

The role of computer mediated communication (computer conferencing) in online learning – its benefits and problems

Computer mediated communication has become an integral part of e-learning courses. The main tool used is asynchronous computer conferencing. Students and teachers can communicate with each other by posting messages to an online conference. The discussion can be between students or between students and teachers. Messages posted are visible to the entire group and can be searched and archived.

Role of computer conferencing

One of the reasons computer conferencing is now ubiquitous in most higher education e-learning courses is that it is seen as an effective means of providing students with a mechanism for discussion. Garrison and Anderson (2003) go so far as to say that because of CMC e-learning courses can provide students with a community of inquiry.

E-learning, properly designed, has all the potential to not compromise the values of higher education, but to create the idealized community of inquiry.

D.R Garrison and Terry Anderson, E-learning in the 21st Century

They believe that CMC plays an important role in allowing collaboration and discussion to take place between what they term a community of learners.

A critical community of learners, from an educational perspective, is composed of teachers and students transacting with the specific purposes of facilitating, constructing, and validating understanding, and developing capabilities that will lead to further learning.

D.R Garrison and Terry Anderson, E-learning in the 21st Century

CMC is regarded as an important pedagogical tool; a mechanism to aid and facilitate interaction through discussion, exchange of ideas and collaboration. This process helps to create a sense of a learning community.

It is important for distance learners to have a sense of a learning community; otherwise learning online can be very isolating. By participating in computer conferencing or by reading messages posted by others, distance learners can feel they are part of a group of learners.

Dynamics of computer conferencing

How does computer conferencing work in practice? There are a variety of formats, for example, tutors can set a particular topic for discussion based on readings that students have been asked to study, students can be asked for their comments on different case scenarios or discussions can be based on activities that students have been asked to take part in. Students post in their messages to a conference, other students and the tutor can respond and the discussion flows from that. Participants can at any point start up a new strand to the discussion.

One of the main problems that participants find is that posting messages can cause a lot of anxiety, as the contributions from an online course 'Introduction to digital environments for learning' shows:

I feel like the innocent under surveillance (hence IUS as my pseudonym) - every word written could be held against me at a future date, every message not responded to could be noted, every time one logs on could be monitored if so desired. I feel as if I'm looking over my shoulder all the time, questioning if I write that will it mean this or that?

I feel like Captain Cook who is venturing into the unknown, on the verge of making wondrous discoveries, but with the possibility of being cooked for dinner by hostile natives!

I feel like a performer who doesn't know if there is an audience present. I feel like I walk into a darkened auditorium and onto the stage, into the spotlight. I say my bit looking out into the darkness and then wait to hear if there way anyone there listening.

Participants in online course 'Introduction to Digital Environments for Learning'
But not everyone feels this way.

It's not an easy medium to use to communicate effectively.

A salmon jumping up one of those stepped dams, messages pouring down on me and with a big effort I can leap up a level and get on top of them but then there are a whole lot more still cascading down! It's bracing and exciting but hard work.

Participant in 'Introduction to Digital Environments for Learning'.

Feenberg (1989) explains that the reasons for communication anxiety are because in online communication we get none of the signals that reassure us that others are listening and agreeing or signals that warn us of other people's disapproval. He explains that when we communicate online we feel like we are taking a risk, and that it is important we get a response.

Communicating on-line involves a minor but real personal risk, and a response – any response is generally interpreted as a success while silence means failure.

Andrew Feenbergh, 'The written world: On the theory and practice of computer conferencing'.

It's a slow way of communicating

To me it is like that Douglas Gordon installation, 24 hour psycho, where the film was slowed down to run over 24 hours. Everything in online discussion is like a sloooooow motion version of what we 'normally' do face to face. It takes a long time to write what I want to say, and a long time to get a response, and a long time frame over which ideas get clearer and maybe better.

Participant in 'Introduction to Digital Environments for Learning'.

As the message above shows participants can have problems getting used to the asynchronous nature of the discussion. Salmon (2002) also mentions how when looking at the messages in a conference in can sometimes be difficult to follow the sequencing.

In a conference, this reading and posting of messages by a number of individuals can make the sequencing difficult to follow.

Although messages can be archived and looked at again later it can be difficult to follow the thread of a discussion.

Trying to understand them afterwards is rather like following the moves of a chess or bridge game after it is over.

