

A review of successful project approaches
to embedding educational technology
innovation into institutional teaching and
learning practices in higher education

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1. Introduction

This report presents the findings of a study funded by the LTSN Generic Centre that set out to identify successful approaches to embedding educational innovation into institutional practice. A review was undertaken of the approaches and experiences of a number of generic projects funded by the higher education funding councils under a range of teaching and learning programmes. These projects aimed to develop and implement specific teaching and learning approaches supported by ICT and embed these within institutional practices. Whilst the wish to embed educational innovation as widely as possible is understandable, HE institutions vary immensely in their operational structures and working practices. In particular, the report highlights those approaches that worked well and identifies potential areas for enhancement at several levels.

1.1. Context of the current study

It is well recognised that project-assisted implementation need to be sustainable and that, as a whole, project innovation should bring about improvements in institutional practice and inform national policy. Institutions vary immensely in their structures and working practices and have a substantial effect on the likelihood of innovations being taken up elsewhere. A fruitful area to explore in terms of transferability, therefore, is the institutional context within which projects seek to integrate teaching development into core academic business. The depth of analysis required of such operational environments is generally beyond the scope of individual funded projects.

Most projects funded by TLTP3, FDTL and similar programmes develop within a specific context, but at some stage in their development will look to the wider applicability of their approaches. Most therefore locate themselves within the complexities of embedding innovation at institutional level. Some of the issues are well known to educational developers and learning technologists across the sector, but have rarely been documented and are usually evidenced on the basis of individual projects rather than generic studies.

The LTSN Generic Centre has funded the preparation of an evaluation to draw out lessons learned from a number of generic national projects. This study has involved reviewing and analysing the outcomes and experiences from a number of technology-related educational development projects working at institutional and cross-disciplinary levels. From project reports, evaluation studies and interviews with key staff, we have extracted those factors that influenced successful embedding of project innovations (and approaches) within institutions. The projects included in the study are predominantly TLTP3 projects, but also include three ScotCIT projects and one FDTL3 project which incorporates a significant ICT element.

The review provides a broad foundation for specific work of future projects working with institutions and a practical set of tools for exploring institutional contexts for successful educational development. Exploring potential solutions to operational, educational and technological issues and needs is expected to be of value to both institutions and national programmes in the planning, implementation, support and evaluation of educational development initiatives in the future. The study incorporates a review of the literature to ascertain current thinking about the nature of innovation, organisational management, institutional change and the development and increasing professionalism of academic practice in teaching and learning, particularly in UK HE.

Subsequent work through the transferability component of the TELRI project¹ will use the resulting evaluation framework and consultation with national bodies as a basis for specific work with seven HE institutions. This aspect of the work aims to assist in developing institutions' capacity to respond to educational innovation through an evaluation of success factors in embedding learning technologies using experiences of funded projects and local strategies.

1.2. Definitions

By its very nature, innovation involves a shift away from traditional practices to embrace new approaches. With respect to academic development, this might involve harnessing novel approaches that will ultimately reshape teaching and learning practice at the institutional level. The fast pace of development in information and communications technologies (ICT) especially presents new opportunities to enhance and expand in this area.

Whilst located within the broader context of staff and educational development, it would probably be fair to say that supporting innovation in teaching and learning most likely involves supporting the enthusiasts, above and beyond the requirements for developing teaching competence. However, successful innovation rests on the ability to "embed" effective approaches – encouraging early adopters - from one innovation into wider institutional practice and to understand how this is best achieved. With respect to ICT related innovation, this is particularly a process that needs to operate across traditional boundaries of University policy, procedures and functions that are not necessarily well integrated in organisational terms.

These pressures have made embedding e-learning a political imperative across the HE sector. The meaning of 'embedding', however, is ambiguous. It contrasts significantly with 'innovation', which involves a shift away from traditional practices, even when this is modest and local (Hannan & Silver, 2000²). One might therefore argue that embedding involves these once novel practices becoming commonplace, although academics mean a range of different things by the term (Oliver & Dempster, in press³). There are, however, two common features. One is the emphasis placed on the difference between embedding (focusing on use) and simply disseminating practice. The other is the distinction between micro-level embedding within specific interactions to the naturalisation of technology throughout the institutional culture.

What is clear is that projects looking to embed a specific teaching method or e-learning tool must address the need to support staff in constructing an entirely new set of practical understandings relevant to their own contexts (Beetham, 2001⁴). On the ground, embedding might therefore mean that projects require a sophisticated understanding of curriculum design and change processes. Successful embedding of project approaches might therefore best favour a model of research and development far more than one of implementation.

¹ www.telri.ac.uk/Transfer/

² Hannan A. & Silver H. (2000) *Innovating in Higher Education: Teaching, Learning and Institutional Cultures*. Buckingham: SRHE/Open University Press.

³ Oliver, M. & Dempster, J.A. (in press) Embedding the use of ICT through strategic staff development, in Blackwell, R. & Blackmore, P. (Eds.) *Strategic Staff Development in Higher Education*, Buckingham: Open University Press.

⁴ Beetham, H. (2001) JCALT Career development study. <http://sh.plym.ac.uk/effects/jcalt/>

2. Programmes and projects

2.1. Objectives of the national funding programmes

2.1.1. TLTP

The Teaching and Learning Technology Programme (TLTP) was launched in 1992 by the Universities Funding Council (UFC) to encourage the higher education sector to work collaboratively and explore how new technologies could be exploited to improve and maintain quality within teaching and learning. Seventy-six projects were funded under the first two phases, which aimed to introduce, support and develop new technology based teaching and learning materials. Findings from an evaluation by a consortium led by Coopers and Lybrand indicated the need to concentrate more on implementation and embedding of materials within institutions. The HEFCE and DENI therefore initiated Phase 3 of TLTP, with funding of £3.5 million a year for three years. Phase 3 focused on implementation; embedding the use of new technologies more firmly into higher education and evaluating its effectiveness. The objectives of Phase 3 were to:

- Encourage the take up and integration of TLTP materials and other technology-based materials into mainstream teaching and learning.
- Explore, adapt and disseminate experiences from integrating such materials, to identify successful approaches that can be applied generically, rather than just to specific subjects.
- Develop effective networks to deliver materials to end users.
- Encourage continuing collaboration between higher education providers to develop and implement materials using standard delivery environments (that is, the technical and physical means to deliver the materials directly to the student).

The majority of projects surveyed and reviewed for this study are from TLTP phase 3. They have been selected as representative of projects developing generic aspects of teaching, learning and assessment, across disciplines and/or working at institutional level. Specifically, these are: TELRI, EFFECTS, SoURCE, ASTER, ELEN and TALENT.

2.1.2. FDTL

The Fund for the Development of Teaching and Learning (FDTL) is funded by the HEFCE and the Department for Education and Learning (DEL). Now in its fourth phase, the programme was established in 1995 and has so far supported 94 projects throughout HEFCE-funded institutions. The programme aims to stimulate developments in teaching and learning in higher education and to encourage the dissemination of good teaching and learning practice across the higher education sector.

