

# Computer-mediated communication in adult education

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**Abstract:** In this paper we consider one asynchronous computer conference and begin to define, within this context, some of the issues which set the virtual classroom apart from the traditional classroom. The repercussions of using a text-based medium are profound. We have focused on the ways that silence is experienced; the equality which occurs when all participants are dependent on the written word; and the added importance attributed to tutor comments as a result of being written. We have also considered a broader definition of the role of the conference moderator after Berge (1995) in order to continue the process of enquiry into the possibilities of the role.

## 1. INTRODUCTION

One of the teaching strategies possible in Information and Communications Technology (ICT) is the use of the asynchronous conference in which students contribute to ongoing discussions unrestrained by the need to be in the same time and space. In an asynchronous learning network (ALN) students and tutors respond to the conference as and when they are able. Entering the conference is a consciously solitary event. Some conferees have previously prepared statements, questions and comments which they upload once they are connected to the conference. This highly conscious and reflective discussion-based learning medium is perhaps unique to ALNs and a valuable educational tool.

The course on which this research is based is called Reflective Technologies in Work-based Learning and is offered at Masters/ taught

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Doctoral level by the University of Manchester, UK and the University of Georgia, USA. The aims of the course are to encourage students a) to become tolerant of ambiguity, b) to develop interpersonal skills, particularly within a cross-cultural context, c) to develop intervention skills, and d) to make use of action science in dealing with work-based problems. The course is experiential and has five phases:

- *Phase 1* - pre-reading and writing
- *Phase 2* - T-group laboratory
- *Phase 3* - Action Science laboratory
- *Phase 4* - Computer-mediated communication, based on action science case study groups
- *Phase 5* - revision and examination.

The focus of this paper is on Phase 4, the online phase. Previous papers have dealt with issues related to teaching and learning (Davis Watkins and Milton 1998a), cross-cultural matters (Davis, Watkins and Milton 1998b) and levels of participation (Davis and Denning, 1998).

During the face-to-face (f2f) and online phases of action science, the students worked in three groups of five. They took it in turns to present and have interrogated, an action science case (Brooks and Watkins 1994). Analysis of the transcripts of the conferences revealed significant differences between the three groups. For the purpose of this paper these differences could be categorised in terms of output, that is the quantity of data produced; the atmosphere of the three virtual communities and the extent to which each group relied on the tutor.

As a result of the experience of attending these virtual conferences and analysing the data we feel able to draw some early conclusions about online small group work.

## 2. THE EFFECT OF ICT ON THE CLASSROOM

Anyone who has experience of using a computer conferencing package to enhance student learning will be aware that it alters the dynamics of the classroom in certain specific ways. In our research we have found the following areas to be of significance:

- silence/lurking;
- CMC as a text-based medium;
- equality within CMC;
- the tutors' presence.

## 2.1 Silence or 'lurking'

Silence in CMC can be attributed to many causes: an individual might be unavailable for a few days, unable to think of a response, offended by a previous message, or they could have lost interest in the discussion. It is also likely that some silent conference members are lurking. Lurking is a term used to describe less active participation in a computer-mediated activity: in other words, reading but not writing. It has traditionally been viewed in a negative way conjuring up images of voyeurism more than uncertainty or shyness. The issue of lurking in cyberspace was a controversial one for two of the groups we studied and they dealt with it in different ways. One of the groups decided to create a 'lurk room' within their conference where they could indicate their 'presence' without making comments on the ongoing discussion. The other group talked about creating a lurk room but did not do so. All appeared to agree, however, that lurking should not be viewed as non-participation.

In the course evaluation students commented favourably on the opportunity to enter a conference, read and then leave, only to return afterwards with their more reflective observations. The tutors always presented an unbiased attitude towards lurking which was noted by a member of Group One.

*Martha:* Mike Davis referred to this aspect of online group work, too. Here is a suggestion. We could have a "lurk room" like we have a "chat room" now and, if and when we get on the site and "listen" but do not "speak," we could just put the date and time there, so that others would know of our presence. What do you all think?

