



Networks of practice/representations of practice a position paper on the development of innovative learning technology practice in UK HE

Background

Why have often excellent learning technology initiatives failed to have the desired impact? One problem may be with the notion of 'dissemination', which implies that changing learning and teaching practice is a matter of information flow: once staff are fully apprised of the latest innovations they will naturally embrace them. That this does not happen indicates the way the learning technology revolution challenges fundamental paradigms, cultures and divisions of labour (Schank 1994, Goodyear 1997, McAleese 1998, Somekh 1998, Kewell *et al* 1999).

The EFFECTS project was premised on the belief that learning and teaching staff need to be empowered in relation to these challenges, not simply with new technical tools but with new concepts of learning, new skills in curriculum development and new modes of collaborating with colleagues. Inevitably, this process also involves articulating personal values and identities in relation to the new learning environment, and intervening in the established practices and culture of institutions. Development, not dissemination, was the overarching rationale. EFFECTS therefore offered a framework for the educational development of academic and related staff, via structured programmes of action research or supported curriculum development. The focus was on developing high level skills such as information management, needs analysis, project planning, collaborative development, evaluation and educational design (Beetham and Bailey, 2001), while assuming a high degree of proficiency in discipline pedagogy. Extending this process of development and empowerment to a wider community of practitioners is a new challenge.

SoURCE was developmental in a different sense. The 'reusability' strand of the project focused on the process of software development, including the adaptation and re-embedding of software into new contexts of learning and teaching. The aim was to identify practices and processes which made for more efficient as well as more educationally effective development. Like EFFECTS, however, the target audience for SoURCE findings on reusability is not the total population of potential academic users but the institutional specialists involved in adapting educational software for use, whether that adaptation involves incorporation of content, actual re-coding, or redesign of educational activities and sessions to exploit the features of a particular package. A second, 'library' strand focused on the development of an IMS-compatible database with proven examples of educational software, complete with case studies, guidelines for use/re-use, and other documentation to support effective educational practice.

Alongside development, both projects have undertaken various research studies. The findings of these offer a rationale for the proposed project.

Rationale

First, a series of EFFECTS project evaluations (Beetham *et al* 1999; Beetham *et al* 2000; Harvey and Oliver 2001) has shown that the learning outcomes, sample evidence and interactive documents represent a useful framework for understanding and supporting learning technology work, even without the benefits of a structured programme. At most of the participating institutions, for example, a 'lite' version of EFFECTS was offered – as part of a general learning and teaching certificate course for new lecturers, as a one-off workshop, or to support staff with small-scale learning technology development projects – with some success. The Evaluation Report notes that partner institutions were eager to adopt the framework because *'In addition to providing a structure for staff development and assessment, it enabled support to be allocated to each step in the embedding process in a far more systematic way than was previously possible. Moreover, such a structure can be viewed as a 'road map', helping practitioners to embed C&IT more effectively and appropriately, with sensitivity to issues such as student learning...'* (Harvey and Oliver 2001). The same report found that the experience of developing and refining the framework had been extremely valuable for the personal and professional development of the project team.

This suggests that the EFFECTS framework functioned as a 'shareable representation of practice' (Goodyear and Steeples 1997), i.e. that both the *process* of developing the framework and the *artefacts* associated with the developed framework helped to support the reflective development of innovative practice. The process itself constituted a series of shared tasks which helped to build the community of expert developers around a common understanding of their work. The artefacts which resulted from this process offered structured support for the tasks of programme development and, once embedded in new programmes, helped to

structure participants' tasks through the process of embedding learning technologies. These findings are echoed in the SoURCE evaluation report which noted that at participating institutions, the process of articulating practice in software development was itself enormously valuable. The SoURCE library offers a concrete basis for sharing representations of practice such as case studies, while the EFFECTS framework shows how representations can be deployed in a different developmental situations including peer collaboration, self-directed learning, mentorship and more formal development programmes.

Second, a separate JISC-funded study (Beetham et al 2001) found that people already proficient in the skills of embedding learning technologies had not acquired those skills through formal development. The typical learning technology specialist or enthusiast is highly information literate and has a range of strategies for locating online and offline resources. Perhaps thanks to the plethora of centrally funded initiatives in this area, or perhaps due to the collaborative approach required by complex technologies, learning technology staff are also used to working in multi-role development teams. Their favoured approach to acquiring new skills is 'peer supported experimentation'. This suggests that individuals involved with learning technologies have the potential to behave as communities of practice – to develop and share understandings of their practice across institutional, project, discipline and professional role boundaries – in ways which may not be open to other groups of professionals. It also suggests that they are particularly proficient at deploying, interpreting, adapting and adopting representations of practice from other sources.

