Online Learning — Implications For The University For Industry;
A Preliminary Case Study Report

Stephen Heppell and Leonie Ramondt - Ultralab

Background

A change of government in 1997 brought a complex plethora of promises and commitments, both to education and to information & communication technology (ICT), but those promises came with a price. The price was the re-examination of much that had been considered incontrovertible: standards, institutions, roles, funding and more. This did not amount to a revolution but after a moribund few years even a reassessment can be an opportunity for change. Perhaps less expected was the vigour with which strands of change were pursued. In the space of less than a year announcements came thick and fast: a national grid for learning, a virtual teachers centre, a national database of good practice, email addresses for all school children, a national centre for teaching and learning in higher education, task forces on software development for learning, a white paper on lifelong learning and much more. Sometimes these initiatives were encouragingly heralded by pre-announcements of consultation and pilots studies. Appropriately there was a common reliance on ICT to make change happen by allowing new strategies to be explored alongside an imaginative view of new funding potentials from private public partnerships through to lottery funding. The incoming governments mantra of "Education, education, education" and its broad commitment to underpinning learning with ICT had begun to move from rhetoric to reality.

Some of these initiatives were clearly placed in the domain of individual government departments, for example the National Grid for Learning with the Department of Education and Employment, but Departments of Culture, of Health, and of Industry all had enough news themselves for an impartial observer to be able to claim with some justification that these twelve months might see the birth of a Learning Age as distinct from an Information Age. However, not all initiatives had such a clear path to advocacy. The idea of a University for Industry (UfI) was a Labour Party manifesto commitment and a central plank of Government policy for promoting a skills revolution but it is immediately clear that the very name University for Industry confuses both its parentage and patronage. This was made further confusing by the genesis of

the name; UfI's roots lie in a phrase uttered by the now Chancellor of the Exchequer. Is it a new form of university, a new function for industry or a Treasury investment in people?

The Institute for Public Policy Research (IPPR)1 has been working on the concept of the UfI for the past two years. In December 1996 it published a booklet *University for Industry: creating a national learning network* which outlines the challenges facing a UfI, describes what sort of an organisation is required to transform opportunities for lifelong learning, and suggests a range of ways in which a UfI might promote innovation in organisation and delivery, boost demand, and improve access. Two keynote speakers launching the report at a high profile conference at the National Film Theatre are now leading members of the new Government: Rt Hon Gordon Brown MP, Chancellor of the Exchequer; and Rt Hon David Blunkett MP, Secretary of State for Education and Employment. The report argues that the UfI should be a 'national learning network', bringing opportunities for learning to people where and when it is most convenient: in the workplace, in the home and in local community-based centres rather than in existing institutions. On-line technologies are clearly central to this concept. The report has been very well received in the business and education worlds and by politicians.

Uncertainties

As part of this, the IPPR has established two pilot projects both run collaboratively, one at Sunderland University and the other with Ultralab at Anglia Polytechnic University; the latter project is the subject of this paper and it aims to examine the concept of an on-line learning network. Although Ultralab has long experience of developing long term learning communities, both across the Internet and with the communication technologies that preceded it, much, of course, was either uncertain or unknown: can a mixed community of learners learn both from and with each other? With the constraints of place and time removed by an asynchronous and distributed learning network what patterns of engagement will result? Can quality survive a two pronged attack from both the eclectic nature of the project's learning population and the non traditional structure? What commitments, expectations and entitlements emerge amongst the community of learners? and much more.

It has been made clear that early targets for the UfI are likely to include the teaching profession. Moreover, the new Labour Government's ambitious plans

for school learning and ICT, heralded in the recommendations of the Stevenson Commission report into "Information and Communication Technology in UK Schools", should create an environment in which schools will be much better equipped to exploit the benefits of technology-based forms of learning, and in more urgent need than ever of continuing professional development. For these reasons the Online Learning Network pilot has focused on learning professionals, but sought to draw a wider definition than just individuals with qualified teacher status (QTS): industrial and commercial training managers, museum and gallery education officers, educational broadcast professions, parents even, would all be welcomed into the learning community that was envisaged.

Online Learning Network Design

Constructivist theory (Brown, Collins, & Duguid, 1989; Bruner, 1986; Fosnot, 1996) informed the pedagogical foundation for the design of the OLN, and the project therefore aimed to empower the participants to actively construct their knowledge rather than passively receive information. A number of concepts emerged from the preliminary review of the literature. These included

• The centrality of self directed participation to learning communities (Senge, 1994; Tebbe, 1997).
• That a sense of ownership can be engendered through the provision of tools for learning (Brown, Collins, & Duguid, 1989/95; Jonassen, 1994; Prickett, Higgins, & Boone, 1994).
• The evolutionary process inherent in online communities (Cox, 1997).
• The role of informal, social conversation and the exchange of stories to build a sense of community (Comstock & Fox, 1995)
• The role of describing place to create a sense of familiarity and ease (Berge, 1996; Bruckman & Resnick, 1995).
• The influence of computer software on shaping the dialogue (Comstock & Fox, 1995; Lee, Dineen, & McKendree, 1997).
These notions were incorporated in the OLN design for further investigation. Despite the intentions for a broad community above, the actual participants were skewed towards the teaching community including learning professionals who: teach ICT in schools and tertiary institutions; design and run distance learning courses; design multimedia software; write curriculum and assessment policy; and work in libraries. A number of new teachers and school governors also participated.