The part that the tutors can play in viewing the lurking persona as arguably the most reflective one is important, and by modelling tolerance towards different styles they can affect the views of the other participants. Indeed, it is not only the students who can and do lurk but also the tutors. Both tutors visited Group Three more than Group One and both report that they were bothered at the time by the lack of activity in Group Three. These frequent visits may have given the tutors an impression of active involvement which was not borne out by the printed texts. This is a potentially dangerous area and facilitators need to be aware that whilst they may feel involved when they are lurking, there is no evidence for the rest of the community.

## **2.2 CMC as a written medium**

The repercussions of working within a purely written medium are substantial. Holt, Kleiber and Swenson (1995) wrote:

To engage in the electronic debate one's voice becomes literate, written and bound in text. Without traditional non-verbal cues, inflection, tone, etc, participants must make the most of words.... The discussion is ... text bound and context poor. (Holt, Kleiber and Swenson, 1995:8)

It is easy to be aware of the restraining effect of communicating through script when struggling, not only to find the right words but also to be concise. Less apparent, at first, is the effect of operating without the benefit of non-verbal communication, so much of which we take for granted, that its loss is not always accurately calculated. Because e-discourse is a written form of communication, all activity, particularly any originating from the tutor, is powerful. Comments can be read many times over and interpretations changed and flippant remarks can take on a more weighty aspect than intended. Our analysis suggests that for some of the students the heightened sensitivity and weight of the medium, in combination with traditional power issues, meant that each intervention by the tutors may have been seen as overly significant.

One of the advantages of asynchronous, written communication is that there is time to compose a well-crafted response. This is a facility which tutors can use to great effect if they make a conscious note of the norms they see operating within the groups they are tutoring. Asynchronicity then provides them with the opportunity to take the time to make interventions which take these norms into account: an opportunity which is not possible in the clamour of the face-to-face seminar.

## **2.3 Equality within CMC**

Research has shown that people who are reticent in a face-to-face situation are likely to contribute more in a computer-mediated setting (see for example Holt, Kleiber and Swenson, 1995). In a face-to-face environment where non-verbal cues can be overwhelming, voices are not heard equally. It could be argued that there is an unprecedented equality to CMC. In a computer-mediated setting the context, content and cues are all written. Learner styles can be transformed by the medium. Hesitancy, volume and bravado are less striking than in a face-to-face situation. There is a democracy to the medium which allows the reader an autonomy they do not have in the conventional classroom. This autonomy can be experienced

by scrolling through long or irrelevant postings, skipping entries by certain people and by focusing for extended examination on particular postings.

An examination of the transcripts created by the course 'Reflective Technologies in Work-based Learning' revealed that some of the students who had been reticent in the face-to-face component on the course were indeed active online group members. Students appeared to develop an online persona which was unique and in many cases impressively reflective and critically aware.

## 2.4 The tutors' presence

Wizer and Beck (1996) found that the roles of faculty and students were altered in the online setting so that courses become more learner driven and students more proactive. Wild and Winniford (1993) add:

The fact that roles may change so that discussions are more open and learner driven indicates that students are engaged in the learning process in a different fashion than traditional classes. Students apparently are able to take the lead in asking and answering questions in this electronic environment. (1993:10)

We found that Group One demonstrated this proactive engagement in the learning process. As a result of the majority of their time being conducted without the tutors being 'present' they became increasingly autonomous. Not only did they ask and answer questions but they took active and territorial control of 'their' discussion, with, on one occasion, four out of the five group members lining themselves up in opposition to an observation made by one of the tutors.

Group Two appeared to be reliant on tutor interventions to guide and focus their discussions and as such resembled a face-to face tutorial in the first four weeks. However the following intervention by one of the tutors led them to re-examine the way they had been working.

*Karen (tutor)* ...I am suggesting that it would be helpful for you to be explicit about what you think is going on ... and then inquire whether or not you are accurate. This exposes your thinking and reasoning... and thereby allows Charlotte to see exactly what you are driving at....

