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Computer-mediated Conferencing

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This is leaflet 3 of a series written by members of the LTSN Generic Centre and ALT to inform colleagues on current learning technology topics.

Introduction

The core activity of Computer-mediated Conferencing (CMC) involves individual members of a learning community composing text at a computer that is networked: the text may be read and responded to by others in that community, wherever they are and whenever. Contributions are held on an archived network. Participants read and respond to items as they choose, or as procedures agreed within the group require. The effect is a kind of unfolding, written conversation. Software packages for CMC differ enormously, both in the way they look and 'feel' as tools for communication, and in the degree of freedom they allow for user modification, control and access. New users of CMC (student or teacher) predominantly experience a sense of novelty. This can be positive in terms of interest and motivation, or negative in terms of lack of familiarity. Using CMC for learning and teaching may not come naturally to even those students and teachers who are 'browser literate' and for whom email has long been a comfortable resource.

This document provides a brief and broad introduction to educational uses of CMC. Further information lies in the reference section. The best way to adapt and develop communication skills to new domains is through practising 'for real' with good advice and relevant examples to hand; familiarity can breed content!

How can Computer-mediated Conferencing support learning and teaching?

Teachers may have a variety of reasons for introducing CMC. These could be **pragmatic**: a distributed class, need for common 'workspace', availability of adequate technological resources, mixed timetable demands across student group; or **pedagogical**: offering perceived benefits for student learning through 'virtual' written discussion.

Critical factors are the **integration** of CMC within the programme, and its **relevance** to this, which should be clearly understood and agreed by all concerned — teachers, students and support staff. Critical also is **assessment**. Whether and how discussion topics and task activities relate to assessment criteria and procedures, and whether, why and how online communicative performance is itself assessed will strongly influence the ways

in which learners use CMC. If online communication skills are themselves a learning outcome, then feedback on performance is critical. It may be, however, that the value gained by students from the resource will differ for active and passive participants and this should be acknowledged and respected.

Success depends on many interactive factors, and will be influenced by **purpose**: the reasons for introducing CMC within the overall programme, and **context**: the content, tasks, intended outcomes, group profile and support systems available.



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Some uses for CMC and strategies for engaging learners

Questions and answers

Sharing information, building up an FAQ archive. Experience suggests that tutor-student or peer-peer discussion archives can be valuable for developing 'why' or 'how' knowledge beyond first base.

Group activities

Team building, getting used to working together online. Generally, small numbers work best with purpose-relevant tasks, which depend on existing knowledge/skills developing into the new environment. Time should be allowed for familiarisation without pressure. The point, and the goal, of activities should be understood/agreed across the group(s).

Debates

Analytical, communication, persuasion skills development, course concept cover. Adapting traditional rules; eg a 'position statement' is posted, proposer and opposer identified, support team roles established, time deadlines established, resources for debate information available or indicated.

Master class

Access to a subject expert. This can be a good way for students to develop ideas and obtain expert feedback, but can be a rather daunting experience - on both sides. The 'guest expert' might need a 'lead-in' and a few students might be encouraged to seed the discussion with questions or comments. It could be that the expert starts the discussion with a prepared paper, or rounds off an 'open floor' by summarising and drawing issues into a report paper. Other resources might be provided depending on topic and practicality.

Co-operative/collaborative project work

Product (conceptual or concrete) development: broadening perspectives, expanding experience, developing subject knowledge and skills, group skills. This may be used for: grounding - clarifying, sharing objectives brainstorming - generating, exploring solutions, task allocation/sharing - taking and giving responsibility, group awareness self-peer evaluation/assessment -critical reflection, revision, change.

Tutorials

One-to-one, one-to-many: supporting lectures/labs/field trips/assignments/individual study. Course-specific tutorial sessions can precede, or follow, class activities. The main issue here could be spontaneity: sessions should be as freely interactive as possible, with all participants at their ease.

Seminars

Presentation, discussion, peer critiquing skills, conceptual development. Ground rules, roles and practice need to be agreed. A relaxed atmosphere should be encouraged. As with face-to-face seminars, availability of common resources is essential and, importantly, any preparatory work should have been done by all concerned.

Discussion forums

Special interest groups separating out for study then brought back to topic group. Following individual course interests/objectives in company with peers, extending general knowledge. 'Ownership' and freedom of speech need attention, if the desire is to allow open discussion of agreed issues. Students usually develop their own rules and codes of practice, if given the space to do so.

Review groups

Critical skills, subject knowledge development. This is a good way of covering a lot of subject ground (content, issues, readings, and performance). A key aspect is the pre-task activity of identifying sources and agreeing criteria for review.