Bids are invited from institutions that demonstrate high quality in their educational provision, as judged by the teaching quality assessment exercise. FDTL supports educational development more broadly than TLTP, though there are some projects exploring technology based approaches. As institutional embedding of educational innovation is a broad set of complex operational and cultural issues and needs, it is useful also to consider outcomes from these projects. For the purpose of this very small survey, however, only a local ICT-based example was chosen: ANNIE.

2.1.3. ScotCIT

The ScotCIT programme, which ran between 1998 and 2001, was funded by the Scottish Higher Educational Funding Council. It comprised 19 individual projects spanning four integrated strands: staff development, web tools, intranets and infrastructure. ScotCIT aimed to establish appropriate use of Communication and Information Technology (C&IT) as part of normal working practice at Scottish Higher Education Institutions. In particular, it was to make use of broadband network facilities as part of standard practice in the academic community.

ScotCIT objectives were:

- To increase the appropriate use of C&IT by higher education staff throughout Scotland by providing appropriate web-based tools and promulgating their use in a range of disciplines.
- To assist in the further development of institutional intranets, and enable their use for mission-critical activities.
- To support the higher education staff development community throughout Scotland in their work of empowering all staff to understand the benefits of C&IT and to be able to use C&IT where appropriate in their work.
- To provide an infrastructure that staff at higher education institutions in Scotland can rely on for mission-critical activities.

Projects' work was in several areas, including MLEs and VLEs, e-Collaboration, staff development, standards work and creating web learning. Three projects are relevant to this study in terms of aims and outcomes relating directly to institutional embedding: SESDL, ELICIT and NetCulture.

2.2. Preparation for embedding

In its synthesis of the first annual reports of TLTP3 projects (Sommerlad et al., 1999)⁵, the Tavistock Institute (the programme's external evaluators) reviewed the whole cohort of 30 projects. In broad terms, they highlighted the expertise of projects in this implementation phase, particularly those working at the level of institutional embedding. In summary, the report notes that:

A majority of projects in the third phase of TLTP show the signs of mature application of learning technology, incorporating what we have come to know and understand about what makes for the effective use of technology in learning. There is a recognition of the multi-faceted nature of the innovation process they are engaged in, with its pedagogic, technological, economic and organisational dimensions. Some projects choose to give weight to one or more aspects over the others but most have at least an element of all four. ... What is perhaps the most noteworthy change from earlier rounds is the shift from a product focus to a service model. Thus in moving towards implementation and embedding of TLTP products and materials, projects have sought to provide a range of support services including on-line advice, diagnostic tools and frameworks, staff development and skills training which are integrated into a total learning package.

The Tavistock early evaluation looked for patterns of similarity and difference, and tried to account for varying project activities, experiences and proposed outcomes. The resulting report reflected predominantly on the different kinds of processes with which projects were engaged and then on their main purpose or aim in order to highlight whether projects were leading with technology, pedagogy, efficiency or institutional embedding. In reality, projects are multi-faceted and belong to one or more category or different categories at different periods of the

⁵ Sommerlad, E., Pettigew, M., Ramsden, C. & Stern, E. (1999) Synthesis of TLTP annual reports.

development life cycle. Similarly, it is evident from discussions with institutional teaching and learning support staff that educational development is equally multi-faceted with several leading aims. Nevertheless, it is useful to understand the varying approaches from staff development through a consultancy process of dialogue and inquiry or action learning to user led course development. Significantly, the Tavistock review did not identify a single model of good practice in institutional or organisational change processes.

The Tavistock Institute produced an extensive set of evaluation guidelines to support projects within the TLTP. The FDTL programme makes use of the guidelines produced by the Tavistock Institute provide support on formative evaluation to TLTP Phase 3 projects. They are being used to support FDTL and for those working on similar projects in the area of evaluation of different aspects of learning and teaching in higher education.

A distinctive aim of the ScotCIT programme was to encourage the outcomes of funded projects to be applied outside the institutions directly involved in the development work. It also aimed to build upon the distinctive characteristics of the Scottish higher education sector, through a strong collaboration and the exploitation of communications technologies. Most of the SHEFCE C&IT projects were funded with the express purpose of embedding rather than a second order objective of innovation and development.

2.2.1. Project activities

In the review by Tavistock of the whole group of 30 TLTP3 projects undertaken after the first year of the programme, it was clear that both commonalities and differences in project development and activities were evident. The commonalities were mainly in the approaches projects took to start up and awareness raising, but also in some ways in user needs and evaluation activities (though the latter was more likely due to the encouragement and support provided by the National Co-ordination Team). The differences were broad and reflected the diverse ways in which projects were initiated and internally organised. Some of the characteristics of projects across the programme are evident in the selection we have reviewed in our study. These are: the development of conceptual or methodological frameworks; some form of piloting and case study production; and staff development activity associated with the uptake and embedding of project outcomes and materials.

The end of the first year of any project is too early to make conclusions about how effective the various approaches were in relation to the proposed outcomes of projects. Likewise, it is only perhaps now that we can extract some lessons from these approaches mapped against the specific institutional contexts within which the projects were attempting to embed new practice or bring about change in practice. However, from the outset, a number of projects set out to work with the grain of existing cultures and institutional activities (e.g. TELRI worked with research-led institutions to embed a research-orientated approach to learning, EFFECTS worked with institutional professional development teaching programmes to embed a reflective action learning approach to teaching development.)

2.2.2. Project organisation and management

Unlike perhaps in TLTP phases 1 and 2, for the large majority of TLTP phase 3 projects, management problems have been few except for the usual difficulties in terms of staff recruitment and turnover – a familiar issue for short term funded projects. Most projects were dealing with fairly small consortia of institutions, generally between two and eight. However, most projects have aimed to make their outcomes of wide applicability as through dissemination and embedding activities, many more institutions are potentially targeted.

Consortia bring together institutions of differing status and with vastly different organisational structures and cultures. The majority of lessons for the purpose of our study are perhaps located within this aspect of project organisation as herein rest the complex issues arising from working across institutions. Notably, these include projects working across disciplines as few teaching and learning projects are ever truly “generic”. Whether projects working within a single discipline area yet across institutions/departments would encounter the same set of issues and needs as generic institutional projects is an interesting area of further study.

Projects and their consortium exist in a many-to-many relationship, represented schematically in figure 1. The interactions between participating institutions within the project and intensity of the collaboration may vary.