*Kurt* Got you Karen. Thanks. This is a good intervention on your part.

In the final week the group had a thoughtful, open exchange in which four of them challenged their tendency to "*let details of the case get in the way of looking at feelings.*" (*Dana*) and realised that it had held them back. It may well be that if these five students engaged in further online learning

they would be able to gain far more as a result of the collaborative analysis which they carried out.

The experiences of these three groups might suggest that for many learners it takes time to adjust to being part of an ALN. The group which made the most rapid progress consisted of highly motivated learners who both acknowledged and tackled the challenges of the medium to make it work for them. Whilst the lack of the physical presence of the tutor might have given some students an excuse not to participate, it equally well liberated others to move into the exciting arena of interdependence.

### **3. AN EVOLVING PEDAGOGY**

Berge (1995) explores how the teacher-learner dynamic is altered through a movement of focal position so that instead of the tutor being at the centre of the teaching-learning process it becomes the students. He describes the online tutor as a moderator whose role can be seen to be made up of four distinct functions.

#### **3.1 Pedagogical**

This encompasses writing and disseminating course materials and the guidance given by tutors drawing on their extensive knowledge of the subject. In a discussion-based course tutors can model such behaviours as challenging, probing, giving a personal opinion and seeking clarification. This role is similar in a face-to-face environment. However students will not always receive an immediate response to a specific enquiry from their tutor and there is room in the virtual environment for students to respond to each other by pointing out useful URLs, journals or books and making collective answers drawing on personal experience.

#### **3.2 Managerial**

In an administrative and organisational sense this includes such aspects as dissemination of information about the course and awarding body requirements. But more than that is the management of the discussion. In an asynchronous conference the moderator cannot keep the conversation flowing in the same way as face-to-face because they are not always 'present'. So responsibility for keeping the conference moving and for encouraging each other has to be taken up, in part by the students.

### **3.3 Social**

The social moderator has to find online ways of fulfilling peoples' desires to hear a voice, to feel connected because this can be overwhelming. The moderator has to fulfil a supportive and consultative function and show an awareness of group dynamics. Time lag is a key element in the unfolding of unhealthy dynamics. New users in particular expect immediate and personal responses and are disappointed when they do not receive them. Some students may need to be encouraged in the early stages with the disorienting nature of cybertime. The handling of the first few days of a new computer conference is perhaps critical to its success. Tutors who are sensitive to the desire to receive a written response in the early part of a conference can monitor whether or not participation is occurring without their intervention and react accordingly.

### **3.4 Technical**

This role is vastly different from any experienced by a face-to-face tutor and needn't actually be fulfilled by the person responsible for academic content. It covers such aspects as technological backup, and training to enable the course to run smoothly. Clearly it helps if the tutor can act in the role of technical moderator and have the necessary skills to troubleshoot. Proctor (1998) acknowledges that having help with the technical aspect of CMC may be a luxury which will soon disappear.

## **4. TUTOR INTERVENTIONS**

Table 1 gives a summary of the four moderator functions suggested by Berge (1995). In the bottom half of the table we have listed the codings we used in analysing the data produced by the course under discussion. These codings were based initially on the typology designed by Harasim (1987) with such additions and alterations as an interrogation of the data necessitated. It can be seen that some codings could be placed in more than one category as they fulfil more than one function. For example, the students created the facility to check in and out as a way of managing the discussion but it in fact also fulfilled a social function of providing information on who was present and was seen as a courtesy to the week's leader.

In order to find out what effect the tutors were having we used the software package NUD\*IST (Non-numerical Unstructured Data Indexing, Searching, and Theorising; Richards and Richards, 1994) and made a

qualitative analysis of tutor interventions. Table 2 shows the distribution of tutor interventions according to the data codings used. Just as a coding can be placed in more than one of Berge's four categories we have chosen on occasions to code an intervention in more than one way.