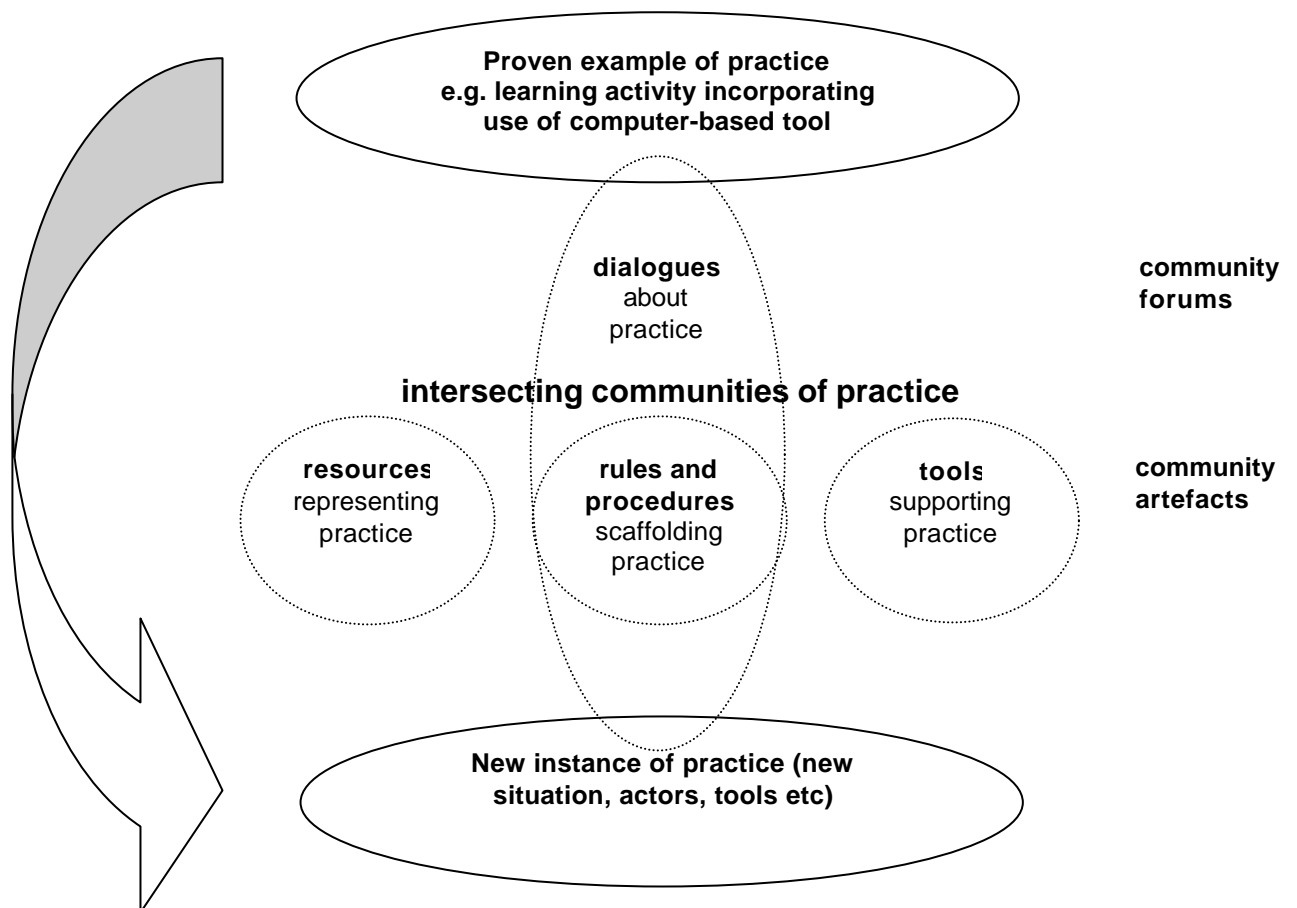


Figure 1: Migrating examples of practice in communities of practice

What forms of community and what kinds of representation are most effective in this context? The third relevant study was carried out jointly on behalf of the SoURCE and RESULTS projects (Beetham 2001b). This research took the form of an online survey ($n > 120$) of learning technology practitioners, a series of structured interviews and four national focus groups, aimed at uncovering ways in which learning technology practice is actually developed through networks and through sharing representations of practice.

