings		‡						‡																
6-monthly Quarterly Progress Reports to JISC					‡				‡															
Three weekly minuted Project Implementation Group teleconferences																								
Quarterly Implementation Group meetings		‡						‡				‡						‡						
Project Bi-annual Reports to JISC				14/1	‡					14/2	‡				14/3	‡						14/4	‡	
DELIVERABLES																								
Project Initiation Document – 1				1	‡																			
Partnership Agreement – 2	2	‡																						
Vendor Agreement – 3	3		‡																					
Software upgrade completed – 4			4	‡																				
Production of How To Guides - 5/1 and 5/2													5/1						5/2				‡	
Developed and tested schemas – 6/1 and 6/2						6/1	‡							6/2	‡									
Model data-protection statements - 7															7v1		7v2	‡						
Dry-run delivery – 8											8	‡												
Delivery of Multi-college/OLP/TUC/NOCN courses – 9/10																						9/10	‡	
Model Service Level Agreement - 13																13/2								
Bi-annual Reports - 14/1 – 14/4				14/1	‡					14/2	‡				14/3	‡							14/4	‡
Dissemination events - 15/1 - 15/2									15/1	‡						15/2	a	‡			15/2	b	‡	
Project websites - 16.1 (external) and 16.2 (internal)	16		‡																					

Dissemination

We have disseminated UEO to two main audiences, an internal trade union education audience, and an external JISC community audience.

We have reached the former through TUC tutor-briefings, workshops between cognate projects, and by giving key people in cognate projects accounts on the UEO Jiscmail list, and UEO people accounts on the email distribution lists of cognate projects so that UEO know-how and experience can be brought to bear.

We have reached the latter through our involvement in MLEs for Lifelong Learning programme meetings, through our participation in the ALT/JISC “IT won’t work here” event in Birmingham in February 2005 (http://www.alt.ac.uk/workshop_detail.php?e=174), and in the Centre for Recording Achievement’s “Joining up the electronic dots” conference in Sheffield on 16 May 2005. UEO Personal Data Flows and Institutional Relationships Diagram, by Andrew Charlesworth from the

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Centre for IT & Law at the University of Bristol, which shows the flows of personal data between UEO partner organisations, defines terms, and allocates responsibilities, was posted on the TUC's web site, and had been downloaded over 800 times in the period 1/3/2005 to 31/7/2005.

Results

A word of warning

A hazard when summarising the results of a project like UEO, running as it did in parallel with other related activities, is that it is impossible properly to disentangle UEO's results from those of the other related activities. To some extent, therefore, this section has to serve as a situation report concerning the TUC's online learning strategy. A further hazard is that the dividing line between project outputs and project outcomes is blurred, especially in a developmental project like UEO. In this report we include as outputs relatively tangible things like documents, courses, and diagrams. Typically these are project deliverables.

We include as outcomes:

- "softer" consequences of the project like self-assessment, know-how, experience gained, strategies developed, and so on;
- "downstream" developments which, whilst not directly part of the project, have been greatly shaped by it.

Outputs, including deliverables

Most of the project deliverables are included in this report as appendices, including:

- UML Activity Diagrams describing the enrolment process within the TUC's planned pre-course support system;
- Andrew Charlesworth's analysis of the planned flows of personal data between partners within the TUC Education Service;
- 3 outward-looking "How to" Guides;
- a Case Study concerning TUC Online Enrolment, produced for JISC in April 2004.

3 draft agreements for use between partners concerning how they exchange personal information with each other have also been produced. These contain too much organisation-specific information for it to be appropriate to include them in a public report like this one. Please contact the UEO project manager for further information.

Other concrete outputs include Linda Creanor's three external evaluation reports, of which the third and final one is included as an appendix, and "Stating the obvious? A project management method which works", included in this final report at the suggestion of Jane Plenderleith of Glenaffric Ltd.. (Note that Linda Creanor's first two reports were included in successive biannual project reports to JISC, and that by agreement with JISC, Linda's third report was not finalised until August 2005.)

During the course of UEO, The Sheffield College, un-funded (by JISC) as a project partner, developed an online version of the TUC's Work Life Balance course, which was used to pilot the organisational approach to the delivery of online learning that UEO explored.

Outcomes

Self-assessment against UEO's stated aims

Stated Project Aim	Did UEO achieve this?
1. Capture know-how from previous and current JISC funded MLE-related projects and initiatives, in particular those of the Shell Project (http://www.shellproject.net/).	Yes.
2. Build on the extensive track-record of Tameside College in the transfer of data between student record system and MLE, taking particular account of its recent experience in the "dispersed learning model" of Tameside's Treasury-funded Passport to Learning project.	Yes.
3. Apply this to a medium scale, UK-wide development involving adult work- and home-based online learners, an industry-based national training provider (TUC), a national awarding body (NOCN), a large non-FE learning partnership, and a number of FE institutions.	Yes.
4. Achieve reliable, secure, production-quality, interoperation between: <ul style="list-style-type: none"> a small number of individual college student record systems and a centrally hosted learning materials, discussion-support system, and portfolio-building and viewing system; the TUC's online application system, a small number of individual college student record systems, and the centrally hosted learning materials, discussion-support system, and portfolio-building and viewing system. 	Not within the lifetime of UEO, nor will it be for some time (if ever) after the TUC's pre-course support system (see below) is running. The system will rely upon the supply to colleges of batched data for upload (if the college's management information system permits it) into the MIS.
5. Enable a national awarding body (NOCN), which is active in England, Wales, Scotland and Northern Ireland, to develop and trial systems and procedures for the effective quality assurance of on-line learners' work against nationally agreed standards of achievement.	Yes.
6. Resolve the management and/or cultural and/or institutional and/or business issues that will inevitably arise during a radical implementation of the kind planned, documenting these (and their solutions) for dissemination purposes, taking full account of funding and organisational issues as they relate to Wales and Scotland.	Yes, largely.
7. Disseminate project findings within the JISC community and more widely.	Yes, to some extent.

Lessons learned

During the course of the UEO project partners learnt many lessons, including the following, which are extracted from the report of Glenaffric Ltd's 18 February 2005 Formative Evaluation Visit, from the notes of a Formative Evaluation teleconference with Glenaffric Ltd on 6 June 2005, and from the Final Project Evaluation Report.

Lesson 1 – 'doing a few things well is better than doing many things superficially'. There is pressure in the bidding process to make ambitious claims for the project, and a need to balance this with a realistic assessment of what can actually be achieved.

Lesson 2 – 'UML diagrams are effective as ways of capturing business processes'. UEO commissioned the production, checking and validation of UML diagrams to describe the processes involved in UEO transactions. These diagrams have been a central component in the procurement of an online enrolment system for the TUC which is part of the exit strategy and sustainability of the project.

Lesson 3 – 'national differences in funding and data rules create a problem for UK-wide interoperability'.

Lesson 4 – ‘technical interoperability cannot take place without institutional interoperability’, i.e. a willingness to engage at human and business level between organisations.

Lesson 5 – ‘having real learners to support is an advantage’, as this concentrates the project on the practicalities of information flow and online human dialogue.

Lesson 6 – ‘getting to grips with legal and inter-institutional aspects of the flow of personal information is a prerequisite to success in projects like UEO’.

Lesson 7 – ‘systematic project management has a big influence on the success of dispersed multi-partner projects like UEO’.

Lesson 8 – ‘in multi-project programmes, the form of JISC’s support to individual projects needs careful planning, and there should be more involvement of the projects themselves in shaping this support, with scope for projects to “call down” support resources, rather than having support needs apparently pre-determined’.

Lesson 9 – ‘end of project close-down uses a large amount of resource, and takes a long time, to the extent that effective end-date for a project should be 2-3 months before the end of its funded period’.

Downstream developments

Two important end results of UEO, with long-term consequences, are that the TUC and its partners:

- have a fuller understanding of issues surrounding processing and controlling personal data, and sharing personal data between organisations;
- are poised to implement a newly procured pre-course support system.

In relation to the former, it is fair to say that until embarking on the UEO project, partners had not really begun to scratch the surface of this issue. Through UEO we have a framework in place to enable provision to be organised in a way which meets the needs of learners, the TUC and its partners, and which will pass muster with the Information Commissioner.

In relation to the latter, some of the system’s design derives directly from UEO, with the UEO UML Activity Diagrams featuring in the TUC’s ITT, and many of the required user interactions deriving from the “walk-throughs” produced in UEO, subsequently worked up into a series of use cases by the companies which the TUC commissioned to develop the system.

Conclusions, implications, and recommendations

Conclusions

UEO was an ambitious project, which set out to achieve a lot with quite limited resources.

Although not all of its objectives have been met, UEO has enabled the partner organisations to lay down strong organisational, technical, and legal foundations for the long term implementation of the TUC's online learning strategy. It has played a key role in shaping the TUC's procurement of an on-line enrolment system.

Furthermore UEO has had a major impact on the partner organisations' internal understanding of interoperability issues, as well as their capacity to conduct projects of this kind, and, as is indicated in the Final Project Evaluation, it has provided an excellent project-based staff-development opportunity for staff from each of the partner organisations.

Implications and recommendations

The key implications and recommendations which flow from the work of UEO are as follows.

1. Cross-national involvement in projects like UEO is beneficial, despite the additional complexity, and potentially, cost, which it introduces.
2. Inter-organisational collaboration of the kind brought about by UEO can be very beneficial for the organisations involved, with long-lasting impact.
3. Formal project management methodology of the kind outlined in Appendix C brings significant benefits both to partners and to JISC. A focus on the human, business and legal side of interoperability is a critical success factor, without which technical development will fail.
4. UML Activity Diagrams provide an accessible way for complex business processes to be summarised, developed, and discussed. JISC should continue to encourage use to be made of this technique across the whole spectrum of its development projects.
5. In multi-project programmes like the MLEs for Lifelong Learning Programme, JISC should review the way it provides cross-programme support, with projects given more influence over the purposes to which cross-programme resources are put.

References

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- Fowler, M. (2004). UML distilled: a brief guide to the standard object modelling language. ISBN 0-321-19378-7. Addison Wesley.
- TUC Online Course Development and Management Process Manual. <http://tuc-olls.jot.com/WikiHome> (last checked 5/6/2005).
- TUC 2004 Online Learning Strategy. <http://www.tuc.org.uk/learning/tuc-7380-f0.cfm> (last checked 5/6/2005).

