Open Research Online

The Open University's repository of research publications
and other research outputs

Virtual communities and professional learning across a distributed remote membership

Conference or Workshop Item

oro.open.ac.uk

Virtual communities and professional learning across a distributed, remote membership

Pete Bradshaw, Alison Gee, Stephen Powell, Ultralab, England

Abstract

Headteachers, or Principals, of schools work in isolation from each other yet share common practice and domain of leadership and management. They exhibit the characteristics of a community of practice yet are remote from other members of their community. Similar communities of practice can be identified for other types of school leaders, subject co-ordinators for example, and for professionals in other disciplines – consultant registrars in health, optometrists working in dispensing opticians, museum curators, and so on.

This paper explores ways of using virtual communities to develop professional learning in these communities of practice. We discuss our work in the context of education and formal and informal learning communities of school leaders and explore how the lessons learnt have general application. We present a model for professional learning through online collaboration and communication, and look, in particular, at the concept of time and its effects in the virtual community.

Theoretical contexts

The transition of a school teacher to a school leader consists of several stages as shown in the Leadership Framework of England's National College of School Leadership (NCSL, 2002). The continual professional development and learning process for a teacher includes the learning through working with leaders in their schools as well as attendance on face-to-face courses and study of leadership programmes and materials. Ultralab has led the development and implementation of the online learning in these programmes, and is the key consultant to the NCSL in this field.

Knowles' (1984) model of andragogy has four strands that, he claims, underpin adult learning. This model states that adults learn best when learning is:

- based on solving problems not assimilating content;
- negotiated with learners, so that their expectations and needs are met;
- relevant to their immediate context, in their professional lives;
- experiential.

In developing online community and associated learning activities, these principles have been adopted by Ultralab researchers.

Lave and Wenger (1991) use the term apprenticeship as a theoretical framework in their exploration of 'situated learning'. For them, situated learning is more than simply 'learning by doing', and it required the development of a theoretical perspective to make it clarify its meaning and make it explicit. This led to the development of the concept of "Legitimate Peripheral Participation" (LPP), where learning is seen as an "inseparable aspect of social practice" (Lave and Wenger 1991).

By engaging with the social world we are constantly constructing the meaning of current circumstances, building on our past experiences and learning. As a new learner we engage around the periphery and as our knowledge, skills, and understanding develop we move towards the 'core'. It is this constant influx of new members who energise the community bringing with them new experiences and ideas and developing the "distributed intelligence" of that community (Brown 1998). Thus a new teacher enters the community of school leaders as soon as they are appointed to a school. Through their social and professional interactions they develop their leadership understanding and potential.

Wenger's and Brown's approaches echo the earlier work of Vygotsky, with the distinct difference that they view this social interaction as a purely "benevolent relationship" (Wenger, 2002). For Bruner (1996:151), this situated learning is about knowing "how to do things long before we can explain conceptually what we are doing or normatively why we should be

2

doing them". Eraut (1994) sees this blend of experience in the form of tutors or mentors, and colleagues or co-learners as providing different perspectives, sharing resources, offering mutual support and motivation.

Wenger (1998) developed the idea of LPP into a social theory of learning, Communities of Practice (CoP). The theory sees learning as a result of social interaction and key components are practice, meaning, identity, and community. On a more pragmatic basis, Wenger (1999) identifies three key components of CoP:

- community - social interactions and relationships between individuals
- practice – the means by which historical ideas and skills are talked about and developed
- domain. - the focus or purpose

Wenger argues that by focusing on these three elements it is possible to create the conditions that will enable a CoP to develop. These are not seen as concrete rules, more as a pointer to what needs attention if a healthy CoP is to develop.

The theories of learning and professional development lead us to develop an asynchronous online learning community environment where collaboration, social and reflective learning, supported by tutoring or facilitation, are the key factors in its development. Salmon (2002), identifies this model as the most likely one to be sustainable across the broad spectrum of learning. This model has pre-eminence in our work, and is supported by the development of specific content and resource banks for individual programmes.

The integration of the community and the content, while maintaining learners' active participation in the former is key to our work. Professional learners engaged in our communities have tacit knowledge gained through their experience and practice. The community dialogue is designed to make this knowledge explicit and to allow learners to reflect on their experience, that of others and to construct a new and deeper knowledge based on the shared discussion. This reflective learning style (Honey and Mumford, 1998) can also work against community and suggest to learners that they need to read external texts. The balance between reading and contributing must be in favour of the latter if community is to succeed.

