

Change for networked learning

Overview of Symposium

This symposium aims to bring together research on the management of change issues in the introduction of elearning in higher education.. Networked learning has thrown many challenges to the current structure and organisation of higher education. Universities have been variously attempting to make use of opportunities of the new technology and at the same time to respond to the inevitable consequence of rapid system changes. The volatile nature of change in higher education has prompted many experiments and the papers in the symposium will report on research from major change initiatives within institutions and across institutions.

The research papers report on the effects of strategic management and policy direction. The research has mainly been conducted as action research and case study research. The findings are based on longitudinal analyses of implementation of strategies over a period of three to four years. Two of the three papers (Coventry University and University of Sheffield) are based on individual institutions in England where different approaches have been taken to the introduction of elearning and the third is based on an analysis of trans-institutional change fostered in Scotland through the Virtual Learning Space (VLS) initiative.

The Symposium will contribute to the conference themes of elearning, and the e-University, and to methodologies for researching networked learning. In relation to the first theme this symposium will focus on institutional level issues of management and policy and consider the aims and appropriate structure for universities in a networked world. The research reported will also offer a contribution to issues of researching the management of change in networked learning. The case studies reported are of a wider scope than many existing case studies and have data related to an era of unprecedented change which may in time be viewed as transformational.

Organiser: Liz Beaty

Introducing E-learning via a Community Network: a Teaching and Learning Strategy in Action

Liz Beaty, Glynis Cousin and Frances Deepwell

ABSTRACT

In 1997 Coventry University adopted a teaching and learning strategy which aimed to make the best of opportunities offered by new information and communication technology (C&IT). Over the past four years a task force of seconded academic staff has been used as a development community to evaluate, trial and support the implementation of an online learning environment. Over this time there has been concurrent research on the activities of the task force and their perceptions of the changes. Evaluation of the use of online learning by staff and students has been collected and fed into decision making process at each stage of development. The process of the change management has been the focus of the action research reported on here. The paper analyses the way the task force group has acted, alongside the strategic change management, as a learning community.

Keywords

Management of change, Strategy, Evaluation, Community

INTRODUCTION

National priorities given to teaching and learning and to the adoption by universities of virtual learning environments (VLE) are an important challenge for higher education development in the UK. This paper reports on an institution-wide research project into the management of change in relation to university teaching and learning. Our focus is on that aspect of our educational research and development which explored the community building capacity of some twenty-six academics (the Task Force) who were given remitted time to develop educational innovations. Most of these innovations related to aspects of network learning. Our claim is that the conversations and cross-disciplinary activities concerning online learning (largely based on WebCT) which our model of change management facilitated, have supported the emergence of a community of practice of educational innovators and researchers across the university.

AN EMERGENT COMMUNITY OF PRACTICE

Briefly, each member of the Task Force was charged not only with undertaking their own innovative project but also with acting as a champion for change within their local academic community. They had to broker between their disciplinary community and the emergent community of practice relating to change in teaching, learning and C&IT. Members met regularly once a month in action learning groups and at least once a term for a day in a wider group including staff from support departments including the Centre for Higher Education Development (CHED). While the action learning sets helped to support the development of individual projects, the large group meetings focussed on identifying blocks and opportunities in relation to the Task Force's larger mission to effect change at institutional and School levels. In addition, the group maintained regular email contact and work in progress was reported on a dedicated intranet.

The Task Force concept was designed by the Pro-Vice Chancellor and given to one of the authors to manage as the main focus of work. Managing the Task Force was undertaken in the spirit of action learning and action research with the aim of creating a conversation between University's strategy and innovation in teaching (Beaty & Cousin in press) This sandwich model of educational development carried within it the imperative to nurture dialogue (Beaty 1995). The starting assumption was that staff needed time to devote to important development work as an investment on behalf of the institution. An important question was how many people needed to be given this time. A view was taken that 20 half time secondments would create a critical mass of innovation projects and the chosen seconded staff members began work in September 1997 as the University Task Force.

Until we began to examine the extent to which the Task Force could be defined as a community, our operating concept was that of 'critical mass' (Butler, 1997). While useful, this concept tends to be limited to an understanding of change in terms of accumulation and transfer of expertise with the emphasis on quantitative functionality. Size clearly matters if an institution wants to effect change through the agency of a team of innovators, not least because all the disciplinary communities need to be covered. However, we came early to the view that we were really trying to encourage a community of practice (Wenger, 1998) rather than supporting a critical mass of academics to undertake network learning projects that could be judged in technical input/output terms. The intention was to influence the way a whole institution was focused and so individual projects met only one part of our ambition. The meetings we facilitated both at small and large group levels were intended to progress projects but they were also about so much more.

After a year or so of the Task Force Project's life, our observations of the group's activities led us to understand the importance of the informal and the social aspects of Task Force activities and to balance this importance with that of individual project activity and outcomes. We also came to realise that because different colleagues contributed differently to our overall project to effect changes in teaching and learning, we should not evaluate these differences within a narrow notion of performativity (Lyotard, 1984). Such a notion would mean examining the throughputs of each individual project without due consideration to how the sum of the Task Force was greater than its parts. The image of a community allows us space for this consideration in contrast to the more technicist concept of critical mass.

Wenger (1998) reminds us that people do not work simply to fulfil their contract because it is also a means by which we participate in the world and from which we derive much of our identity: As we hope to show from Task Force members' own comments, this suggests that the quality of participation in an activity and more broadly in a community will have a direct bearing on the quality of what is produced.

In framing our claim that the Task Force is an emergent community, we will follow Cherny's (1999) very useful overview of community definitions. In particular, we will compare the Task Force against notions of 'performance-centred community', 'discourse community' and 'community of practice'. While we have found that Wenger's typification of a community of practice offers the best vision for managing change, we have found the concepts of 'discourse' and 'performance-centred' communities of complementary usefulness.

BILSON'S 'PERFORMANCE CENTRED COMMUNITY'

Bilson (1995) offers three conditions for a 'performance-centred' community, namely:

1. The participants share a focused common interest
2. They get to know each other through attending multiple performances
3. They have the option to participate more fully in the performance over time

The Task Force squarely fulfils all three criteria at the formal level. It is important to recognise that in the first instance the 'performances' are a matter of contractual obligation. As we have indicated, Task Force members are given half-time remittance to attend awaydays, theme group meetings, virtual discussions and so forth. As one member put it:

It's harder for people to join this community because it requires a time investment...we are paid to put in that investment

Another measure of participant performance, particularly as networking, consists in the informal and discretionary performances that serve to reinforce the contractual activities because they tell us something about the voluntary, reciprocal relations and levels of intimacy that may have developed:

You bump into people you would otherwise have no contact with and instantly have a point of contact.

I can walk into Art and Design and bump into John...it creates a synergy...you have corridor conversations..more comes out of these than general formal meetings.