Appendices

A. UEO Partnership Agreement

UNION EDUCATION ONLINE PARTNERSHIP AGREEMENT

Further to the JISC's decision to part-fund the Union Education Online (UEO) project (Original Proposal and JISC Offer Letter of 24/6/2003 attached for reference), the signatories to this agreement confirm that between August 2003 and July 2005 we will use our best endeavours to bring the project to a successful conclusion, working to:

- i) the contractual framework established between Stow College and the JISC;
- ii) the UEO project plan and budget, and any mutually agreed changes to either of these which are agreed during the lifetime of the project.

For the TUC: Liz Lees – National Education and Training Officer

Signature:



Date: 19/08/03

For Stow College: Gavin DP Macdonald – Vice Principal

Signature:



Date: 17/11/03

For the Open Learning Partnership: Doug Gowen – Chief Executive

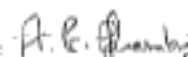
Signature:



Date: 2/9/03

For Teeside College: Anthony Quinby – e-Learning Manager

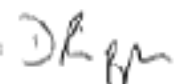
Signature:



Date: 3/10/03

For the National Open College Network: Dave Eggen – Chief Executive of TROCN

Signature:



Date: 23/10/03

For WebCT: Tim Collin – Director, Europe

Signature:



Date:

24/09/03

B. Final External Evaluation Report

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August 2005
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 1. Introduction

This is the third and final evaluation report for the Union Education Online (UEO) project which ran over two years to the 31st July 2005.

The first evaluation report in June 04 focused on the establishment of the project systems and processes with particular emphasis on the deliverables D6, Relationships and Data Flow Schemas and D7, Data Protection Statements. It was noted that time factors could become an issue as some areas were proving to be more complex than anticipated, and that there was some concern over slight delays in the development of the data protection statements. Its conclusion was that at that time the project was making good progress with high levels of commitment from members of the project team.

The second report in January 2005 looked specifically at deliverable D8, the pilot online Work Life Balance (WLB) course. A number of issues were raised around that, several of which overlapped significantly with areas being investigated within the parallel Union Learning Reps Online course (ULRO), particularly in relation to the learners' 'readiness' for online learning and moderation of online courses. The use of the WLB course as a test bed for deeper consideration of the processes being developed within UEO was seen to be extremely helpful. It was also noted that the concern raised in the first report over the delay in the development of the data protection statement was being addressed through the buy-in of external expertise, and that tight management had ensured that the schedule and project plan had been quickly adjusted to take account of any changes.

The focus for this third and final report is on the impact the project has had on those directly involved from both a personal and organisational perspective.

2. Data Collection

As with the previous reports, active involvement in reading email communication, project documentation and reports continued throughout. In order to capture the personal views of the key project participants a series of one-to-one, semi-structured interviews was conducted; nine

telephone interviews and one face-to-face interview, each lasting up to 30 minutes. Interviews were recorded and notes written up for each. The interviewees were:

- Seb Schmoller, UEO Project Manager
- Doug Gowan, Open Learning Partnership, UEO Project Director
- Dave Rippon, Executive Director, TROCN
- Liz Rees, Education and Training Manager, TUC
- Lisa Gray, JISC Programme Manager
- Veronica Adamson, Glenaffric, JISC Programme Evaluator
- Jackie Williams, Education & Training Officer, TUC
- Craig Hawkins, TUC Online Learning Officer
- Tony Fletcher, Head of TU Studies Dept, Sheffield College.
- Iain Howie, Stow College, Glasgow

All the interviewees were directly involved in the project to varying degrees, although two (Lisa Gray and Craig Hawkins) had become involved in the project late in 2004 after taking up new posts and therefore had no experience of the earlier stages. Indeed Craig's post was created by the TUC as a direct result of work generated and issues raised by both the UEO and ULRO projects.

Interviewees were asked to describe their role within the project, and depending on that role and level of involvement, they were encouraged to describe how the project had affected their personal understanding of the following issues:

1. collection and transfer of learner data for distributed online courses
2. the impact of national differences on these processes
3. walkthrough diagrams and UML activity diagrams
4. moderation and quality issues in distributed online courses
5. the transferability of lessons learned

They were also invited to comment on general aspects of the project such as overall management, communication and outcomes, and to what extent their involvement in the project had influenced practice within their organisations.

3. Project Outcomes

3.1 *Collection and transfer of learner data*

As this was main focus of the project, it was unsurprising to find that all participants considered that they had furthered their understanding of the issues involved to a significant extent. It was clear too that even where an individual felt that they had had a reasonable understanding of the processes at the start of the project, collaboration with other agencies had enriched and extended that understanding, and engendered a growing awareness of the complexity of the process.

"It looked like an impossible task initially to make things happen, now it's still difficult but it's shed an enormous amount of light into how we can do this."

"The project was a way in which we got to grips with things which we thought were very difficult."

"Part of the learning is to get the organisations to go through the thinking for themselves."

The work around the data protection issues, and in particular the guidance provided by external expert Andrew Charlesworth, were highlighted as having been extremely useful. Outputs such as the draft agreements were considered useful examples which would directly influence the way in which several of the participating organisations operate, including the TUC in their agreements with colleges, and Stow College in drawing up future agreements with Scottish colleges, local SMEs and other organisations. OLP also confirmed that their new knowledge will impact on future practice within their organisation.

As evidence of the interest in this process beyond the project, it was noted that the data protection documentation available on the TUC web site had been downloaded around 1000 times since March 05, mainly by non-union people

3.2 National differences

One of the project aims was to highlight national differences and their impact on the collection and transfer of learner data for distributed courses. For several of the partners, this was an area which was relatively unexplored. For example TROCN, the accrediting body, noted,

“there were issues about the fact that some learners were in Scotland registered with a programme in England .. it made me think whether we had thought through some of these issues.”

It was recognised early on however that this was a fundamental issue which couldn't be resolved simply through data collection techniques

“The real underlying problem is that the assumptions about how you get funded in Scotland and England are completely different.”

“In England it's based round the idea of units of learning accumulated by an individual learner whereas the Scottish funding system is completely different, it's based upon programmes of learning agreed between the college and the funding council, so in fact learner information for funding purposes is much less important in Scotland.”

Similar barriers exist in Wales and Northern Ireland. Raising this as an issue has ensured that it has been taken into account in the procurement of the TUCs new online enrolment system which will include sections relating to a learner's UK nationality.

“Centrally, an appropriate data set will be collected, for whatever agency is funding the learning that is going to be delivered.”

At the same time they acknowledged that this issue would need to be addressed at a higher level and that it will continue to be problematic.

“It has shed light, but it remains very difficult”

Confirming the point raised above on Scottish funding, Stow College, lead fund-holder, did not see national differences as a major problem for them at a course level, suggesting that,

“..... any national differences were far less significant than the organisational differences.”

Stow already subscribes to TUC requirements for education and training and is used to conforming to the English curriculum and terminology in order to comply with the English accrediting body for UK-wide courses.

3.3 Moderation and quality issues

For UEO, moderation was viewed more in terms of how the moderators fit into the planning process and what information they get access to, rather than about quality assurance issues. The more detailed aspects of moderating online courses were delegated to the parallel ULRO project which focused more on the learner's online experience. As several of the UEO team were also involved in ULRO however, boundaries were inevitably blurred. For TROCN in particular, moderation has to be a key issue in any development of online learning as,

“Our livelihood depends on the credibility of that certificate.”

“When you're moderating something first time round you do actually need to go further than you would with something where you've got confidence in the quality assurance process already.”

Awareness of the multi-faceted nature of the moderator's role had also been advanced,

“In a perfect world I would have had one who knew a great deal about online learning, a great deal about OCN accreditation in general and a great deal about the TUC education programme, and those creatures are extremely rare.”

It was acknowledged that induction may be required for moderators who are new to the online environment, perhaps similar to that which is now being developed for new online learners.

For the TUC, both projects were of equal value in informing its approach to accreditation,

“It's already been absorbed into the TUC's accreditation manual. ...The whole approach that's been explored in the project has been written up and included in the manual so it will inform practice for some time to come around moderation and accreditation.”

The 'How-to' guide on moderation in particular was seen to be an extremely useful document for several of the project participants as it had an immediate, practical application.

The Work Life Balance course was not a main focus for JEO but it was used as a pilot to test out some of the processes and as such, was viewed as an excellent learning opportunity for the project team, if not for the learner cohort.

"The downside of this approach is that some provision which has not been of the highest quality has taken place, but I don't see how you can avoid that."

It has also been instrumental in encouraging the TUC to develop an online course to prepare prospective learners for online study, building on the experience of Stow College in this area. The first run of the new course is now underway, and this, along with the accumulation of lessons learned from WLB will influence the success of future courses.

"It will be quite different to the one we ran last time. ... It will work better because the learners will be better prepared for it... I expect the dropout rate for the next WLB course to be quite tiny".

3.4 Walkthroughs and UML activity diagrams

This aspect of the project was commented on favourably by all interviewees, for several of whom it was a new approach. Comments clearly demonstrate that it has made a major impression,

"For me it was like a revelation!"

"I feel completely sold on that diagramming process".

It has encouraged collaboration and communication among the project team and within their respective organisations,

"When you've got a complex project it's an iron rule that there's not actually anybody who understands all of the system. People think they do, but they don't actually."

"People who work within projects, even though they may work in some technical capacity within institutions, don't necessarily have that level of knowledge and expertise because that's not what they do in their day to day work.."

"I put the TUC one together as I saw it, but ... people said, 'Oh yea, but what about that' and then I said 'oh yea, and what about those?'"

Its impact was unexpected and motivating,

"It turned out to be very useful at the end of the day, although we weren't quite sure about how to get to that point we did actually get to it."

"Working through it the way we did in that project I think has been one of the most useful things. We won't get it right yet, but we will get it right, we will work to that."

For the TUC, this timely process has fed directly into the procurement process for a new online student enrolment system. This was particularly relevant for the person who will be directly responsible for administering the new system,

"At least I understand where it came from, what the intention was and that will give me a better understanding of what I need to do with it. I think if I hadn't had that it would have been extremely difficult."

"It's been useful to take it back and actually focus on what was necessary for a system to be able to do exactly what the TUC wanted."

Where knowledge of UML activity diagrams already existed, e.g. within JISC, it was noted that it was,

"...useful for us to see how they could be used in this context."

4. Project Management

4.1 Methodology

Interviewees were unanimous in their highly positive views on how the project had been managed throughout, highlighting the personal impact of both the project manager and project director.

"I've much appreciated the meticulous, careful way that [the project manager] goes about these things. It's played a huge part in making it a success."

"the UEO project has been managed beautifully. I have never worked on a project that has kept so much to time."

"It's been one of the better ones I've been involved with for years."