The most *informative* resources or representations of practice were found to be (in descending order): articles, reviews, curriculum case studies and information from projects (especially lessons learned). The resources most *adopted in practice* were found to be (in descending order): software learning environments

and tools, staff development materials, guidelines and curriculum frameworks. When asked to express a preference, academic respondents most wanted access to (in descending order): staff development materials (possibly for self study?), software tools/environments, and case studies in curriculum development. Non-academics wanted access to: staff development materials (possibly for re-use in the support of other staff?), information resources, reviews and guidelines. As compared with academics, these staff appeared to be more focused on re-usable and adaptable resources for guiding the practice of others.

Overall the findings indicated that frameworks such as EFFECTS, accompanied by interactive documents, matrices, toolkits, guidelines and other representations that can be applied directly in practice, are regarded as highly usable both by specialist learning technology staff and by academics with an interest in learning technologies. Staff development materials in general make excellent candidates for sharing representations of practice as they are both readily available and highly usable in practice: the SeSDL project in Scotland has already pursued this approach. In the case of strategic frameworks and project resources, however, additional investment may be required if these highly valued resources are to be developed and shared.

Most academic staff interviewed in this study had become proficient in the use of learning technologies with the support of specialist staff from a learning technologies unit, educational development unit or similar. Particularly as less enthusiastic and technically confident members of staff become involved with learning technology use, it must be anticipated that demand for structured support of the kind provided by EFFECTS programmes will increase. The purpose of networks of practice will therefore not be to replace structured support for novice users, but to enhance the practice of more experienced users including those in a position to support future novices, and to develop frameworks and materials that can be shared by experts and novices alike.

The most effective dialogues for developing day-to-day practice proved to be those that took place naturally in the course of collaboration. Participants were often members of: working parties, committees, regional collaborations (*'it's the ability to physically network as well as conduct things virtually'*), professional networks and 'self help groups', or had strong personal links with people in similar positions at nearby institutions. New kinds of dialogical forum were evolving: institutional learning and teaching forums, 'change agent' networks, research seminars or reading and discussion groups in which practitioner-researchers talked with educational developers and academics in educational studies. While participants in this study were enthusiastic networkers at all levels, there was a sense that the time and effort involved was difficult to negotiate in the context of existing demands: *At the moment I feel just swamped with initiatives while trying to do my day to day job... there is a tension between increasing your network while still trying to manage things locally.* If a national network is to earn the respect and commitment of these already highly-networked individuals it must demonstrate that it can deliver the materials, contacts, ideas and representation that they require. The distinction between information providers and users must be completely dissolved into the role of active participant, with all members contributing, using, adapting, critiquing and generally developing the shared resources in order to build a sense of common purpose and shared ownership.

Among educational developers, collaborative development and delivery of courses across universities was found in this study to be surprisingly common, with a willingness to share materials, course development process, and even teaching time and facilities. In one example *'Each institution would host [a workshop] once or twice a year. Whoever was coordinating would collect all the materials together from the presenters and that material was given out to all the staff developers at all the participating universities.'* It is interesting to note that the funding model as well as the ethos of academic staff development promotes a sharing of educational ideas and materials across institutions, while the funding model for student learning encourages competition. A learning technology practice network will have at least this advantage over the LTSN networks: that participants are likely to come from a centrally-funded and collaboratively-minded sector of HE staff.

Given the nature of dialogues identified as enabling development, it is perhaps not surprising that the preferred medium for contact was face to face. Failing this, participants would turn to the telephone, email, or possibly videoconferencing to communicate with someone already known to them. More experienced users would turn to discussion lists first if they were not sure who to ask about a specific issue: one commented that for academic discourse email had the advantage of a written record for reflection and slightly more formal expression of ideas. However, these users were already confident with both pedagogical and technical issues, and tended to be seeking specific information rather than general practical support or educational discourse. Asynchronous media were more likely to introduce discrimination between 'active' and 'passive' participants in the dialogue, and perhaps therefore between expert and novice users.

There are two implications of this preference for face to face interaction. First, while research has pointed up the value of legitimate peripheral participation (Wenger 1998) in enculturating novices to general discourses and forms of practice, it is less clear that online participation can substitute for more directive, scaffolded support when practitioners actually have to get to grips with new tools. As the survey findings showed, there can be a steep learning curve between being 'informed by' and 'adopting' new ideas in learning and teaching practice. A diffuse network of practice may not therefore be appropriate for developing novices in learning technology use. Rather, the network should support those people who are supporting others, helping them to reach new understandings of their own transformative practice, and new ways of thinking about the local dialogues and interventions in which they are engaged. And second, among these more expert and specialized practitioners, there may be value in developing regional networks to allow regular face to face contact. Both the focus on learning technology developers and the preference for regional forums have already been explored by the NetCulture regional practitioner forums in Scotland. It is interesting that these forums have chosen to develop shared practice frameworks as their central shared task and *raison d'être*.