Project focus and process

Previous experience led us to take as given that on-line learning communities were viable, but the bolder premise was taken that online communities flourish when the participants are self-directed and participate in designing their learning. To this end, the project provided a variety of routes to participation. Participants could select one or any combination of the following:

• Learning about learning. Although the course was not accredited or assessed, it aimed to extend peoples' understanding about what inspires learning online. It used discussion starters and WWW links to topics such as online community building, collaboration and self esteem, to stimulate reflection and discussion aimed at linking theory to practice. Each session was begun with a discussion starter which allowed people time to reflect and respond in their own time (asynchronously). Experts were invited to contribute a paper and to participate in the resulting discussion.
• Learning about good practice. Participants were invited to start discussions to exchange ideas and information on topics of professional interest.
• Learning through exploration. Participants were invited to prepare and/or participate in real time (synchronous) online excursions or experiments to test a variety of web-based interactive technologies, with the aim of finding out which have most to offer online collaborative learning.

Research approach and timeline
The action research model (Altrichter, Posch, & Somekh, 1993; Kemmis & McTaggart, 1990; McNiff, 1994) used for the project, aimed to encourage reflection and discussion regarding the ongoing online community building and collaborative learning design and processes, amongst the participants. The online learning community design will be honed over three phases of the project. Phase one ran from the end of September 1997 through till the beginning of February 1998. The timing and duration of phases two and three will be determined by the needs and requirements of the participants.

Conferencing software

The software used to provide the conferencing and chat capability (see figure 6) required for the project, was FirstClass. This software is also used by large

institutions such as the Open University. It was decided to use the new release of FirstClass (v5), because it purported to integrate FirstClasss conferencing features with World Wide Web browsers so that people could quickly and easily read and contribute to conferences via software already installed on their computers. Because FirstClass has been adopted as very much a *de facto* standard for academic communication systems in Europe it also meant that people participating in the project will be able to readily adapt their OLN experience to their own professional environment, progression and continuity.

Phase One

After in-house testing of the new FirstClass server software, the OLN began live online on the 22nd of September. It had been planned to begin the first discussion session a fortnight from the starting date. This quickly proved to be over ambitious, as technical teething problems proliferated. Our active use of the new software uncovered problems that had not been revealed in testing, and it was decided to postpone the start of the first discussion session by two weeks. An on-line forum of other FirstClass (v5) server administrators revealed that we were not alone in experiencing these problems, and this on-line learning community helped move us all forward whilst the initial bugs were being ironed out by the software company. It was also found that the Web interface offered a subset of the FirstClass client software functionality and was unable to provide "live chat" functionality, the ability to see who else was online, to post résumé's, and to deliver home pages to the OLN server. Most problematic however, were the difficulties encountered in attempting to post messages to conferences for discussion participation. For these reasons, our initial Phase 1 plan to encourage participants to access the OLN primarily via the World Wide Web had to be abandoned. OLN members were instead asked to download the stand-alone client software via our web site. At least 30 people were unable to do this, due to the slowness of their phone line data transfer. They were therefore sent the required software as a 3-disk set with instructions on request. These technical problems were not entirely unanticipated and provide an important part of the Phase 1 context.

A number of other participants were precluded from participation due to the limited services provided by their chosen Internet Service Providers (ISP). This is clearly a significant issue. A number of ISPs, in their haste to offer a 'value added service' have varied the standard functionality of Internet protocols and browsers in a way that clearly disenfranchises their customers. Put bluntly

their 'added value' subtracted common capability. When the oligopolistic provision of service and software meets open standards these tensions will always occur but to vouchsafe open learning communities, will almost certainly require a regulatory framework at national and European level and rather less naivete at the institutional level.

First Class offered a strong visual metaphor and some help with understanding the structure and threads of discourse. It softened the generally unfriendly face of communication technology substantially.