"Overall I couldn't really fault it, it's been extremely well led."

The fact that most of the participants knew each other and had worked together in the past was another important factor. From comments made, it's clear that the entire project team worked well together and demonstrated high levels of commitment to achieving the project outcomes. Again, this was attributed to the lead provided by the core project team –

"Very fast a mutual respect grew up around the team that ran it."

"I would work with any of them again."

"I have actually enjoyed working with the other members of the project team ... and I have learned a lot from them as well."

"It is nice to work together with others who are attempting to achieve similar objectives in a different way."

From the TUC's perspective the project outcomes were seen to be crucial to the further development of its online learning strategy, a development which impacted on everyone in the team, therefore motivation was strong.

"It was in everyone's interest to engage with it."

"It certainly had a lot more practical issues to address, pressing practical issues, than many of the projects."

"[Tutors] see themselves as part of the TU education service and share its values and objectives so they actually wanted the project to work."

"I think what made a difference in the UEO project was the strong partner commitment to the aims of the project and the strategy."

It was noted by the project director that:

"I'm quite sure that people put in more effort than they were paid for."

which was borne out by at least one of the respondents who stated that,

"I have been using other members of our staff and there's been a capacity issue for us."

It is to the credit of the project team therefore that motivation levels were such that the growing complexity of the project and associated time and resource issues did not become a major problem.

Interviewees also highlighted the excellent and consistent use made of the Programme Initiation and Implementation Documents (PIDs), along with the regular teleconferences which kept everyone on track. E.g. on teleconferencing,

"We're using that much more widely now in the TUC to get things done. It's worked so well ... just as a small part of the project it's produced real dividends for us."

"Some of the techniques which have been used, in terms of the telephone conferences, have been shown to have been very useful and we can learn from that and I think other projects within JISC can as well."

"A power of work gets done in that hour and a power of work done in the lead up to the next one."

and the PID:

"It was quite a scary thing! Now if I came across it I would say 'Great, this is going to work'."

"For us the focus of the activity has been around that document."

"Everyone has known at any point in time what the project plan is, which doesn't happen with every project; the recording of actions, decisions and responsibilities has been good; decisions have been made when they've needed to be made to add things or drop them."

Given the comprehensive nature of the PID however, a note of warning was also sounded:

"The issue is that the project document is a very, very substantial piece of work so the project leader has to put a considerable amount of work into it and then there's a concomitant responsibility by the team members in order to keep up to date with what's going on."

It was also noted that for anyone joining the project at a later stage, the complexity and volume of the documentation was daunting – *"not easy to pick up the pieces"* – although the project team made efforts to answer questions and provide help when necessary.

Overall however, the nature of the management methods ensured that all members of the project team, no matter where they were located geographically, were able to take part in all aspects of the decision making processes. Nevertheless, there was some concern expressed that the Scottish dimension within the project may have been diluted as project management was centred south of the border,

"I think it's become much more English than it was. I think that we lost the Scottish dimension."

Given that the majority of partners were based in England and that there was no Welsh or Northern Ireland representation, this was perhaps inevitable.

4.2 Project v Programme perspectives

From a project perspective there is no doubt that participants rate the management aspects very highly and feel that they have benefited personally from their involvement. From a JISC Programme perspective however, a note of caution was sounded.

"Sometimes I think there can be a tension between very tight project management and the needs of the programme as a whole the input to the programme as a whole probably has suffered a little because of that"

On the other hand, UEO project management noted that although JISC highlighted cross-project activities and encouraged collaboration and sharing, at project level it wasn't particularly helpful as projects were necessarily focused on achieving their own outcomes. It was suggested that,

"[JISC] should set aside some resource, and those who are given contracts should be allowed to determine what it's used for."

This view was confirmed by the Programme Evaluators who noted that,

"I think certainly, as far as UEO were concerned, there were quite a lot of issues with the level and nature of the support that they could get."

"Although we were surfacing these needs from the projects and saying they're going to want this sort of stuff, the mechanisms that had been put in place to provide the technical support were not sufficient I don't think to really provide that technical detail."

This was noted particularly in relation to support for the UML activity diagramming, as later JISC projects in need of that kind of expert input had been provided with support which had not been made available to UEO.

There are clearly tensions here, as although JISC recognises that,

".... you've got to prioritise and it's more important to maintain the objectives within the project."

it's still the case that,

"... for JISC programmes there is that dual element, that you're working on your own individual thing, but also with an eye on sharing and collaboration with the wider community"

It's interesting to note however that there was a clearly a great deal of synergy between the UEO project and the Union Learning Reps Online (ULRO) project which also focused on online learning in the TUC sector, but which was not JISC funded. Several of the UEO project participants were also involved in ULRO and as such, lessons learned were shared between both project teams, particularly in relation to moderation issues,

"I think the ULRO project benefited from what UEO were doing and it meant they were able to learn more rapidly as a result."

“.. it was very helpful, and I think it says a lot about the ULRO project leader and UEO project leader that there was no difficulty in recognising the things that were in common interest and that we really needed to put them together.”

Collaboration and sharing was clearly taking place, albeit beyond the JISC programme boundaries.

4.3 Flexibility

As the project progressed, new and unexpected issues came to the fore (e.g. legal basis for sharing data between institutions, online moderation) and were given more prominence, while others reduced in importance (e.g. transferring learner data electronically) and were removed from the project plan. This flexible approach was not viewed as a major problem by any of the stakeholders, but rather as a positive aspect of project management.

JISC Programme perspective –

“I think all of the projects within this programme have revised what they originally aimed to do, and in a development programme, I think that’s common really and to be expected.”

“I’m actually often more suspicious of projects that don’t change, particularly when they’re over a time period of two years.”

“..it’s about projects being flexible and responding to what’s really going to be useful. ...I think UEO had to change.”

UEO Project management perspective –

“Certainly in our case we haven’t done exactly what we bid to do but we’ve managed the process of altering the plan in a way that has been reasonably open and transparent and in which JISC has had an involvement and been aware.”

“I think it’s probably done more than it expected to. I think it was quite ambitious to start out with. Then it became necessary to drop some things.”

JISC were considered to have been *“pragmatic and constructive all the way through”*.

Others confirmed that, *“The project has probably been better for it.”*

One aspect highlighted as potentially problematic however has been in the time needed to wind up the project, which was not envisaged in the original project plan. Indeed the JISC project closure process was seen to be much more resource intensive than anticipated. It was suggested that this is something which could/should have been picked up by JISC at an earlier stage,

“Our project plan which they kept reviewing never had that in it.”

It was felt necessary to allocate 2 or 3 months to complete the project closure process, a fact which should be made clear from the outset.

“The amount you’ve got to do is slightly disproportionate to the project’s size and in effect uses up too great a proportion of the project’s resources.”

The effort is clearly appreciated however, as a number of the interviewees highlighted how useful the final documentation has been, particularly the ‘How to’ guides which capture the key processes and lessons learned from various aspects of the project.

“I think it’s an extremely good way of wrapping up some of the activities within the project.”

“...it was really quite cathartic for me as it enabled me to think through ... what really were the lessons.”

5. Conclusions

There is no doubt that that UEO has been a well-managed and influential project which has had a substantial impact on the individuals and organisations involved. Efficient and creative project management techniques along with the commitment and motivation of all participants have been highlighted as major factors in its success. The fact that the project was key to informing the TUC’s online learning strategy and that several of the project team had worked together previously, provided a sound basis for that success. Its authenticity and immediacy were key,

“A lot of methods go wrong when there isn’t an underlying broader picture to it, and it’s not really whether you use phone conferences or don’t use phone conferences or the format of the project initiation document, it’s really whether the project is something more than a big document and a budget.”

The complexity of the project may have been daunting initially, however for at least one of the project partners its approach has been vindicated,

“One thing the project has highlighted very well is that it is possible to run a complex project across a number of different partners across the UK and that that works very well.”

The TUC have clearly been the main beneficiaries,

“It’s taught us that the underlying delivery structure that we’ve got in mind, that is central recruitment, central hosting of learning materials, distributed delivery with a limited number of entities responsible for the delivery, is the right way to go.”

For Stow, the main fund holders, the impact to date has been restricted to those directly involved,

“There’s no doubt it’s been hugely beneficial, albeit for only a handful of people in the college at the moment. It has enhanced our knowledge base of what online is about as we move into a national perspective as opposed to a local organisational perspective, and it will no doubt be some time before we absorb all the ramifications.”

For JISC this has been a new area, outside the normal HE and FE sectors,

“The area they’ve been working in has been a very useful area for JISC to explore.”

“..I think for JISC, because this project was looking at the more work-based learning, relationship with the employer scenarios, I think that’s relatively unique in what we’ve been doing and it’s a really important part of the picture in terms of the lifelong learning journey.”

Although the project has been classified under the work-based learning theme of the programme, there is a suggestion that there may be some confusion over the context in which the project is based.

“I suppose it is work-based learning, except that it’s not really work based learning as in what your employer gets you to do.”

One suggestion was that it would be more accurately described as workplace, rather than work-based learning as although it relates to what learners do in the workplace, it is not primarily promoted by employers and does not necessarily involve employer agreements.

Nevertheless, the majority of interviewees saw its value to other educational contexts through the transferability of lessons learned.

“In a way, when you’ve got an organisation like the TUC which has a national programme, it just makes a lot of sense to use the lessons from this project and apply them.”

Its distributed nature was also seen to be important factor for encouraging future collaborative projects as,

“The online world will not be sustained pure and simply at an organisational level.”

The project has not solved all the problems associated with interoperability among distributed online courses, nor did it expect to. It has however advanced understanding of many of the main issues and influenced practice in a diverse range of organisations. It has achieved these goals in a flexible and imaginative way, and there is no doubt that all involved have benefited greatly from their participation, often in unexpected ways. Its legacy for the project team is a strong determination to continue to take things forward. For JISC also, it would appear to have been a worthwhile venture into what was for them, relatively unknown territory.

6. Summary of key points

- The experience of participating in the project will clearly impact on the interviewees’ approach to future projects and enhance practice within their own organisations.
- Irrespective of the project aims, good project management is highly influential for all involved and should be encouraged, supported and acknowledged.
- A committed and enthusiastic project team representing all the organisations involved is necessary to ensure real collaboration on interoperability issues.
- It is important that complex projects ensure appropriate induction for new project members who join the team at a later date (as UEO has attempted to do.)
- Expectations of collaboration at a programme level should be made explicit from the outset to avoid tensions between JISC programme aims and those of individual projects.