We know and recognise each other

I look forward to the general meetings because the awaydays, the pub meetings, the walk in the rain, these build relationships, they build trust.

It (Task Force) is a community in the sense that I know people...I know where to go if I need to know something....its also a source of moral support

These are some of the testimonies about the social networking the Task Force has enabled. This kind of networking is of equal importance for membership of a 'community of practice' in Lave and Wenger's (1991) terms precisely because it shows that the activities of the Task Force are not simply reducible to assignment fulfilment.

Equally telling is what Task Force members say about those whom they perceive to be low performers. A minority of members are pulled away from the Task Force community by the overwhelming demands of their School. Their marginality to the group is reinforced by the strength of community feeling about the 'rules' of participation. Communities are normative and as such generate values and norms that must be adhered to for membership. From our observations, there is a mix of values that support a high

tolerance for difference on the one hand and norms that are about pulling one's weight within the community on the other. Thus 'being different' does not include not being there. If all communities have their 'deviants', as one member put it, then absentees are the deviants of the Task Force.

Another dimension to the question of performance concerns its real or virtual enactment. Cherny's (1999) interest is in transferring criteria such as performance frequency to the notion of virtual community. In the Task Force we combine the two in that we have a shared email list and an intranet space for discussions, dissemination and communication. We have also attempted a virtual focus group discussion (Deepwell and Cousin, 1998) though even here we combined this with real meetings. In our experiments with these two forms of communication for Task Force work, it is clear that what the American sociologist, Goffman called 'facework' is an important source of community membership reinforcement. Having said this, the people who turn up regularly at meetings are often the frequent users of email communication, suggesting that 'facework' in this age of technology can go beyond its original meaning as co-presence.

SWALES' DISCOURSE COMMUNITY

By Swales (1990) definition the Task Force has become a 'discourse community' because it has:

a broadly agreed upon set of common public goals;

mechanisms for communication among the community members;

participatory mechanisms used primarily for information and feedback;

one or more genres;

a specific vocabulary of communication; and

a threshold level of members with a suitable degree of relevant content and discourse experience.

The notion of a 'discourse community' clearly relates directly to that of academic community, especially in terms of 3, 4, 5 and 6 above. Their presence in the Task Force group are the greatest test for our claim that it is a new academic community capable of regenerating collegiality and support mechanisms. One reading of Swales' criteria could take us back into Becher's (1986) conservative disciplinary communities but this is where we think that the cross-disciplinary nature of the Task Force acts to limit this tendency. Expansion of higher education has thrust upon academics the challenge of creating fluency in two languages, the one in a subject specialism the other in pedagogy; in the case of the Task Force, we think that a particularly rich discourse community based on the use of learning technology is emerging:

We are a community of enthusiasts..the Task Force brings together people with pioneering spirit and risktakers. I'm interested in the IT side of things and this gives me a connection to like interested people.

We have built a community out of WebCT

WebCT is a major factor in community building... if it hadn't happened, there would probably be less impact...WebCT provided a vehicle for involving others, for getting interested people on board. (Task Force member)

More generally, members of the Task Force are aware that dedicated time to think about teaching and learning has carved out privileged intellectual opportunities:

How do colleagues talk to each other about things like teaching and learning if they don't have this kind of organisation?

At the continuation audit, one of the auditors said "you are like a bloody sect". We laughed because we recognised that we are a community committed to improve student learning.

As a 'discourse community' Task Force members have a shared, albeit uneven, discourse about educational development, educational research, reflective practice and pedagogy and learning technology. Discussion concerning the implementation of WebCT at the University increasingly occupies radical ground. One of the founding slogans of this discourse community came from a Task Force member who responded to the familiar mantra that the technology must not lead the pedagogy:

But you have to understand how to drive the technology in order to understand how it can meet the pedagogy.

From early recitations of the mantra about the primacy of pedagogy, the Task Force discourse has shifted to one that places pedagogy and technology in a dialectical relationship. As innovations progress, network learning is seen to open up learner interactivity in novel ways (see for instance Orsini-Jones and Davidson, 1999). What the one can do broadens the horizon of the other; pedagogy and technology are no longer reduced to a dichotomy. The conversations on online learning within the Task Force have enriched understanding of learning processes and how they can be encouraged through the online medium. They have also informed the shape of the institutional evaluation of the implementation of WebCT in that the Task Force is one of the principal stakeholders in the research. The two initiatives, the Task Force and the implementation of a VLE were synergetic; both sharing the primary aim of enhancing the student experience (Beaty & Deepwell, in press).

Swale's talks of a threshold level of members so that entrance to the discourse community requires acquisition of its language. In this respect, colleagues talked of a rite of passage into the discourse community:

There are rites of initiation in the away days, new members have to make a presentation about their projects and then listen to us putting them questions, they can't speak, they have to listen

On the downside there is an elitism... like we understand the issues better... we have created a closed community too..we welcome new members but they have to become part of the community culture.

These comments alert us to the dangers of conservatism inherent in any community. As Wenger argues, a community can either reproduce power relations and discourses or be a true 'learning community'. Our hope, of course, is that we are encouraging the latter.

A LEARNING COMMUNITY OF PRACTICE

Lave and Wenger (1991) famously argue that learning is often through participation and that a fluid community of practice accommodates different levels of participation and of learning:

The Task Force creates a kind of Chinese whisper effect but hopefully without the distorted message... we help people who then help others... people move in and out of the community.

The real test of a community of practice rather than, say, a team is in its ability to sustain relationships long after they are formally supported. In Wenger's (1998) terms, our challenge is to ensure that the Task Force is not a 'task force' in the ways he means below:

A community of practice is a different kind of entity than, say, a taskforce or a team. Whereas a task force or a team starts with an assignment and ends with it, a community of practice may not congeal for a while after an assignment has started, and it may continue in unofficial ways far beyond the original assignment. Based on joint learning rather than reified tasks that begin and end, a community of practice takes a while to come into being, and it can linger long after an official group is disbanded (Wenger, p.96)

Now that online learning at Coventry is in its third year and the Task Force in its fifth, one of our current research and development tasks is to plot the extent to which Task Force activities 'linger on' as members go back into their disciplinary or subject communities. We anticipate reporting on our findings in due course and here simply finish by noting that the evidence looks very promising; we can see a number of ways in which Task Force members have left their mark in their Schools and continue to be active educational researchers themselves.

We do not have space to fully develop the role of the Centre for Higher Education Development at which the authors work but we believe that a crucial part of our strategy for the encouragement of a community of practice out of and beyond the Task Force consists in the hospitality and support we offer at the Centre. We have an open door for colleagues wanting advice and we run regular seminars and workshops to which past and present Task Force members attend. In our view, networks and communities need to be carefully nurtured and attention to the ordinary detail of hospitality as well as to sustained development of opportunities for intellectual advancement are priorities for the Centre.