Figure 1: The layout of the OLN desktop for the final evaluation session

To prevent people being awash in a sea of anonymous names, a phenomenon described by Willshaw, (1997) and also to facilitate mixing beyond professional groupings, it was decided to develop core groups. New members were asked to select virtual scenarios to provide them with an informal context to establish dialogue.
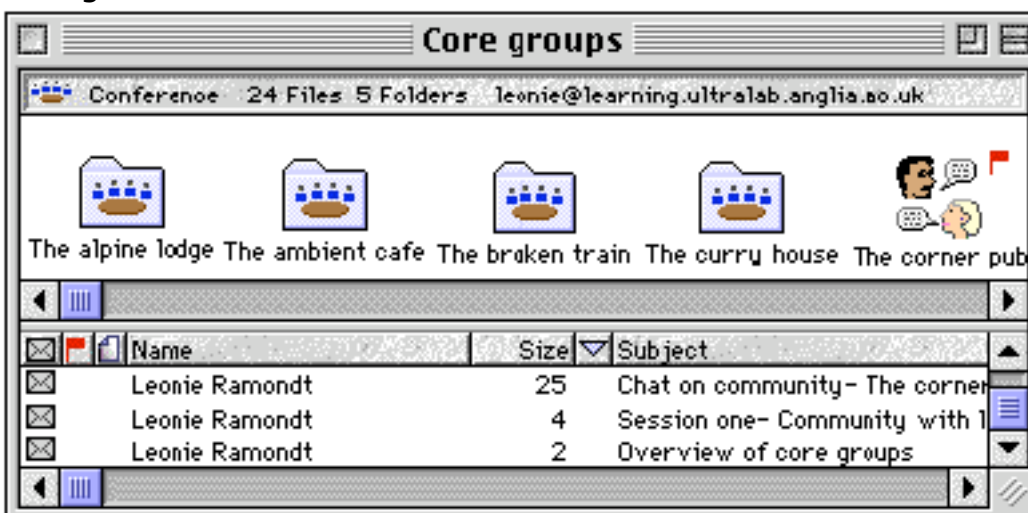

Figure 2: the active core groups and a flag indicating that someone was present in The corner pub chat area.

Each of the groups had a trigger message posted: for example the initial posting for "The alpine lodge" read:

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Title: Read first please, before waxing your skis.
The alpine lodge

The boots hurt. Bending down to release them hurts. Which hurts more?

The blizzard makes your mind up for you and unclipping the boots move gingerly
across the ice to the haven beyond. You sit down, very carefully, at a rough
wood table and drink in the atmosphere: wood smoke, tobacco smoke, hot wine,
cold meat, warm conversation.

Slowly the feeling creeps back into your feet. They hurt more.

You exchange a conspiratorial glance at your table companions. None of you in-
tend to venture back onto the piste just yet and you begin to chat. And eat. And
relax. Apart from being 2000 metres above your bath and bed this skiing business
is looking up.

You find yourself, as the mood becomes more reflective, enjoying taking turns
with your new companions to reflect on learning and talking about a great learn-
ing experience: what made it special? what learning was involved? what was the
context? and maybe chatting a little about skiing too.
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As can be seen from figure 2, the titles of the responses were in keeping with the discussion starter although the participation was initially slow.
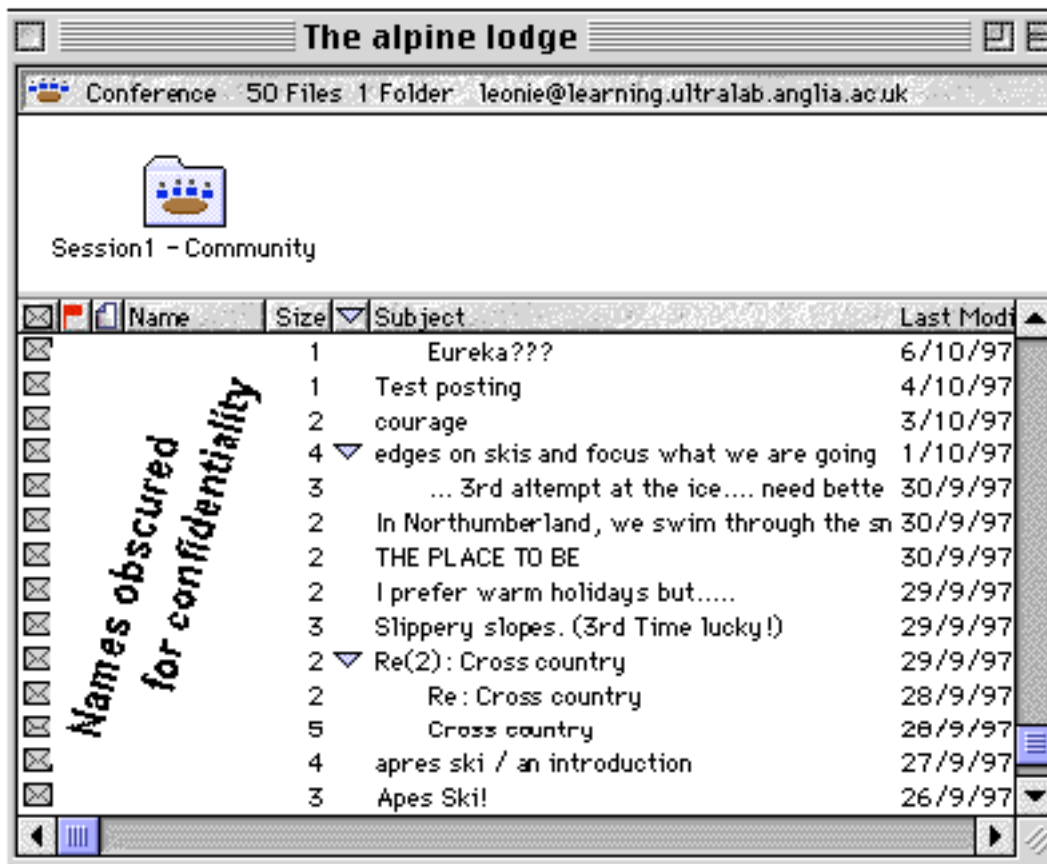
Figure 3: The initial responses to one of the core groups.