Ultralab background

Ultralab has been at the forefront of the development of participatory online community in educational contexts for the last 10 years. In several projects, described below, we have used the dialogue between learners as the basis for learning.

Working with Nortel, the Learning in the New Millennium project brought school students into contact with professionals working in industry. This was

a longitudinal project running over 6 years. In it we saw the development of the first iterations of community software and the establishment of the principles of the use of the online space as creative and participatory and not as a vehicle for dissemination of information.

In 1998, the lessons of the LiNM project were developed into a pilot project for the proposed University for Industry (OLN). Managers and leaders in small and medium enterprises were able to share best practice through online community. Here we see our philosophy of widening learning to all, and not restricting the use of learning communities to those engaged in traditional educational contexts.

We believe passionately in making the learning accessible to all. Our Notschool project was established as a pilot for the DfES in 1999, working with two areas of the United Kingdom, and now rolling out nationally. This project brings those teenagers who have been outside of school for many years, back to learning through online community with their peers and adults who work as teachers and mentors. Critically though, all those in the project are deemed co-researchers, as epithets such as 'teacher' or 'student' are demotivating for the learners involved, all of whom have negative perceptions of school. The project has had unparalleled success, over 90% of the teenagers enrolled as researchers have now gained some form of certification with many going on to gain traditional school and college based qualifications.

In 2000 we began designing, implementing, managing and facilitating learning communities for school leaders. Initially under the auspices of the DfES and later under its school leadership agency, the NCSL, we are responsible for establishing communities for some 17000 teachers in middle and senior leadership roles in schools.

The first of these projects was for newly appointed headteachers (principals) in England. We set up a community, 'Talking Heads', which, for the first time, provided headteachers with a facility to communicate and converse with colleagues across the country. All registered members, with a startup number of 1500, belonged to one central community with the option to join more specialised communities, organized by school type (primary, secondary, small schools) or topic (special educational needs, faith etc). The software allows for all members to initiate and set up discussions, which were facilitated by members of the Ultralab team, guided by the needs of the members.

A unique selling point of the communities was the access they gave to policy makers in the government's Department for Education and Skills. Through a regular fortnightly hotseat, headteachers are able to question officials and give feedback on consultations. The department has come to view the online community as an essential two-way conduit in its communications with school leaders. Alongside the hotseat with civil servants, we have a

programme of guest 'speakers' who, through the provision of starter articles and questions lead online debates with community members. These have developed into full-blown online conferences with keynotes and break out seminars.

After a year of piloting Talking Heads, the National College for School Leadership (NCSL) was established and with it came the rollout of national leadership programmes. In January 2001, the new model of the National Qualification for Headship (NPQH) was launched. This qualification had been running for a few years, and following an evaluation was revamped to put the focus of the self-directed professional learner, supported by tutors, into an online community. Our role was advising the programme developers, the ten regional training providers and working with their tutor teams. We refined the model of community to several iterations to one in which there is a national overarching space for all candidates on the programme, ten regional communities for discussion of the leadership materials and some 400 tutor-led communities for 7-15 teachers to share summaries of their learning.

The national community space provides a noticeboard for candidates to share issues across the whole cohort, discussions for special interest groups and, repeating the model from 'Talking Heads', hotseats with experts. In NPQH there are two types of hotseat, designed to meet the findings of the evaluation carried out for the remodeling exercise in 2000-2001. Firstly, candidates are able to question educational experts who address a focused aspect of the programme's curriculum. Secondly, we have a series of serving headteachers who provide case study experiences, so that learners can 'experience' a wider range of schools than would be possible if they were restricted to their local geographical area.

Following on from the NPQH, Ultralab have worked with the NCSL in developing communities for professional learners on the Certificate of School Business Management (a qualification for school bursars), the Strategic Leadership with ICT programme, Networked Learning Communities, the Leading from the Middle Programme and others (see NCSL website at http://www.ncsl.org.uk). In doing so, we have established the place of online community at the heart of the learning experience.

A critical difference between Talking Heads and the other NCSL online communities is in its purpose. It is an informal network of headteachers and, unlike the other communities is not allied to, or driven by, a formal programme's curriculum. Learning takes place through the informal direction of the discussions on issues associated with school leadership and best practice.

