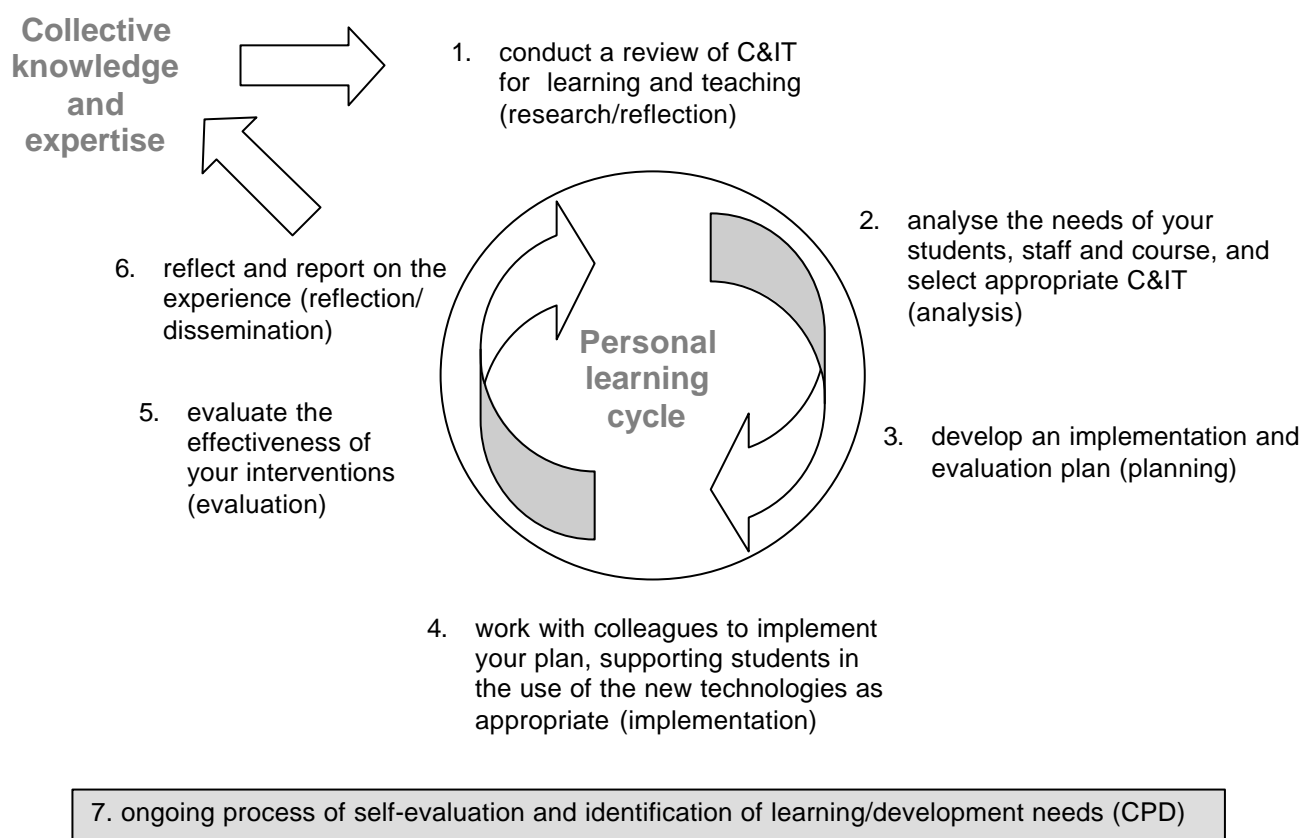


Embedding learning technologies into the curriculum

It is very difficult to generalise lessons about embedding learning technologies. As with all learning and teaching decisions, the decision as to which technologies to use with students will depend on a wide range of factors, including:

- the subject area
- the learning aims and objectives
- students' prior knowledge and skills in the subject area
- students' motivation and prior experience of learning
- specific student learning needs
- available technologies and infrastructure
- available support (for the technologies, the students, and yourself)

However, the EFFECTS/ELT learning cycle describes a general method for choosing, using and evaluating technologies in any learning and teaching context. This cycle has been shown to be effective across a wide range of subject areas, in very different UK HE institutions, and with staff at various levels of thinking about their own learning and teaching practice.



