SYNTHESIS OF TLTP ANNUAL REPORTS 1999

Overview and extracts relevant to TELRI

THE FULL SYNTHESIS REPORT CAN BE FOUND ON THE WEB AT:

http://iet.open.ac.uk/iet/tltp/annual.htm

OVERVIEW

- Projects in TLTP Phase 3 are complex and multi-faceted. They are also ambitious in what they are trying to achieve. It is difficult in an overview synthesis to do full justice to projects and inevitably we have over-simplified their nature.

- Grouping projects around purposes, processes and activities reveals patterns of commonality and difference. No single clustering of dimensions however is able to capture the diversity among projects. Our sense is that projects can learn as much from the differences between them as from what they share in common.

- Projects in this Phase have clearly addressed many of the concerns of earlier Phases, as revealed in the programmatic evaluation of TLTP. The focus has shifted from development to implementation; emphasis is on applications of learning technology that have potential for widespread uptake and use; evaluation has assumed a more central and pivotal role; and dissemination has been taken seriously and incorporated into project planning at the outset.

- Projects reveal a greater awareness and understanding of pedagogic issues than was evident in earlier rounds.

- Projects in general reflect a maturing understanding of what is involved in designing, developing and implementing learning technology applications within large, complex organisational settings. Although there remains a substantial gap between intention and reality, many projects evidence a reflective quality and capability, allowing them to re-profile themselves or to develop new strategies that are attuned to the emergent understandings about what they are trying to achieve.

- Projects' activities during the first year reflect this early phase of their lifecyle. Project start-up, promotional activities, user-needs analysis and evaluation planning are common to all projects. Time has been spent in many projects on developing conceptual, intellectual and methodological tools, frameworks and manuals/guidelines. The majority of projects has also undertaken some form of piloting or field testing, whether of prototypes, curriculum materials, pieces of software or methodologies, in preparation for mainstream implementation. Significant amounts of staff/professional development activity have been associated with implementation of pilots and their embedding.

- Although a number of projects are product-centred (reflecting their origins in earlier TLTP Phases), there has been a marked shift towards a service model. Thus in moving towards implementation and embedding of products and materials, projects have sought to incorporate a range of support services including on-line advice, diagnostic tools and frameworks, staff development and skills training as part of a 'learning package'.

- At the core of TLTP Phase 3 is a concern with generic products and outputs that have the potential for transfer across subjects and disciplines, institutions and sets of actors. Views about what constitutes a *generic* character are many and varied. The term as used by projects relates to the product itself, to its content, to the transfer mechanism or the user populations and particular capabilities. At the outset of this Phase, we detect a certain naivety about the transfer potential of these so-called generic products and outputs. There is a presumption by many that transferability (understood largely as diffusion or dissemination) is a function of implementation rather than involving more fundamental design principles. Research findings from elsewhere indicate transfer of educational materials, methodologies and tools is a complex process, and even more so in the context of software/courseware development. We

expect that by the end of the programme, projects will have accumulated a greater understanding and body of research evidence on the design, development and implementation conditions that support effective transfer from a context of production to a new context of use.

- Projects have adopted different trajectories. Those that are product-centred start with the product, moving from design, through development and some customisation to the context in which it is to be used, and thence to implementation and possibly embedding within the curriculum. There is often an assumption or presumption that learning technology is a good thing, or that innovation is itself to be encouraged, or that the benefits for learners are self-evident. Often, the product may have been designed to meet a particular need at the outset, but is assumed in other contexts. Other projects start at the opposite end. They begin with a process of dialogue and enquiry around curriculum development and innovation, seeking to identify educational objectives and then to establish how learning technologies may be integrated into the curriculum in support of these objectives and to improve the quality of learning.

- Several projects are based on an assumption of enhanced learning gains as an incentive to uptake. We have noted however that most are not also tied in with accreditation. This could be an issue as far as the undergraduate curriculum goes, where any learning activity that does not also build student credits tends to be ignored. In projects working in the area of professional development or post-graduate learning, accreditation is not so much an issue. This is however an area of debate, with some actors believing that incentives must be provided for participation in professional development aimed at development and use of C&IT in learning, and others maintaining that uptake follows from the strength of individual enthusiasm and commitment.