In concluding, we would emphasize that the key for us is not whether we have exactly replicated the conditions of a community in our model of educational development and research. Wenger's richly elaborated model and those of Bilson and Swales are best considered as ideal types or as metaphors that help us to shape and understand our activities. Certainly, in our experience, moving away from rationalist or technicist models of change and towards the more fluid and evocative imagery of a community of practice has opened up both our thinking and our encouragement of change activities.

REFERENCES

Beaty L, (1995) Staff Development across the Hierarchy. In Brew A., (Ed) *Approaches to Staff*

Development in Higher Education. Buckingham, Open University Press

Beaty L. & Cousin, G. (in press) "An Action Research Approach to Strategic Development" in MacDonald and Eggins (Eds) *The Scholarship of Academic Development*. SRHE/OU press.

Beaty, L. & Deepwell, F (in press) "Uncertain Terrain: ensuring quality in implementing online higher education" in Fallows and Bhanot (Eds) *Ensuring Quality in ICT-based Higher Education*. Kogan Page.

Becher, T (1989) *Academic Tribes and Territories: intellectual enquiry and the cultures of disciplines*, Open University.

Bilson A J (1995) Get into the groove: Designing for participation *Interactions* 2(2)

Cherny L (1999) *Conversation and Community: Chat in a Virtual World*, CSLI

Deepwell, F. and Cousin, G. (1998) Virtual Focus Groups in the Evaluation of an Online Learning Environment ELT 98, University of North London

Lave J and Wenger E (1991) *Situated Learning: Legitimate peripheral participation*, Cambridge University Press

Lyotard Jean-Francois (1984) *The Postmodern Condition: a report on knowledge*, Manchester University Press

Orsini-Jones M and Davidson A (1999) From reflective learners to reflective lecturers via WebCT, *Active Learning*, Issue 10, July

Swales (1990) *Genre analysis: English in academic and research settings*, Cambridge University Press

Developing Institutional Readiness for Implementing Networked Learning

Sheena Banks and Adrian Powell

University of Sheffield

s.b.banks@sheffield.ac.uk

ABSTRACT

The development of networked learning at the University of Sheffield has been an evolutionary process. In the last 3 years, there have been a number of policy developments related to teaching and learning which have led to major realignment of human and technology resources across the institution. These policy changes have taken place in tandem with strategic development opportunities. In particular, a national TLTP Project in Computer Based Collaborative Group Work (CBCGW) which ran from 1998-2001 and led by an academic team from the School of Education at the University had a strategic impact on institutional developments in networked learning. The key drivers for change have been: a Teaching and Learning strategy which identified networked learning goals, establishment of the Learning Media Unit and the Learning and Teaching Support Unit and institutional implementation of WebCT. These strategic policy changes combined with knowledge brokerage from developments such as the TLTP project has led to widespread adoption and implementation of networked learning at the University.

In 1999, in its first year, the TLTP Project conducted a survey and evaluation of the 'readiness' of the University for implementing networked learning. In 2001, in its final year, the Project carried out an evaluation of the impact of the Project on networked learning development at the University of Sheffield and was thus able to assess the progress that had been made during the period 1999-2001. The analysis of these evaluations was based on an examination of a number of factors relevant to 'institutional readiness', identification of enabling and constraining factors and a particular focus on staff development issues. The Project developed and delivered on-line professional development seminars at an institutional level which were also evaluated.

This paper uses the case study of the University of Sheffield to discuss the concept of 'institutional readiness' and identifies strategic management and policy changes which supported effective implementation of networked learning and some of the lessons learnt.

At our presentation we will also demo two networked learning courses developed using WebCT in order to show the diversity of learning and teaching approaches to networked learning which have been implemented at the University of Sheffield.

KEY WORDS

Teaching and learning policy, e-learning, staff development, professional support, institutional readiness, VLEs.

INTRODUCTION

In the UK there have been a number of initiatives which have explicitly addressed change at the institutional level for supporting the use of ICT in teaching and learning. These have included the Teaching and Learning Technology Programme (TLTP), the Fund for the Development of Teaching and Learning (FDTL), the JISC Assist Programme – and in Scotland the TALiSMAN Project and Information Technology (C&IT) Programme of the Scottish Higher Education Funding Council (ScotCIT). In 1999 HEFCE announced details of its learning and teaching strategy through the Teaching Quality Enhancement Fund. A guide to good practice in implementing institutional learning and teaching strategies was produced by Graham Gibbs for HEFCE (HEFCE, 1999). Gibbs (1999) observes that it is not so much *what* strategy but *how* this strategy is developed that is important and highlights the use of varied change mechanisms which go beyond the statement of policy and bring about action on the ground. This is a statement which we believe reflects the process of change at the University of Sheffield.

Institutional readiness

Institutional strategies for the management of change are therefore a key agenda for UK universities at present and means that institutional change is often being driven by the impact of external forces and funding requirements. Gibbs (1999) also highlights how differences between institutions leads to characteristically different strategies related to the particular mission of the University. Griffiths and Gatien (1999) discuss how the impact of ICT tends to enhance and extend traditional activities of research universities – in particular research collaboration, suggesting that there may be less impact of ICT on teaching and learning in research-oriented universities. A challenge for us, therefore, has been how to align the challenges of networked learning implementation with the priorities of research. In addition, the implementation of networked learning requires a particular approach to the management of change. Bates (1999) identifies a number of strategies for change which include (i) a vision for teaching and learning, (ii) funding reallocation, (iii) strategies for inclusion, (iv) technology infrastructure, (v) people infrastructure, (vi) student computer access, (vii) new teaching models, (viii) contract agreements and training, (ix) project management, (x) new organizational structures, (xi) collaboration and consortia, (xii) research and evaluation. The complexity of change is also discussed by Tearle, Davis and Birbeck (1998) who have pointed to the inter-dependence of change factors and coherent planning of learning and teaching processes in order to inform new practice and changing roles of practitioners. Another important issue identified by Fullan (1999) is the simultaneous management of internal capacity-building and external accountability. We sought to address all these issues in our evaluation of institutional readiness.

TLTP Computer Based Collaborative Group Work Project (CBCGW)

This Project was funded by the TLTP Programme from 1998-2001 and its aim was to implement generic on-line teaching and

learning strategies through the medium of computer based collaborative group work (CBCGW).

