

Creating and implementing successful online learning environments: a practitioner perspective

Authors

Gilly Salmon & Ken Giles

Open University Business School, The Open University, Walton Hall, Milton Keynes, MK7 6AA, United Kingdom

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Abstract

This paper is about how we attempted to overcome barriers to the use of Computer Mediated Conferencing (CMC) for effective learning in Open University Business School (OUBS) courses and the implications for successful implementation. We begin with a brief overview of potential barriers and the ways in which we attempted to overcome them. We then expand on this in the remainder of the paper. This practitioner perspective is based on an action research study in the OUBS, involving 300 part time management tutors using CMC based on *FirstClassTM* software as part of their multi-media distance learning courses (Salmon & Giles 1999). The results reported in this paper are intended to be a guide to help practitioners to make the most of the pedagogic opportunities provided by CMC.

Key Words

Computer Mediated Conferencing, Management Teaching and Learning, Distance Education, Online Moderating, Conferencing Structures and Environments

Introducing CMC into the Media Mix

In the distance learning media mix the pedagogic benefits of earlier generations of non-print media, such as television programmes, audio- and videocassettes, could not be taken for granted and as self-evident. Thus students – and indeed tutors – needed to be coached in the use of TV for active learning purposes, when all their previous experience of it had been as a passive entertainment medium.

CMC is a recent and potentially radical addition to the distance learning media mix. Paulsen defines CMC as:

"...transmission and reception of messages using computers as input, storage, output and routing devices. Computer mediated conferencing (CMC) includes information retrieval, electronic mail, bulletin boards, and computer conferencing." p.3).

Three types of technology are involved in computer conferencing:

- a terminal or personal computer
- a telecommunications system to connect the computers to a central computer
- a central server and software system to store and organise the texts and messages

Certain characteristics mark out CMC as making demands of a different order on its users for learning purposes. There are technical requirements in terms of hardware and user skills in terms of software; online, there is a need to become familiar with new ways of interacting – asynchronously, without the interactive clues of face-to-face contact, and through "say-writing" (Mason 1993).

Successful outcomes of the use of CMC should lead to:

- trained students and
- trained tutors

who will work effectively online, given

- integration of CMC effectively into overall course design and
- productive on-screen learning environments

Given a decision to introduce CMC into the media mix in a distance learning course, to do so successfully involves overcoming a range of potential barriers to implementation. These include:

- costs of hardware and software, and telephone line charges (where applicable)
- agreeing and specifying hardware to ensure compatibility
- setting up a support system and training support staff
- helping users easily and painlessly to gain access and use the system
- helping them to become familiar and comfortable with the online environment
- helping them to use the system to maximize effective learning outcomes

To overcome these barriers involves the design of a conferencing environment that addresses:

- non verbal behaviour (participants cannot see each other therefore there is no facial expression but less discriminatory potential)
- the nature of communication online
- use of time online
- asynchronicity and complexity
- the need to encourage interaction - collaboration and finding support from others online
- the potential for learners actively to change 'their "internal maps" of understanding'. (Jonassen 1995, Kelly 1995)
- sources of frustration

At the stage of implementation, this for us meant

- a telephone helpline for resolving access and password problems.
- step by step instructions in the use of the software
- an individual email welcome at the point of posting first message
- support in the early stages of learning conferencing.
- online help, instructions and individual responses from a "lifeguard"
- support from recent novices who had been successfully trained
- full scale encouragement to learn by doing and by experimenting in a risk-free environment
- emphasis on the purposeful and relevant nature of conferencing for future learning on course

Developing CMC Competence

"Distance learning has always favoured the highly motivated, well organised and accomplished learner, (Rowntree 1995 p. 214). For the use of CMC to be successful, the best practices of distance learning need to be created *online*. This involves tutor training and development, and student support, as well as explicitly articulated structures for courses and programmes. The use of CMC needs to become as habitual and natural for students as reading, watching TV or listening to a lecture. Key features for successful implementation, therefore, involve enabling access and induction into CMC *in advance* of the start of the course, and the training of online moderators (the term used for online facilitators) *before* they are expected to take responsibility for conferences. This ensures that they become CMC practitioners before they need to concentrate on the demanding aspects of helping students to cope with the demands of the course itself.