- As projects have moved into an implementation phase, they have encountered the complexities of organisational and social change. Few projects have found that they can promote uptake and diffusion of learning technologies, or become seriously engaged in curriculum development and innovation, without addressing the dynamics, culture and structure of their organisational settings. Most, however, are not equipped to handle this task. This may be for reasons of location, status and credibility; insufficient linkages with strategic planning and institutional mechanisms; a skills profile not matched to the requirements of change agents; or insufficient grasp of change management processes.

- Projects have drawn attention in their annual reports to the different inhibitors or barriers to successful uptake, diffusion and embedding of what projects are trying to achieve. Institutions appear largely as spaces with constraints or opportunities for things to happen in, but there is usually no coherent strategy for changing those constraints or expanding those opportunities. And yet institutions are key to change, since to exploit the technology effectively requires that a lot of change takes place at different levels simultaneously. Institutional interventions need to be built in at all levels. Projects routinely present barriers, inhibitors and constraints as *explanations* for the lack of project progress. What seems to be largely missing is a more dynamic and proactive approach, whereby such difficulties are anticipated and built into the project design or organisational change strategy, or where projects actively pursue strategies which circumvent or engage constructively with these barriers.

- Projects have adopted different organisational forms and management arrangements. Because of the widespread commitment to cross-institutional field testing and implementation, many projects have a dispersed or distributed organisational form. Much of the work is going on at local sites, but subject therefore to variability of commitment, time and expertise at local sites. There is often a big gap between project management at central level and site level activity. Project coordinators do not always have the authority to bridge the gap.

- The evaluation report on phases one and two commented on the limited prior experience of consortium working and the general lack of management expertise in this area. Many projects have clearly learned from their earlier experiences, and the collective understanding of what makes for effective management of cross-institutional project teams has been widely translated into good management practices. These include specification of project milestones, codifying of activities and expected outputs, development and use of operational handbooks and customisation standards documents, and regular monitoring of progress. The general impression is one of tighter frameworks and management style, reinforced by the reporting requirements of the TLTP central management team. The occasional project has baulked at this, but the cultural climate overall seems more accepting of clear management authority and practices.

- One of the main dangers to projects is that they are often set up by visionaries who later leave the project. Several projects have found themselves vulnerable in this way, and their ability to progress satisfactorily is subject to the variability of expertise remaining in the project. More generally, projects have faced difficulties with staff recruitment and retention.

- Evaluation features strongly in most projects, reflecting strong central support for this activity. Commitment to evaluation is demonstrated by the existence and quality of evaluation plans, provision of dedicated resources for evaluation including in many projects the appointment of external evaluators, and participation in evaluation workshops and clinics. More crucially, many projects have reported their valuing of evaluation as a vital tool for managing the innovation and development process. Even so, there are a few instances where no initial provision was made for evaluation in the budget and some resentment at the subsequent requirement to devote resources to it.

- Evaluation at this stage of projects' life-cycle has mainly been formative in character, built in as an iterative process to field testing and piloting of curriculum materials as well as software tools, shells and systems. There is a tendency to rely on user feedback and reaction, rather than to probe more deeply or explore more fully the context of use. Most projects have reported on implementation findings, but virtually none have findings to report of a summative kind to do with learning or efficiency gains. This is to be expected, given the stage projects are at. The focus of many projects in Phase 3 however lies more in what works and doesn't work in what kinds of settings i.e. the transferability of tools, systems, methodologies, courseware, curriculum innovation that has been developed and tested in one setting, across into another. Many evaluations do not appear to have an adequate framework for addressing this issue, although evaluation plans are themselves evolving as projects come to a better understanding of themselves.

Extracts relevant to TELRI

[Underlining refers to wording in the TELRI Project's own annual report.]