The timescale of the Project has coincided with exponential growth across HE of the use of the Internet for teaching and learning (e-learning). We view 'e-learning' as a term which has much in common or is interchangeable with the term 'networked learning' which can be described as:

The bringing together of learners via personal computers linked to the Internet, with a focus on them working as a learning community, sharing resources, knowledge, experience and responsibility through reciprocal collaborative learning (McConnell, 1999)

The Project focused on the development of generic processes for implementation of networked learning and how HE staff can incorporate this into their professional practice, as follows:

- the investigation of networked learning and teaching processes
- the establishment of effective models, methods, case studies and approaches
- professional development for good practice

During the Project we have given emphasis to:

- educational strategies to make use of learning technologies, rather than the learning technologies themselves
- institutional readiness for implementation of networked learning
- establishing a virtual national support centre for high quality professional development
- evaluation of a variety of networked learning groupware, including LotusNotes, Domino and Learning Space, First Class, Web CT, Blackboard and Virtual U

This was a national project which was managed by a team from the School of Education at the University of Sheffield in collaboration with Lancaster University and the Open University. At the University of Sheffield, we were able to engage with a large number of departments, courses and academic staff, who participated in face-to-face and on-line events, worked collaboratively with the Project and used the Project as a consultancy service.

Institutional readiness – the 1999 scenario

In developing the concept of institutional readiness, in 1999, we used the University of Sheffield as a case study to carry out a survey and evaluation of the views of a cross section of stakeholders on the readiness of the University for implementing ICT-based learning and teaching.

Different groups of stakeholders were identified whom the Project team considered to be influential in developing ICT-based learning and teaching within the University. The stakeholders included representatives from a range of interest groups: academic, management, support services and members of the networked learning strategy group. An interview instrument was then designed which identified the main survey areas. The questions in the survey focused on the following:

- Conceptions of networked learning and whether there is a difference between networked learning and on-line learning
- Visions of networked learning
- The role of the interviewee in supporting and developing networked learning
- The current situation at the University of Sheffield
- Internal and external factors

- Enabling and constraining factors and how the Project can help
- The ability of the University to learn about networked learning

The whole team was involved in the evaluation and a total of 21 interviews were carried out over a 4 month period (January-April 1999).

The outcome of the survey as reported by Foster, Bowskill, Lally and McConnell (2000) was that the University's readiness to implement networked learning was still at a formative stage, with learning and teaching development within the institution being carried out by committed but isolated enthusiasts with little central support. The main recommendation of the survey (Foster, Bowskill, Lally and McConnell, 2000) was that:

If the university, as a research-led institution, wishes to engage in the development of networked learning, then further attention needs to be paid both to the internal infrastructure within the institution to support the delivery of networked learning and to collaboration with external agencies.

Institutional readiness – the 2002 scenario

An impact evaluation was carried out by the Project team at the end of the Project. This had three strands: (i) collating, reviewing and reflecting on evaluation data already collected, (ii) collecting new evaluation data to assess the nature of the impact on professional and policy from a selected range of stakeholders, both internal and external, and (iii) reviewing policy, learning and teaching and TQA documentation in relation to the development of networked learning.

The Project team used the same interview instrument but on this occasion interviewed a smaller number (8) but representative group of stakeholders. The impact study was incorporated into the final TLTP Project Report (TLTP CBCGW Final Project Report 2002). The main finding of the impact evaluation was the following:

During the period 1999-2001 there has been substantive development in strategy and infrastructure at the University of Sheffield, leading to major realignment of both human and technology resources and resulting in greater opportunities for active engagement and implementation of e-learning.

Clearly there has been substantive development in networked learning in the University from 1999 onwards. The impact evaluation also analysed the nature of the institutional impact and the policies which had facilitated this. As a result of this, a number of drivers for change were identified.

NETWORKED LEARNING – THE DRIVERS FOR CHANGE

The first institutional readiness survey highlighted the lack of a supporting infrastructure to support networked learning as well as a lack of co-ordination across the institution and the need to "further engage the formal aspects of the institution with the informal emergent nature of academic practice" (Foster, Bowskill, Lally and McConnell 2000). By 2001, there was evidence of progress in relation to this. There were in fact three main drivers of change:

- **Institutional learning and teaching strategy January 2000:** this provided a strategic framework for proactive development in learning and teaching, and one of its key aims was 'development of effective forms of learning through the use of ICT'. This did not prescribe how this should be achieved but outlined the following principles:

increasing the use of distributed (resource-based and open) learning methods, and in niche areas, increasing the use of distance learning

supporting and evaluating innovative practice using web-based developments

utilizing Internet technologies to provide platform and software solutions to develop web based learning methods

The University has also set up a Learning and Teaching Support Unit which is responsible for allocating learning and teaching funding to departments, and this has had considerable impact at the course level.

- **Implementation of WebCT (Campus Edition)** Virtual Learning Environment as the main delivery platform for ICT-based learning. The implementation of WebCT has overcome many of the barriers of technology and has also streamlined the curriculum development process. In many respects, the development of WebCT at a course level is now seen as equivalent to the development of networked learning.

▪ **Creation of the Learning Media Unit.** The Learning Media Unit (LeMU) was established in late 1999 through integration of existing resources from the Television Unit, the Distance Learning Unit and the Staff Development Unit under a single umbrella. The focus of LeMU has moved away from production and more towards supporting academic staff in curriculum innovation and management of change. They have an important role in cross-fertilising expertise across the institution.

These three drivers of change, combined with the simultaneous impact of the Project on awareness of networked learning at an institutional, departmental and course level, have had a fundamental impact on the University's capability to successfully implement networked learning. There are four strategic outcomes: (i) the University is rapidly moving towards establishing a critical mass of expertise in networked learning which has moved beyond reliance on 'enthusiasts', (ii) the University can demonstrate a diverse range of networked learning practice embedded at course level, through individual academics and in the enhanced role of support staff and services, (iii) there is now enhanced co-ordination and communication between academics, departments and support services across the institution, facilitated by the Learning Media Unit and the Staff Development Unit, enabling the effective transfer of knowledge and expertise, (iv) there has been an escalation of demand by academic staff for teaching and learning support for ICT curriculum change, requiring consultancy services rather than 'off-the-shelf' solutions.

Other evidence of impact includes the development of Senate Teaching Fellowship awards for innovation in the use of ICT, e-learning excellence in Teaching Quality Assessment and RAE rankings, eg in the School of Education and the Department of Information Studies. This is evidence of how the University has succeeded in linking networked learning development with quality assurance mechanisms. An important development mechanism for research-oriented universities like the University of Sheffield is the link between curriculum innovation and the scholarship of learning and teaching. The University is also increasingly building collaborative links globally, such as the Worldwide Universities Network.

The policy development at the University of Sheffield represents a devolved model of policy development, since developments were not really driven by a single 'vision' of what networked learning should be nor by a central task force determining the nature of curriculum development. Instead, the policy resulted in infrastructure changes which has led to central support for networked learning curriculum development, production of materials, use of WebCT and staff development. However, the responsibility for curriculum development has remained at the department and course level. This approach has also enabled specialist knowledge from projects such as the CBCGW project to be embedded across the institution.