Responses to the OLN evaluation questionnaire informed us that the core groups estranged some members through a mismatch with their anticipation of the learning on offer. One, an engineer, reported that

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"I had a look on the web site once or twice and couldn't under-
standing on. Quirky little chats in pubs and cafes..., left me cold I'm afraid. I'm
the type who wants to get down to the facts, being an engineer by training !".
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Note that the respondee here assumes a model of learning fundamentally concerned with the transmission of factual information.
On the other hand, other participants reported

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"It's going to be difficult to create a community from scratch without specific
shared issues. The core groups helped", and "the contact through core groups was
good early on. They did seem to generate a sense of community".
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This was one of the cases which indicated that learning communities need to be designed to accommodate people with entirely different needs whilst care

needs to be taken to advance both expectations and the entitlements that accompany them.

Project development

The first session began as the software problems were only just starting to ease. The technical problems ensured that participation was slow to start and also hindered some people from participating in the early software excursions as this respondent indicated

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"Start-up was difficult, and made me wary of spending time on some other soft-
ware trials."
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Other reported hindrances to excursion participation included their computers' raw power and capability:

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"I did find some of the other 'experimental software' was incompatible with my
rather low memory Mac - no fault of the project!"
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People who were technically competent or had home technical support generally were much quicker to sort out technical problems. As one person said

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"I think that if my partner had not been a professional computer person, I would
not have managed to access OLN at all".
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This created a tension between the needs of those people who were quick to log-in and were anxiously waiting for the discussion to begin, and those who started late and then had trouble catching up with the volume of discussion that had occurred. It also speaks volumes about current technology being still at the raw edge of development and some little way from "user cuddly". Session one focused on Community, specifically online community. It became quickly apparent that dividing this discussion into the separate core-groups was not effective, partly because the numbers of people actively posting were still comparatively small, but more specifically because people wanted to 'overhear', and comment on, postings to the other core groups leading to a sense of confusion and discontinuity. Session two, a discussion on the topic of 'collaboration in learning', was therefore located on the main 'desktop' and quickly generated 95 responses. Whether because of the explicitly reflective nature of the project's own research focus, or simply because the sense of audience led participants towards polemic, a number of these were very

lengthy. The length and complexity of the dialogue brought the request from one member, that people reduce the length of their contributions to two paragraphs. This suggestion was adopted as an informal guideline, many people apologising if they were unable to contain their reply within this length. As some members reported that the proposed sessions focused on learning theory were not directly relevant to their needs, the course outline was revised in response to the expressed interests of participants. This led to session three focussing on the topic of Self Esteem, and session four focussing on the topic of Online assessment. These sessions generated around 50 responses each. As several members expressed an interest in the topic of the University for Industry, it was decided to focus sessions five on the policy issues and session six on the practical implementation of the UfI. It became apparent however that this focus had been suggested by more vocal participants with particular wishes and these session generated very little participation. Session seven generated more discussion with its focus on evaluation of the project and on clarifying peoples interests and requirements for phase 2. This participation curve is similar to one reported by Johnson-Lenz, P. and Johnson-Lenz, T, (1996) and warrants further study, as one participant who runs online training courses commented

`"Keeping people active is a central problem for online learning delivery"`
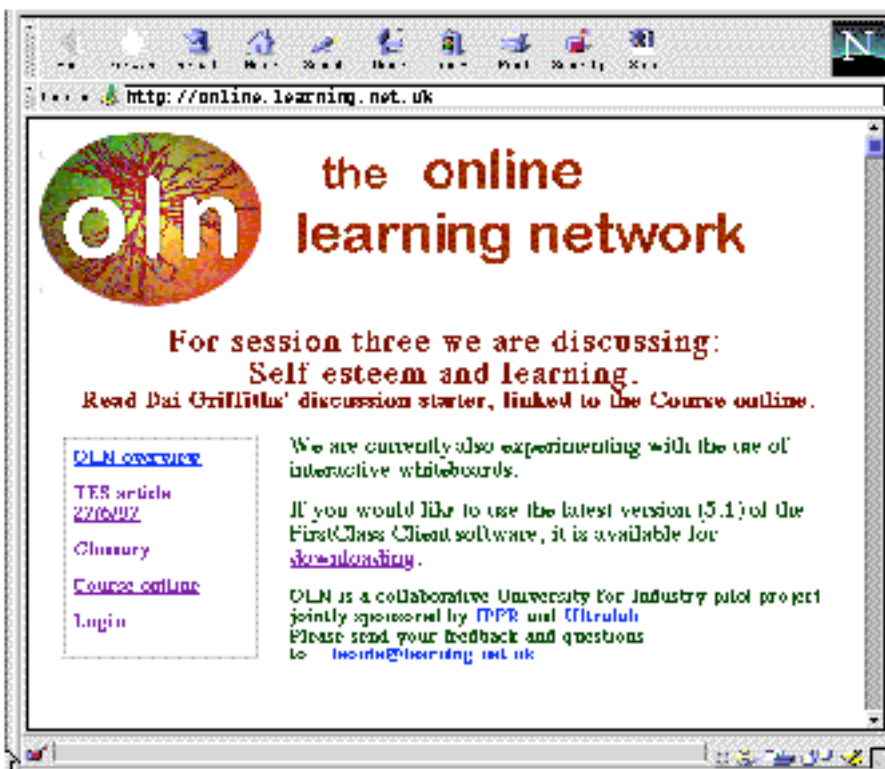