2. PROJECT MAPPING AND CLUSTERS

2.1 Understanding and approach

Drawing on examples of individual projects, we illustrate below a number of the key processes adopted by projects for pursuing their diverse project aims. These include:

- Professional development, through a consultancy process of dialogue and enquiry.
- Product development, including building market share.
- User led development process.
- Curriculum/materials development process.
- Staff development, through action research.

Significantly, there is not a good exemplar of institutional and organisational change processes. ***Telri*** is working with a change management model, and *Talent* is also involved in institutional change. *Networked Learning Environment in Medicine and Health* is concerned with cultural and institutional change. Even so, these projects do not elaborate in their annual reports on strategies or processes which engage centrally with organisational, cultural and institutional change. It is more an aspect of their approach, rather than its heart.

Professional development: a consultancy process of dialogue and enquiry

The consultancy based qualitative approach exemplified by ***Telri*** begins by engaging staff in an exploration of educational and learning processes, their course development approaches and their educational objectives. This is often an iterative process, involving probing, negotiation, serendipity and observation of attitudes during the course of discussion. Through dialogue, staff in selected departments together with the project leader as consultant, clarify those learning processes and approaches that lead to the development of research-like capabilities. Informed by a pedagogic framework developed for this purpose, the identification of appropriate learning technologies and their embedding in the curriculum is built on a clear educational foundation. In this approach, learning technology is only used when it is clearly seen as improving the quality of learning, rather than being adopted for its own sake.

2.2 Project purpose

Developing student generic capabilities through technology enhanced learning

A second cluster of projects is concerned with developing the capabilities of students through technology-enhanced learning. These capabilities include the range of generic personal and key skills considered essential for employability and lifelong learning as well as their capabilities as

researchers. The resources, tools, materials and systems developed are designed to be used in different ways. Mostly they will be used by academic teaching staff and incorporated into teaching and learning strategies, but in some cases they are designed for student use in distance learning and self-study or self-assessment contexts. The five projects in this cluster are at different stages of the lifecycle, from development through to implementation and embedding. Although each is informed by pedagogic principles, different approaches are clearly evident.

Telri also seeks to develop students' capabilities, but in this case it is their capabilities as researchers. These include capabilities to: be innovative, work independently, set and solve problems, analyse critically and handle large quantities of information in a wide range of media. The pedagogic strategy adopted in this project is one of engaging staff across a range of disciplines in dialogue about curriculum design and delivery, identifying research capability components of study programmes, and exploring how such capabilities might be further developed through technology-enhanced learning. ***Telri*** is undertaking some development work of simple C&IT web publishing tools to ascertain whether particular technological approaches are effective in meeting the pedagogic aims intended. It was desirable to pilot technological tools as "test-beds" without having to buy in expensive software with no guarantee of fitness for purpose. The project is subsequently testing the appropriateness of several integrated software packages in supporting such educationally-defined functionality.

3. ACTIVITIES AND PROGRESS

3.3 Common activities

The development of conceptual, intellectual and methodological tools

Much of this activity has an invisible quality to it, although for many it is a key stage in a project. Inadequate conceptual understanding of what the project is trying to achieve and the tendency to rush into implementation without laying the necessary methodological ground work can become major barriers to progress. Framing the project in the right way is important for its success. Literature reviews have been one way of approaching the task. The development of pedagogic frameworks to support curriculum enquiry and diagnosis and guide intervention strategies has been another. Intellectual and conceptual activity of this kind is immensely valuable, not only to the individual project but to advancing understanding of the role of new learning technologies within higher education.

3.4 Project progress: outputs and successes

Projects tend to describe their project outputs in very general terms, and some do not report any outputs at all. There is also apparent confusion about what counts as an output with some people taking a narrow view and largely confining themselves to tangible paper-based products (conference papers, research articles, literature surveys and frameworks) whilst others are more inclusive and refer also to software and web products. The outputs as listed by projects may not be as useful or sound an indicator of project progress as the achievement of specified milestones and deliverables. Certainly projects' account of their activities in the first year gives a better sense of what is being achieved. In the first year of the project moreover, one might reasonably expect outputs to be low, given the skew of project activities towards start-up and early development work.