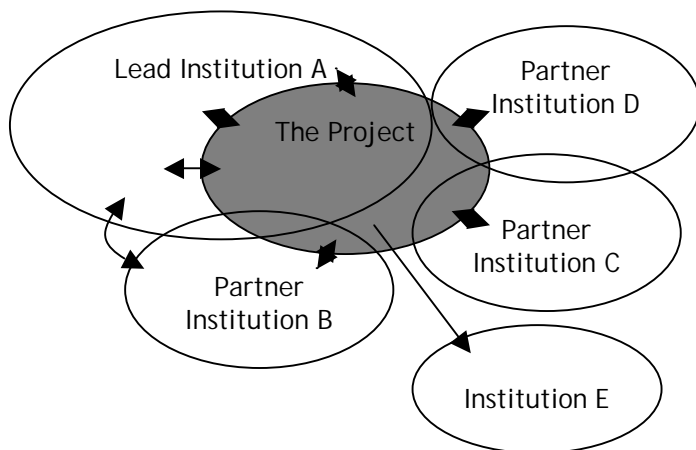


Figure 1: Project context working with institutions

Several different models of consortium organisation are apparent that may be applied to institutional organisation. Collaborative approaches exist where various partners undertake different but complementary tasks; parallel working describes a situation where various partners work independently but in parallel within a shared framework; and a centralised approach would exist where the lead partner has major responsibility for development and assigns support activities to partners. Obviously, there are variations on these broad models and the approaches may also alter through the life cycle of a project.

Likewise, with respect to funding arrangements, there are several analogies to how institutions organise support for teaching development. In some projects, the lead institution maintains control over the budget and distributed funds in relation to specified needs and project activities. Others pay lump sums to partners or development teams in a predetermined allocation, while others have instituted a bidding process whereby sub-projects bid for funds against centrally agreed criteria.

Projects show diversity in the composition of the project teams, skills and expertise, in the ways in which staff are deployed within or contracted to the project, most likely in keeping with consortium organisation. Project management is a key feature and much importance and value is placed by the funding bodies generally now in programme organisation on the presence of a clearly designated project manager as well as an internal project steering group composed of senior champions as change agents. Technical assistance is rarely internal (except for development projects as opposed to implementation projects and possibly for small scale test-bed developments) and generally projects rely (successfully or otherwise) on institutional IT departments for technical implementation and provision of deliver tools. Academic staff are broadly seem as consumer or co-developers of innovative approaches being explored. Students

are less frequently involved, except in evaluation of course approaches as an extension of a course's normal evaluation process.

2.2.3. Early experiences of implementation by projects

The early evaluation by the Tavistock focused on four key implementation 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

Much of this focused on the difficulties that project staff had working in institutions with an unfamiliar culture to their own. Furthermore, projects did not have a mandate to work in other institutions and were viewed suspiciously by local academics and staff development staff. A strong tradition of initiatives and support from the centre greatly assisted many projects to work effectively across partner institutions. Projects inherit the difficulties central units themselves have in encouraging teaching development at both departmental and policy level. In institutions where the structure and culture is more devolved, project teams were able to bypass heads of departments and staff development managers and work directly with academic staff.

Experience across the TLTP suggests that those projects that are working with a supportive central unit, working with the grain of the institutional culture are more likely to embed change. At the onset of TLTP phase 3, Tavistock had already highlighted an issue that persists today, that *"this does 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."*

In engaging teaching staff to pilot or adopt innovative approaches or materials, there were some obvious project approaches that seemed to work for all projects. In particular, the use of 'product champions' in each of the institutions was favoured. This involved a cascade approach of innovation pilots where individual teaching staff were supported directly followed by the use of seminars and workshops using generic frameworks and tools in conjunction with subject specific case study materials. Presentations by the innovative lecturers themselves were particularly successful. This aimed to enthuse, inspire and encourage non-assisted take up by a wider and large number of potential end-users. The provision of practical advice and guidance was also seen as a key mobiliser.

Where projects aim to embed new technologies or less new technologies in institutions that have still older technologies, successful experiences are less evident. The high dependence of innovative developments on IT infrastructure and technical expertise cannot be underestimated. At the same time, many projects were in motion at a time when institutions were not yet able to provide the basic ICT tools. This is now becoming less common. Even if few are providing breakthrough technologies as mainstream services, the availability of publishing, discussion and assessment tools, possibly with videostreaming and videoconferencing facilities, provide sufficient technological impetus to use these more effectively in teaching and learning before striving to embed the latest techno wizardry.

There is evidence in TLTP and FDTL programmes, as indeed in institutional learning and teaching strategy implementation, of a strong culture around the "product" or "innovation" as the output of value. A firmer focus on lecturers' needs and professional development as well as the process of embedding is needed. Here, learning technology is a source of support to tutors and learners - a tool - rather than part of an educational outcome.

In summarising the transferability aspects of TLTP generic products and outputs, the Tavistock evaluation (1999) reports that "*TLTP3 places great emphasis on generic learning technology applications – those that are capable of being used in a variety of contexts and settings. ... The notion of what constitutes 'generic' is wide-ranging ... [and] transferability of education and learning materials and products is ... complex.*" ... *The more embedded or contextualised an object is, the less easy [it is] to transfer.*

The distinction and distance between innovation and embedding is vast in regard to the processes of educational development and institutional strategic development. The capacity of an institution to ready itself to respond to new approaches that technology or other innovations is paramount. At the same time, national projects of the TLTP kind are not resourced, equipped or best positioned to handle the task of organisational change as they have insufficient linkages with strategic planning and institutional mechanisms.

2.3. Project details

For each of the projects selected for this study, we have provided a brief summary of the projects' aims, timescale and level of funding awarded, the lead institution and consortium partners –see Appendix 1. We have aimed to outline above the broad methods projects have adopted to organise themselves and undertake project activities in relation to aims of the project. From interviews with key project representatives, we have been able to highlight those out-reach activities that influenced developments in other institutions and the in-reach activities that led to successful embedding of the project approaches within an institution. These are dealt with collectively in section 3, which includes a summary of the legacy outcomes in relation to dissemination and evaluation findings and further developments.

3. Experiences of institutional embedding

"We didn't meet the main formal outcome actually, so we couldn't tick that box – but the real outcomes, the real impact, was much greater than what was originally intended."

This section aims to outline the key findings about what the projects themselves experienced in institutional embedding. The study is based on a review of the project literature from ten national generic projects and on 17 telephone interviews held with purposively sampled project staff (project directors, managers and developers) in September 2002. One should bear in mind that a number of these staff are often seconded from existing roles within their own institution in developing academic practice and/or e-learning.

The focus of the study was not so much whether and how the projects successfully met their intended outcomes, but rather how they successfully effected change within their home institution or within collaborating institutions. The aim was to explore where projects have successfully embedded aspects of their work into institutional strategic development and to identify common features of these projects that may have facilitated this.

3.1. Measuring the impact on institutions

Externally funded projects serve many purposes within the academic community and are urged by the funding bodies to identify their stakeholder community. The stakeholders are well documented and range from learners, teachers, IT/library staff, educational and staff developers, senior managers, LTSN centres, and the funding bodies themselves.

Often the criteria against which projects are deemed successful within the project community itself relates to process rather than outcome. An example of this is the high value project teams place on good collaboration with other institutions for problem-solving and sharing experiences. Whether or not the outcomes of the project are achieved, it is a positive experience if the collaboration has been good along the way. This in turn is a motivating force for continuation and embedding of project approaches into everyday practice. The link between buy-in/ownership and successful adoption has been referred to frequently in the literature.