- Guided by JISC, appropriate amounts of time and resources should be allocated to project closure and incorporated into the project plan at an early stage.
- In UK-wide projects, particular those which centre on distributed learning and/or systems, it would be beneficial to have representatives from all four nations.
- To avoid confusion and delay, JISC should either take responsibility for providing technical support to projects (in this case UML diagramming and data protection guidance) as and when the need arises, or alternatively, funding should be made available from the outset for projects to buy in additional expertise.

C. Stating the obvious? A project management method which works

This handout summarises in key point form, for a 10 minute presentation, the project management method used in the multi-partner Union Education Online (UEO).

Half a dozen characteristics of multi-partner JISC development projects like UEO

1. Changing personnel, for whom the project is usually a variable, and often minor, part of their and their organisation's work
2. Diverse range of partners, spread geographically.
3. ICT fluent (efluent!) personnel.
4. Effort funded at marginal or semi-marginal costs, therefore difficult/unwise to try to contractualize it too much.
5. Part of a bigger programme with programme-wide evaluation, a programme manager, a defined set of reporting requirements, but no proper "client".
6. Goals which need to be altered as the project progresses.

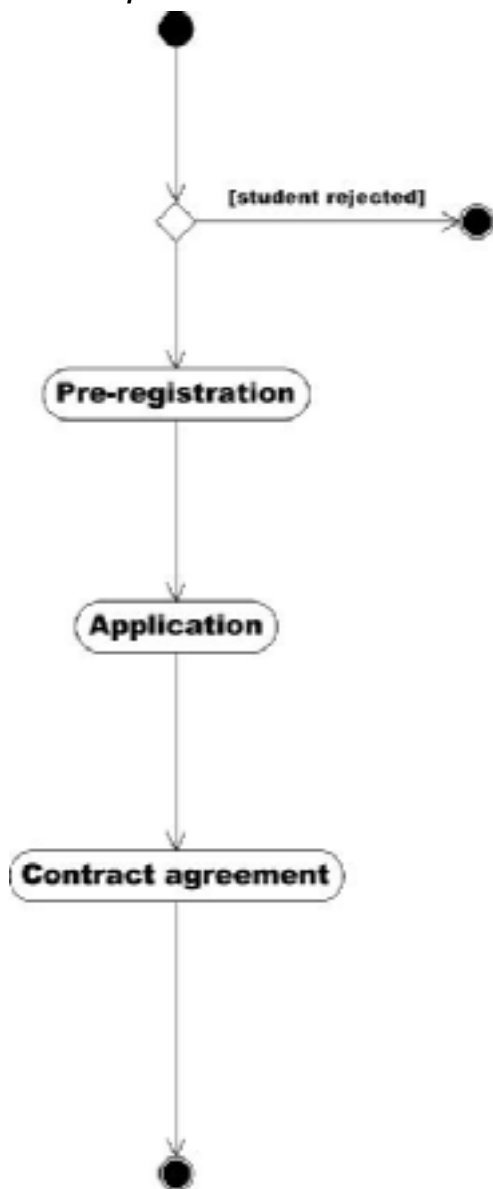
A dozen things to do

1. Define some roles, in particular, Project Director (who must be active rather than "titular"), and Project Manager.
2. Have a three-weekly, minuted, 1-hour max, telephone conference open to all the individuals involved in the project, chaired by the Project Director, "clerked" by the Project Manager. Issue an Agenda in advance. In UEO we call this the Project Implementation Group or PIG.
3. Give all action points a sequential number and a date, and put a name against them, and if more than one name, a lead person's name, and (usually) a completion deadline. This concentrates the minds of those responsible for them, especially when they become overdue.
4. Use occasional face-to-face meetings when face-to-face contact is essential for the creative processes of the project. But do not waste travel and budget and meeting time for the routine process of keeping a project on track.
5. Have a non-public project Jiscmail list. Include the JISC Programme Manager and the JISC Programme Evaluators on it, as well as all members of the PIG. Use it for the overwhelming majority of project communications, including one-to-one communications. (Put the names of the people to whom a communication is directed in brackets in the subject line.)
6. Use the Jiscmail list's file store for key project documents rather than sending them as email attachments. The file-store is a neutral place and has none of the idiosyncrasies of an institution's system.
7. Except for subcontractors who are doing defined things for a defined amount of money, have a simple enabling Partnership Agreement, rather than wasting time and money on a formal legal agreement, which may not be finished until close to the project's completion date. This sets the early tone for the project and translates the senior level commitment from the bid into the project itself.¹
8. Produce a proper Project Initiation Document, agreed with JISC at the start of the project which sets out how you will do the project, and includes things like the Partnership Agreement, the budget, a Gantt chart, and a list of deliverables.
9. Once the project is underway, rename the Project Initiation Document a Project *Implementation* Document (PID). Revise this in accordance with the JISC reporting requirements (i.e. biannually in the case of UEO), including the Gantt chart, and the list of deliverables.
10. Control "drift". It is much better, to change the project goals by proper steered decision as the project progresses than just letting things drift.
11. Use the PID as a main component of your reports to JISC. It provides a "one-stop" overview all the salient features of the project. It fits your internal needs rather than being constrained by the requirements of a JISC template.
12. Distribute budget from the lead institution regularly, on the basis of claims from partner organisations, signed off by the Project Manager, but acted upon by the lead institution.

¹ Some reservations about this approach have been expressed by people with a strong eye on intellectual property issues.

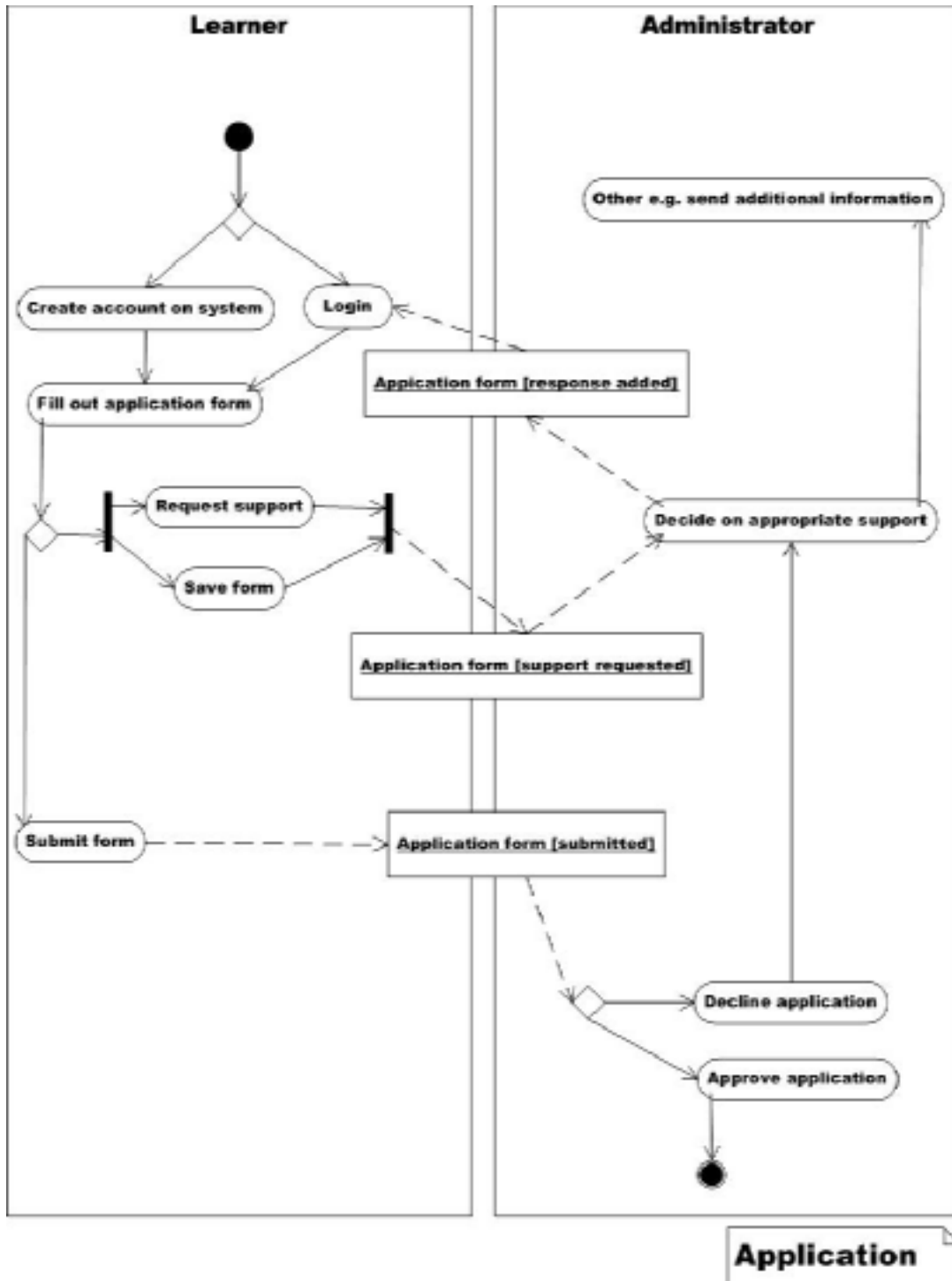
D. Deliverable 1 – UML Activity Diagrams