Figure 4: the OLN autumn homepage

During the pilot, fortnightly email updates were sent to notify people of OLN developments and the calendar of events. People who were unable to come online either because of technical problems or due to time pressures, have expressed appreciation for these. The OLN homepage also marked the change of season with appropriate colour schemes, as well as the changes in session. Members were initially hesitant to organise explorations or experiments themselves, but were interested in participating in organised activities such as tours of the internet, the use of graphically oriented synchronous chat software and interactive whiteboard. Towards the end of Phase 1, several members mounted experiments with a specific piece of collaborative software which provided tools such as a concept maps, brainstormers, whiteboards and calendars. In seasonal spirit the project participants even experimented with an interactive knot tieing session. Characteristically, even with this playful event, the project's focus on the internal expertise of the group and on asynchronous learning centrally mediated guided the jollity, although quality was hardly at Higher Education levels! Several large group synchronous chat sessions have also been organised, along with numerous smaller group social chats.
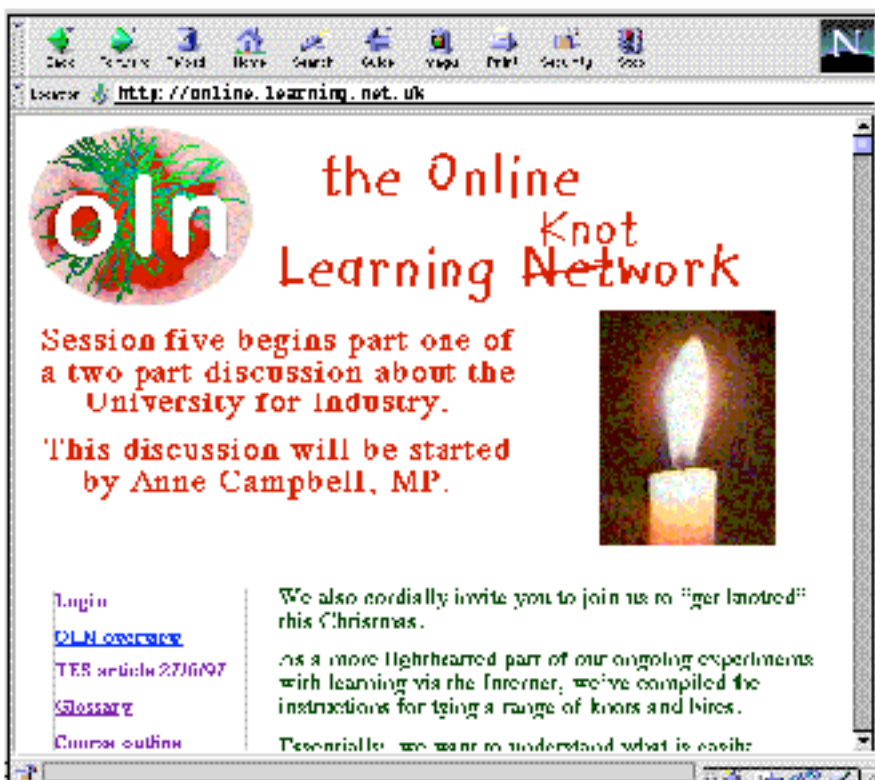

Figure 5: the OLN Christmas homepage

Role of co-ordinator

It has become evident that the co-ordinator role has been central to keeping the project active. Berge (1996) states that the facilitator(s) functions are rarely filled by one person as the required skills are very diverse. These roles are generally met within tertiary institutions by existing support services. Berge (1996) classifies these roles as pedagogical, (questions/probes and focus); social, (developing human relationships, group cohesiveness, maintaining the group as a unit, helping members work together), managerial (organisational, procedural and administrative ie setting agenda/objectives/ timetable/ procedural rules/decision making norms), and technical roles, (making users comfortable with software and system - preferably making it transparent). Even although this list is fairly formidable, Berge (1996) has in fact omitted the high level technical skills required for configuring and administrating the software and hardware for the server as well as the pro-active drive required to sustain the project participation.