This devolved approach has also led to a diversity of practice being implemented. There is a more grounded approach of academic staff to implementation and we are seeing widespread evidence of networked learning being embedded in courses, albeit in fairly standard ways. The priority of academic staff is usually to seek curriculum change which enhances rather than changes (and perhaps destabilizes) the learning experience for students, because many academics are still sceptical of the value of networked learning. This approach does not necessarily lead to innovatory practice – in fact, we have found that innovation in networked learning is more likely to occur in distance learning contexts rather than in campus-based contexts. However, we believe that it is crucial that infrastructures retain the capacity to support diversity of practice, albeit within a high quality pedagogic framework which use models for practice which can be widely applied, sustained and mainstreamed. This perhaps reflects the 'minimalist design' approach recommended by Wenger (1998) who recommends that in a community-of-practice framework space needs to be left for practice and identities to emerge and develop their own logic.

DISCUSSION AND EMERGING ISSUES

From these evaluations, we have identified a number of issues which reflect the fact that networked learning is still a new though rapidly evolving field. Although these issues will be familiar to those concerned with the management of change, there are nevertheless specific issues that relate to the implementation of networked learning.

The use of technology is still a major issue in HE. However, the advent of VLEs is breaking down these barriers and introducing some element of standardization into curriculum delivery. Nevertheless, we found that there is still widespread technophobia, and that this is often a motivation for academic staff to participate in professional development. However, those who have participated in our on-line staff development events have found that the use of technology is very straightforward compared to the task of understanding how ICT can be used in educationally effective ways. Staff development is still continuing to focus on training and technical issues rather than pedagogical issues, despite the recommendations of strategic projects such as TALiSMAN (Alexander, 1999).

Institutional readiness for networked learning is an evolutionary rather than a revolutionary process. Implementation of networked learning usually takes place in small steps. This can be effective, providing the framework in which it occurs is an integral rather than a peripheral adaptation. In other words, implementation should aim at embedding networked learning into a course – rather than be an optional part of it. We would nevertheless like to see some revolutionary approaches which can represent and trial new and innovatory learning paradigms.

Networked learning is more than a delivery method but builds on an iterative design and evaluation process. Initially networked learning may be seen as just a delivery method for an existing curriculum design, but in the process of implementation the delivery methods impacts on both the curriculum design and the content of a course. In this respect, it is transformative. We are seeing some standardization of approaches, but nevertheless there is still a need to establish a high quality pedagogic framework which can be used across HE.

A new approach to staff development is needed. This should aim at giving participants direct experience of what it means to learn through the Internet. We therefore believe that there is a need to develop electronic forms of staff development, particularly those that build on collaboration and communities of practice as the basis for networked professional development. This is an approach to staff development which we have trialled in the CBCGW Project. It is based on the approaches of both Schon's (1987) 'reflective practicum' and Wenger's (1998) learning community.

Lack of incentives for academic staff to become involved in curriculum change. We found that this was a barrier to change at individual course level. Incentives are sometimes about funding and resources but are also about internal and external recognition for innovation. Incentives strengthen the basis for active engagement with innovation and should relate to current working practices in subject discipline and institutional settings.

CONCLUSIONS

This paper has used the case study of the University of Sheffield to illustrate how a centrally-driven learning and teaching policy has facilitated 'institutional readiness' for the implementation of networked learning. It has identified the institutional drivers for change and how the strategic alignment of a national TLTP project based in the institution has impacted on the implementation of networked learning and enabled the transfer of knowledge and expertise.

The paper has identified some particular characteristics about the nature of 'institutional readiness' at the University of Sheffield. The centrally-determined learning and teaching policy has facilitated a devolved approach across the institution which in turn has led to diverse implementation of practice. At the same time substantive curriculum change has been linked to the quality mechanisms of the institution leading to a mainstream approach and acceptance of networked learning as a valid learning and teaching practice. Other infrastructure changes operating in tandem have reinforced the process of change, leading to effective networked learning support. In some respects, this may seem like a networked learning 'vision' by default but it is a policy approach which seems to be working and is commensurate with the mission of the institution.

ACKNOWLEDGEMENTS

The Computer Based Collaborative Group Work Project was funded by the HEFCE Teaching and Learning Technology Programme (TLTP) from 1998-2001.

REFERENCES

Alexander, W (1999) TALiSMAN review of staff development courses and materials for C&IT in teaching, learning and assessment, Scottish Higher Education Funding Council.

Bates, A W (1999) Restructuring the university for technological change. In: Brennan, J, Fedrowitz, J, Huber, M and Shah, T, eds. What kind of university? International perspectives on knowledge, participation and governance. Buckingham: The Society for Research into Higher Education and Open University Press, 207-208.

Computer Based Collaborative Group Work Project: Final Project Report (2002) TQEF/TLTP.

Foster, J, Bowskill, N, Lally, V and McConnell, D (2000) Institutional Readiness for Networked Collaborative Learning, European Journal of Distance Education.

Fullan, M (1991) The new meaning of educational change. London: Cassell.

Gibbs, G (1999) Institutional learning and teaching strategies: A guide to good practice. Higher Education Funding Council for England (99/55).

Griffiths, J-M and Gatien, G M (1999) The role of the traditional research university in the face of the distance learning onslaught, The Technology Source, February 1999, <http://horizon.unc.edu/TS/vision/1999-02.asp>.

McConnell (1999) Examining a collaborative assessment process in networked lifelong learning, Journal of Computer Assisted

Learning, 15 (3), 232-243.

Schon, D A (1987) Educating the reflective practitioner: towards a new design for teaching and learning in the professions: San Francisco: Josey-Bass, pp157, 311.

Tearle, Davis, N and Birbeck, N (1998). Six case studies of information technology-assisted teaching and learning in higher education in England, Journal of Information Technology in Teacher Education, 7(1), 51-70.

Wenger, E (1998) Communities of practice: learning, meaning and identity. Cambridge, Cambridge University Press.

Peer-to-peer Networked Learning across Institutions: The Virtual Learning Space and the Support of Staff Development

Rachel A Harris * and Rory Ewins ^

University of Glasgow *, University of Edinburgh ^,
Contact: r.harris@udcf.gla.ac.uk

ABSTRACT

The Virtual Learning Space (VLS) is a collaborative online environment where communities of interest can meet to share experience and understanding of C&IT in relation to learning and teaching. The Scottish Higher Education Funding Council financed the original project, within their Scotcit programme. The scope of the project was very much based in Scotland, and aimed to establish the use of VLS in three institutions in the Aberdeen area – The Robert Gordon University, University of Aberdeen, and Aberdeen College. The project partners thus included a ‘new’ and ‘old’ university, as well as a further education college. It therefore seemed likely that the kinds of challenges facing different kinds of institutions would be represented in this project. Although the partner institutions were all based in one city, which may have presented its own particular conditions.

The development of the VLS included using focus groups, an online Delphi technique, online discussion and brainstorming sessions with staff from all partner institutions. Great care was taken to connect with staff at all levels in order to engage the potential target audience in the project, as well as aligning the development of the environment with their particular needs. Some differences amongst the institutions and staff groupings were found at the early stages.