The following general lessons in curriculum development have been compiled by staff of the EFFECTS project, based on their experience of supporting staff.

1. Any technology – old or new – should be used to meet specific, pre-defined learning and teaching goals, rather than as an end in itself.
2. Teaching staff can only make effective decisions about the appropriate use of a technology once they are familiar with its use. Familiarity means not only being able to operate a particular tool or system, but understanding its specific affordances for learning and teaching, and being to apply it in the context their own students' learning needs. Acquiring familiarity-in-use has time implications for staff, and this needs to be acknowledged when introducing new technologies and planning staff development.
3. In the same way, learning sessions involving new technologies need to be planned so as to allow students time to develop familiarity with the technology. This is especially true if learning activities are to be formally assessed.
4. With over-familiarity, technologies can become 'invisible' to both staff and students. Examples would be the lecture hall and overhead projector. Over-familiarity can be as counterproductive to innovation as fear and inexperience. The point at which staff are becoming familiar with a new technology, but are not yet using it unthinkingly, is probably the point at which they are most open to thinking creatively about its use for learning and teaching.
5. Training in the use of new technologies that is not informed by an awareness of the educational opportunities, and in which staff are not encouraged to explore their potential, can lead to unthinking adoption in which effective new educational practices do not emerge.
6. EFFECTS learning outcomes 1-3 (review, analyse and plan/design), if appropriately supported, are achievable by most members of staff and provide a sound basis for embedding learning technologies into the curriculum (outcome 4).
7. At present, we have found that many staff lack the confidence, motivation and methodological tools to undertake outcomes 5-7, i.e. educational evaluation, critical reflection on practice, or writing for learning and teaching publications. There is some evidence that staff may move on to these activities in a second development 'cycle', i.e. having used a new technique or technology at least once to support student learning.
8. These 'second cycle' activities require the support of expert development staff with an understanding of evaluation and critical reflection, and an awareness of current issues in learning technology research, as well as sound knowledge of the specific affordances of new technologies for learning and teaching.
9. The main barriers to embedding of learning technologies, from a staff perspective, seem to be:
 - Lack of credible professional incentives for learning and teaching innovation (e.g. career enhancement, time off for development)
 - Time pressure and high workloads, with a perhaps exaggerated perception of the time required to become familiar with new technologies and techniques
 - Lack of confidence and experience with the relevant technologies
 - Lack of good practice models such as local mentors or relevant, high quality case studies
 - Lack of a culture of development, evaluation, action research and reflection in academic teaching and learning
 - Poor access to support staff, or a lack of support staff with the relevant technical, educational and evaluative skills
 - Lack of strategic support from institutional and (especially) departmental management
 - Status of learning technologies in relation to other local priorities (e.g. QAA, RAE, Widening Participation)
 - Change weariness and mistrust of 'new' agendas

CPD for learning technologies

(a) programme philosophy and design

1. ELT programmes are designed to be progressive, enabling all participants to advance their learning technology awareness and development. This might mean, for example, progressing from use to familiarity-in-use, becoming more effective at supporting student learning, becoming a critical practitioner and change agent, or undertaking educational research and evaluation.
2. The EFFECTS (now SEDA ELT) learning outcomes provide a sound framework for the design of programmes to support embedding learning technologies into the curriculum. They have been proven across a wide range of different institutions and disciplines, and for participants with different starting levels of familiarity with learning technologies.
3. The EFFECTS (now SEDA ELT) professional values are designed to ensure that all programmes are underpinned by a common concern for the quality of student learning. Programme developers are encouraged to design CPD opportunities with the aim that they:
 - be progressive and developmental;
 - promote collegiality and collaboration, but value diversity;
 - develop people who can cascade expertise to others;
 - provide appropriate recognition, validation and reward for the effort invested in development;
 - promote the scholarship of learning and teaching including the values of peer review and critical reflection; and
 - aim to raise the status of learning technology work within the academy.

We have learned, however, that these are ideals towards which programmes can only advance as fast as the prevailing institutional context will allow.