The high level of preparation and encouragement that sustained the project has not gone unnoticed and positive feedback included

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"Have just logged off after a fascinating evening on tour!
It's really exciting ? every step opens up all sorts of new opportunities.

I hope you're getting lots of thanks from people. I'd like to add mine.

You're working incredibly hard to keep this test going so well. You must be put-
ting hours and hours into it; it just wouldn't work without you."
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Hurdles to participation

Besides the significant technical problems encountered, other hurdles to participation were identified. As participation was entirely voluntary, unassessed and unaccredited, participation required strong relevance and as work demands increased during the term, participation became less active. As mentioned, the OLN community was formed from a fairly eclectic group of people sharing a broad professional interest in learning. However, people outside of education institutions reported on a number of occasions feeling somewhat excluded from the discussion, when it was either very specific to teaching or quite academic and embedded in educational theory. This reflects varying levels of professional learning analysis within the different domains represented and doubtless the same would have been true with a common focus on design,

law, engineering or any number of other domains of broad professional interest. Raising the level of professional debate to a common high standard within such realms would be a clear success congruent with the aims of the University for Industry. A few teachers and academics already communicating actively on the Internet reported that as their term workloads increased it would have assisted them if the OLN had been more closely integrated with their other online activities. Others stated that they were overwhelmed by the numbers of postings during active discussions. It should be remembered that OLN's ability to engage people from different locations at different times in no way offered strategies to prevent them overextending themselves as a result. It is anticipated that as such activity becomes more mainstream, natural limits of expectation, as well as software support to assist the discernment of relevance, will reduce this tendency.

Although the project provided a loose framework through the organised fortnightly sessions, one of the issues discussed in the action research conference and again during the discussion on collaboration, was the role of structure. On several occasions some participants requested, and indeed anticipated, more structure. By and large they were not able to state what kind of structure they required, other than to identify structures provided by traditional online training courses or to request that other participants be asked to contribute a certain number of times per week. These suggestions were resisted because the project aimed to engender self-directed learning, and this may in fact have been part of the dilemma. As one of the participants stated, most people were either used to participating in courses or running them, but had experienced few contexts which required them to actively meet their own learning needs. This again illustrates the diversity of the group. Inevitably numbers of other participants stated that they did NOT want more structure.

Expectation was important elsewhere too; with a traditional delivery mode cues and clues for an equity of commitment abound: for example physical attendance. Distributed asynchronous learning has yet to establish these cues and clues to everyone's satisfaction: does multiple but very brief engagement equate to irregular but lengthy contribution? Also attending a seminar with minimal spoken contribution in conventional higher education is quite common (after all we all know that verbal dexterity and confidence vary) because attendance remains a key litmus test of engagement. In asynchronous on-line activity watching without contributing is frequently derided ("lurking") by members of online communities, and generally not perceived as adequate en-

gagement partly because the ability to reflect, review, research and revisit before contributing reduce the 'excuses' for keeping quiet. Some members of OLN also reported feeling uncomfortable with the lack of visible others, aware of the numbers of people reading discussions but not actively contributing. Although McKendree, Stenning, Mayes, Lee, and Cox (1997) state that many people learn vicariously, simply by following the online discussion, with OLN their silence weighed heavily on some of the participants who felt that their words were being appraised by unseen eyes, especially because it was not known whether these were appreciative or critical. Unlike the traditional seminar where our sociometric analysis suggests (as above) that many participants remain silent, these people were not readily identifiable within the FirstClass environment. One solution to this issue was found by some members, who created a closed working group, free from non-participants. A better solution probably lies within software design offering a better sense of audience and flagging more clearly a set of clues and cues for active participation.

Although it was apparent that overall participation reduced over the holidays, the holidays also provided the first window of opportunity for some OLN members to log in. Although some members could incorporate OLN activities into their work, others participated entirely motivated by personal and professional interest and could only log in from home. It might be anticipated that increasingly ubiquitous Internet access might impact on this in the future. This raises the issue of prohibitive telephone costs as well as the issue of co-ordinator availability. Depending on the aims of a project, facilitation may be required outside of working hours, as these may be the only times when some members can participate. Nevertheless, it should be remembered that this level of support from the co-ordinator reflects the mix of participants supported on OLN and the requirement for synchronous events. Other on-line learning communities at Ultralab have revealed that where synchronous activities, technical support and holiday access are not an issue, the co-ordinators role is characterised by a much lighter touch. One certainty therefore to emerge is that on-line learning communities *per se* are not a way of reducing costs by increasing staff/student ratios although the focus on the internal expertise of the group and the model of mutual mediation thus engendered may be. The savings are more likely to be in reduced capital costs, but technology does not substitute for the key roles of mediation, inspiration, annotation and provocation that lecturers would all recognise from their more conventional pedagogies.