The project has progressed such that initial implementation, evaluation and second stage implementation have been completed. The VLS is now an active collection of almost 1700 individuals who share experiences within an online learning community. The scope of the project has widened considerably, with people joining the VLS from over 800 organisations. The majority of the membership is drawn from the UK (1160), with the three partner institutions being represented by more than 270 members.

The paper will reflect on some of the strategic developments that were being undertaken within the partner institutions at the time of the project, and discuss perceived differences encountered in the three institutions. The latter will include reference to technical, pedagogical and organisational issues. The VLS: <http://itlearningspace-scot.ac.uk/>

background

Scottish higher education institutions (HEIs) range from some of Britain's oldest to some of its newest. Traditionally, they have maintained a high degree of autonomy in educational policy and practice. While UK and Scottish governments have expressed broad Information & Communication Technology (ICT) policy aims and goals at the national level, and have initiated such programmes as JISC and JANET to advance those aims, the specific measures carried out within an individual HEI have largely been left to the institutions themselves. So, too, has most of the fine detail of ICT policy.

The higher education landscape of the 1990s and beyond, marked by increasing competition and the need to stress differences in institutional identity and aims in order to attract students and research funding, has worked against the collaborative spirit that informs much ICT effort in higher education. This has led to unnecessary duplication of effort. In addition, although ICT officers and online teaching specialists have the opportunity to meet and compare experiences in conferences and mailing lists, opportunities for more formal collaboration between institutions in the use of ICT are less common.

Against this background, ScotCIT provided the opportunity for institutions within Scotland to collaborate on funded projects that aimed to establish appropriate use of ICT as part of normal working practice. ScotCIT ran from late 1998 until December 2001. This paper will discuss one of these projects, the Virtual Learning Space (VLS), a collaborative online environment where communities of interest can meet to share experience and understanding of ICT in relation to learning and teaching. The initial scope of the project was very much based in Scotland, and aimed to establish the use of the VLS in three institutions in the Aberdeen area – The Robert Gordon University, University of Aberdeen, and Aberdeen College. The project partners thus included a ‘new’ and ‘old’ university, as well as a further education college. It therefore seemed likely that the kinds of challenges facing different kinds of institutions would be represented in this project. (Although the partner institutions were all based in one city, which may have presented its own particular conditions.)

One need amongst many

"In a time of drastic change it is the learners who inherit the future. The *learned* usually find themselves equipped to live in a world that no longer exists." Eric Hoffer

Many people have highlighted the need for staff development in relation to networked learning (Alexander, 1999, Anstey, 2000, Dearing, 1997), and addressing this need was one of the central aims of the ScotCIT programme. Yet the need is perhaps more striking now, given the widely held perception that undergraduates entering universities are part of the digital generation, whereas staff are not. Institutions moving towards or in the process of implementing networked learning have many issues to consider, staff development being only one of these (see Figure 1).



Figure 1 – Outline overview of issues facing institutions implementing networked learning. Issues adapted from Harris and Higgison (2002) model adapted from Pereira (2000).

Issues in supporting staff for networked learning

In this context of multiple needs, formal staff development is a feature in most, if not all, institutions' approaches to networked learning. Staff development for networked learning does, however, have its own inherent problems. Significant among these are the time commitment required of academic and support staff, the pace of change of technology and its application to learning and teaching, and the difficulty of matching staff development provision to staff skill levels, particularly at an intermediate or advanced level. A further potential mismatch is that "the bureaucratic elements of conventional tertiary education are pre-eminent and also in constant conflict to the self-management ideals and processes of academic staff" (Uys, 2002).

Thus, the diffuse, collegiate nature of many higher education institutions, although a strength in many respects, creates problems for staff development in ICT and networked learning. Unlike commercial organisations or government departments that can adopt standard operating systems and applications for all of their staff, universities are often host to a wide variety of software environments. Users in different university departments often work with different software and develop their skills in different ways. As that software evolves, those environments and skill levels also change, but at a different pace in different parts of a campus. This ad hoc development can work against structured staff training in ICT.

Individual staff members can find themselves caught in a mismatch between their own readiness and availability for ICT training at a particular time, and the official or unofficial training on offer at that time. Arranging appropriate and timely support and training when it is needed – not so far in advance that it is forgotten before it is useful, or so late that it is already out-of-date by the time it arrives – is one of the main challenges facing universities in the quest to maintain staff ICT skills.

Harnessing the technology to support collaboration

Current thinking might suggest that provision of networked learning should move towards a collaborative model. (Initiatives such as the UK eUniversity may be one example of this.) Indeed, Uys (2002) notes that the "globalisation of education may furthermore necessitate collaboration and partnerships ... to ensure the local support of distance students in networked education, to address accreditation and certification issues or for more effective participation in networked education." Yet the opportunities provided by collaboration also extend to staff development. Furthermore, this collaborative approach has the potential to address some of the highlighted difficulties for staff development in networked education. This essentially was the driver behind the VLS project.

Virtual support communities, whether hosted on mailing lists, Usenet or the Web, offer a way to address the time-lag between when support is required and when it is available, and to address the wide range of problems and requirements that arise in diverse software and online teaching environments. By creating a wide community of higher education staff, facing similar types of problems, in many different specific contexts, across multiple institutions, virtual environments such as the VLS ideally foster not only collaboration across institutional boundaries but also a self-supporting culture. Every member of the community is potentially supporting every other member, encouraging all of them to ask questions as required in the knowledge that an answer will arrive from somebody, somewhere.

Peer to peer networked learning in the VLS

Aims of the VLS project

The overall aims for the VLS project were to gather an online pool of resources and expertise relating to ICT skills. Crucially, this would feed into and from an online community where experiences of using ICT could be shared. The context in which learning could take place thus directly related to the focus of learning. The creation of an online or virtual space where staff could come together to share best practice, exchange ideas and establish self-help groups was seen as the way forward in developing inter- and intra-institutional cooperative learning. Thus, the VLS was intended to be an online cooperative learning community.

Another underlying aim related to the process of managing the change towards networked learning by encouraging the current shift in pedagogy to a more student-centred, constructivist approach. The underlying philosophy adopted for the learning environment in the VLS was and is one of cooperation and collaboration; learning requirements are defined by individuals who enter the space, and constructed from the experiences that are shared by others. Thus, in providing an environment that aims to enhance ICT skills, the VLS itself acts as a working exemplar of constructivism.

This latter point raises its own issues regarding the potential conflict of explicitly promoting the acquisition of ICT skills and the application of ICT in learning and teaching, while implicitly using this as a means of changing pedagogic practices.