4. Specialist CPD for learning technologies can be effectively organised around an action research/action learning model, in which participants set their own learning objectives, plan their own curriculum development project, and adopt a critically reflective/evaluative approach to their work. This approach is likely to be of most interest to learning technology specialists, and learning and teaching enthusiasts and innovators.
5. An alternative model is to embed learning technologies into ILT and other initial professional development courses for academic staff. The advantage is that the use of learning technologies is seen as an aspect of mainstream teaching practice rather than an arcane specialism. However, there is rarely time within the context of such courses for staff to demonstrate all the skills required by the seven learning outcomes.
6. The two approaches – an integrated learning technologies strand to teacher accreditation, and a specialist embedding learning technologies module – can be mutually supportive. For example:
 - outcomes 1 to 3(4) may be taught in an integrated fashion, with only those choosing to specialise in learning technology development going on to complete outcomes 4(5) to 7 (e.g. as a small-scale development project);
 - participants on the specialist module can become learning technology mentors and advisors to staff seeking basic accreditation;
 - common materials and workshop sessions can be developed, although the taught sessions may remain separate;
 - staff who are developed or recruited to support the EFFECTS/ELT learning outcomes will be able to offer high quality, pedagogically-informed support to the learning technology elements of the ILT programme.
7. A third approach is to integrate the programme into support for learning and teaching projects. Staff are provided with appropriate support for each learning outcome, as a natural framework to structure their development activities. An advantage is that skills are learned as they are needed and are integrated into practice immediately. A further advantage is that all members of a development team (including support staff) can be offered equivalent learning and accreditation opportunities. A disadvantage is that there are few incentives to reflect on or evaluate the experience, and these staff may not be motivated to collect evidence for CPD.

8. Timing of professional development opportunities within the academic year is important to ensure staff will not be too busy to attend.
9. While roll-on-roll-off or self-directed programmes offer maximum flexibility to participants, there are undoubted benefits to periods of more intensive learning and to learning in a cohort. The cohort approach is also less demanding on tutor time and helps participants maintain progress towards the learning outcomes. Therefore most EFFECTS/ELT institutions have opted for a series of workshops – often during vacation periods when staff have fewer immediate demands – followed up with tutorial support during project implementation, evaluation and writing up.
10. Workshops on specific learning technology issues can usefully be opened up to all staff at the institution. EFFECTS/ELT participants can use these as opportunities to present their own work.
11. Workshops to support the development cycle, promote reflection and help build evidence for the learning outcomes can be confined to programme participants to ensure a supportive and familiar environment.

(b) programme content and delivery

1. Currently most EFFECTS/ELT programmes offer guidelines and toolkits to help practitioners manage each stage of the learning cycle.
2. Structured tasks based around interactive documents or templates can be useful to help participants build portfolios, particularly where they lack the interest or experience to write an academic paper. Structured activities do help participants to complete the process, but may not encourage innovation and critical thinking. It is important that they support the action learning cycle rather than becoming ends in themselves.
3. An alternative approach is to offer a very loosely structured programme based on individual supervision and tutorial-type meetings or learning contracts. This may be particularly appropriate with more experienced and motivated practitioners, and arguably also enhances the scholarly status of the programme.
4. Reflection on practice is an essential element of EFFECTS/ELT programmes. Participants should be encouraged to reflect on their own use of learning technologies, which may involve a learning log or pro-formas with reflective questions about critical issues. Participants should also be encouraged to reflect on the wider practices of their department, institution or subject area. This secondary level of reflection will involve reading, asking questions and critically reviewing other people's practice.
5. It is important that the methods of delivery in EFFECTS/ELT programmes support participants' growing familiarity-in-use with the technologies that they will be embedding.
6. Most programmes make use of a web site or virtual learning environment and provide online communication opportunities to participants. However, particularly where they lack confidence with learning technologies, participants often prefer face-to-face communication. Optional (non-assessed, non-critical) online support will rarely be used by participants with many other demands on their time.

(c) assessment

1. A range of assessment formats are available within the ELT framework. The two main formats used are the portfolio and the case study:

	Advantages	Disadvantages
(1) Portfolio of evidence with reflective commentary	<ul style="list-style-type: none"> • May be useful for other professional development purposes • Emphasises reflection • Likely to be familiar from ILT and SEDA courses • Relatively easy to monitor progress and assess against outcomes 	<ul style="list-style-type: none"> • May be unfamiliar to lecturers who have not taken an ILT/SEDA course • Risk of box-ticking exercise • May underplay research agenda and scholarship of teaching • May therefore be undervalued as an outcome in research-oriented institutions
(2) Case study	<ul style="list-style-type: none"> • May form the basis of a publication and therefore offer academic recognition • Emphasises evaluation • Likely to be familiar from academic 	<ul style="list-style-type: none"> • May be unfamiliar to non-social-scientists • May underplay the value of reflecting on evidence • Requires mapping to learning

	research activities (especially in social sciences) <ul style="list-style-type: none"> • Useful for dissemination to others 	outcomes and may therefore be more complex to assess <ul style="list-style-type: none"> • May be difficult to evidence all the learning outcomes
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- Hybrid formats have also been used successfully, for example a case study with additional evidence, or a portfolio of which a case study forms a major portion.
- Ideally, assessment requirements should be flexible in recognition of the fact that different outcomes will be useful to different participants. Innovative formats might also be encouraged: for example participants might choose to produce a web site or CD-ROM.
- Programme designers may have to take on arguments about what constitutes an assessable outcome, particularly if they are seeking institutional validation. For example, a parallel study to EFFECTS (Beetham 2001) found that lunchtime presentations to colleagues and informal mentoring arrangements were among the most effective means of changing learning and teaching practice. Obviously these are valuable activities for participants to undertake, but they are not easy to evidence or assess.

(d) support

- Specialist learning technology CPD demands targeted, relevant support of several kinds:
 - Technical support - often provided by staff not directly involved with the CPD programme
 - Pedagogical support - advice on pedagogically sound uses of the available technologies
 - Process support - scaffolding of the skills and activities required to meet the learning outcomes
 - Personal support - i.e. mentoring, to help participants deal with non-technical difficulties arising from their development projects
- The main challenge is integrating support structures and existing support roles to provide all these elements in a timely way.
- Participants on ELT programmes can become supporters of other staff, for example by:
 - inviting them to give lunchtime presentations of their development work;
 - exploring routes by which the outcomes of individual curriculum projects can feed back into departmental and institutional policy on learning technologies;
 - developing routes to professional advancement, e.g. teaching fellowships, which take account of learning technology expertise;
 - developing networks of learning technology champions with recognised roles in their department and/or in the institution;
 - providing funds to buy out academic staff time for pursuit of learning technology related projects.
- However, it is important that learning technology enthusiasts do not find themselves inundated with requests for technical support from colleagues. This is a clear disincentive to gaining expertise, *and is inevitable without an effective network of technical support staff.*
- It can be difficult to recruit people with the expertise to develop, deliver and support EFFECTS/ELT courses. Such individuals need their own CPD opportunities, many of which will only be available outside the institution. Retaining these staff is a matter of ensuring they have adequate recognition for their contribution to learning and teaching development, including job security, and opportunities to develop their own academic careers where appropriate.

(e) participation

- Publication and academic recognition are generally more attractive rewards than academic credit for experienced members of staff, though academic credit may be more significant to new staff (particularly in post-92 institutions) and for non-academic or academic-related staff.
- Effective approaches to recruiting participants have been found to include:
 - targeting new lecturers who have recently completed an accredited initial training programme;
 - targeting a specific department or faculty where learning technology is particularly favoured;

- offering participants the opportunity to bid for money from a learning technology projects fund;
 - building the programme around professional development for a specific new technology or environment (e.g. the implementation of a managed learning environment);
 - offering 'taster sessions' where staff have a chance to try new technologies or approaches for themselves;
 - holding 'showcase' events where participants can demonstrate their achievements to other staff.
3. Programme features which are particularly attractive to staff are:
 - just-in-time training (e.g. to solve specific learning and teaching problems or introduce specific new technologies);
 - relevant examples of successful embedding (case studies, show cases);
 - a positive institutional vision of what can be achieved;
 - publication opportunities;
 - flexibility of attendance;
 - one-to-one support.
 4. The EFFECTS/ELT framework allows different participants to pursue different outcomes at different levels of achievement, and appropriately to their own specific roles. Ideally, institutional programmes will be similarly flexible, even if local cultures and agendas favour particular outcomes.
 5. Different types of participant may engage differently with CPD. There will be the dropper-in, the workshop junkie, the tryer-out, the person-who's-done-it-all-already, the reflector, the change agent... Taking a concerns-based approach means recognising how individuals work out their identity and role as they engage in CPD, and evolving a repertoire of supportive techniques for participants with different starting points and aspirations.
 6. At present a range of hybrid roles is developing in the area of learning technologies: academic-developers, academic-technologists, technologist-librarians and so on. Many of these roles are undervalued and underpaid. Unfortunately, participation in an ELT-type programme can actually catapult people out of more secure (if perhaps unfulfilling) roles into one of these hotspots. Developers have some responsibility to continue working with people who have been 'developed' in this way, to articulate more clearly the nature and value of learning technology work.