As part of Anglia Polytechnic University, Ultralab has also developed online learning communities to deliver credit-bearing modules in the university's MA programme. Aimed at serving school teachers these take place wholly

online or as a blend of online and face-to-face. New modules are developed to meet learners' needs and are supplemented by negotiated projects, with groups of, or individual, schools. In all of these modules and projects our emphasis is on developing the teacher as researcher, taking control of their own learning and reflecting on it with others. Details of these may be found on our website at **http://www.ultralab.net/ultralablearning/**.

Complementary to our rich portfolio of projects in online community, we have been instrumental in designing the software used to deliver them. The NCSL projects are run using Oracle's think.com software, now in its third major incarnation. At the software's inception, Ultralab was consulted on the design, which was a progression from the lab's own Spinalot software, used in the LiNM project. The specification for the software reflected our use of innovative participative tools that empower the learner and allow for the use of a variety of media.

Lessons learnt and a model for online learning communities

Key findings

The fundamental challenge faced was generating participation, without this there is no online community, and no learning. Both informal online communities, such as Talking Heads, and more structured programme-related communities are effective in enabling professional learning, but to make them successful is a complex task requiring a number of component elements to be put in place. It is easy to underestimate this complexity.

It is possible to generate a vibrant and relevant online community that also enables headteachers to generate and exchange insights regarding their practice, considerably assisting in building capacity for school improvement. For the individual at its most effective, this manifests itself in school leaders and teachers taking a self-directed approach towards their professional learning.

Our findings from evaluation and experience in all of the communities outlined in the case studies are summarised here:

Induction process for online learners.

Time needs to be given to induction, with specific activities designed to negotiate expectations, provide guidance to the online space and resolve problems. We support this with synchronous online activities – 'chats'. This is a departure from our normal use of asynchronous activities.

Encouraging participation by also using the online environment as an area for social interaction.

When engaged in any CPD activity, teachers often report that the social interaction and networking is as important as the formal sessions (Terrell, 2002). To engage learners in online community, opportunities for social interaction have been provided by some tutors. These allow for the informal networks developed at induction to continue and provide an online equivalent of the learning circle face-to-face meetings arranged by candidates.

Support for community discussion through reminder e-mails, telephone and synchronous activities.

The online space can be an isolating one, with comments made asynchronously and by individual remote learners. Learners appreciate tutors who support the community through other channels of communication.

Modelling behaviour and presence.

Where online teachers are overtly engaged in conversations, providing feedback, setting focuses, acting as either facilitator or expert, candidates are more likely to respond. Where the tutor is not overtly engaged, candidates are likely to focus on the barrenness of online space. It is also apparent that where a tutor or hotseat guest provides lengthy answers, this will invoke similarly lengthy future contributions. There is a fine line here between the desire for brevity for readability, and the need for in-depth responses for deep professional learning.

Informal versus formal professional learning spaces

The Shack is used as an induction space, and so all are encouraged to contribute there initially. When analysing the contributions in 'The Shack', it is clear that some students feel that this is as natural a place to discuss their learning as the more formal module space.

> *The orientation time was useful, but I can see a need to balance the 'playing' and 'wanting to get on' according to different needs and experience. Welcoming comments in the Shack are good icebreakers…*

Formative versus summative learning.

There is a tension between the formative nature of learning exhibited during the conversations and the requirement for a summative report to be submitted at the end of the module. The structure of the modules relies heavily on the use of asynchronous discussions. Some students feel that they are repeating work by having to write an assignment at the end, and their

main reason for enrolling on the module is for pragmatic practice-related learning whish they perceive as disjoint from the demands of the academic masters level criteria.

> *In honesty… I'm not really concerned about the assessed outcome of the unit. I'm working this course as a stand alone to experience online learning and to learn about its methodology. Hopefully this will help me to tutor on NPQH more effectively.*

This attitude often causes students to fail to submit work to the deadline or standard required as they have gained more from taking part in the course than from the demands of the formal assessment.

Assessing contributions

Addressing the above, we have considered the accreditation of comments in the discussions. We have looked at models used elsewhere (e.g. Open University IET, Stirling) in which marks are awarded for the contributions of students during the asynchronous conversations. We have a problem with this being a driver for participation as we feel it would distort the authenticity of comments, with students contributing purely to gain marks. Developing this model, however, we have an assessment of student portfolio, supplementing the action enquiry report.

Practice knowledge versus propositional knowledge.