Student café

Getting to know each other, relaxation, fun. These can work well. Different participants will influence different patterns of behaviour. In general, it is a good idea to provide one - perhaps letting the students set it up and maybe inviting the teacher.

Things to think about

Practical issues are important. All participants need easy access to the CMC discussion whether working through local area networks, or a modem. Functions and navigation should be transparent and intuitive. Make space to familiarise the group with the software, though it is important that the tasks set to achieve this are usefully related to their social needs.

Social issues - four key issues for consideration are:

The asynchronous nature of any exchange

The text-based form of contributions

The potential permanence of the record

The facility to impose headings to structure discussion.

Participants contribute to the discussion at different times, often from different places. Whilst this gives opportunity for composition and reflection, it can impede the spontaneity that might be desirable in an exchange of ideas.

Discussing an issue exclusively through text brings different challenges to those experienced by face-to-face groups. The facility to attach or index images, sounds and further information is now available to most systems but may be constrained by network or server resources, and requires development of rhetorical skills. Using the written word to sustain discussion can be an unusual experience; the lack of intonational, gestural, and facial cues can impede understanding.

What is written, as opposed to spoken, is more readily preserved. Conference archives can be visited and revisited by members of the learning group, privileged outsiders or, in the case of open

forums, anyone with access to the address. If editing permissions are not held by, or at least directable by, the whole participant group, then the free flow of communication can be seriously constrained.

Text conferencing software packages invite explicit structuring of texts or discussion 'threads'. Such organisation is less typical of much spoken discussion, and may again constrain use, or even prevent useful structure from emerging. "I am not sure whether to post this here, in the café or in the plenary" is a common phrase in online learning environments!

Advantages and disadvantages

Advantages

- Time and place independence
- No need to travel to the place of learning
- Time between messages allows for reflection
- Speakers of other languages have added time to read and compose answers
- All students have a voice without the need to fight for 'airtime', as in a face-to-face situation
- The lack of visual cues provides participants with a more equal footing
- Many to many interaction may enhance peer learning
- Answers to questions can be seen by all
- Discussion is potentially richer than in a face to face classroom
- Messages are archived centrally providing a database of interactions
- Process of learning more visible to all.

Disadvantages

- Communication takes place via written messages so learners with poor writing skills may be at a disadvantage
- Paralinguistic clues as to a speakers' intentions are not available, except through combinations of keystrokes (emoticons) or the use of typeface emphasis (italics, bold, capital letters)
- Temporal disjunction in exchanges may affect the pace and rhythm of communications
- The medium is socially opaque; participants may not know who or how many people they may be addressing
- The normal repair strategies of synchronous communication are not available and misunderstandings may be harder to overcome
- Context and reference of messages may be unclear so misunderstandings may occur.

Getting started

Two start-points are: establishing the need for CMC within course provision, and the availability of suitable resources: technology, software and human support. *Who* your learners are and *where* and *why* they will be learning is critical.

Broad tips for implementation:

- Allow space, time and relevant resources for familiarisation and grounding the group.
- A getting-to-know you session can be a good way in, sharing experience, motivations. If possible, face-to-face then hands-on; if not, then make this the first online exercise.

- Provide, but do not enforce, a 'photo-space'.
- As soon as possible, engage tasks round the learning content and outcomes of the course.
- Share purpose, agree 'rules' and roles, and review these as the course continues.
- Evaluate process and outcomes against plans.

Different group techniques meet different pedagogical needs. For CMC consider:

- **Critique** of a draft or published paper
- **Group report:** collective work to audience

- **Poll:** learners register opinion by vote
- **Hot seat:** one learner questioned by group on an agreed topic
- **Shotgun:** range of questions posted, learners choose which to answer.

into subgroups can work well, though care over roles and responsibilities, task allocation and individual interest is needed. Competition can be productive, but threatening; complementarity is a better goal.

All of these can blend with pre- and post-discussion sessions. For a large class, breaking

References and resources

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Preece, J. (2000), *Online Communities: Designing Usability, Supporting Sociability*. John Wiley.

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Other useful resources

Quick tips for online facilitators:

www.stanton.dtcc.edu/stanton/cs/rfc1855.html

www.fullcirc.com/community/facilitips.htm

Case studies of online tutoring in practice:

www.otis.scotcit.ac.uk/casestudy

JISC-funded research report on C&IT, with case examples:

www.gla.ac.uk/lncs

Defining the purpose of your community:

www.fullcirc.com/community/communitypurpose.htm

Learning materials for teaching online:

www.elicit.scotcit.ac.uk

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