Needs Identification

To establish a project based on cooperation and collaboration, steps were taken to encourage the involvement of staff from the partner institutions, recognising the expertise of key members of the prospective community of learners. The initial stages of the project included identifying the ICT skills needs of staff within the three partner institutions as well as the qualities required of the VLS. The project team developed a conceptual framework based on an outline framework by Pereira (2000), which was extended in consultation with members of staff during focus groups. This provided the opportunity for institutional staff to collaborative in modelling the space. Additionally, staff were surveyed to gain a profile of their needs and expectations in terms of the development of ICT skills.

Focus groups

The initial focus group programme started with an overview of the VLS project, and moved on to review the conceptual framework. This was used as the basis for discussions on issues that focus group members thought the project should address. The focus groups included ICT trainers, staff developers and academic staff. The latter also discussed their ICT needs, and considered whether the greatest need was for training, the ability to share experiences, a helpdesk-type consultancy, or some other form of support. The focus groups thus identified issues relating to ICT skills needs in the context of the project partner institutions and the online learning environment. These are summarised in Figure 2.

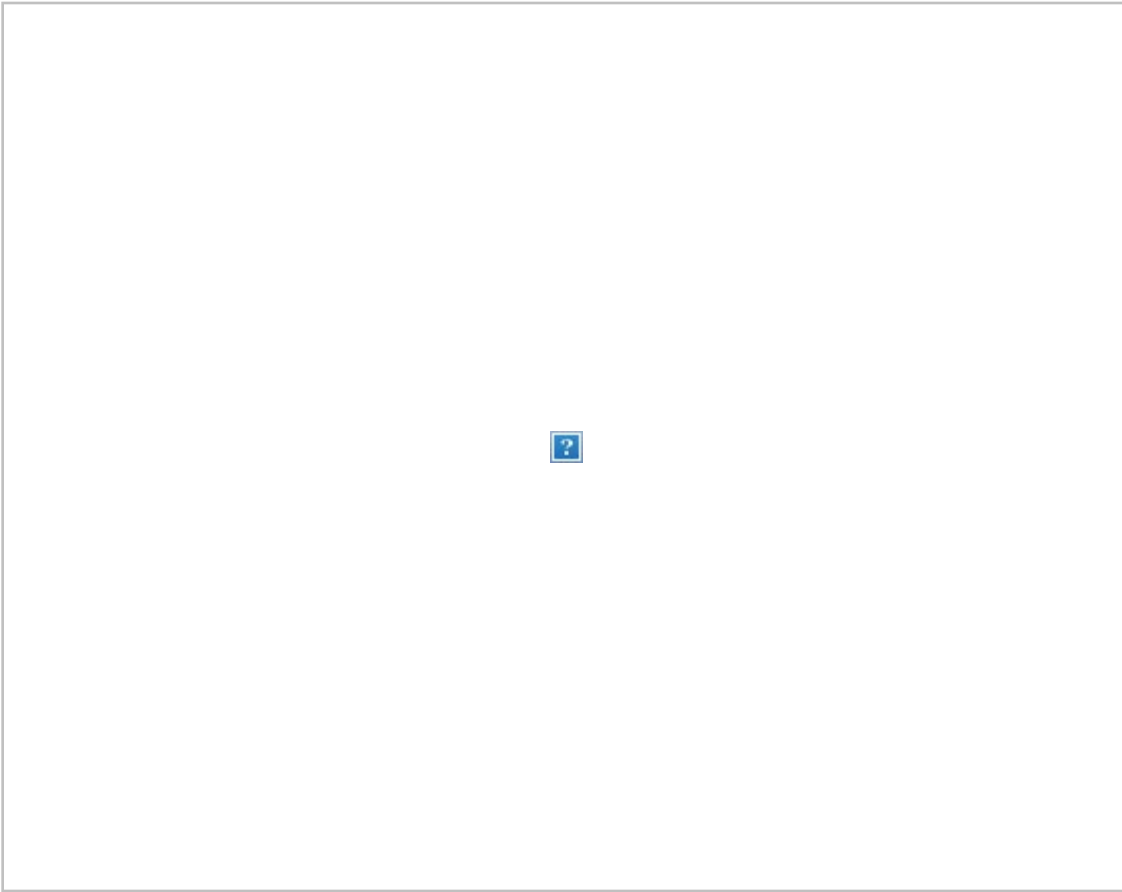


Figure 2 - Summarised issues from the initial focus groups, clustered within the conceptual framework.

As this demonstrates, the pedagogical, organisational and technical issues are interlinked. It also highlights the importance of considering all clusters during the development process, while maintaining a balance over the emphasis given to each. The following will concentrate on the issues raised within the pedagogical and organisational clusters.

The focus groups also explored attitudes towards and potential motivations to participate in the VLS, providing the project team with an insight into how to ensure effective implementation. To this end, an online Delphi type tool was used as one of the last activities of the focus group meetings. Using this tool, participants submitted their opinions on what would motivate their participation in an online learning environment such as the VLS. They then rated their own and others' opinions online, and immediately saw a ranked list of results. This was used not just to collect their feedback, but also to demonstrate how ICT could be used. Discussions concluded with consideration of the results from the Delphi tool regarding the motivating factors.

The results of the focus groups were supplemented with reviews of the literature including: frameworks for online learning, particularly networked, cooperative and collaborative learning; building online learning communities, with the associated work on the pedagogical aspects of using C&IT for teaching and learning; and online knowledge management.

Development process

The overall development process is outlined as a flow chart in Figure 3. The development process consists of a series of stages that are broken down into questions and approaches used to address them. The methods used in the needs identification stage are described above, although that part of the process has been explained in more detail previously, along with outcomes of the survey of ICT skills (Harris et al., 2000).