1. Overall process

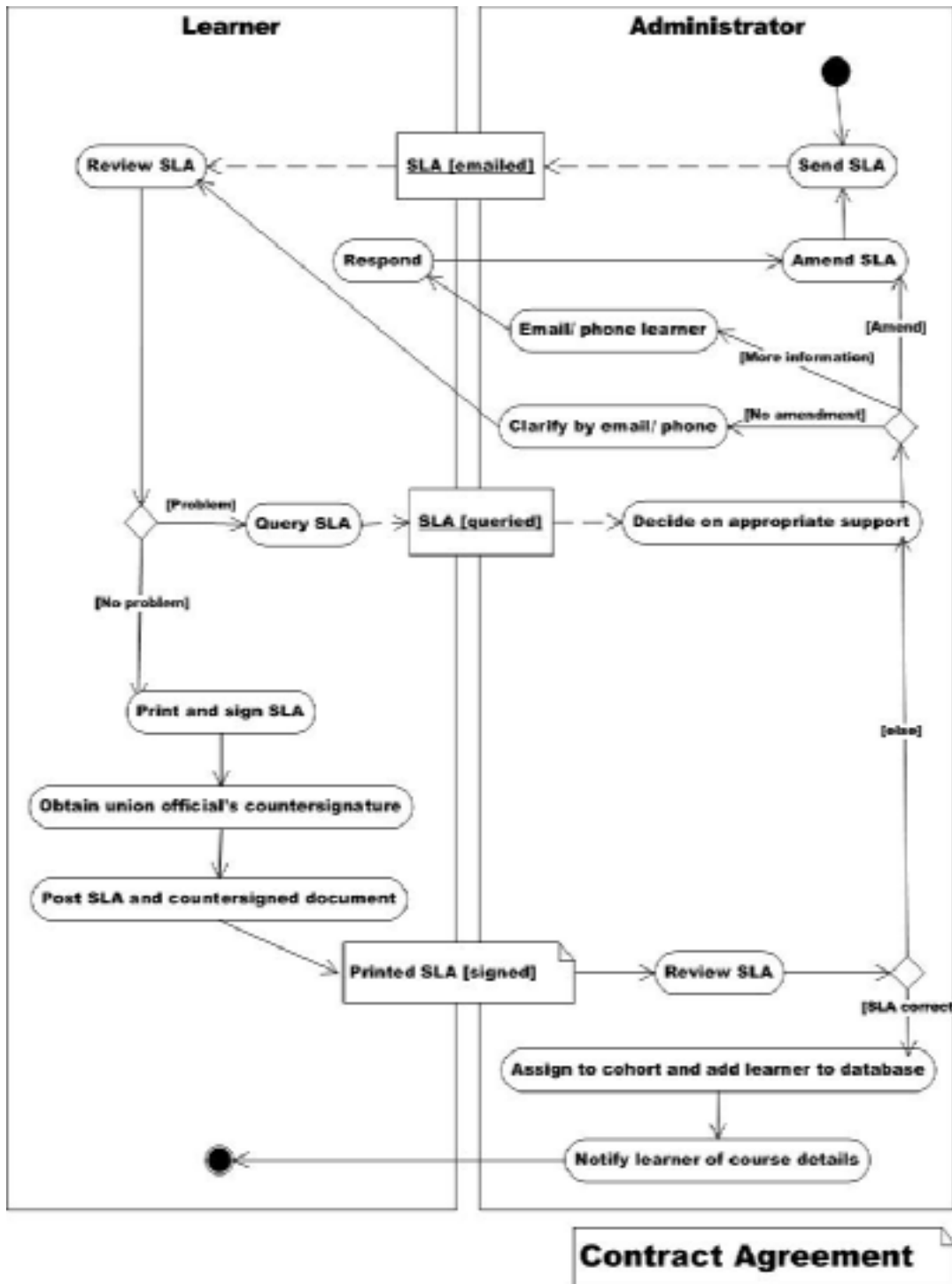


Overall Process

3. Application



4. Agreement



Union Education Online

Personal Data Flows and Institutional Interrelationships Document

**Andrew Charlesworth
Centre for IT & Law
University of Bristol**

V1.0 - 28/02/05

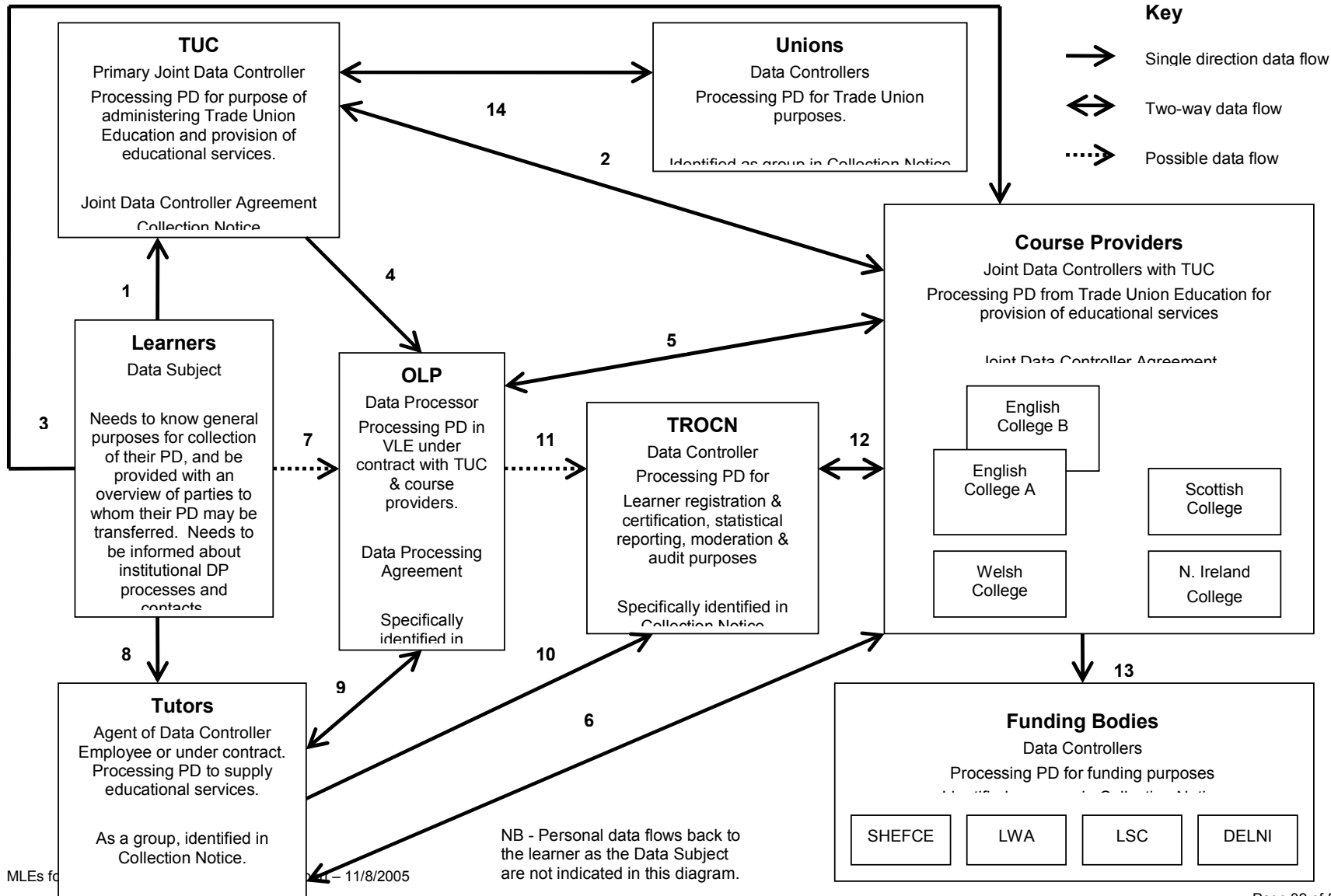


Table 1 - Flows of Learner Personal Data

No.	Parties & Direction	Roles	Purpose of Processing	Processing Criteria for Data Controller	
				Schedule 2 DPA	Schedule 3 DPA
1	Learner to TUC	Learner - Data Subject TUC - Data Controller	Administration of UEO Education Services Provision	Contract or <u>Consent</u>	Explicit consent Reason - Trade Union membership Reason - Physical or mental health Reason - Race/ethnicity Reason – Religion
2	Between TUC & Course Provider	TUC - Joint Data Controller CP - Joint Data Controller	Education Services Provision	Contract or <u>Consent</u>	Explicit consent Reason - Trade Union membership Reason - Physical or mental health Reason - Race/ethnicity Reason - Religion
3	Learner to Course Provider	Learner - Data Subject CP - Joint Data Controller	Education Services Provision	Contract or <u>Consent</u>	Explicit consent Reason - Trade Union membership Reason - Physical or mental health Reason - Race/ethnicity Reason - Religion
4	TUC to OLP	TUC - Data Controller OLP - Data Processor	VLE Service Provision	Contract or <u>Consent</u>	Explicit consent Reason - Trade Union membership
5	Between OLP & Course Provider	CP - Data Controller OLP - Data Processor	Education Service Provision	<u>Contract</u> or Consent	No sensitive personal data

6	Between Course Provider & Tutor	CP - Data Controller Tutor - Employee or Data Processor	Education Service Provision	If tutor is employee - the transfer is within the DC. If Tutor is a Data Processor the processing will be subject to a data processing agreement which will reflect the CP's processing criterion.	If tutor is employee - the transfer is within the DC. If Tutor is a Data Processor the processing will be subject to a data processing agreement which will reflect the CP's processing criteria.
7	Learners to OLP	Learner - Data Provider/Controller OLP - Data Host	Possible creation of personal webpages via WebCT	No personal data transfer except by learner action.	No sensitive personal data transfer except by learner action.
8	Learners to Tutor (Course Provider)	Learner - Data Subject Tutor - Employee or Data Processor	Pastoral/Educational Services	Contract or <u>Consent</u>	Explicit consent Reason - physical or mental health
9	Between OLP & Tutor (Course Provider)	OLP - Data Processor Tutor - Employee or Data Processor	Education Service Management	<u>Contract</u> or Consent	No sensitive personal data
10	Tutor (Course Provider) to TROCN	Tutor - Employee or Data Processor TROCN - Data Controller	Moderation & Audit Purposes	<u>Contract</u> or Consent	No sensitive personal data
11	OLP to TROCN	OLP - Data Processor TROCN - Data Controller	Moderation & Audit Purposes	<u>Contract</u> or Consent	No sensitive personal data
12	Between Course Provider and TROCN	CP - Data Controller TROCN - Data Controller	Learner registration and certification Moderation & Audit Purposes Statistical reporting Success Data for Funding Purposes	<u>Contract</u> or Consent	No sensitive personal data
13	Course Provider to Funding Bodies	CP - Data Controller FB - Data Controller	Funding Administration	<u>Contract</u> or Consent or DC legitimate interests	No sensitive personal data
14	Between TUC and Union	TUC - Data Controller Union - Data Controller	Notification of need for and completion of training for admin. purposes.	<u>Consent</u> or DC Legitimate interests	No sensitive personal data

Glossary

CP Course Provider
DC Data Controller
DPA 1998 UK Data Protection Act 1998
PDP 1995 EU Data Protection Directive 1995
FB Funding Body
OLP Open Learning Partnership

PD Personal data
TROCN Open College Network
TUC Trades Union Congress
UEO Union Education Online
VLE Virtual Learning Environment