Staged Development

Content analysis of messages from earlier purely voluntary use of CMC by OUBS students and tutors, and insights gained from focus groups of users, suggested a structure for introducing CMC that might help to overcome the potential barriers to successful implementation outlined above (Hillman 1994). No user went through what had previously been considered the usual way of creating competence in the use of software, i.e. they did *not* first learn all there was to know about the software and then exploit it for course related learning. Their approaches were instead gradual development of competency from novice to expert and associated at each stage with increasing integration into a community of online practice. The users learnt aspects of the software, how to get the best from using the system and the CMC context. They asked for support that was relevant to their learning needs *at each stage* from the online helpers. The implications of this finding are that, although online training should be staged, it should include support for development of skills in software techniques and in learning and moderating skills at the point of learners' needs.

A Five-stage model for CMC induction was subsequently developed to reflect this. The commentary on the stages that follows indicates our purposes at each stage in the training programme we based on it.

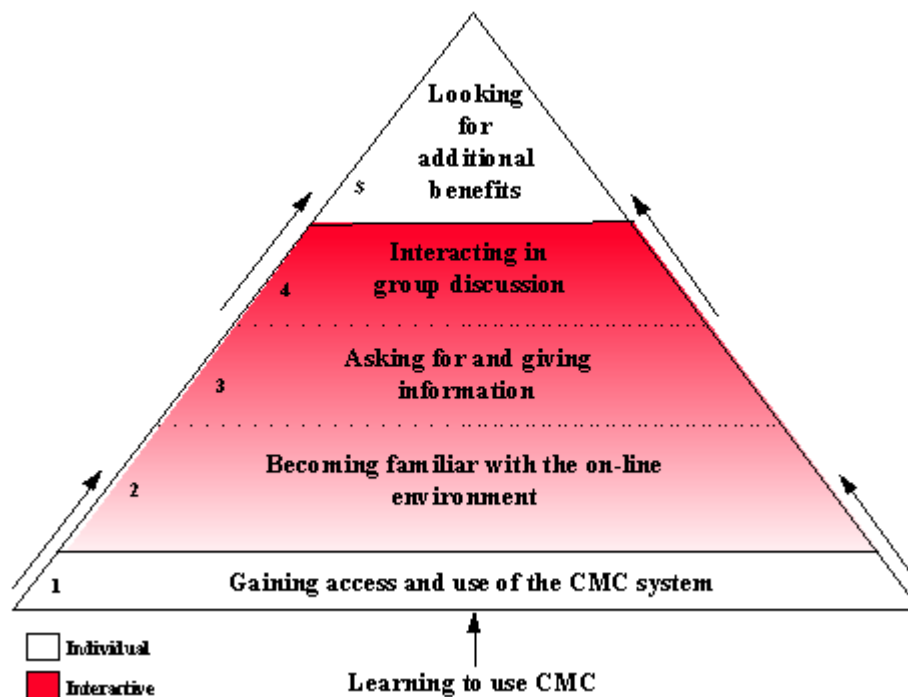


Figure 1 A Five Stage Model

Initial access - getting online - and the ability of participants to use CMC are essential prerequisites before anything further can be achieved. They need help to overcome this initial barrier. Stage 1 aims to get participants logged in and started effectively. CMC is a new and potentially alien world for many participants. They need to familiarise themselves with the culture of the new online world and understand the answer to the question, "What's going on here and how should I behave?" This is accomplished at Stage 2 where students are helped both to become comfortable with the software skills required, to find others with whom to interact and to avoid unnecessary and possibly publicly embarrassing mistakes.

At Stage 3, the users are encouraged to seek and give information to each other. Stage 4 aims to encourage the development of group discussions. Up to and including Stage 3, a form of co-operation appeared to be occurring in our users - i.e. they were supportive of each person's goals. At Stage 4 however, the interaction could be considered collaborative and the communication depended much more on the establishment of common understandings (Lewis 1996). At Stage 5, the users were typically looking for more benefits from the system to achieve personal goals and the training programme was constructed to encourage this.

Creating the On-Screen Environment

Teachers and moderators need to understand how to create an effective, on-screen conferencing environments. This requires a prior determination of the purpose of the conference and concise online instructions with clear navigation through the conferencing, as well as effective moderation. To achieve this, the following points need to be addressed.