Now that the projects have by and large come to an end (and many were completed over a year ago), we have been able to revisit consortium members in order to investigate the medium-term impact of the work they have done in their own institutions and beyond. The project evaluation reports commissioned by the funding bodies have produced a rich description of activity and outcomes in relation to the stated project outcomes in each case. The purpose of the current review is to relate these findings to the institutional context in order to explore the dynamic between innovation and embedding. There are two broad dimensions to this initial inquiry:

- ❑ **Successful in-reach:** where the project has successfully embedded its approach within the host institution and informed academic practice.
- ❑ **Successful out-reach:** where the project has influenced developments outside the host (lead) institution

Successful in-reach

Of the 10 projects reviewed in this study, most felt that they had been successful in meeting the criteria established within their project bid. In a few instances, the project had taken some time to determine what the focus of the work should be and subsequently revised the anticipated outcomes against which they measured themselves in their final reports. The funding organizations allowed for this and provided a mechanism for agreeing alteration to the initial outcomes.

Project involvement in itself brings benefit to the institution if the members of project staff are able to remain and consolidate their knowledge and experience. However, it has been long lamented that project staff are recruited on short-term contracts that expire with the lifetime of the project. Other factors in this regard relate to the nature of the project work being seen as separate from "core business" and therefore unsustainable in a specific higher education institution:

One significant factor in encouraging in-reach activity was found where the project was "*responsive to institutional need*". The timing and flexibility of staff development (CPD) opportunities was, however, quite critical.

Outcomes changed as a consequence of internal demands – so the project was able to respond to institutional need.

The evaluation of the implementations themselves and the expertise of the project staff was seen clearly by most projects to have been helpful in informing strategies for e-learning. These have emerged in many institutions over the last few years, though there was not always a simple connection between a project and institutional thinking.

The experiences gained through sharing practice and ideas with colleagues in other institutions seem to be one of the most highly rated outcomes for the project teams to bring back into their own institutions.

So there's a whole new level of strategic thinking which has come out of a lot of the work in [the project]. And not only from what we did within the University but also from looking at what others have done or are doing etc. I really can't that all these ideas are our own, a number we picked up from other places.

So it's had big impact for us as an institution but also had a big impact on individuals. There has been a very vibrant, ongoing network, a kind of spiraling of people, building upon each other's knowledge and experience and what they've got from the [project].

There is now such a concentration of people in [the institution] who are now working in this area ... that concentration of expertise is quite important.

3.1.1. Impact on student experience

Whilst students are often stated as a stakeholder group for projects, the impact on the student experience is not explored in depth in the present studies, nor do students seem to have been centrally involved in shaping the projects. Students are mostly used for trial studies and asked for their feedback in satisfaction surveys. "Support for student learning" is a much-repeated phrase used to justify the development of resources. The learning and teaching stakeholders, therefore, seem to be the academic staff who are to be assisted in adopting the project materials or methods. It might be argued that projects should involve students more actively as they are the ultimate beneficiaries of any enhancement or enrichment of their learning.

3.1.2. Impact on academic practice beyond the project team

In relation to institutional mission/strategies and policy, the influence of the project is sometimes hard to disentangle from general trends and movements in the institution. However, in a couple of the projects examined there was felt to be some top-level impact and a sense that the project itself *"got things moving and it supported change"*. Other projects felt that any relation to strategy or policy had been coincidental. Most of those interviewed could not clearly isolate where project outcomes had been mainstreamed into the institution. In one instance this was because of the recognition that the project was "ahead of its time".

Institutional embedding is also linked to the level of funding available within the institution:

We didn't get much money, and at the end of the day that's what managers are interested in. money... Because there wasn't much money involved, it was never going to have a high profile.

One project reported on the "high degree of suspicion and weariness of change through plethora of projects and initiatives (weariness caused by lack of communication; poor integration of initiatives, waste and duplication; unsupportive local and central management; lack of real resource commitment etc").

In only two of the institutional change projects did there seem to be any consistent sense of impact on local institutional strategy. Most of the projects seemed to point to most significant impact either at the level of the individual (lecturer) or to the influence at institutions other than the home institution of the project. A number of projects, however, noted that some lecturers had their perspective transformed through participation. These individuals were labeled as innovators in learning technology, recruited onto relevant committees and went on to influence policy and thus embed the ethos of the project within the institution.

As far as the introduction of ICT is concerned, the projects performed an invaluable role in exploring its potential in learning and teaching.

... ,if we hadn't gone through that experience we wouldn't have known what we needed or the sorts of questions we needed answered.

One evaluation report states: "During the interviews statements such as "lots of opportunities to practise" have been repeated throughout and process has been described as a supportive "playground" in which to try new things." (Foster, C (2001) ELEN Phase II Evaluation Report)

Underlying learning technology project work is the requirement to respond to external drivers and pressures (from the Funding councils; Government; and changes in HE culture). Some of the projects indicate that staff development is essential in order to meet the fresh challenges of widening participation, building world class research, fostering closer ties between industry and Universities and promoting excellence in teaching. These are areas in which technology is seen to be able to provide real support and solutions.

Timing for change is quite critical. To bring about cultural change often means a large a number of inter-related institutional issues are being grappled with at the same time. One project endorses an overall push on all fronts simultaneously, whilst maintaining staff ownership of the need for change and the direction of change.

3.1.3. Learning and teaching developments

Only where staff developers had been instrumental in the project was the approach carried over into general academic staff development. The longer-term influence of the project approaches were yet to be determined. However, one stated advantage in using the project materials for staff development is that the materials may be used freely across UK FE and HE.'

Relevant examples of use in an HE context, in particular within the same or closely allied subject discipline is generally recognized as being a way to facilitate adoption by academic staff. One report makes the point that there is more likelihood of uptake where a network of users share their enthusiasm and experiences:

somebody who is not yet using the product will start using it because of publicity / media / sector hype or other external factors Vs somebody who is not yet using the product will start using it because of "word-of-mouth"

From the evaluation reports there emerge two broad models of learning and teaching innovation: a centralised development team with a supportive culture to serve local needs; or localised developments which draw upon central and external support. Either way, the most effective embedding occurs usually where the institution and its departments have a supportive culture – where learning technology users do not feel isolated; where the relationship between the centre and the local is strong but flexible; and communications are good.

Whilst most of those interviewed spoke with passion about the methodologies applied in the project, they also regarded the project as a finished entity that would depend upon further external funding in order to be carried forward.

3.1.4. Roles of institutional central support in embedding innovations

There seem to have been assumptions made in projects about the role of support services and an almost tacit expectation that existing services within the institution will be able to extend their range to include new project requirements. In a couple of instances this was recognized and the original project teams were extended formally to include the input from e.g. library, computing service or staff developers.

Support is identified in one project review as comprising four main strands: support for academic staff attempting to embed learning technology; support for learners using learning technologies, materials and components of programmes; technical, infrastructural support and support for development of materials and the use of learning technologies in programmes.

There needs to be a balance between learning technology development and its support in practice to ensure that rapid developments in innovative areas can be supported by the institution. For example, academics may want to develop multimedia or V/MLE materials but may not be able to deliver the materials effectively both on and off campus. There may also not be sufficient materials development support available to them and therefore academic staff must become more self-sufficient. Most successful institutions recognise this problem and overcome it by offering "just-in-time" support.