Table 2 - Flows of Learner Personal Data

Number	Parties & Direction	Purpose of Processing	Notice given & necessary consents obtained	Withdrawal of consent	Subject Access to Data
1	Learners to TUC	Education Services Provision	TUC Registration	Inform TUC	Via TUC as Data Controller
2	Between TUC & Course Provider	Education Services Provision	TUC Registration	Inform TUC	Via TUC & CP as Joint Data Controllers
3	TUC to OLP	Provision of VLE Services to Learner	TUC Registration	Inform TUC	Via TUC as Data Controller OLP is only a Data Processor
4	Learner to Course Provider	Education Services Provision	CP Registration	Inform CP	Via TUC & CP as Joint Data Controllers
5	Between OLP & Course Provider	Education Services Provision	CP Registration	Not applicable - contract	CP as Data Controller OLP is only a Data Processor
6	Between Course Provider & Tutor	Education Services Provision	CP Registration	Not applicable – contract If tutor not employee then CP.	CP as Data Controller Tutor is employee or Data Processor
7	Learner to OLP	Creation of personal webpages via WebCT	Not applicable	Not applicable	Not applicable as Learner has access, edit and delete control.
8	Learners to Tutor (Course Provider)	Pastoral/Educational Services	CP Registration	Inform CP	CP as Data Controller Tutor is employee or Data Processor
9	Between OLP & Tutor (Course Provider)	Education Services Provision	CP Registration	Not applicable - contract	CP as Data Controller Tutor is employee or Data Processor
10	Tutor (Course Provider) to TROCN	Moderation and Audit Purposes	CP Registration	Not applicable - contract	TROCN as Data Controller
11	OLP to TROCN	Moderation and Audit Purposes	TUC Registration	Not applicable - contract	TROCN as Data Controller

12	Course Provider to TROCN	Moderation and Audit Purposes Success Data for Funding Purposes	CP Registration	Not applicable - contract	TROCN as Data Controller
13	Course Provider to Funding Bodies	Organisation of Funding Issues	TUC Registration	Not applicable - contract	Funding Bodies as Data Controllers
14	TUC to Union	Notification of need for and completion of training for union internal administration purposes.	TUC Registration	Inform TUC	Union as Data Controller

Definition of terms

Collection Notice	<p>A collection notice is used by a Data Controller to provide a Data Subject with information relevant to the processing of their personal data, at the time of its collection. It will describe the purposes for which the Data Controller intends to process their personal data, and should also include details of Joint Data Controllorship, as well as indications of third parties to whom the data may be disclosed or transferred, and the purposes served by those transfers or disclosures. As such, the collection notice does not need to cover every specific eventuality, but must provide sufficient information to demonstrate that a data subject could have 'reasonably expected' their data to be processed in the manner the Data Controller intends. The collection notice should provide enough information to the Data Subject to allow them to utilise effectively the rights provided to them by the DPA 1998 (e.g. subject access). The Data Subject should be able to re-access the collection notice at a later date in hardcopy or electronic form. Changes to a collection notice should always be notified to relevant Data Subjects. Collection notices are often provided in conjunction with consent forms where the Data Controller is seeking consent as a Sch.2 or Sch.3 criterion for lawful processing. In schemes like UEO, which involve a mix of Joint Data Controllers and Data Controllers in common, there may be more than one collection notice, and care should be taken to ensure that the information these provide to Data Subjects is consistent. See Data Controller, Joint Data Controller, subject access and consent.</p>
Contract	<p>The DPA 1998 Sch.2 s.2 provides, as a criterion for lawful processing a Data Subject's personal data, the fact that the processing is necessary for the performance of a contract to which the Data Subject is a party, or for the taking of steps at the request of the Data Subject with a view to entering into a contract. <u>This criterion applies to circumstances where the personal data to be processed does not contain sensitive personal data</u>. Where sensitive personal data is to be processed, the Data Controller must satisfy both a Sch.2 and a Sch.3 criterion and, as performance of a contract is not a listed criterion for lawful processing under Sch.3, an additional Sch.3 criterion will be required. As the range of Sch.3 criteria are limited, it is likely that in cases involving sensitive personal data UEO Data Controllers will need to have the explicit consent of the Data Subject in order to process that personal data. However, there are several aspects of UEO's operations where personal data will be processed or disclosed, but where the obtaining of consent would probably be of little value, as without the ability to process or disclose the personal data essential UEO services could not be provided and thus the learner could not participate in the UEO. Where there is no issue of sensitive personal data, such processing or disclosure may be carried out without requiring consent, e.g. under the Sch.2 s.2 heading. See consent, explicit consent and contract</p>
Consent	<p>The DPA 1998 does not contain a definition of consent. Article 2 of the DPD 1995 defines consent as "any freely given specific and informed indication of his wishes by which the Data Subject signifies his agreement to personal data relating to him being processed." If a Data Subject's consent is to be relied on to provide a Sch.2 criterion (Sch.2, s.1) for lawful processing, then the fact of consent cannot be simply assumed by a Data Controller (e.g. where a Data Controller sends out a form stating that in the absence of a negative response from a Data Subject their consent will be assumed). Where there is obvious inequality of bargaining power between the Data Controller and Data Subject, it may also be difficult to demonstrate the 'freely given' element of consent. Equally, consent may be withdrawn by the Data Subject at any point, a fact that may prove problematic for UEO Data Controllers where consents are obtained for data processing purposes without which the Data Controller cannot provide an essential UEO service - in other words where the learner's consent cannot be withdrawn without in effect ending the learner's involvement in the UEO. In such circumstances, the use of the contract criterion (Sch.2 s.2) will be more appropriate. See contract and explicit consent.</p>

Data Controller	The DPA 1998 defines a Data Controller as “a person who (either alone or jointly or in common with other persons) determines the purposes for which, and the manner in which, any personal data are, or are to be, processed”. The fact that an individual or institution holds or processes personal data does not make them a Data Controller, if they do not determine the purpose and manner of that holding or processing. For example in this case, OLP has possession of learner personal data and processes it within the VLE. However, OLP does <u>not</u> determine the purpose and manner in which the data is processed, as these issues are determined jointly by the TUC and Course Providers, and so OLP is not a Data Controller. There may also be cases where more than one Data Controller controls the processing of a set of personal data. See Data Controller in Common, Joint Data Controller and Data Processor .
Data Controller in Common	Data controllers who share personal data on Data Subjects for different purposes are referred to as ‘Data Controllers in common’. Each Data Controller remains individually responsible for the processing they have carried out on the personal data. The term does not appear to be widely used. See Data Controller, Joint Data Controller and Data Processor .
Joint Data Controller	Data controllers who share personal data on Data Subjects for the same purpose, and who would be jointly liable for any breach under the DPA 1998, are referred to as ‘Joint Data Controllers’. In the UEO scenario, the TUC and Course Providers will be jointly determining the purpose and manner in which the learners’ personal data is processed, for the purpose of providing educational services within UEO; as such they will be Joint Data Controllers. No other Data Controllers in the scenario have such a relationship, and they are thus not Joint Data Controllers with the TUC and Course Providers, but rather Data Controllers in common. See Data Controller, Data Controller in Common, Data Processor and Data Controller Agreement .
Data Controller Agreement	In this document, a Data Controller Agreement means a contract between two or more institutions which will be entered into before they act as Joint Data Controllers. The Agreement will set out the terms and conditions under which each institution may process the jointly-held personal data. In most circumstances parties to a data sharing agreement will be registered Data Controllers and, as such, one requirement of membership of the Agreement may be the production of the Information Commissioner’s notification number. In the UEO scenario, the TUC and each individual Course Provider will be Joint Data Controllers for the learners’ data. See Data Controller Protocol and Data Sharing Agreement .
Data Controller Protocol	In this document, a Data Controller Protocol means a document which outlines the necessary conditions with which a Data Controller must comply before being eligible to enter into a Data Controller Agreement. This will detail the types of measures required to meet the terms and conditions of the Data Controller Agreement, for example a condition that requires member institutions to have ‘appropriate technical and procedural security’. The Protocol allows the current and prospective members of a Data Controller Agreement to adhere to a consistent set of measures, which are capable of change over time without requiring continual changes to the Data Controller Agreement, e.g. when new technologies require alterations to what is commonly understood by ‘appropriate technical and procedural security’. In the UEO scenario, this will also enable the efficient incorporation of additional Course Providers into the Data Controller Agreement by providing a data protection benchmark for their administrative processes. See Data Controller Agreement and Data Sharing Agreement .
Data Processor	The DPA 1998 defines a Data Processor as any person, other than an employee of the Data Controller, who processes the data on behalf of the Data Controller. An employee of the Data Controller is regarded by the DPA 1998 as constituting part of the Data Controller. OLP will be a Data Processor within the UEO, processing data on behalf of the TUC and the Course Providers. Additionally, in the UEO scenario, where a tutor is not an employee of the Course Providers, but is instead independently contracted to supply educational services, if s/he does not determine the purpose and manner in which the learners’ data is processed, s/he will be a Data Processor and not a Data Controller. A Data Processor has no statutory obligations under the DPA 1998 as regards processing it carries out on behalf of the data Controller. The DPA 1998 places the burden for ensuring that Data Processors do not allow breaches of the Act upon the Data Controllers

who use them. Data Controllers will thus need to ensure that their relationship with a Data Processor is governed by a formal Data Processing Agreement. See **Data Controller, Data Controller in Common and Joint Data Controller**.