Although brief instructions outlining steps to begin participation were sent via email, few people actually followed these instructions (noone ever seems to read manuals either!), for example few people responded to the request that they write a brief resumé. During the evaluation, however, there were a number of requests for an idiots guide both for the FirstClass software, and for discussion participation. This suggests that simple instructions should be posted to people as a booklet, for them to read whilst they are initially logging into the system. This reflected uncertainty with convention as much as with technology however.

Chat

The chat utility provided by FirstClass has allowed for quick and spontaneous discussions to occur in real time. A corner pub chat area was created in the Core groups folder after participants in a successful chat session suggested the need for it. The pub metaphor aimed to facilitate opportunities for informal community gathering. Conversations that began here almost always wore the metaphor on their sleeves as participants started with the buying of virtual rounds

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"John is shouting, ah, make mine a double whisky!".
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Interestingly, although the 'virtual glass' provided a common ground and comforting sociable framework, it also allowed digression and may therefore have prevented serious discourse at times (appropriately, learning needs to be delightful). As one discussion leader said on winding up an attempted serious group discussion

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"This has been a cocktail bar event – you can't summarise all the discussions in
a cocktail bar!"
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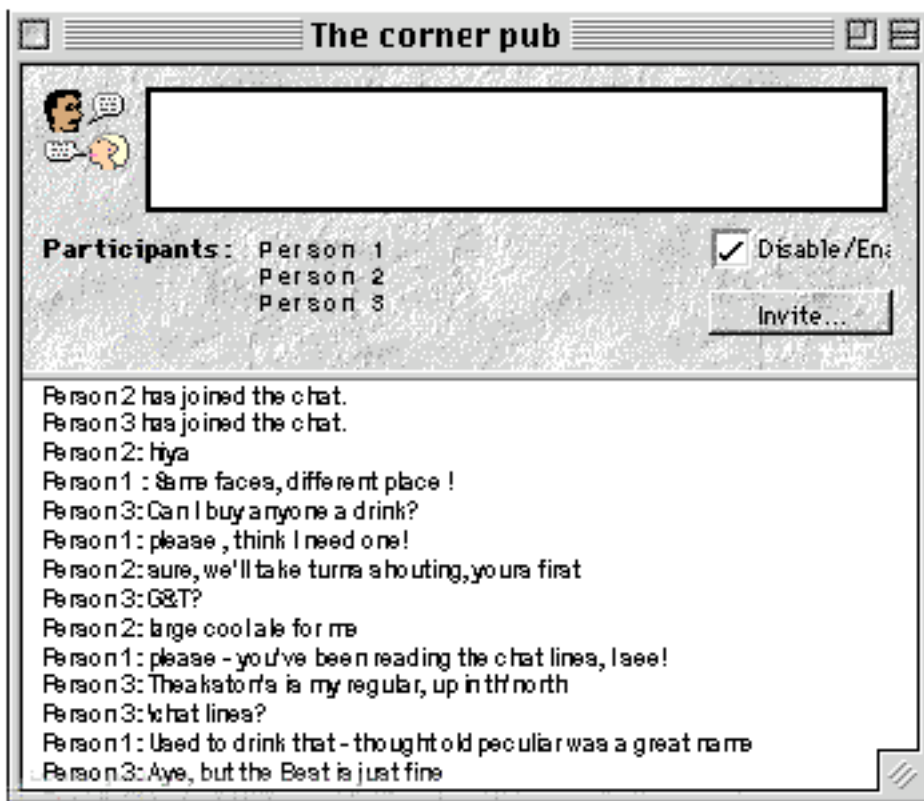
Figure 6: The start of a chat in The corner pub.

Cultural issues were also commented on by one OLN participant who was working for a Muslim based company leading us towards a search for better and more transcultural metaphors.

Sources confirm that chat engenders informal unwinding conversation (Agostinho, Lefoe, & Hedberg, 1997; Glaser, 1997) apparently more readily than focused talk, and therefore again a number of new conventions and strategies need to be developed if a serious discussion is aimed for. Text-based synchronous chat provides minimal visual feedback regarding the other participants' understanding of a specific point, no gestural annotation, no facial reinforcements. This means that the sequence of discussion (or threads) is often quickly confused as one person answers a question asked several lines before. Nevertheless, besides its invaluable aid in facilitating informal socialising and therefore increasing the sense of community, chat has been a very useful research tool for gaining feedback and information, for quick organisational meetings, and for providing a communication link during various online experiments. It has also provided an emotional support link between members on some occasions.

Learning about online learning

The project is built on relatively immature technology and people reported that online learning's technical challenges added a layer to the learning task, and acted as a hurdle or barrier. People also commented on their own learning approaches

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"I like the anonymity, but found the chat difficult, especially one-to-one.
(I) always had to fight a feeling of not wanting to post replies.

I'm better at reacting than initiating";

" 'Little but often' is best, but hard to achieve" ;

"I need more discipline and a space to do it (home has pressures too!)"

"I learn best when I'm having fun. I learned a lot about community formation on
the Net."