(f) embedding programmes into institutional culture

1. We believe that participants on EFFECTS/ELT programmes should not be asked to uncritically adopt local learning technology policies or accept the available learning technology infrastructure. As innovators, they are valuable sources of information and influence about how policy and infrastructure should develop.
2. Institutional accreditation of staff/educational development programmes is valuable in drawing down resources for support of participants, providing internal quality assurance, and raising the scholarship of curriculum development. It is most successful as part of a postgraduate certificate, diploma or Masters in an education-related subject. However, accreditation is seen as a means rather than an end in itself.
3. It is worth exploring mechanisms for tying in the CPD requirements of ELT with institutional resources for embedding learning technologies. For example:
 - Learning and Teaching Strategy resources could be made available to support curriculum development projects within the context of ELT;
 - bids to internal development funds can be viewed more favourably if bidders have undertaken or intend to undertake appropriate CPD;
 - an ELT workshop could be used to help participants develop credible bids for funding;
 - ELT materials could guide staff through accessing institutional resources (especially support staff);
 - teaching fellowships or sabbaticals could be awarded with an eye to whether participants will use the additional time for a specific curriculum development project.

4. Where possible, EFFECTS/ELT programme objectives should be aligned with the objectives of the institution's Learning and Teaching Strategy. Other strategies from which funding and/or support can be secured for learning technology-related CPD include the Human Resources Strategy and the Information Strategy.
5. Learning technologies are relevant to other issues that may be high on the institutional agenda, such as employability skills, widening participation, working with regional partners and transition from FE to HE. Developers should be strategic about linking ELT programmes and participants with these other agendas.
6. The ELT learning outcomes can also be used as a framework for supporting individuals and groups of staff through small-scale development projects, without being explicitly identified as professional development. Most members of the EFFECTS team feel, however, that the learning cycle, learning outcomes and developmental philosophy should be made clear, even if individuals decide to use the framework in a purely instrumental way.

Effective approaches to institutional change

1. Institutions are becoming more prepared to invest in staff expertise as they invest proportionately more in the actual technology (e.g. managed learning environments). It is important for learning technology specialists to be active in working parties and committees that make decisions on the implementation of new systems, as well as on effective staff and educational development.
2. The most effective use of learning technology by academics happens when the department has a supportive culture, i.e. where Heads of Department actively prioritise innovation in learning and teaching. Institutional mission statements are no use unless there are mechanisms for translating them into strategic priorities and resource allocations at this local level.
3. It is essential to communicate successes to other staff and to the university management, e.g. via a special publications and web sites, exhibitions, a 'technology term', 'student centred learning week' or similar.
4. Too many institutions support learning technology innovations projects without learning the lessons of their success, or failure. Central support for evaluation (e.g. a dedicated member of the learning technology team) can ensure that outcomes are effectively translated into lessons for other practitioners, and recommendations for strategic planners.
5. Lack of time and funding and inadequate infrastructure remain serious incentives to innovation.
6. Competitive bidding for innovation funds leads to valuable resources and ideas, but does not make learning technology development a mainstream activity.
7. An ELT programme increases the demand for qualified, educationally-aware support staff. Although academic staff with learning technology skills are invaluable mentors to others in their department, they should not become a substitute for other forms of support or they will become overworked and may actually have their status downgraded by their new expertise.
8. There is a growing awareness that support for embedding learning technologies needs to be both local (i.e. subject-based within departments) and central (i.e. with a generic awareness of the technologies and opportunities involved). Pro-active mechanisms are needed if staff working in different departments and units are to share good practice effectively.
9. Effective embedding of learning technologies requires collaboration among staff in different areas of the institution. Short-term alliances such as multi-role project teams can pave the way for longer-term contacts and networks. However, there are currently few formal structures for recognising and rewarding this kind of cross-boundary collaboration.
10. Institutional development requires progress on a large number of issues simultaneously (technical infrastructure, organisational systems, learning and teaching culture, reward and recognition, staff development, support services, research and development...) and different factors will be limiting development at any one time.
11. The main barriers to institutional change appear to be:
 - Weaknesses in technical infrastructure (usually lags well behind the ambitions of the most forward-thinking staff)
 - Long lead-in times for technical developments and roll-outs (means that learning and teaching innovations are put 'on-hold' as the technology available is about to become obsolete)