Table 3.3: Project outputs

Literature surveys and reviews, conceptual frameworks
- preliminary **TELRI** pedagogic framework for learning and assessment
- preliminary **TELRI** change management framework for the implementation of educational technologies

The successes reported by projects reflect individual project agendas and team members' professional and personal interests. Mention was made of:
- significant student use of system two years ahead of expected uptake
- European Academic Software Award
- significant value adding elements, enhancing the quality of software materials
- all milestones achieved on schedule and within budget
- web site, providing a rich professional development environment
- effective piloting of module innovations
- successful negotiation of complex copyright agreements
- significant financial contributions (and in kind) from commercial partners
- successful project launch, bringing together key stakeholders
- agreement reached with Musicians Union, extendable to all HE, on agreed rates for employing near professional student musicians
- successful profiling of project and active engagement of a broader community of users
- volume of articles and presentations

5. EXPERIENCES OF IMPLEMENTATION

5.1 Implementation strategies

As a framework for discussing implementation, we have focused on four key strategies:
- Negotiating entry and pitching in at the right level
- Securing institutional support and getting the right stakeholders on side
- Mobilising and engaging teaching staff and other key actors
- Diffusing technology based teaching and learning innovations

Negotiating entry and pitching in at the right level

Projects do not always have a mandate to work in other institutions. Entering an unfamiliar culture with respect to educational development in partner institutions presents some difficulties not encountered in host institutions. It helps to have sanctioned legitimacy and the right kind of status and authority to intervene effectively at appropriate levels. The location of the project team is thus important. A strong tradition of central initiatives and support greatly assists with finding an effective entry point into an institution. Mostly TLTP projects are located in staff development units or in a specialist learning technology unit. However, the project team is vulnerable to inheriting the difficulties units themselves have in encouraging teacher development at both departmental and policy levels. Project experience bears this out. ***Telri*** found its location in the central unit for educational development to be an excellent entry point. Another project however found the low and marginal status of educational technology staff to be problematic.

Project staff also need to understand the institutions they are working in – their culture and structure, how supportive they are of curriculum innovation and development, the level of IT awareness and readiness. Armed with such knowledge, projects can be more confident about the appropriateness of the products and services they are offering and the benefits that are likely to

ensue. Experience across the TLTP programme suggests that those projects that are working with the institutional grain are more likely to make headway and be effective. This does however raise questions about a broad programmatic strategy of implementing generic products and services across diverse institutional contexts, unless there is very real scope for customisation and local embedding.

Securing institutional support and involving key stakeholders

In institutions where the structure and culture is more individualised, project staff have been able to bypass heads of department and work directly with individual teachers and tutors. However, moving upwards from the individual course level under control of a specific tutor through to wider diffusion of teaching innovation across entire degree programmes involves negotiation at ever rising levels. ***Telri*** comments on the need to make explicit how the project fits in with institutional strategies, and the department's agendas and targets.

Looking across the projects, we can distil some general principles about what makes for effective implementation:

- Find the right entry point in the institution
- Work from an institutional base that has credibility and status
- Go with the institutional grain
- Make use of existing mechanisms where possible
- Get key stakeholders on side
- Find champions for the project in each institution or field site
- Work top down as well as bottom up
- Get the benefits of synergy with other institutional projects

Mobilising and engaging staff

One of the sources of recurring difficulty has been that many lecturers find it difficult to talk in pedagogic terms about the rationale for using a particular teaching method. Often the reasons are pragmatic and based on management of courses rather than on the effect of the learning process. Project staff have needed to provide lecturers with concepts and language for articulating and discussing pedagogic issues.

Motivational issues loom larger and have more significance where projects are trying to embed the use of new technology in teaching and learning. Projects experience is much less sanguine on this count. A common concern is the lack of clear rewards in place for teaching staff (institutional validation, national recognition, professional advancement, time off from other responsibilities, funding or staffing resources to help with implementation.) …….