Salmon (2002). e-tivities: the key to active online learning

To be a useful tool, computer conferencing must be carefully moderated. Feenbergh (1989) describes how the role of the moderator is both that of a social host and a chairperson. The moderator needs to make participants feel welcomed and valued and has to manage the discussion. Feenbergh says, 'Moderators also play an important role in initiating and sustaining metacommunication'. They need to identify themes and common points of disagreement—he calls this 'weaving'. They also need to summarise the discussion at appropriate points. Tutors teaching online courses need to learn these skills as, as Feenbergh mentions, conferences are 'surprisingly fragile' and if not successfully moderated fail to take off.

Just as tutors need to have a clear idea as to their role, so students need to have a clear idea of what is expected of them and the rules of netiquette need to be clearly given. This is necessary as it is otherwise easy to offend in an online written environment where there are no other clues as to the tone of the message.

Written communication medium

The main CMC tool used in e-learning courses —computer conferencing —is an asynchronous text-based medium of communication. This has its advantages: participants can take part at any time, they have time to reflect before posting a message, messages are stored, searched and can be read again later.

However its compelling educational advantage is its capacity to support reflective text-based interaction, independent of the pressures of time and the constraints of distance.

D.R Garrison and Terry Anderson, E-learning in the 21st Century

The written form of computer conferencing offers a better opportunity for reflection on participants contributions.

Laurillard, Diana, Rethinking University Teaching 1993

Feenbergh asks the question whether its text-based nature makes discussions impersonal. But online participants find that this not the case. Personality can be transmitted through writing. Why should we think otherwise? People have always managed to express their personality through their writing, in letters, essays etc.

What happens when students are given the chance of being anonymous? It is interesting to note that in small study by Chester and Gwynne (1998)—looking at the behaviour of 20 students who participated in asynchronous discussions via a pseudonym—none changed their gender and only one chose a different ethnicity. A small study (25 students) by Bond (2002) on the implications of anonymity on language teaching in chat rooms, found that 41% of the students said that it enabled them to make mistakes without losing face. Creating an environment that encourages students to take risks and be less inhibited must be an advantage in language teaching.

A possible disadvantage of using a written medium of communication is that it could disadvantage students for whom English is a second or foreign language. The work done by Chester and Gwynne, looking at online discussions between students who used an alias instead of their real names, found that there were more cross-cultural exchanges. It also found that Asian students contributed more to the online

discussions that they did in face-to-face discussions because of the greater informality online. So balanced against the difficulty of communicating through writing was the advantage of being able to think and plan before contributing and also the advantage of it being a less formal. But one Chinese student did find the language barrier made contribution difficult.

Are there gender differences? Does text-based communication favour men or women? Herring (1994) notices considerable differences in the style of postings. She found that a majority of men use an adversarial style while women 'displayed features of attenuation – hedging, apologising, asking questions rather than making assertions' and that men seemed to do most of the talking. Looking at the contributions to conferences on two online courses I have participated in, I found some evidence of the fact that women use more expressions of attenuation, they apologise, express doubt and ask questions.

Sorry, waffling now: In summary things that helped/might help..

Nothing new there at all, i'm afraid

I suppose I am feeling that my technical skills are really inadequate in relation to keeping up with this course.

it seems to me that I am just reiterating what everyone is saying so think I'll move over!

Not saying this very elegantly. Hope somebody is getting what I mean.

sorry for any errors - editor not working - neither is this site i've tried to post this three times - my kids say its a generational thing!!

Women participants in online course 'Introduction to Digital Environments for Learning'

Since, at least in the language used, women seem less confident in their postings, it seems a good idea that when moderating online discussions one checks to see who is using attenuating expressions and make sure that they are encouraged and their contributions acknowledged.

I didn't find any evidence that men did most of the talking. In both courses there appeared to be more postings by women, although in both courses women were in the majority. I didn't find any examples of men being sarcastic and intimidating as suggested by Herring.

A study done by Maldonado et al (2001) looking at the difference in participation in CMC found no differences between men and women in their participation.

No differences were found between males and females in their participation in the forums, nor in their constancy throughout the course. As found in previous literature (Herring, 1993, 1994, 1996; Truong, 1993; Savicki and Kelley, 2000; Ferris, 1996) males write longer messages than females, However and this is a

new finding in the present study, males' messages don't have any more content than females' since the number of units of meaning remains the same. Males do ask more questions in their messages and use more contextual and interactive expressions.

I would like to point out these results are based on a small study of two groups of students each consisting of 32 psychology students at the University of Barcelona.

It has been suggested that while introverts might not contribute to face-to-face discussion, they might be happier contributing to an online discussion, as CMC allows for reflection before posting a message. The results of the study done by Maldonado et al (2001) show that the participation of introverts and extroverts is at the same level.