- Failure to involve learning and teaching staff in discussions about the development of technical infrastructure
 - Failure to recruit and develop educationally-aware learning technology professionals to support academic staff effectively
 - Ongoing uncertainty for learning technology professionals (location, resourcing and remit of relevant units; contracts, promotion opportunities and terms of employment for individuals) leading to brain-drain
 - Lack of good communication structures (local and institutional) to enable dissemination of good practice and to allow feedback from innovators and developers into institutional decision-making processes
 - Poor integration of initiatives – a multitude of new agendas without much central direction or focus ('howlround') leading to change weariness among staff
 - Unsupportive local and central management – failure to prioritise or properly fund learning and teaching innovation is more common than active hostility; gaps between central policy and departmental implementation/resourcing strategies are particularly common
 - Failure to link available innovation funds with CPD, which would mean that funds were better spent (and provide incentives for staff to engage in CPD)
 - Failure to recognise and integrate the work of externally funded projects
12. Staff and educational development is becoming a more mainstream activity within the academy and has taken on many aspects of a managerial agenda e.g. benchmarking, quality assurance, business process reengineering, instructional design. There are opportunities for learning technologists to influence the strategic agenda through this close alignment with the interests of management.
13. There is also however an alternative philosophy of development which urges teachers to question their practice and the institutional contexts in which they work. This does not always sit well with practitioners' own perceived needs for just-in-time training, or with the necessarily more conservative agenda of institutional managers and professional bodies. While exploiting opportunities for influence, therefore, developers should be critically aware of and reflective about their own values.

Building shared resources and networks

(a) Resources

1. There is a demand from institutions seeking to develop ELT programmes for:
 - examples of programmes from other institutions – their history, rationale and documentation
 - shared staff development materials from existing and developing programmes
 - help in reviewing programme aims, objectives and structures
 - help in preparing documentation and managing the institutional process of validation/embedding
 - co-mentoring relationships with similar institutions
2. Expertise is the key resource for learning technologies, but it is difficult to separate this resource from the locale in which it is acquired and the actual people who own it.
3. We believe it is possible for practitioners to learn from one another via resources such as the ELT web site. However, these resources need to be reinterpreted and reinscribed into new contexts. There is little evidence that practitioners will spontaneously adopt ideas from legacy resources into their own developing practice.
4. We have learned that it is often more effective to share 'war stories' about what people have done with learning technologies than to try to develop hard-and-fast guidelines or rules.
5. There are significant barriers to the sharing of resources such as course materials, where competition across institutions is a real factor. There was recognition by participants in the networks that 'someone' needs pro-actively to collate, develop, and initiate collaborative development of new resources, and that there should be formal arrangements and rewards for this work.
6. Potential providers of shared resources are working with a variety of motivations and contexts, and the format of their materials will reflect this – though with a tendency towards article-length papers

with the potential reward of academic publication. Users, on the other hand, tend to prefer a searchable database of information, preferably in FAQ format, but at least in a highly standardised form. Again, this demonstrates a need for pro-active analysis, collation and interpretation of resources if they are to be useful to practitioners.