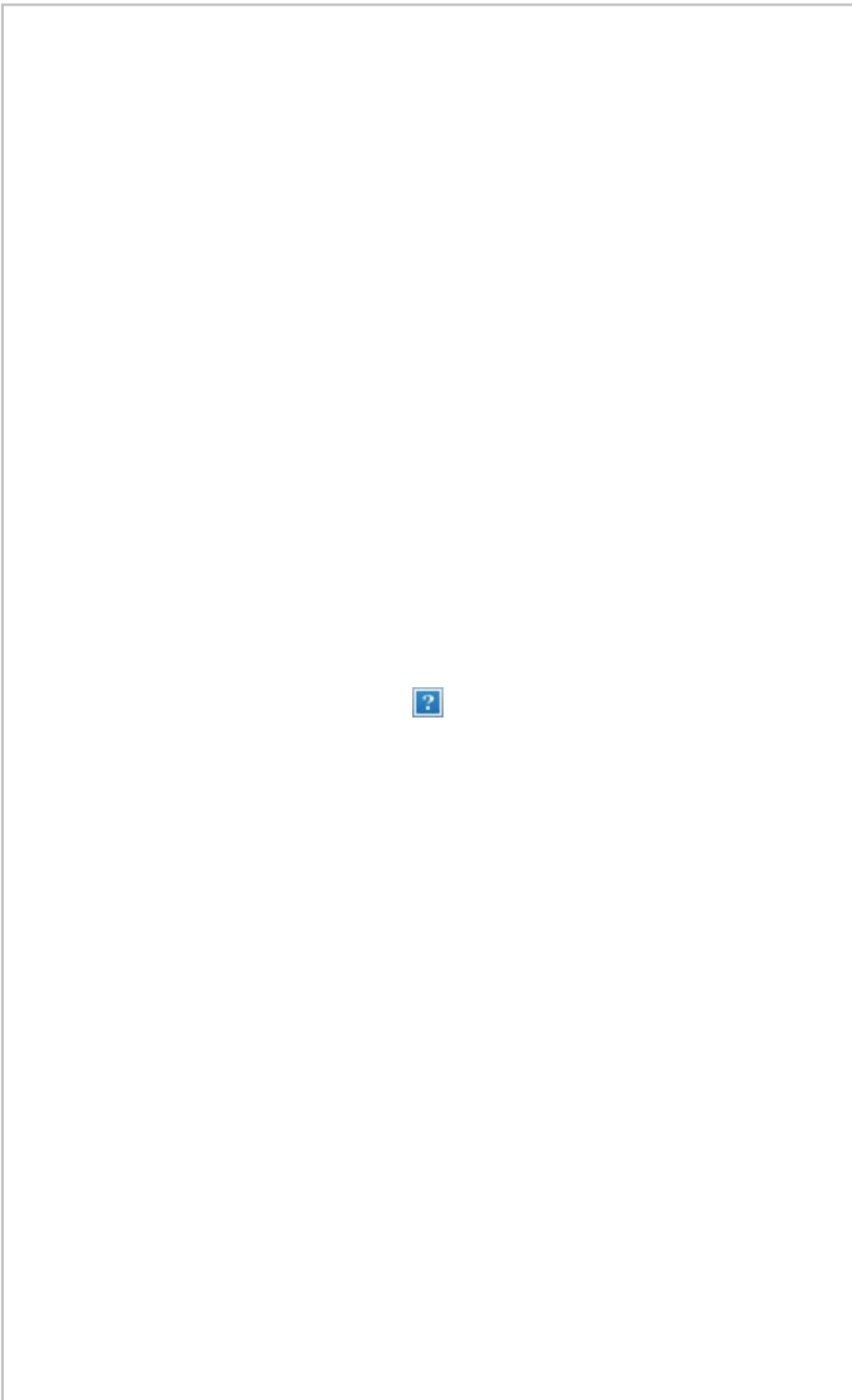


Figure 3 - Flow chart of the overall development process for the Virtual Learning Space.

As Figure 3 shows, the outcomes of the needs identification processes were combined, and the results used to define the required characteristics of the VLS design. These characteristics could be placed at the centre of Figure 2, as they represent the qualities required to address the issues in the surrounding sectors of the framework.

The initial version of the VLS environment was piloted during an international online workshop with a group of 100 who were particularly interested in the implications of online teaching (Higgison, Harris & Templeton, 2000). The online or e-Workshop served a dual purpose by enabling the VLS environment to be tested at the same time as piloting a potential model of use. The latter included drawing out the knowledge within the participants, by incorporating within the workshop asynchronous and synchronous

discussion based around case studies, and a number of core themes relating to online learning and teaching. As the workshop took place online, all of the discussions were recorded. This also meant that the topic of discussion was also the means of discussion for participants.

Current status of the VLS

The project has progressed such that initial implementation, as described above, evaluation and second stage implementation have been completed. The VLS is now an active collection of almost 1900 individuals who share experiences within an online learning community. The scope of the project has widened considerably, with people joining the VLS from over 800 organisations. The majority of the membership is drawn from the UK (1300), with the three partner institutions being represented by almost 300 members. Examples of the benefits of this kind of collaborative online approach to networked learning staff development will be given during the conference paper.

Issues and initiatives within the VLS partner organisations

During the conference paper, discussions will also include reflection on some of the strategic developments being undertaken within the partner institutions at the time of the project, and the impact that these may have had on the development of this project. Differences in the approach and requirements of the partner institutions were encountered and discussion will consider whether these were purely linked to the type of institution, and the significance of these for such cross-institutional projects.

Concluding comments

This paper has described a change process that has emphasised collaboration. It has worked to involve the target community wherever possible, thereby building a sense of ownership and linking needs to outcome. Linking users' needs to the VLS design and development has served to authenticate the VLS within the context of the partner institutions and online learning. The intention has been to encourage cooperative learning of advanced ICT skills within an environment built using ICT and based on a model of cooperation and collaboration. The creation of such a learning opportunity across the three partner institutions was only possible because the VLS is online.

Issues that the project has confronted include:

- how to establish an online learning community from a local population of tertiary education staff;
- how best to identify the community's needs, and how these needs can be incorporated within the design of the VLS;
- how to sustain the learning community; and
- how the online environment can be designed to optimise learner achievement.

Perhaps the central issue for the success of this kind of project relates to motivation. This can be expanded to consider what motivates individuals to join an online learning community, and to participate once they are part of the community. Indeed, one might consider the wider question of why individuals engage in learning online. From this project, we can see reasons relating to time constraints, ease of access and anytime, anywhere availability. Yet ultimately, the VLS is based on sharing experience rather than receiving wisdom, so its being a community is central.

REFERENCES

Alexander, W. (1999) *TALISMAN C&IT Review*. <http://www.talisman.hw.ac.uk/CITreview> Accessed 26/02/02

Anstey, P. (2000) *Developing staff C&IT capability in higher education*. A JCALT Report Available at <http://www.uea.ac.uk/~k130/scaitsfinalreport.pdf> Accessed 26/02/02

Dearing, R. and The National Commission for Investigation in Higher Education (1997) *Higher Education in the learning society*. <http://www.ex.ac.uk/dearing.html> Accessed 26/02/02

Harris, R.A. & Higgison, C.A. (2002) *Institutional Readiness for Online Teaching and Learning*. A JISC Senior Management Briefing Paper.

Harris, R.A., Pereira, M.A. & Davidson, D. (2000) Identifying the qualities needed for a virtual learning space in communication and information technology skills. *Paper presented at the 2000 International Networked Learning Conference* University of Lancaster, April 17th-19th 2000.

Higgison, C., Harris, R.A., & Templeton, E. (2000) Online Tutoring Skills: Current practice to future policy. *Paper presented at ALT-C 2000*, UMIST, Manchester, September 11th - 13th 2000.

Pereira, M.A. (2000) *ArchCAL: a conceptual basis for the application of information technology into learning and teaching technical subjects in architectural education*. Unpublished PhD Thesis, University of Sheffield

Uys, P. (2002) Managing tertiary education in a global virtual environment: Networked education management. In Hazemi, R. & Hailes, S, (Eds) *The Digital University – Building a Learning Community*. London, Springer. pp 57-70