Table 1. The four moderator functions after Berge (1995)

| Pedagogical   | Managerial   | Social   | Technical  |
|---|--|--|--|
| Writing course materials Providing educational 'leadership' through an awareness of group dynamics. | Dissemination of information about course and awarding bodies. Providing course materials. | Supportive and consultative function fulfilled through an awareness of group dynamics. | Technological backup and input of course material into groupware |
| Ongoing guidance given by the tutor.  | Management of the discussion   |  | Training conference users  |
| <b>Data codings</b>   |  |  |  |
| <i>coaching</i>   | <i>new direction</i>   | <i>chat</i>  | <i>process</i>   |
| <i>asking question</i>  | <i>talk about cmc</i>  | <i>affirming</i>   | <i>commenting</i>  |
| <i>giving opinion</i>   | <i>checking in and out</i>   | <i>checking in and out</i>   | <i>technology</i>  |
| <i>thinking aloud</i>   | <i>integrating</i>   | <i>talk about cmc</i>  |  |
| <i>exploring</i>  | <i>focusing</i>  |  |  |
| <i>focusing</i>   | <i>seeking</i>   |  |  |
|   | <i>clarification</i>   |  |  |
| <i>challenging</i>  |  |  |  |
| <i>seeking</i>  |  |  |  |
| <i>clarification</i>  |  |  |  |
| <i>clarifying</i>   |  |  |  |
| <i>probing</i>  |  |  |  |

We have highlighted the types of intervention which may be of greatest significance. Tutors did more coaching in groups Two and Three which implies they needed to engage in specific teaching of concepts or strategies. In contrast they made more attempts at encouraging members of Group One to dig deeper (probing) implying that the knowledge and structures were already there but further insights would be helpful. It may be significant that the tutors engaged in more chat with Group One, the group which chatted the most. The tutors also affirmed Group One the most and they were arguably least in need of external approval. We would suggest that it was precisely because Group One engaged with each other on a social level that the tutors, affected by this norm, acted similarly. Moreover the evidence would suggest that far from being irrelevant chat the social aspect was vital



to building a sense of community and contributed to the immediate and continued success of Group One.

Table 2. Tutor interventions by category

| Category              | Group 1  | Group 2  | Group 3  |
|-----------------------|----------|----------|----------|
| Affirming             | 6        | 2        | 4        |
| Exploring             | -        | -        | 2        |
| Process commenting    | 1        | 2        | 1        |
| <b>Coaching</b>       | <b>3</b> | <b>5</b> | <b>5</b> |
| <b>Probing</b>        | <b>6</b> | <b>2</b> | <b>1</b> |
| Focusing              | 3        | 1        | 4        |
| Giving opinion        | 3        | -        | 3        |
| Thinking aloud        | 2        | 1        | 3        |
| Integrating           | -        | -        | -        |
| Challenging           | -        | 1        | -        |
| Seeking clarification | 1        | 2        | 1        |
| Clarifying            | 3        | 2        | 2        |
| Checking in or out    | 2        | 3        | -        |
| <b>Chat</b>           | <b>5</b> | <b>3</b> | <b>2</b> |
| Technology            | -        | 2        | 1        |
| New direction         | 1        | -        | 1        |
| Asking question       | 4        | 1        | 3        |

## 5. CONCLUSION

In this environment, as in face-to-face, some students benefit and flourish and others find it alienating or unhelpful. Asynchronous computer conferencing with adult learners encourages students to rely on one another because the tutor is not always present. Harasim et al. note:

Teachers, trainers, and professors with years of experience in classrooms report that computer networking encourages the high-quality interaction and sharing that is at the heart of education. (Harasim et al. 1995:173)

Computer conferencing can engage learners and foster collaborative learning but more research is needed into the different types of learner-experiences of computer conferencing. Berge (1995) suggests a re-evaluation of the role of the conference moderator to incorporate an awareness not only of pedagogical issues but also, managerial, technological and social. Consideration of these different roles, and how aspects of them can be taken on by motivated learners, are important steps in improved conference facilitation.

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