(b) networks

1. Project team members feel that the networking and sharing of good practice across a range of institutions has been an invaluable aspect of EFFECTS/ELT. However, such activities have not always been well promoted or resourced nationally.
2. Learning technology practice takes place at the interface of a number of other practices: institutional, educational and technical-developmental. Culturally, practitioners still look to colleagues in their own discipline for inspiration. Any network concerned with learning technology development will therefore have to be sensitive to its relations with these other cultures and networks of practice.
3. There are still many barriers at local level to participation in inter-institutional networks. People based in competitive departments and funded for their research efforts have no reason to collaborate. People working as change agents in learning technology or learning and teaching units are likely to see more benefits in collaborating with other institutions, but they are unlikely to be specifically funded or allocated time to do so.
4. We acknowledge that internal institutional networks can also be difficult to sustain. These are often informal and contingent, arising in response to specific local needs and initiatives. However, all collaboration with institutions lends itself to the development of personal contacts that can be sustained or reactivated as needed.
5. Institutional timing is crucial. At partner institutions the average time between first exposure to and take-up of the framework seems to be about 2 years, suggesting that even the best ideas need to be seeded and re-seeded before they find a niche in which to grow.
6. We note that the idea of regional meetings has been successful in some cases, demonstrating that people are prepared to travel limited distances to meet face to face with practitioners in similar roles to their own. Pro-active and committed individuals are needed to help develop a sense of community within a collection of what may be very different institutions.
7. There are also limits to the usefulness of regional networks. For programme developers it may be more helpful to have contact with cognate institutions than with 'the institution down the road'. Critical variables include: learning and teaching culture, the research agenda, the role of the ILT and SEDA, the culture of CPD and reflective practice, the history of involvement in the national learning technologies agenda etc.
8. Learning technology enthusiasts are often very well networked online, but may be less well networked regionally or locally. Practitioners tend to be more interested in the experiences of others in their subject area.
9. Regional networks in the HE context tend to focus on regional economic issues and widening participation. They do not generally link directly in to learning technology issues, though there is no reason why the connections could not be made.

Some philosophical issues

1. The wide range of learning and teaching initiatives that came about during the lifetime of the EFFECTS project has meant constant reappraisal and refinement of project plans. The desire to respond to a rapidly changing national scene has sometimes conflicted with project goals that were fixed at the outset.
2. The requirement for standardised 'case study' outcomes from EFFECTS participants was in direct conflict with the rationale that participants should pursue their own personal objectives in undertaking CPD. It was also often in conflict with the demands of the masters programmes within which EFFECTS courses tended to be validated. Case studies have therefore taken a wide variety of formats.
3. On the other hand we recognise that standard format are helpful to users, and they can be supportive of participants who are uncomfortable with writing a research paper or case study. Structured guidelines and support from project officers has enabled the production of a higher number of case studies, but is somewhat at odds with the project philosophy to embed a culture of

self-sufficient evaluation and dissemination practice. It may be that our expectations in this area were too far in advance of the prevailing learning and teaching culture(s).

4. Another lesson has been that people are more ready to talk about their practice with colleagues than to commit it to writing. In many cases this can actually be more useful as a means of dissemination and intervention within departments. However, it does nothing to develop more widely shareable resources or to advance the body of learning technologies research.
5. Participants have been far keener to engage with the first three or four EFFECTS learning outcomes than to evaluate and write up their work. Pressures of time are most commonly given as the reason, along with a lack of incentive given the low regard in which pedagogical research and publication are still held. This leads us to doubt whether further short-term funding for learning and teaching development will seriously impact on the research-led culture in UK HE.
6. One of the reasons for the (relative) success of EFFECTS, in the view of the project team, has been the educational development philosophy that has informed our activities. The entire process of the project has been a series of interventions in learning and teaching practice, and the outcomes have been the individuals whose practice and outlook has been changed by engaging with the project.
7. This philosophy and culture allowed the project to develop a very flexible framework for supporting practice, which meant people could buy in to the concept from quite different perspectives. Our focus on the human resource issues in learning technology was timely, with simultaneous interest from the ILT, ALT, THETO, the JISC and other bodies.
8. It is interesting that institutions now approach EFFECTS as a valuable entity in itself, as a set of resources and products. In fact what institutions and developers need is each other. This is why working with existing professional networks has been the focus of our continuation work.
9. We would like to record that one of the most important outcomes of EFFECTS has been the development of the individuals involved in the project team. We have encouraged one another to reflect, debate, theorise, experiment and push forward our ideas about learning technologies. Although almost all have moved on to new posts and new institutions, we have found ways of sustaining our discussions and of drawing other people in. These are important stories to be told about EFFECTS, and precious outcomes.
10. We believe more strongly than ever in the need to build overlapping communities of critical research, critical development and critical practice in learning technologies. While many of us have developed our own research profiles during the lifetime of the project, we are wary of perpetuating the separation between research and practice by focusing exclusively on the former. The need for critically reflective, questioning and empowered teachers in higher education has surely never been greater.