"My ideas for online learning in primary schools are based on similar ideas to
those already implemented by others in higher levels of education."
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Benefits

Benefits reported include publicity for existing online courses and organisations, networking to see who is already active in the online educational field, specialised tips, for example with implementing software for dyslexic learners, as well as exposure to collaborative and conferencing software. Other reported benefits included

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"I have used some of my experiences at OLN to draft a prospective plan for
structuring a <shire county> schools' use of conferencing and pass it on to the
LEA IT adviser.";
"I feel totally committed now to self-directed learning in my area of work
(teaching skills in applications software), and talk to students with greater
enthusiasm about it than if I hadn't taken part.";

"I discovered a kindred spirit with similar interests and ideas for another pro-
ject I'm working on for the Superhighways Task Force. This led to considering
how to deliver curricular materials using an on-line approach similar to the
OLN."; and

"Private chats were good. I found out a lot from others about specific interests
of mine in relation to things I'm doing at work."
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Summary of findings

The greatest barriers to participation were the problems with the technology, and, during the active dialogues, finding the time to keep up with the voluminous thoughtful and frequently lengthy postings. People's lack of experience with the technology was also not entirely anticipated, and brief hard copy documentation might have helped them deal with a number of the simpler problems they encountered. Although many of the technological problems have been solved, a number, such as reduced server functionality, slow phone lines, and software incompatibilities, remain. The diversity of participants was both an asset and a challenge as it provided a wide range of responses and interests, although the group wasn't large enough to provide sufficient kindred groupings for a number of people. This range of needs and interests in fact reflects any real-world learning community and suggests that it is not possible to meet everyone's needs all of the time. For this reason, the core groups although useful and attractive to some, would have been more accessible to some if they had simply been a place for introductions before beginning participating thereby reducing the "stage fright" a number of people experienced initially. This was exacerbated by the unintended staggering in startup time which left numbers of people feeling somewhat estranged from the flow of communication. Once the ice was broken however, OLN members frequently welcomed the opportunity to share their experiences, and were often very generous in their reflection and support for each other. Opportunities for informal narrative dialogue were important in building this trust and openess. It appears that once self-directed learning is realised and learners have "appropriated" online technologies (Dwyer, Rignstaff, Haymore Sandholtz, 1997), individual needs and unique professional requirements will increasingly be addressed. Dwyer et al. have found that the process of appropriation bolsters collaboration and project work. It is therefore likely that this approach can significantly extend learning beyond that which is currently possible, with more conventional online instructional environments. It is evident that now a sense of community is being established within OLN and people are increasingly confident with collaborative online technologies and social behaviours, the ground is ready for these to be tested and extended.

Phase 2 directions

As the increasingly empowered use of the technology becomes evident, OLN members are developing a number of collaborative projects for phase 2. Now

that a sense of community has begun to develop, visions for possible online projects are flourishing. Phase 2 is building on the lessons of Phase 1 by empowering Phase 1 participants to run their own online mini-pilot projects which will be time limited and of real life relevance to them. Projects include

• several professional best practice forums linked to database backed Web sites;
• several multi-site collaborative projects;
• an online skills bank/register; and
• two adult basic skills development projects that will motivate these communities to develop ICT skills and to exercise literacy skills by supporting collaborative web design and issues focused dialogue.
These projects will inform the UfI/lifelong learning debate and will develop sound foundations for further development.

Further research

Online learning issues that which will be researched in more depth during phase 2 will include, how to best scaffold online dialogue and self-directed learning, as well as how to accommodate the widest range of learning styles.

Conclusion

Finally it should be remembered that, although OLN is built on several years of solid experience at Ultralab of online learning communities (Chapman 1996), the OLN University for Industry pilot presents unique and particular circumstances. Software is powerful but still relatively immature and certainly the work we are currently doing with multiple media types and broad band communication suggests that many of the equivocations above are transient, representing a moment in time of technological development. It is also clear that this pilot has taken off in a blizzard of new ICT initiatives at the national infrastructural level in the UK and that these (for example the National Grid for Learning) will fundamentally change the climate of expectation that frames our project participants' personal approach to OLN. It is also important to reflect from this paper on the number of times that uncertainty about social behaviour in an online learning community colours activity. It is hard not to see this as transient too.

The hypothesis that an eclectic mix of professionals with a broad but common focus ("learning" in this case) can learn from and with each other already can be viewed with confidence. The UfI premise that stepping around many of the traditional and systemic barriers to learning for practitioners need not result in a loss of quality and may result in focussed and pertinent learning seems not too fanciful either.

Crucially the climate of action research and reflective practice that characterise this pilot will be essential if we are to move forward with integrity, being honest about our uncertainties and cautious with our certainties. The technology is changing rapidly but underlying constructivist models of learning are not part of the revolution. Learners still need to do things, to have a sense of audience for, and feedback on, what they are doing, to feel personal progress, to be provoked and guided in their learning and to celebrate their own capabilities whilst acknowledging those of others. What the University for Industry seems to be able to show already is that traditional delivery mechanisms and institutional structures do not have a monopoly role to vouchsafe the quality of learning.

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