Good collaboration with central computing services departments is noted as an indicator of progress within specific institutions, both in the reports and in the interviews:

[the project] has helped pull the central support services and the departments together, to make sure that what central services actually offered is what people want or needed. In the past central services have even held things back, and that's what we wanted to change.

Support services and projects require a “two-way communication” stream, to include an ongoing needs analysis and efforts to close the loops between central information strategic missions and local implementations.

The complexity of the learning technologist role has been documented elsewhere (Beetham et al, 2001). What is important to note here is the extent to which the reports highlight the non-technical skills that learning technology project staff have to use in their work, including curriculum development, negotiation, advocacy, research, evaluation, dissemination, project and team management, resource planning and trouble-shooting.

3.2. Successful out-reach

3.2.1. Awareness and impact

Many of the project staff interviewed spoke of the successes they observed beyond their own institution. They emphasised the advantages of promoting and sharing ideas and issues across the consortium and on stimulating discussion of the ideas nationally.

“We believe that the project has influenced many others, but it is characteristic of the spread of ideas that it is impossible to quantify this.”

“... other institutions were probably made more aware of the issues.”

One interviewee admits, within a context of a relatively successful project, that they “may have failed on home territory” which expresses clearly what others were intimating. Some felt that the original goals had been ambitious but that nationally the project ideas (if not the products) had reached a wide audience.

“It was a big ambition and we got a bit sidetracked in the course of doing that we produced something which I think had much wider importancenationally, it did have a very very wide impact”.

3.2.2. Engaging stakeholders across the consortium

There was repeated mention of “selling” the ideas to staff and the importance of “lobbying” strategic members of staff, “the people who can make it happen”.

“ We always made sure senior managers were present when we did our visits.”

For this, several projects identified the usefulness of having an external consultant to voice their views.

“When someone comes in from an outside institution, but tells you stuff your own staff have probably been telling you anyway, it seems to carry more weight.”

For some projects, the existing network of contacts and collaboration was quite crucial to successful out-reach in some projects.

“ It all revolved around whether or not we had a good friend or contact helping us in the institutions.”

“ one of the most collaborative projects I’ve been involved with”

(said by two interviewees about two different projects)

Some of the projects developed an outer ring of cascade partners where individuals have become involved in order to assist institutional changes already under way in their home institution. For this reason, some of the cascade partners have exhibited longer-term success than the original partner institutions. This is in line with the findings within one of the project's evaluation reports regarding uptake by individuals:

... support for introducing C&IT would best be targeted at individuals who have already developed some expertise and interest in another context, rather than attempting to engage people "from cold". This may be useful in explaining the levels of impact achieved by other TLTP projects. (Davis M, Oliver M and Smith J (2001) ASTER Final Evaluation Report, p 15)

3.2.3. Assessing current usage and interest

In order to assist in outreach activities, most of the projects devised audit tools of one sort or another. These were either to investigate and determine current usage of learning technology or to foster and raise awareness of learning technologies. Another common strand of outreach activity were workshops and conference presentations that served the purposes of staff development rather than project dissemination.

3.2.4. Networks and technology, hardware/software

Whilst the projects acknowledge that the technologies have changed in the course of the project, most claimed in interview to be based on fundamental principles or methodologies that could be applied whatever the technical platform. This seems to take almost for granted the enormous investment in interoperable technology over the past few years, with the trend away from local area networks and specialist software towards MANs and VLEs, campus-wide MIS and business systems.

3.2.5. Rewards and incentives in project work

The rewards for learning technology staff on projects are recorded in progression and promotion of individuals, often however in positions in institutions other than the home of the project.

... because of the unusual nature of the work, their achievements don't always fit in well with normal promotion criteria.

Further incentives are provided in the traditional academic domain of publications and academic recognition. Projects often distribute the external funds between the institutions, and it is acknowledged that relatively small sums can have significant impact and represent value for money for the funding bodies.

For the amount of money that it cost, it was way of getting this whole thing moving relatively cheaply... I mean, it worked out at only £25K per institution! If HEFCE could throw that into each institution and get them thinking and acting more positively at a senior level it would be wonderful.

3.2.6. Building and strengthening R&D links

By far the most rewarding aspect of the projects in this study was the activity of working with other institutions to strengthen research and development links. One project talked of the “chemistry” amongst the people involved. Others praised the qualities of the individuals involved:

The skills and knowledge and experience and everything is in the people concerned. That's the really valuable thing.

The R&D network established to meet the specific project aims seems to be an area that may endure beyond the lifetime of a project:

We opened up a lot of channels of communication between institutions. And since the project has finished that activity seems to be continuing.

People are still very much at the heart of the research and development network, despite the plethora of information sources open to learning technologists, teaching and support staff alike:

But now I think that if you look at what people here do, they don't go to a central repository or place to find stuff and find help. That's the last thing they do. They look locally, to each other, within their institution or within another network they know. So now I think the answer lies in the people.

3.2.7. Role of national organizations and funding bodies

In almost all projects in this study, there was praise for the contribution of the funding bodies for the support provided. Conferences and support days organized by the funding bodies were felt to be useful, as was the project management assistance.

There was dissatisfaction expressed over the co-ordination of project outcomes and concern over the longer term survival of the project work. Concerns in this regard were aired by an action group brought together by Helen Beetham, remembered by one interviewee. Some measures have been taken to address the issues by maintaining a central database of project outcomes, however this does not address the loss of impetus after funding has ceased. As one project stated:

The other thing I wish ... all project funders would do is put funding in from the start for post-project evaluation because we all know that evaluations during the project, or towards the end, although it gives you useful feedback, it is only formative. And what we really need is evaluation of post-project impact one two or three years afterwards.