The portfolio is created through the collection of screen shots of conversations in the module, and comparative examples from the students' own practice or elsewhere. These are then annotated to make the learning explicit. For example, students are asked to look at the style of facilitation and tutoring used in the module and elsewhere and comment on its effectiveness. This assessment product allows second-level reflection. At the first level, students are reflecting on styles of tutoring as the asynchronous discussion proceeds. They then reflect again on their, and others', comments when their portfolio is submitted.

Impact of software and design

Some students use the CMC software as a barrier to participation. One group of students were averse to its use and preferred to focus on the technicalities of the environment rather than the interaction with others. To minimise this effect we have redesigned the interface to provide less need for navigation and providing more structure within the module. We have found that we have reduced the number of negative comments about the software by having

- fewer places to contribute

- fewer units per module (five, as compared to up to eleven in earlier modules)
- only one or two units live at any one time, with only one conversation per unit
- static pages with navigation to conversations remaining unchanged throughout the module

Distance learning and e-learning

Some learners will read all the resources made available to them before they feel able to contribute to discussions even stating that they are not prepared to discuss anything before they have learned about it. Individual preferences for learning styles play a part here as no doubt does past experience and expectations of what constitutes learning. Stephenson (2001) accepts that this should be both expected and worked with. There is need to consider learners' preferred learning styles. Those who report a more assimilative style will tend to read the resources before contributing. This needs to be acknowledged in course design.

We have found that by providing fewer resources at the beginning of a conversation, and focusing the discussion on students' own practice reduces the effect of this time-delay. We have also built in reading weeks into the programme, and made the conversations and activities more time-limited. Our experiences concur with those reported by Martin Owen (Owen, 1999) in that the use of conversations alone is not enough. They must be supported by resources, activities and support the recording of learning in portfolios.

Collaboration and community

Speaking at the UACe conference in Bath in March 2002, Mary Thorpe of the Open University's IET spoke of the 'rhetoric of collaboration'. Asynchronous discussions are by their nature not conducive to shared contribution, as members can post at any time. We have introduced activities that force students to work offline in pairs to come up with findings that they then post for others to comment on.

The Online experience of 'Time'

It seems to us that time in an online learning programme exhibits some unusual behaviours, at least in the minds of participants. In the MA modules, as in NPQH, we have experimented with having few or many units and conversations open at once. On the one hand, the asynchronous nature of the space allows time to be slipped and for students to contribute whenever they wish. This should be liberating, and is a theme that appears in evaluation comments from learners. One commented on this liberation of time:

> *I have welcomed the opportunity to continue my own professional development within my own time without geographical constraints…*

On the other hand, time slippage has meant that students typically look to deadlines to complete activities and without them, fail to participate. It is as if with no structure to time, students cannot structure their learning. We have moved to a set of time-limited activities with a clearly defined pathway through them. This has been criticised by some students who look to e-learning to provide open paths.

> *Time restraints on discussions have been the greatest barrier to the action enquiry module, being ready to contribute to a discussion, only to find it ending two days earlier. It would help if all discussions were open until completion of the module.*

Previous models of having all conversations open at any one time have resulted in little or no interaction, however, as the presence of learners in any one conversation is diluted.

Conclusions for a model of learning and teaching

We are engaged in developing a model of learning and teaching that comes from the interaction of traditional learning, the theories of communities of practice and of situated professional learning and the use of technology. This is a model designed for learning that is manifested by the developing professional practice of the learners. Much of the knowledge and understanding is tacit, and a key objective is to make this knowledge explicit, sharing learners' reflections on it and its application to their professional role. There is a balance here between the knowledge acquired through participants' previous experience, new knowledge and understanding through reflection in- and on-action and the selection and use of appropriate propositional knowledge as a tool for reflection and analysis.

There is also a balance between the formal and informal learning. This is very marked in face-to-face situations, and needs to be reflected on line. The use of the Shack allows for informal interaction. We are constantly looking to develop self-directed and collaborative learning, but this needs to be nurtured – it does not happen on its own.