Data Processing Agreement	In this document, a Data Processing Agreement means a contract between a Data Controller and a Data Processor, which will be entered into before the Data Processor begins processing personal data on behalf of the Data Controller, and will set out the responsibilities of both parties in respect of that processing, as well as any indemnities required by the parties. In the UEO scenario, a Data Processor Agreement will be required between the TUC and Course Providers as Joint Data Controllers, and OLP as a Data Processor. Exceptionally a Data Processor agreement may be required between Course Providers and tutors, in circumstances where tutors are engaged on a contractual rather than employee basis.
Data Sharing Agreement	In this document, a Data Sharing Agreement means a contract between Data Controllers who are not Joint Data Controllers, which will be entered into before the disclosure or transfer of personal data from one to another, or between them, with each Data Controller making disclosures to others as and when required. The Data Sharing Agreement will set out the responsibilities of both parties in respect of those transfers and current/future processing. In the UEO scenario, this could cover the transfer of learner personal data from the TUC to individual unions, or from Course Providers to TROCN.
Data Subject	The DPA 1998 defines a Data Subject as an individual who is the subject of personal data. In this document the Data Subject at issue is the UEO learner. See subject access .
Opt-in	The Data Subject must provide a positive response to a proposal that their data can be used in a particular manner (e.g. tick here if you want your data to be processed for this purpose). This is effectively a consent mechanism. See consent and opt-out .
Opt-out	The Data Subject must provide a negative response to a proposal that their data can be used in a particular manner (e.g. tick here if you don't want your data to be processed for this purpose). Many Data Controllers like to use opt-out solutions because Data Subjects are prone to not reading opt-out/opt-in agreements and often skip over tick boxes. However, the more likely the use of the personal data is to cause distress or damage to the Data Subject if it is used in the manner proposed, the more likely it is that opt-in will be the appropriate mechanism if opt-in/opt-out is considered. Note that opt-out will normally be used independently of the use of consent as a Sch.2 criterion (due to the fact that Data Controllers cannot assume consent from a non-response) – e.g. if the Data Controller intends to use another Sch.2 criterion such as the Sch.2 s.6 legitimate interests criterion, but wishes to allow Data Subjects to indicate that they do not want their data used for the stated purpose. See consent, legitimate interests and opt-in .
Legitimate interests	The DPA 1998 Sch.2 s.6 allows, as a criterion for lawful processing a Data Subject's personal data, the fact that the processing is necessary for the purposes of legitimate interests pursued by the Data Controller, or by the third party or parties to whom the data are disclosed, except where the processing is unwarranted in any particular case by reason of prejudice to the rights and freedoms or legitimate interests of the Data Subject. <u>This criterion applies to circumstances where the personal data to be processed does not contain sensitive personal data</u> . Where sensitive personal data is to be processed, the Data Controller must satisfy both a Sch.2 and a Sch.3 criterion and, as legitimate interests of the Data Controller or a third party is not a listed criterion for lawful processing under Sch.3, an additional Sch.3 criterion will be required. In UEO, the provision of non-sensitive learner personal data to Funding Bodies and to the learner's Union could potentially be justified under this head and thus be carried out without requiring the learner's consent. However, in order to avoid prejudice to the rights and freedoms or legitimate interests of the Data Subject, it would be sensible to provide an opt-out for the learners in circumstances where Sch.2 s.6 is used. In practice, it is not currently envisaged that this criterion will be used within the UEO process. See consent, opt-out and opt-in .

Personal data

The DPA 1998 defines personal data as any information that relates to an identified or identifiable person (the Data Subject), or which in combination with other information in the possession of, or that is likely to come into the possession of, the data controller would permit their identification. The DPD 1995 further defines an identifiable person as one who can be identified by reference to 'an identification number or to one or more factors specific to his physical, physiological, mental, economic, cultural or social identity'. The meaning of the term 'personal data' was considered by the UK Court of Appeal in the case of *Durant v Financial Services Authority* (2003). In *Durant* the Court of Appeal did not consider the issue of the identifiability of an individual, but concentrated on the meaning of "relate to". The Court decided that data will relate to an individual if it: "is information that affects [a person's] privacy, whether in his personal or family life, business or professional capacity". The Court identified two issues that may aid in determining whether information "is information that affects [an individual's] privacy" and, thus, "relates to" an individual:

- "The first is whether the information is biographical in a significant sense that is, going beyond the recording of [the individual's] involvement in a matter or an event which has no personal connotations..."
- "The information should have the [individual] as its focus rather than some other person with whom he may have been involved or some transaction or event in which he may have figured or have had an interest ..."

If an individual's name appears in information the use of the name implicates 'personal data' only where its inclusion affects the named individual's privacy. Thus, the fact that an individual's name appears on a document, does not mean the information contained in that document will necessarily be personal data about the named individual. It is more likely that an individual's name will be 'personal data' where the name appears together with other information about the named individual such as address, telephone number or information regarding his hobbies.

The Information Commissioner considers that the following examples of information will not normally be personal data: "mere reference to a person's name where the name is not associated with any other personal information; incidental mention in the minutes of a business meeting of an individual's attendance at that meeting in an official capacity; or where an individual's name appears on a document or e-mail indicating only that it has been sent or copied to that particular individual - the content of that document or e-mail does not amount to personal data about the individual unless there is other information about the individual within it."

Durant is a controversial case, because the Court appears to have narrowed the definitions of 'personal data' and 'relevant filing system' in UK law to the point where those definitions are no longer consonant with the definitions in the EU DPD 1995. As such the UK may now be in breach of its obligation under EU law to properly implement the DPD 1995 into UK law. Further re-definition of 'personal data' is thus likely, especially as the EU Commission has threatened formal action against the UK for non-implementation. Changes to the definition of 'personal data' may affect the nature of some of the data flows within the UEO process, for example the flow from OLP to TROCN which may, or may not, include personal data depending on the definition used. See **sensitive personal data**.

Processing

The DPA 1998 defines data processing as 'obtaining, recording or holding the data or carrying out any operation or set of operations on the data.' This includes collection, recording, organization, storage, adaptation or alteration, retrieval, consultation, use, disclosure by transmission, dissemination or otherwise making available, alignment or combination, blocking, erasure or destruction. It is irrelevant whether these actions are manual or automated. The breadth of the DPA 1998 definition effectively means that from the moment of its collection, to the moment that it is destroyed or fully anonymised, personal data is being processed and must thus be treated in accordance with the Act.

Sensitive personal data	The DPA 1998 defines sensitive personal data as personal data relating to racial or ethnic origin, political opinions, religious beliefs, membership of trade union organisations, physical or mental health, sexual life, offences or alleged offences. See personal data .
Subject access	The DPA 1998 provides Data Subjects with a number of rights in regard to their personal data held by Data Controllers. Most of these rights are linked to, and/or depend for their usefulness upon, the availability of an effective right of subject access. Subject access means that a Data Subject is entitled to be told by a Data Controller whether personal data about them is being processed by, or on behalf of, that Data Controller. Subject access requests can only be made to Data Controllers, and not to Data Processors. If the Data Controller is processing personal data about a Data Subject, the Data Subject is entitled to a description of that personal data. They are also entitled to know the purposes for which the personal data are being, or are to be, processed, and to be informed about the recipients, or classes of recipients, to whom their personal data have been, or may be, disclosed. Data subjects are also entitled to a copy of their personal data in comprehensible form, as well as any information held by the Data Controller as to the source of those data. As the effective exercise of many subsequent rights (e.g. the rights of correction and erasure) may depend upon the Data Subject obtaining this information, it is critical that the subject access mechanism implemented by Data Controllers operates in an efficient and timely fashion. To this end, it is essential that, in systems like UEO, the roles of the relevant institutions are clearly understood (who is a Data Controller, who is a Data Processor etc.), and that the responsibility for providing effective subject access to Data Subjects to their personal data, at all points in the process, is clearly delineated. See Data Subject, Data Controller and Data Processor .
Overseas transfers	In the event that a Data Controller wishes to export personal data outside the EU/EEA, the Eighth Data Protection Principle comes into play. This states that “personal data shall not be transferred to a country or territory outside the European Economic Area unless that country or territory ensures an adequate level of protection for the rights and freedoms of Data Subjects in relation to the processing of personal data.” Where a country has an adequate level of protection, personal data transfers are, in principle, automatically permitted. Additionally, there are a number of legislative exemptions from the export ban which are independent of the adequacy rules. These are contained in Sch.4 DPA 1998. In the UEO scenario, there are 5 possible exemptions. Sch 4 s.1 - The Data Subject has given his consent to the transfer; Sch 4 s.2. - The transfer is necessary for the performance of a contract between the Data Subject and the Data Controller, or for the taking of steps at the request of the Data Subject with a view to his entering into a contract with the Data Controller; Sch.4 s.3. - The transfer is necessary for the conclusion of a contract between the Data Controller and a person other than the Data Subject which is entered into at the request of the Data Subject, or is in the interests of the Data Subject, or for the performance of such a contract; Sch 4 s.8. - The transfer is made on terms which are of a kind approved by the Commissioner as ensuring adequate safeguards for the rights and freedoms of Data Subjects. Sch 4 s.9. - The transfer has been authorised by the Commissioner as being made in such a manner as to ensure adequate safeguards for the rights and freedoms of Data Subjects. It is unlikely that this problem will arise on a regular basis in UEO – the main (only?) role affected is likely to be that of a tutor, where a tutor is contracted by a Course Provider to provide educational services and that tutor is based outside the EU/EEA. In such circumstances, where the foreign country has an adequate level of protection, there is no additional issue. If the foreign country does not have an adequate level of protection, then Sch 4 s.1 consent or Sch 4 s.2 contract fulfilment would be possible. However, it is worth noting that the Course provider would be expected both to have notified its intention to transfer personal data overseas and to have a suitable contract in place with the tutor as Data Processor to protect the rights and freedoms of learners in respect of their personal data, and that this could itself form the basis for a Sch 4 s.8 or Sch 4 s.9 exemption.

F. Deliverable 3 to 5 – Data Processors', Controllers' and Sharing Agreements

These three deliverables have too much organisations-specific information in them for it to be appropriate to include them in an open document such as this final report.

G. Deliverable 6 – “How to” Guides

1. Moderation Guide

Who is this Guide for?

Course authors, tutors, internal verifiers, internal moderators and External Moderators.

What issues does this Guide deal with?

The credibility of any form of certification depends on the reliability that clearly defined minimum standards have been achieved by those learners awarded the certificate. External Moderators (EM) are requested to ensure that all reasonable steps have been taken to ensure the minimum standard has been achieved by learners in order to authorize the award. This requires EMs to sample learners' work and consider internal verification/moderation records of tutors' assessment decisions in order to satisfy themselves that assessment decisions are sufficiently similar to meet the minimum standard.

On-line learning should be treated no differently from F2F or any other mode of delivery. An acceptable difference is that on-line learners may produce different evidence of achievement as a result of the teaching medium eg. Discussions may be virtual, reports may be electronic and a portfolio of evidence may be a working file.

Where learners are studying units which are delivered F2F and On-line, they are awarded the same certificate and the same minimum standard of learners' achievement must be maintained if credibility for the award is to be safeguarded.

How did the issue affect UEO?

From the outset, the Project Team took the view that learners should not be advantaged or disadvantaged by studying on-line. In particular:

- The standard of learner assessment or procedures for moderation (Internal and External) should not burden on-line learners any more than other mode of delivery.
- The standard of learner assessment or procedures for moderation (Internal and External) should not bring into question the credibility of the achievement of on-line learners any more than other mode of delivery.

There were also practical details:

- Access to electronic portfolios for moderation purposes
- Recording feedback from tutors to learners. This also led to...
- ... logging e-mail discussion as part of the evidence of tutor-learner dialogue
- Identifying an on-line audit trail for moderation purposes.

What did we do?

1. After some initial difficulties, we opted for a 'simple' electronic portfolio based on a Word file.
2. Agreed on calendar for moderator visits.
3. Cross referenced e-mail discussions between tutors and students to the electronic portfolios.
4. Discussed these issue with other TUC on-line projects.