Some projects take a different view on this matter however, believing that involvement of academic staff is more likely to result from an individual academic's own interest and energy than from incentives such as payments. Even so, one of the difficulties is that staff need to be able to see the benefit of technology - how it is going to help them in their work or to deliver better learning outcomes. With new learning technologies, this often requires 'an act of faith'. A strategy pursued by one project {***Telri***} been to begin by working with departments where staff are highly motivated and have clear ideas regarding educational objectives. It is hoped in this way to refine the pedagogic frameworks and tools that will provide a stronger basis for engaging with individuals and departments who are less forthcoming and require stronger persuasion and evidence of clear learning benefit.

Diffusing teaching and learning technology innovations

Many different strategies have been adopted by projects for diffusing TLTP products, methodologies and curriculum approaches beyond the (usually) small core of involved staff and out from pilot and field test sites to a wider range of institutions and settings. There is little evidence to hand so far as to how successful these strategies have been.
……..
As a consequence of the refocusing of TLTP towards the uptake of products and other outputs from earlier rounds and the greater use of software products in the marketplace, more emphasis has been given to assessing the quality of available learning packages and software. Projects have encountered various difficulties with this approach. One is that the identification, evaluation and licensing of existing software has provided a time and resource consuming procedure, leading to renewed interest in developing software (and in this sense running against the grain of TLTP).

A second concerns the limited utility of evaluations that have been undertaken of many popular learning environment packages such as Lotus Learning Space, WebCT, and Merlin. Their narrow focus makes it difficult to extract from case studies of teaching and learning using such technologies, lessons that enable projects to learn from the experiences of others. Many dwell on increased uptake and student satisfaction, or technical functions but not on intended educational purpose and learning quality.

5.2 Observations on implementation

From the discussion of their experiences with implementation in the annual reports, it is evident that many projects are on a learning curve. They themselves report a new awareness and appreciation of the nature of learning technologies, a better understanding of the conditions which support the effective use of technology, and the kinds of change processes that need to accompany curriculum development and innovation.

Projects have drawn attention in their annual reports to the different inhibitors or barriers to successful uptake, diffusion and embedding of what projects are trying to achieve. Institutions appear as spaces with constraints or opportunities for things to happen in, but there is usually no coherent strategy for changing those constraints or expanding those opportunities. And yet institutions are key to change, since to exploit the technology effectively requires that a lot of change takes place at different levels simultaneously. Institutional interventions need to be built in at all levels. Projects routinely present barriers, inhibitors and constraints as *explanations* for the lack of project progress. What seems to be largely missing is a more dynamic and proactive approach, whereby such difficulties are anticipated and built into the project design or organisational change strategy, or where projects actively pursue strategies which circumvent or engage constructively with these barriers.

6. THE TRANSFERABILITY OF TLTP GENERIC PRODUCTS AND OUTPUTS

Table 6.1: Examples of TLTP Project Transfer 'Objects' and Settings

Telri - a process methodology for using technology-based materials and teaching methods to enhance students' capabilities as researchers, in research-led institutions.

8. FUTURE DEVELOPMENT AND SUPPORT

Managing Change

Managing change is central to the integration and long-term sustainability of learning technology applications and solutions. It entails consideration of the network of issues that surround teaching practice, at different levels from the individual academic through to institutional policies and strategies. Developmental work in this area would address:

- analysis of the promoting and inhibiting factors on the use of learning technology in institutions and how these relate to current working practices in different disciplines/fields of study/institutional settings
- changes in working practices and cultural patterns of relationship among key groups of staff or stakeholders that are needed to support more effective embedding of learning technology
- tools for managing change and analysis of points of intervention in different institutional/departmental contexts at different stages in the implementation lifecycle

The framework on Managing Change developed by ***Telri*** would be useful for this domain of activity.

Sustainability

At the institutional level, sustainability involves consideration of bottom-up and top-down strategies and how these might best come together to support the wider embedding and mainstreaming of learning technology use and uptake. A suggestion from one project {**TELRI**} is for an HEFCE Forum to discuss new learning teaching frameworks in the light of national issues regarding effective practice towards specified teaching and learning processes.