Our model, see figure 1, is underpinned by notions of community, the components of the learning programme and the role of the tutor, or facilitator. These three come together to shape the learning experience and influence the design of the programme and the online space in which it takes place. In this concluding section, we look at each of these in turn and summarise our approach.
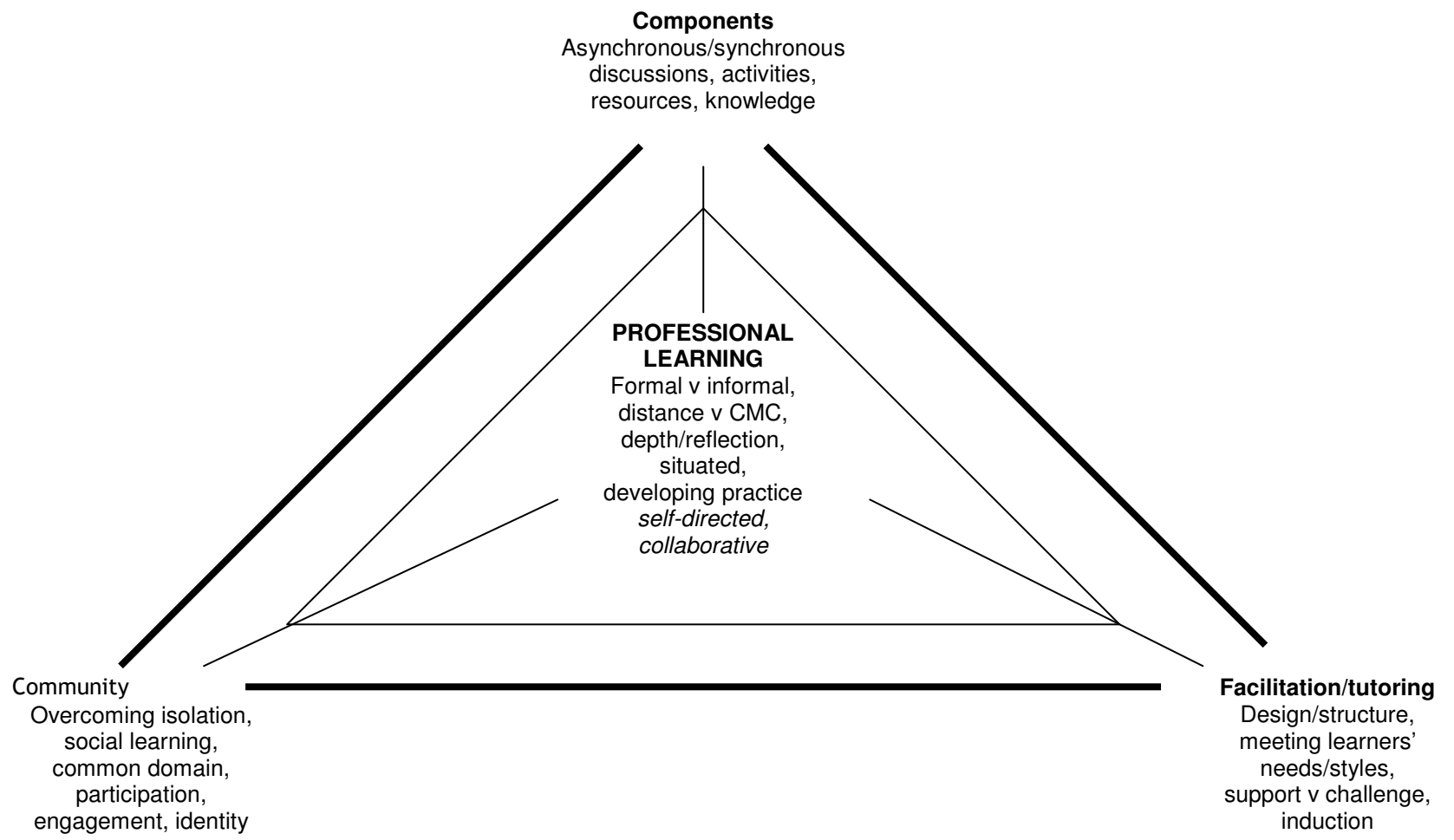
The community aspects of our online learning programmes are used to overcome isolation and to develop social learning. Through their use, learners are encouraged to reflect on their experiences and the tacit knowledge they have developed. Within the community there is a common domain, that of professional educators, and through active participation, this reflection is taken further as each learner analyses and critiques the individual and shared understandings of the group. There are also the dimensions of identity and personality, crucial to online environments. Through induction and synchronous events the role and persona that people exhibit online is explicitly discussed to try to overcome the issues of only receiving partial information about fellow learners through text-based communication.