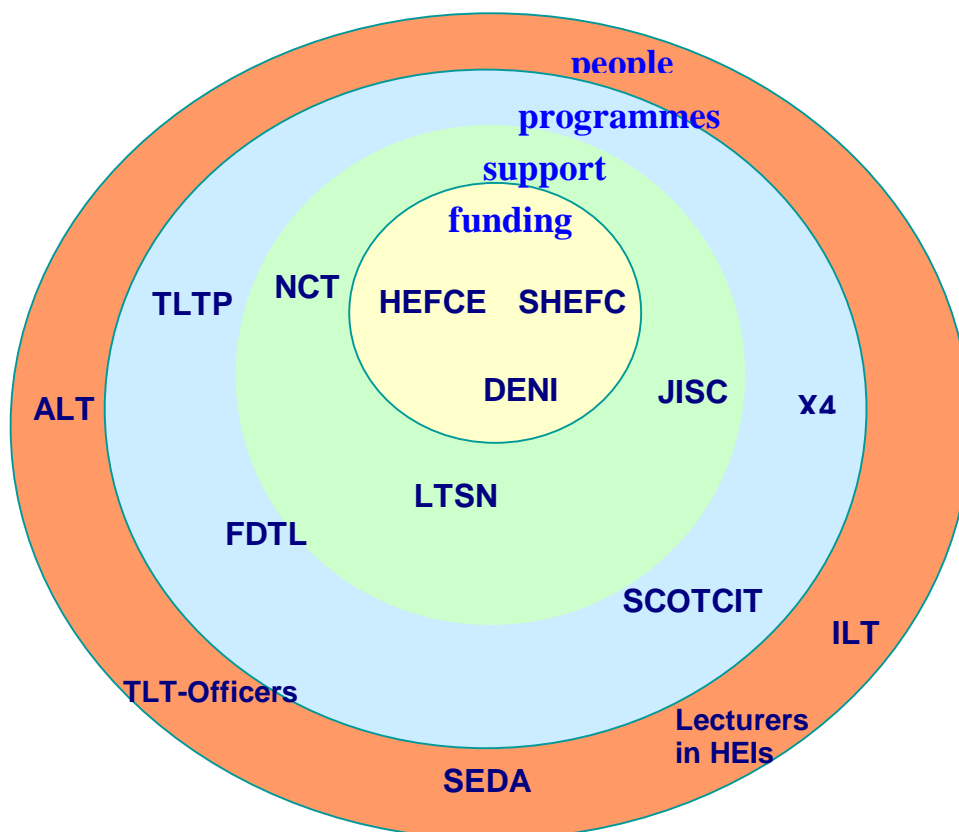
Projects are critically dependent on recruiting and retaining project developers. However the short-term funding mechanism commonly used to support innovation projects does not permit the issuing of permanent contracts. The result of this is surely that some highly suitable people will not apply for project officer posts, and the best may be tempted to leave before the end of the project. Nationally the sector is failing to support this group of workers, in much the same way as is now being recognised with contract researchers. Another disadvantage in running projects with short-term contract staff is that they are not likely to know the university well in which they are working, or to be integrated into it, and they will be less effective as a result. There ought therefore to be a means of smoothing out employment contracts so that valuable staff can be retained. (TELRI project final report: September 2001)

4. Summary comments: Joining up projects with institutional practice

4.1. Operational contexts for projects

The context within which projects locate themselves are complex, typically incorporating the project team, partners, support networks, programme co-ordination and funding level stakeholders. An attempt to represent the operational context of projects is made in figure 2. With regard to the impact and sustainability of projects, key to the issue of success, two broad dimensions of project activities could be discerned: in-reach and out-reach.

Figure 2: Operational context for projects



In-reach is where the project has embedded its ideas or approaches or tools within the institution and informed academic practice. This has not always proved easy for projects. If achieved, it has been difficult to sustain beyond the lifetime of the external funding. Ideas and approaches have been cited in this regard, materials and tools seem to have been even less widely taken up. Successful embedding of project approaches might therefore best favour a model of research and development far more than one of implementation.

Out-reach is where the project has influenced change elsewhere. Some of the projects reviewed felt that they had actually "failed on home territory" and yet they were certain that their influence had been significant in other institutions. In the final reports, much evidence of out-reach activity is provided. There is a significant volume of dissemination activity. The extent to which these activities influenced practice or had longer-term resonance at other institutions is, however, difficult to determine. Many project directors suggested that projects had been important in assisting or even opening debate about teaching and learning, or aspects of it, and the role of technology in these processes. The influence of the project nevertheless frequently entangled with general trends and movements in an institution.

4.2. Collaborative learning through consortia

The research and development network that projects established in, and with, institutions seemed to be an area that may also endure beyond the lifetime of the project and its funding. The project and their innovations have provided a “**supportive playground**”, priming institutions to be ready to respond to the next wave of mainstream developments. In most of the present cases, this was the explosion of VLEs. In a few projects, the development still has to strike in HE: namely re-useable learning objects. A couple of the project teams confirm in interview that their work is “**ahead of its time**” in practical terms, despite the eagerness of the developers to work in this area.

A much-repeated refrain from most projects concerned the useful insights those involved had gained from their participation in the project. **Retention of the people with those insights**, is, however, more problematic – even if their posts are retained by the institution their expertise is not necessarily appropriately deployed.

Support for the projects by the programmes was generally commended. The main disjunctive area was felt to be inter-project collaborations. There was dissatisfaction expressed over the co-ordination of project outcomes and **concern over longer-term survival of the project work**. Some measures have been taken to address the issues by maintaining a central database of project outcomes, although it was recognised that this does not address the loss of impetus after funding has ceased.

4.3. Strategic influence in institutions

Where projects are deemed to have “strongly influenced” strategic developments within their own institution relating to learning technology, there seem to be some common factors emerging:

- **Timeliness**- in line with national and local developments, a number of inter-related institutional issues are being grappled with simultaneously and the timing for change can be quite critical.
- **Personal investment** – commitment beyond the letter of the contract, internalising project aims and investing in redefining the outcomes to ensure fitness for context
- **Good collaborations** – networking, synergies, supportive culture across project team, across participating institutions and beyond.
- **Champion in policy position** – making infrastructure changes and supplying further resources, taking on project/posts after external funding ceases.
- **Staff development angle** – integrating methods and materials into educational development for longer term gain
- **Ability to adapt** to local, emerging demands – flexibility in interpretation of project outcomes, changing with the times.

4.4. Motivations for involvement in projects

From this review of projects and commentaries by project staff, we can identify three broad motivations for involvement in projects:

- **external** (response to national initiative or funding stream),
- **internal** (response to institutional or departmental strategy or targets), and
- **self-directed** (personal interest).

Where these three motivations converge, there is the greatest likelihood of successful embedding. This appears to have been the case with a couple of the projects analysed in this small-scale research. The **outcomes have the potential to be long lasting**, to be embedded within staff development programmes and to inform the strategic direction of the institutions that involve themselves in the project and its educational objectives.

There is, however, an intractable problem in the use of projects for both innovation and embedding. To support implementation of new teaching and learning methods and practices, projects (it seems) must **work from the ground up and evaluate at the ground level**. To bring about broad changes, it appears that projects may need to influence policies via managers and administrators. There is concern in expecting projects to be effective both top-down and bottom-up, to support change and influence institutions and the realization that projects are often over ambitious in their aims and outcomes for the level of resource funded, particular with respect to impact or sustainability within the project period.

4.5. Response of national funding and support bodies

Following the review of projects, a national consultation event was organised to bring together representatives from national funding organizations, programmes and support bodies. A focus group approach was used to investigate operational contexts for educational development in UK HE and to consider those areas that relate to national policy, funding and support to projects and to institutions. While the review report incorporates the experiences of those working on projects and in the institutions in which those projects were based, the consultation paper resulting from this event presents the collective views of representatives of national funding and support organisations. It aims to assist in (i) informing national policy and service groups, (ii) developing future funding programmes and, (iii) enhancing the guidance and support provided by national bodies to projects and to institutions.