There was strong support for networking from all participants in the survey:

There are people like me at every university in the country and we could all be working separately to get this kind of information together.

You need information from outside the system. You can't work in a closed system

The vision

As a result of this research it is possible to identify some very specific opportunities for continuation of EFFECTS, SoURCE and other inter-disciplinary TLTP3 projects. Since early 2000, five TLTP3 projects, SoURCE, EFFECTS, ASTER, TALENT and FOCUS, have been collaborating to review ways in which outcomes can be embedded into the practice of the learning and teaching community in a more lasting way. A common goal was to create a resource base in the form of case studies, (action) research reports, guidelines, reviews, generic software tools, 'toolkits' and resources for reflection/study/professional development. These should be described according to common metadata and controlled vocabularies for keyword and resource type (an IMS compliant schema has now been developed) to enable cross searching by four quite different user communities. This opened up the possibility of sharing representations of practice beyond the original target users of the projects.

The experience of these projects and the various studies reported here suggest that there is little evidence of academic teaching staff accessing learning technology resources independently, however well evaluated and described they may be. Instead we have turned our attention to how these representations of practice can be situated within developing communities of practice, both contributing to and benefiting from the shared resource. Other communal practices and resources which are of interest include: staff and educational development programmes; specialist journals and other forums for publication and debate; digital libraries; local and national development projects; and institutional strategies. The artefacts that support and formalise practice are secondary to the actual community with its aims and agenda, rules of engagement, values, philosophies, theories-in-use and divisions of labour.

The EFFECTS/SoURCE transferability strategies will therefore have two interrelated objectives:

- To develop a **network of practice**, based on regional networks of learning technology specialists, where there is the opportunity for regular face to face meetings to support the development of common understandings and real collaborations. Through workshops, peer consultancy and shared development of EFFECTS/SEDA ELT programmes these networks will provide a vital resource for continuing intervention in institutions and will actively disseminate project outcomes to at least 18 additional sites.
- To develop common **representations of practice**, described using common metadata, which can support the work of network members in their own institutions, especially interventions in local practice such as the delivery of structured staff development. The main early focus will be the further development and population of the SoURCE library with the addition of outcomes from the two principal and other generic TLTP3 projects.

These two aspects – the network of practitioners and the developing framework for embedding learning technologies in practice – will be mutually informing and sustaining and have the potential to add value to a range of nationally funded projects. The focus will be on sharing experience rather than developing definitive versions of the materials. An early part of the project, however, will be to encourage the collation and metadata description of a range of generic materials, especially those arising from the TLTP3 programme, so as to make access easier and more accessible. It is anticipated that staff development materials of this kind will be relatively easy to identify. Less obvious will be the frameworks for practice which were seen as

particularly important both for building the network itself and in the work of individual members. EFFECTS provides one such framework for the aspects of learning technology work that revolve around supporting the practice of individual academic staff. A framework for supporting practices of institutional development and cultural change is currently being developed with JCALT funding as a continuation of the national audit project described earlier. This too will provide an essential resource. Finally, a small proportion of the SoURCE transferability funding will be spent on identifying and collating lessons learned about software re-use, to provide a framework for the specific practices of software development, adaptation and adoption.

The continuation funding of two TLTP3 projects will not, however, be sufficient for this important national effort. Support is actively being sought from other projects within the NCTeam stable, from the LTSN network and TiC, from the JISC, and directly from the UK HE funding bodies. Other networks exist or are coming into being which will could form important elements of a distributed national forum, including the CPD networks organised by the Generic Centre and the regional networks in Scotland which will continue to be sustained once funding for the ScotCIT/NetCulture project has come to an end.

A further pressing need identified by both SoURCE and EFFECTS is for a programme of research committed to overall analysis of the outcomes of learning and teaching innovation. We hope the appointment of a research fellow will ensure that the practice networks have a role to play in this research effort and do not become isolated from the scholarly concerns of learning technology as a discipline. This continues the commitment to research and analysis which has been a particular keystone of the SoURCE project. The overarching EFFECTS framework and learning outcomes will continue to underpin the philosophy of the networks project and to provide a stable point of reference for the many new practices, and representations of practice, that will no doubt emerge. Other projects are warmly encouraged to offer their own perspective on the proposals contained in this paper.