Advice to others

The UEO project team was in regular dialogue with other TUC on-line projects using external accreditation for learners' achievement. This enabled the team to disseminate information on such issues very quickly and promote better practice.

On-line delivery is well established by some centres and they are often willing and keen to share their experience. Such contacts are invaluable.

Consider a training/familiarization session for the whole project team early on. A well developed and affective moderation system already exists for F2F learners on the TUC Education Programme and project team members may not be aware of the system.

Find a moderator who knows something about on-line learning, TUC education and OCN accreditation!

On-line course design should take into account the ePortfolio approach and the role of the Internal and External Moderator. Although the structure of the ePortfolio is defined in a unit/module specification, the way in which the student builds the portfolio, and hence the moderation activity, is integral to the design.

2. Managing data-flows between partners, lessons from the UEO project

Who this guide is for

Anybody involved in designing, managing or running a complex learning system with many partners, interacting in many ways. The note includes a brief discussion of issues arising from cross-border issues in the United Kingdom.

What this guide is about

We look at these issues:

- identifying your partners
- identifying the data you need
- cross-border issues
- data protection decisions
- service level agreements

We do not look at technical issues about data interoperability and standards as there are many other studies that cover those points.

How did these issues affect the UEO project?

The UEO project aims to implement key features of a complex new system for implementing the TUC online learning strategy. The system involves collaboration and exchange of information between multiple partners, in all four countries of the UK.

Information is exchanged and stored for a number of purposes including pre-course assessments, learner registration, funding claims, audit, and moderation by an awarding body. In order for the new TUC system to work the data has to be correctly identified and stored under an appropriate data protection framework, and based on clear agreements between partners. Without the basic framework of agreements then technical and software solutions will fail. The challenge for the UEO project has been to create this framework.

What we did

Identifying all partners. Sounds obvious – of course you know who all your partners are. But do you? In the UEO project we had to revise our plans when we realised that the external moderators from the awarding body needed access to the online courses and to some learner information. We added the awarding body to the project partners.

Identifying the data. Again, sounds obvious but until you are clear who all the project partners are and what information they need for what purposes, you will not be clear about all the data. Defining Use Cases will help – see separate note on UML.

Cross border issues. The education systems in the four UK countries have now diverged to the extent that basic elements such as funding and qualifications are different, sometimes radically so. The data sets about learners are in consequence also different. The approach taken by UEO was to painstakingly collect the different data sets and construct a super-set covering them. This overall data set has been used in the design of the forthcoming online learner registration system.

Data protection decisions. Data protection is a major issue for UEO and will be for any project or system in which multiple partners share data about learners. Our approach was to gather all information from partners about their current data protection arrangements (and again there are differences between the four countries) and then to hold an exploratory workshop. The workshop was supported by data protection specialist Andrew Charlesworth, who then drafted the framework agreements on data protection. These agreements are:

- data controllers agreement
- data sharing agreement
- data processor agreement

These agreements are a substantial output of the UEO project and should prove valuable to other projects involving complex partnerships.

Service level agreements. The UEO project is run under a partnership agreement. Now that we are at the stage of implementing key parts of the online learning system, a series of service level agreements between partners is being drafted. These agreements will set the operating standards for the key elements of the TUC online learning structure, and in this way will define the partnership framework. Again this will be a substantial outcome of the UEO project.

Advice to others

Make sure you have clearly identified all your project partners. Double check that you have not left someone out.

Be prepared to take time over defining your data sets – especially if your project crosses UK borders.

Data protection issues will not go away – tackle them early. Seek expert advice and look at what other projects (including this one) have done.

Don't rely on loose partnership agreements if your project requires close collaboration to work. Consider a service level agreement model.

3. UML activity diagrams

Who this note is for

Anybody involved in designing, managing or running a complex system with many partners, interacting in many ways. If all of your activities and processes are simple and straightforward you can save five minutes by not reading this guide.

What this guide is about

How to use Unified Modelling Language (UML from now on) to help design a complex system with many different partners and activities.

First we need to say something about what UML is, and about what it is not. UML is not a software product or system but a language with strict rules about how to describe a model of a working system. UML is an open standard developed by the Object Management Group (OMG). The standard is under continuous development by the UML community and is typically used to describe and specify a system before any software is written.

The models produced in UML are set out in a series of diagrams. You can think of these as like architectural drawings which are a simplified model of a building. The drawings have to be read and used by a variety of people – the architects, engineers, builders and suppliers. Like architectural drawings, it is usual for the diagrams to go through a series of drafts and alterations before the final working version is produced.

But UML diagrams are different from building plans because they also have to deal with people doing activities, making decisions, and collaborating with each other. UML also includes Use Case diagrams which set out how different users see and interact with the system. Use cases are often used to gather the requirements for a new system.

How did this affect the UEO project?

The UEO project started with an outline of a highly complex new system for implementing its online learning strategy – the 'diagram from hell'. The TUC was in need of an industrial strength procedure for specifying the interactions between the different partners shown on the diagram. The TUC also has to bear in mind that the online learning system will change and develop over time. UML diagrams provide a convenient way of reviewing the architecture of the online system.

What we did

We did not start with a clear view of the role that UML would play in the project. As an early step in specifying how the online learning system would work, we developed a series of 'walk throughs' setting out how different people would see and interact with the system – learners, tutors, administrators, and moderators.

Developing these walk throughs proved to be of great value in helping us to think through the design of the system. The walk throughs were similar to UML Use Cases but without the formality.

Two key points emerged:

1. No one person had a complete picture of the whole system at the start.
2. We needed to revise each walk through several times, often quite radically, and revise them again to take account of changes in other walk throughs.

Later we were to find that these lessons are normal in the world of complex systems design and UML.

As the project progressed we made a decision to commission, in conjunction with the Union Learning Reps Online (ULRO) project, an online registration and pre-course assessment system. At this stage the need for robust systems design became clear. We identified a consultant with UML expertise and specified the work package.

The result was a set of four UML activity diagrams that then become the cornerstone of the tendering process for the new registration system. This system is now approaching the beta testing stage. One of the diagrams is at the end of the note.

Advice to others

If you are developing a complex new system – or revising an old one – then you need a robust development method and tools for the job. UML provides the tools, but you will have to decide on how you apply them, and who does the work.

You should consider running a briefing early on in your project on systems design and UML. But be aware that you will still have a lot to learn by working on the detail of your new system.

Keep in mind the two key points above – it is unlikely that any one person knows enough to describe the whole system, and you will need several goes at it before you get it right. The briefing will help get you started quicker but the painstaking work is still to be done.

Consider a visit early in your project to one that has already gone through the UML process – it will help to find you are not alone.



H. Online Enrolment Case Study

Title	TUC Education - Online Enrolment
	This case study describes the online enrolment system under development by the TUC as a spin-off from the UEO project.
Institution	TUC, in partnership with the Open Learning Partnership, Tameside, Sheffield, and Stow Colleges, and TROCN.
Institutional context	The TUC provides training courses for trade union representatives in partnership with FE colleges in the UK (whose tutors deliver the courses) and TROCN (the awarding body). The TUC is in the process of making all of its courses available by online distance learning. Whereas FE colleges all over the UK provide face-to-face courses for the TUC, the TUC will be working with only a handful of colleges in the delivery of its online courses, with the learning materials hosted centrally for the TUC by the Open Learning Partnership, and the enrolment process handled centrally by the TUC. The reasons for the adoption of this model are the need to i) limit the number of data flows between partner organisations, ii) apply best practice in on-line pre-course assessment of learners in a consistent manner, iii) capture data about learners in a consistent and efficient way for transfer to the delivering colleges, and to the Open Learning Partnership and TROCN.
Learner activity	<ul style="list-style-type: none"> • Expressing an interest in an online course or courses. • Undertaking a pre-course assessment of suitability for the course or courses in which interest has been expressed. • Providing application data, online, and obtaining trade union approval for course attendance.
Pedagogical / technical approach	<p>Pedagogical – giving the learner maximum control over the process and developing improved pre-course information and assessment.</p> <p>Technical – interaction between learner and TUC using browser and email; enrolment system conforming to W3C XHTML standards and WCAI guidelines; learner data conforming to LSC (and equivalent) ILR structure, and BS 8788 (draft).</p>

Intended outcome	A fully functioning, robust, online enrolment system, being used in anger by the TUC and its partners, for all enrolments to the TUC's online distance courses for trade union representatives.
Challenges	Real time interoperation between the system and college student record systems and/or the centrally hosted learning environment. Initially we imagined that either or both of these would be feasible. Interoperation with college systems remains a distant dream (!). Interoperation with the learning environment is more feasible, but beyond the lifetime of the project, especially if use is made of an open source learning environment such as Moodle.
Established practice	Learners expressed an interest in a course using a form on the TUC's web site. The form generated an email to the TUC administrator. The administrator would allocate a learner to a course, if available, in discussion (online and telephone) with a providing college. The college would provide the course, with no consistency of practice as regards which learning materials were used, in which environment. Any data captured which could have been re-used by the college was lost. There was no pre-course assessment process, so often learners would be allocated to courses for which they were neither equipped nor suited. Much data was copied and pasted between emails. There was no formal documentation between partners concerning their handling of learner data.
The e-learning advantage	Systematisation. Avoidance of data-re-entry. Data-handling processes visible to auditors (and capable of being audited!). Inter-organisational relationships properly defined and agreed by and between partners in a way that conforms to DPA requirements. Learners supported through the enrolment process in a coherent and satisfying way. Learners guided onto courses which are suitable to their needs, capabilities, and experience. Partner colleges able economically to access and re-use learner data, and to supply the relevant national funding council with data associated with the TUC's learners in a straightforward manner. TUC able to manage the process of cohort-formation in an economical and professional way.

Key points for effective practice	<ul style="list-style-type: none"> • 'Doing a few things well is better than doing many things superficially'. There is pressure in the bidding process to make ambitious claims for a project, and a need to balance this with a realistic assessment of what can actually be achieved. • 'UML activity diagrams are effective as ways of capturing business processes'. The project commissioned the production, checking and validation of UML diagrams to describe the processes involved in UEO transaction. These diagrams were a central component in the procurement of the system described in this case study. • 'Work with the grain of the funding and data rules, and consider them early.' • 'Concentrate on institutional interoperability (willingness to engage at human level between organisations), as well as technical interoperability.'
Conclusions and recommendations	Too early to write this. But by the end of the project we expect to have things to say.
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