The components of an online programme are as listed above - discussions, activities, resources and knowledge. In designing our programmes we are conscious of the balance between the immediacy time demands of synchronous events. We provide some synchronous opportunities but they are generally only popular with a few learners. The bulk of the activities and discussions are asynchronous, with contribution being possible at any time. We do have a tight timeline for activities though, so that the group is kept ontrack and together. Previous experience with open-ended deadlines or having many discussions running in parallel have not been successful. Learners have become frustrated by the lack of activity in the particular discussion they are engaged in if others are engaged elsewhere. Time is a difficult concept online. For those who are engaged it can run very slowly and they can make many contributions in a short period. For others time can seem to move very quickly and, if they have not contributed for a while, they can lose the thread of the discussions very easily.

We provide resources in the form of an electronic library (cybrary), but are careful not to overstock this as a large proportion of learners prefer to read all resources before contributing. This results in a stagnation of discussion. Included in these resources is the summary of the discussions from previous cohorts, thus developing the shared knowledge. In this use of computer-mediated conferencing we are distinguishing our programmes from the traditional distance learning models, but the resource-based nature of these latter still has a role and is valued by many students.

The role of the online tutor is key in balancing the demands of time, drawing out the personalities to involve all members of the group, structuring and designing the online space and meeting individuals' needs and styles. Expectations are shared at the beginning of each programme and the tutor needs to support the online community activities and discussions with telephone and e-mail communications, sometimes referred to as 'back channel'. We encourage tutors to have a weekly or fortnightly communication with all students, to be overt when they are in community and to model behaviour. If a tutor has the habit of always contributing,

challenging and following up comments made then learners are more likely to follow suit.

Components
Asynchronous/synchronous
discussions, activities,
resources, knowledge

**PROFESSIONAL
LEARNING**
Formal v informal,
distance v CMC,
depth/reflection,
situated,
developing practice
*self-directed,
collaborative*

Community
Overcoming isolation,
social learning,
common domain,
participation,
engagement, identity

Facilitation/tutoring
Design/structure,
meeting learners'
needs/styles,
support v challenge,
induction

**Figure 1
ONLINE LEARNING ENVIRONMENTS
A Model for Professional Learning**

Bibliography and further reading

Bradshaw P, Chapman C, & Gee A (2001) *NPQH interim developments* accessed at http://www.ultralab.ac.uk/papers/npqh/bera2001paper.htm on 31 July 2002

Brown, J. S. and Duguid, P. (1999) *The Social Life of Information* Harvard Business School Press. Boston.

Bruner, J. (1996) *The Culture of Education*. Harvard. Cambridge, Mass.

Eraut,M. (1994) *Developing Professional Knowledge and Competence*. Falmer Press. Lewes.

Hiemestra, P (1994) *Self-directed Learning* in Husen, T. & Postlethwaite, T. (ed) *The International Encylopedia of Education*. Pergamon. Oxford.

Knowles, M. (1984) *The Adult Learner: A Neglected Species 4ᵗʰ Edition*. Gulf Publishing. Houston.

Lave,J. & Wenger, E.(1991) S*ituated Learning. Legitimate Peripheral Participation*. Cambridge University Press. Cambridge.

Owen , M (1999) *Technology Situated learning and the Professional Development of Teachers*. Accessed at http://rem.bangor.ac.uk/~mowen/reflect/profdev.html on 31 July 2002

Palincsar, A (1986) *Reciprocal Teaching* in *Teaching Reading as Thinking*. North Central Regional Educational Laboratory. Oakbrook, Illinois.

Salmon,G (2002) *Pedagogical requirements of VLE's: PETS & PLANETS The 24 hour university: Stretching the Limits*. Accessed at http://sstweb.open.ac.uk:8282/oubs/gilly/download/Salmonleeds.htm on 4 September 2002

Schön, D (1983) *The Reflective Practitioner*. Basic Books. New York.

Stephenson J (Ed)(2001) *Teaching and Learning Online*. Kogan Page. London.

Terrell, I (2002) *The Impact of CPD in HE on Teachers and their Institutions*. PhD Thesis in preparation.

Ultralab (2002) *Private development plan report to NCSL*

Vygotsky, L (1978) *Mind in Society*. Harvard University Press, Cambridge, Mass.

Wenger, E (1998) *Communities of Practice*. CUP. Cambridge.

Wenger, E (2002) *Cultivating Communities of Practice*. Harvard Business School Press. Cambridge, Mass.