The total level of participation of extroverts and introverts in discussion forums is similar, but introverts are more constant than extroverts. Extroverts start with a high level of participation but it gradually decreases throughout the course.

Course design

If discussion and collaboration are an essential element of an online course they need to be an integral part of the course design.

Constructivist learning theories explain that it is important for students to:

Make their knowledge explicit/visible, and one of the best ways to do this is to encourage learners to voice their thought and idea to peers.

<http://tip.psychology.org/theories.html>

CMC can be one tool used to facilitate student expression.

The current consensus is that an online course needs to be able to provide for different discussion forums. As well as academic discussion, students need to have a place where they can discuss social issues; otherwise academic discussion will be detracted by social comments. Some courses also provide a separate forum for requesting help from the tutors and read only forums for tutors to give administrative information to students. Administrative and help forums help to make communication more efficient; advice and admin information given once does not have to be repeated.

There is no doubt, that the majority of people—whether they are computer novices or computer literate—feel nervous about participating in an online discussion and sending the first message can be extremely difficult. How do you get learners to participate in on-line discussions? Laurillard (2002) describes how teachers need to set the learning context, how students need to be told why you have included a particular topic.

Students approach to a topic is affected by the way they are invited to engage with it.

Similarly, I think it is important if you want students to discuss topics via a computer conference you must orient students as to why it is important for them to participate, what you expect them to get from the experience, how to use the tool, problems they may encounter and suggest the amount of time they need to allocate to it.

Salmon (2002) says that one of the key factors in getting people to participate in online discussions is motivation. She says that people need to know why they have to take part.

The key is to mobilize participants' understanding about why they are learning, why in this way, as well as what they have to do to take part.

Salmon believes that the design and structure of the course determines how successful the participation is. She proposes a five-stage model, where courses are designed based on a structured development process. There are five stages:

1. Access and Motivation—welcome, induction, ensure students know how to access conference.
2. Socialization—learners establish identity and start interacting with others
3. Information exchange—participation, exchange of information between students and students and tutor
4. Knowledge construction—group discussion, collaboration
5. Development—reflection, achievement of personal goals

Stages 1 and 2 of courses designed in this framework allow learners to gradually get to grips with the conferencing tools and get used to discussing issues asynchronously. The difficulty for the course designer is in selecting the right kind of topics for this stage. This is when students' motivation is probably at its highest, you want to maintain the interest in the course content while at the same time allowing students to gain more confidence with the conferencing tools.

Salmon also stresses the important role of the conference moderator. As in face-to-face discussions there needs to be an active, attentive, skilled moderator. Moderators need to respond to messages, pull together key points, summarise and archive. They also need to provide help and support and deal with any breaches of netiquette that occur. All this needs to be done for discussions that can be taking place all day, every day. Moderators need to learn the skills for moderating online discussions and need to decide how best to allocate time for this activity.

Online courses tend to follow the linear structure required of face-to-face courses. Yet one of the benefits of being online is that the learner could have the option of doing things in the order of their choice. Not everybody needs to be doing the same thing at the same time.

The reasons that learners opt for online courses can be to do with:

- ? work and family constraints
- ? personality

The former often means the learner's time is restricted and they want a high degree of control over their learning. They want to be able to choose the topics they want to concentrate on and what they want to skip over.

The second point—personality—learners may have chosen to study at a distance because they like self-directed study with minimum interaction.

A problem with many forms of student to student interaction theory is that they nearly always assume that individuals share a content interest within a shared time space. However it is also know that some students actively choose distance education formats—including e-learning—that allow for study that is independent of intense contact and the temporal constraints associated with paced and interactive forms of education delivery.

Garrison and Anderson (2003)

Is it possible to design courses that allow for discussion without temporal constraints? Can you have several discussions going on at the same time, so that not everybody is debating the same topic at the same time? Seems problematic. In order to help overcome the 'life got in the way' problems, students need to have to have a clear idea before they undertake the course the time per week they need to devote to the course and to the discussions.

I found the comments of Lynne Dixon a e-tutor with the Open University interesting:

*>Do you find that there is greater participation in conferences in 'longer'
>as opposed to 'shorter' courses?*

Yes, participation is much higher - often 70-80% of students take an active part in the conferencing, whereas it can fall as low as 10% on the short courses

Could this be that students in 'longer courses' get better at managing their time? Or maybe they have more time to get used to using online discussions.

It is interesting to note that although computer conferencing has been in use for more than 30 years, the problems facing students and moderators have not substantially changed.

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