Ideal Numbers and timing of moderator interventions:

The ideal number of participants depends on the purpose of a conference:

- for research and discussion purposes, 3 to 20 and moderate twice weekly
- for collaborative working, up to 9 and moderate weekly
- for debate, up to 50, with 6 to take roles, and moderate twice weekly
- for knowledge construction/generation, up to 30; moderate cautiously and archive often
- for exam revision, up to 500; divide the conferences into sectors and topics and moderate frequently
- for peer group support and self-help, up to 20 and moderate occasionally
- for support for groups that also meet face to face contact, up to 50 with sub-topics, moderate occasionally

Creating Effective On-screen Environments

To create an effective on-screen environment, it is necessary to:

- Decide on purpose and timing, and recruit and then brief moderators who have received prior training.
- Decide whether to:
 1. create all the conferences and sub-conferences necessary for the entire length of time the conference activity is to run, or

2. create a basic structure that will allow for the creation and rolling out of additional sub-conferences as interest emerges and conference activity hots up. Such an approach suggests the need to archive or remove inactive areas regularly. It also calls for a simple message to be placed into the "Lobby" (see below) to alert participants to the creation of new sub-conferences.
- Think very carefully about choice of icons and the names of the conference and the sub-conferences. There is some evidence that using concepts of virtuality (i.e. familiar names and pictures indicate purpose and behaviour expected) will help to structure how participants use the conferences. Thus, for a "chat" conference icon such as a coffee cup is appropriate, but for a discussion of financial data, a graph icon would be more suitable. With the wide range of choices of icons on *FirstClass™*, this is worth careful consideration.
 - Use the concept of a "Lobby". Thus, when participants click on the conference, they receive a basic welcoming message. This gives a clear indication of what the conference is about, what is expected of participants and shows the basic structure. The lobby should be "Read-only" so that participants do not inadvertently put messages there; this prevents discussion from developing in the wrong place.
 - Have a "Read Me First" message, auto-opening if possible, clearly indicating what's available, and the purposes and timings. This needs to be kept up to date. It's also important that this message tells people who is moderating and what other groups have access.
 - Create not more than say 5 sub-conferences to be visible at any one time at any one level. Each should also have a clear message that indicates the purpose of the sub-conference, what participants are expected to do and how long the discussion or activity will last.
 - Avoid having more than 3 levels down from the Lobby at any one time.
 - Constantly provide "signposts" around the conference(s) so that participants can find what they want and choose what they participate in.
 - Keep the key conferences live and focussed and immediately obvious at top levels. Post notices for routes where participants can find earlier discussions and activities if they want them.
 - Summarise, summarise, summarise... known as mindweaving in CMC (Feenberg 1989). Archive and remove messages often - more than around 20 unread messages puts participants off. Note, however, that few people seem to go back to read archives.

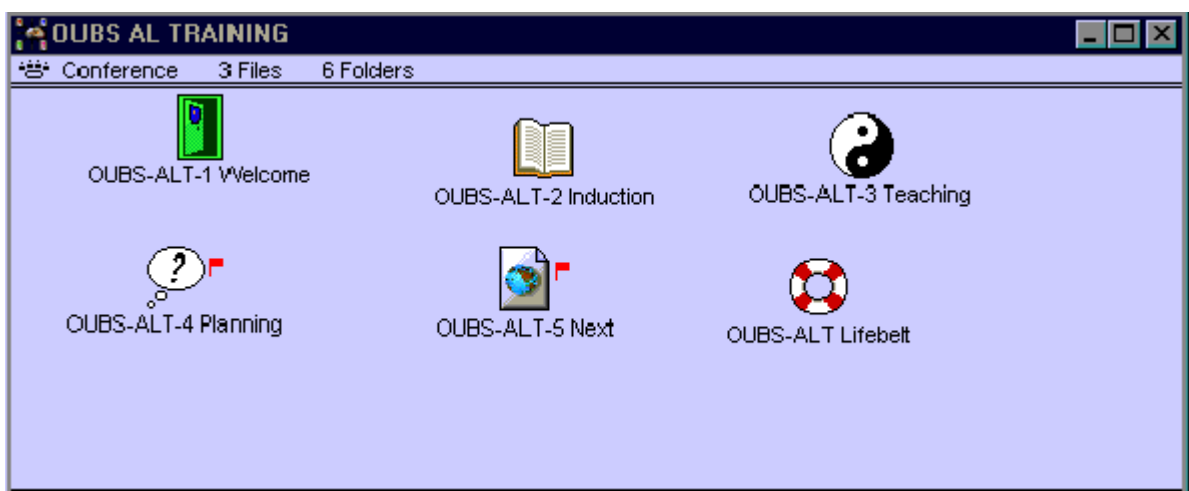


Figure 2: Example of Screen From FirstClass™ showing Online Moderator Training

Conclusions

Productive online conferencing can be achieved in large scale distance learning courses if attention is given to the practical points described above. Successful educational conferencing depends on the proper induction of students, trained moderators and the creation and maintenance of a viable on-screen learning environments.

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