There were several valuable take-home messages from the group:

- ❑ Good co-ordination, guidance, dissemination and light touch monitoring were key elements of effective programme support
- ❑ Opportunities for networking and sharing of practice beyond that required for collaboration were seen as valuable.
- ❑ While the short termism of project work was recognised as a significant constraining factor in most cases, it was noted that short term funding was good for enabling innovation.
- ❑ The need for tighter cohesion between collections of programmes was seen as a priority.
- ❑ The way that funding is allocated often did not involve the institution “holistically”.
- ❑ The relationship between funding models for teaching and for research were seen to be divisive in most cases.
- ❑ A real need was identified for specific and targeted evaluation and transfer of knowledge from project work at the programmes level.
- ❑ The need to capture expertise of those who have worked in projects was highlighted.

While not all issues could be addressed, some practical ways forward were identified in terms of supporting continuity and retention of expertise. The main areas identified as worthy of future funding and development at national level are:

- ❑ **A live, combined repository of national initiatives, programmes and funded projects in UK HE is highly desirable**, providing access to brief details of all funded projects in a publicly searchable archive, evaluation across programmes and funding councils, experts database and so forth.
- ❑ **Project funding bodies need to pursue the institutional commitment further**, clarifying and reinforcing "institutional support" to assist in ensuring the active participation of institutions in which projects are based.
- ❑ **Model of generating expressions of interest around an important theme or area** with a national group responsible for co-ordination, dissemination and overall evaluation.

4.6. Acknowledgements

The project wishes to acknowledge the insightful feedback from all those involved in the study, particularly project staff who gave up their time for interviews and who forwarded detailed project reports and evaluations. We are also grateful for the valuable feedback on various drafts of this report.

Appendix 1: Details of projects reviewed in the study

TELRI (TLTP3/no.92)

Technology Enhanced Learning in Research-led Institutions

Aim:

- to identify and demonstrate technological approaches that provide effective ways to:
 - a. support course activities of relevance to research processes, and
 - b. enhance the development of higher cognitive skills in students.

Funding: TLTP phase 3, £223,000

Timescales: Oct 1998 - Sep 2001 (Transferability funding awarded.)

Subject area: Cross Discipline

Lead institution: University of Warwick

Consortium: University of Oxford, second phase also: Universities of Birmingham, Durham & Southampton

Web site: <http://www.telri.ac.uk/>

The TELRI project explored and developed ways of using technology-based materials and teaching methods to enhance students' capabilities as researchers. Working with the TELRI team did not necessarily mean changing one's educational purposes or, necessarily, one's approaches to teaching and assessing. The team offered assistance in translating a course's true purpose into a transparent form. The process allows lecturers to be more analytical about what they seek to achieve and more deliberate about how they set about it, making use of educational technologies where they can provide a clear benefit. The team's way of working was to clarify the student capabilities and cognitive skills that are to be the focus of attention; review existing approaches; develop, in conjunction with the staff involved, appropriate approaches to teaching and assessment; and establish and use a means of evaluating the effectiveness of the intervention.

TELRI employed this approach to identify research components across a range of subject areas, extract generic principles to develop a framework for good practice in implementation and approaches to evaluation of curricula. Staff in ten departments within the universities of Warwick and Oxford were supported in implementing technology-enhanced learning. The team produced case studies detailing the context, the technological tool and the capabilities and skills developed. A second phase extended the approach to further departments in several other research-led universities, including Durham, Birmingham and Southampton. A third phase provided staff development workshops and consultancy across the wider HE sector.

ASTER (TLTP3/no94)

Assisting Small-group Teaching through Electronic Resources

Aim:

- to establish, validate and disseminate a corpus of good practice and expertise on the use of ICT for small-group teaching and to optimise possibilities for a continuing support centre.

Funding: TLTP phase 3, £294,000

Timescales: Sep 1998 - Aug 2001 (Transferability funding awarded.)

Subject area: Cross Discipline

Lead institution: University of York (LTSN Psychology)

Consortium partners: University of Oxford (Humanities Computing Unit), University College, Northampton (School of Behavioural Studies) and the University of Surrey (School of Physical Sciences)

Web site: <http://cti-pys.york.ac.uk/aster/>

ASTER explored how ICT can assist students and lecturers in making the most of small group learning and teaching. The work focused on surveying current practice in the selected disciplines, reviewing the literature on the potential of electronic resources to assist small group teaching and establishing an educational framework for relating ICT support to educational objectives. Pilot implementations and case study development across three main disciplinary areas were undertaken. Activities were devised with a view to promoting and supporting effective change in educational practice.

Outcomes included resources - a wide range of information and tools to support the use of C&IT in small-group teaching and learning including case studies, an online bibliography, publications and reflective tools.

SoURCE (TLTP3/no.79)

Software Use, Re-Use and Customisation in Education

Aim:

- to increase the extent to which educational software is re-used within Higher Education.

Funding: TLTP phase 3, £299,000

Timescales: Oct 1998 – Sep 2001 (Transferability funding awarded.)

Subject area: Cross Discipline

Lead institution: The Open University

Consortium Partners: De Montfort University, Middlesex University, University of Wales Bangor

Web site: <http://www.source.ac.uk/>

SoURCE is a TLTP3 project, which explores issues surrounding the re-use of educational software within (UK) higher education. SoURCE was funded to the tune of £299,001 for three years (September 1998 to December 2001). It involved four partner institutions.

The project was divided into two strands:

- The customisation strand
- The Re-usable Educational Software Library strand

These two strands were closely linked and both placed substantial emphasis on collaboration, evaluation and 'dissemination'. This is reflected throughout the project and in the main project deliverable (The SoURCE Evaluation Report), which provides a synthesis of the findings across both strands of the project.

SoURCE seeks to enable lecturers to customise existing software for teaching and learning for use in their own specific context with minimal technical skills. This aimed to empower academics in the re-use of content and maintain their control over teaching with technology.

SoURCE has bid for transferability funding - some £25,000 over the next year. Assuming that the bid is successful the project will:

- continue to add metadata about outputs from TLTP3 projects to the Re-usable Educational Software Library (RESL). As has been the case in the past this metadata will be quality controlled by a librarian in the Open University Library;

- migrate the RESL to the Knowledge Network and in the process enhance the metadata used by the Knowledge Network (kn.open.ac.uk); provide a public face to the Knowledge Network, and ensure that the content of the RESL has a more permanent home;
- start to synthesise out lessons from Phase 3 of TLTP, starting with a synthesis of lessons learnt from the outputs that have been added to RESL.

EFFECTS (TLTP3/no.89)

Effective Framework for Embedding C&IT using Targeted Support

Aim:

- to support the development and evaluation of technology into 70 mainstream teaching modules across five institutions.

Funding: TLTP phase 3, £260,000

Timescales: Oct 1998 – Sep 2001 (Transferability funding awarded.)

Subject area: Cross Discipline

Lead institution: University of Plymouth

Consortium partners:

UMIST, University of North London, Oxford Brookes University, University of Southampton

Web site: <http://sh.plym.ac.uk/eds/effects/>

EFFECTS provided a framework for participant-led professional development, allowing individual negotiation of learning outcomes. It encouraged staff participants to think about the most appropriate uses of technology in the context of action research projects of relevance to them as lecturers and of value also to their students and departments. Individual staff participating in an EFFECTS programme undertook a development project in which they work through a number of generic learning outcomes: preparing, embedding, evaluation and reporting. Central support was provided in various forms depending on the institutions' requirements, such as workshops, individual negotiated learning agreements, one-to-one support along with targeted formal learning sessions, and standard staff development events.

The partners were encouraged and supported in sharing their experience, support materials and frameworks with each other. These materials were also made available to five cascade institutions who undertook to implement a professional development framework during the project. The wider dissemination and integration across the HE sector was then achieved through the co-operation of the partner institutions, the support of key professional bodies, and the accreditation of a nationally recognised certificate in the use of C&IT. Additionally, the project actively sought to work with other initiatives working towards the professional development of staff embedding C&IT into learning and teaching.

TALENT (TLTP3/no.82)

Aim:

- to collect knowledge and experience of using the web for teaching and learning institution wide, and share this knowledge within a community of collaborating universities.

Funding: TLTP phase 3, £245,000

Timescales: Oct 1998 – Sep 2001

Subject area: Cross Discipline

Lead institution: University of Kent at Canterbury

Consortium Partners: University of Leicester, Nene College, Canterbury Christ Church College

Web site: <http://www.le.ac.uk/TALENT/>

TALENT aimed to develop institutional capacity. The project piloted institutional audits and used these to gain entry to potential institutions and to assess institutional readiness for technology supported learning. It offered an institution the organisational, educational, technical support and strategies to implement effective network technologies on the Web for teaching and learning. TALENT collected knowledge and experience of using the web for teaching and learning institution wide, and shared this knowledge within a community of collaborating universities.

The project team produced the 'Book of TALENT'; a collection of workshops, web based software tools, reviews, strategies, evaluation tools and studies of good practice as well as case studies of pitfalls. The Book of TALENT, available on the Web and as a guide, in hard copy, offered a collection of tried and tested materials and practices to achieve effective implementation of web use within institutions and aimed to create collaborative networks to promote good practice.

ELEN (TLTP3/no.84)

Extended Learning Environment Network

Aim:

- to introduce effective life long learning skills materials into the Level 1 HE curriculum across six HE institutions in the "old" and the "new" sectors, and at the same time to develop staff and student skills in the utilisation of CBL and CAL, in generic learning skills and subject specialist areas.

Funding: TLTP phase 3, £280,000 (£211,000 in matched funding)

Timescales: Oct 1998 - Sep 2001

Subject area: Cross Discipline

Lead institution: University of Lincolnshire and Humberside (ULH)

Consortium Partners: University of Bradford; De Montfort University; University of Hull; University of Plymouth; Thames Valley University

Web site: <http://www.lincoln.ac.uk/elen/>

ELEN developed the use of an integrated web based learning system across six HE institutions to deliver key skills and subject based content that developed student competences as effective lifelong learners. Project partners adapted and developed course materials to run online, with small-scale pilots run in each of the partner institutions. Software development activities focused on enabling the ELEN system developed in one university to be installed and integrated onto other networks and administered locally. Further cross-university approaches aimed to innovative subject delivery and skills development via utilisation of TLTP and similar materials by acting as a lever for institutional change for key skills development and independent lifelong learning.

ANNIE (FDTL3/no.60)

Accessing and Networking with National and International Expertise

Aim:

- to enhance students' learning experience by augmenting two aspects of the established culture within the national discipline. The first of these is access to research-led teaching and workshops led by practitioners of national and international standing, and the second is student engagement in self-directed learning.

Funding: FDTL phase 3, £250,000

Timescales: Jan 2001 – Dec 2002 (extended to Mar 2003)

Subject area: Performing Arts (Theatre & Drama)

Lead institution: University of Warwick

Consortium partners: University of Kent at Canterbury (second phase De Montfort University, University of Exeter and Queen's University, Belfast)

Web site: <http://www.ukc.ac.uk/sdfva/ANNIE/>

Based in discipline of Theatre Studies and Drama, but relevant to wider performing and visual arts subject areas, the ANNIE project has worked first to establish the academic principles, structures and procedures needed for organising teaching from distant locations, and second, to determine the most effective uses of available methods and media. It offers appropriate guidance and training for the planning of module activities that engage students in self-directed and interactive learning.

The project is working to establish and pilot a range of pedagogical and technological approaches in the two consortium universities and to offer these as models of good practice in creative and collaborative learning to a further range of institutions. Dissemination of pedagogical and technical guidance materials and consultancy advice aims to facilitate uptake amongst the wider community.

SESDL (*ScotCIT*)

Scottish Electronic Staff Development Library

Aim:

- to develop an online resource base designed to encourage the sharing and reuse of staff development materials

Funding: ScotCIT, £150,000

Timescales: 1998 - 2001

Subject area: Staff development

Lead institution: Edinburgh University

Consortium partners: Paisley University, University of Strathclyde

Web site: <http://www.sesdl.scotcit.ac.uk/>

The Scottish Electronic Staff Development Library provides a suite of tools which allows users to upload resources, search or browse for existing materials, build and view lessons and store resources in a personal folder. The library contains approximately 1000 resources stored in the form of 'granules', which can be used individually or packaged to create a lesson. All SeSDL resources are interoperable. They are described using IMS metadata and classified using the SeSDL educational taxonomy under five main headings: educational development, educational

technology, academic management, resource type and subject area. Staff developers can assemble these granules within the library in order to build customized lessons tailored to meet the needs of their own departments and institutions. Lessons can be viewed directly through the electronic library or can be exported as standard IMS content packages, which can be incorporated into an institution's preferred virtual learning environment. Materials can also be added to the library by staff developers who see the potential for their reuse.

ELICIT (ScotCIT)

Enabling Large-scale Institutional implementation of C&IT

Aim:

- to facilitate large-scale staff development in C&IT for academic staff at institutional level

Funding: ScotCIT, £100,000

Timescales: 1998 - 2001

Subject area: Staff development

Lead institution: Napier University

Consortium partners:

Queen Margaret University College, The Robert Gordon University, University of Strathclyde

Web site: <http://www.elicit.scotcit.ac.uk>

This collaborative project developed a series of web-based resources to help facilitate large-scale staff development in C&IT for academic staff at institutional level. Courses available include technology mediated communication, electronic assessment and web-based learning. The materials take the form of modules covering different aspects of C&IT methods from virtual learning environments to video conferencing.

NetCulture (ScotCIT)

Staff Development Network

Aim:

- to enhance the capacity of staff development services within Scottish HEIs so as to provide improved long-term support and development for their staff in the use of C&IT in teaching and learning.

Funding: ScotCIT, £344,000

Timescales: 1998 - 2001

Subject area: Staff development

Lead institution: University of Aberdeen

Consortium partners: University of Abertay Dundee, University of Edinburgh, University of Glasgow, Glasgow Caledonian University

Web site: <http://netculture.scotcit.ac.uk/>

NetCulture developed a database and web site to collate materials in use by academic staff developers. Staff developers in this area were encouraged to share and exchange practice. They were brought together in online and face-to-face networks to discuss issues and share resources, tools and development opportunities. NetCulture aimed to support individual projects under the SHEFC C&IT staff development programme in evaluation of products and in dissemination.