Introduction

A prerequisite to the use of computer mediated communication (CMC) when facilitating online instruction is access to a high level of computing power and a reliable telecommunication infrastructure. After saying that, I want to emphasize in the strongest way that when developing and delivering instruction, whether online or not, the use of technology is secondary to well-designed learning goals and objectives. What distinguishes online instruction from entertainment or recreation is the purposefulness of the designers and developers in provoking certain intelligent responses to the learning materials, context, and environment. This article will list the roles and functions of the online instructor in computer conferencing (CC). Simply stated, computer conferencing is "direct human-human communication, with the computer acting simply as a transaction router, or providing simple storage and retrieval functions" (Santoro, 1995, p. 14). Regardless of the level of technology used for CC--such as email, mailing lists, MOOs, MUDs, BBSs, computer conferencing systems, or the Web--certain instructional tasks must be performed for successful learning. It may not create the best learning environment to rely solely on CC. But used alone or in conjunction with other media, such as audioconferencing, classroom delivery or printed materials, CC can be used to provide an effective instructional system.

Types of Interaction in Learning

In essence, learning involves two types of interaction: interaction with content and interpersonal interaction, (i.e., interaction with other people). Both are critical in many types of learning. I think as an educator designs a course that is to promote higher order learning, such as analysis, synthesis, and evaluation, rather than rote memorization, it becomes important to provide an environment in which both kinds of interaction can occur. Technology available today, like CC, allows interaction with and about the content. In the past, while this interpersonal interaction has occurred almost solely between instructor and student in distance
education, it is increasingly possible for students to interact with one another, even when geographically separated. Again, different channels of communication can hinder or facilitate interpersonal and interaction with content. It is a combination of technologies and media that provide an environment rich in various opportunities for interaction that the designer can use, provided the strengths and limitations of each are taken into consideration. Interpersonal interaction doesn't necessarily require real-time (synchronous) communication. Therefore, interaction among instructor and students can be independent of time and place. Designers of online instruction need to be aware that the higher the content density of the materials to be learned, the more self-paced is becomes the responsibility of the learner. High density content may be better delivered via recorded media such as printed text, video tape or on a Web site--all of which can be revisited by the learner at his/her convenience and individual pace.

The Role of the Instructor When Teaching in the CC Environment

Clearly the most important role of the online instructor is to model effective teaching and accept "the responsibility of keeping discussions track, contributing special knowledge and insights, weaving together various discussion threads and course components, and maintaining group harmony" (Rohfeld & Hiemstra, 1995, p. 91). There are many necessary conditions for successful online tutoring, which I have categorized into the following four areas (Berge, 1995): pedagogical, social, managerial, and technical. Not all of these roles need to be carried out in their entirety by the same person. In fact, it may be rare that they are. A brief description of those roles follows (Feenberg, 1986; Gulley, 1968; Kerr, 1986; McCreary, 1990; McMann, 1994; Paulsen, 1995).

**Pedagogical** (intellectual; task)
Certainly, some of the most important roles of online discussion moderator/tutor revolves around their duties as an educational facilitator. The moderator uses questions and probes for student responses that focus discussions on critical concepts, principles and skills.

**Social**
Creating a friendly, social environment in which learning is promoted is also essential for successful moderating. This suggests "promoting human relationships, developing group cohesiveness, maintaining the group as a unit, and in other ways helping members to work together in a mutual cause," are all critical to success of any conferencing activities.
**Managerial** (organizational; procedural; administrative)
This role involves setting the agenda for the conference: the objectives of the discussion, the timetable, procedural rules and decision-making norms. Managing the interactions with strong leadership and direction is considered a sine qua non of successful conferencing.

**Technical**
The facilitator must make participants comfortable with the system and the software that the conference is using. The ultimate technical goal for the instructor is to make the technology transparent. When this is done, the learner may concentrate on the academic task at hand.

The following recommendations come from many sources and experiences. Besides the references, these sources are listed in the "For Further Reading" section below. Let me emphasis that I have categorized these arbitrarily. There is considerable overlap with some tasks. This is especially true of the issues more difficult to address effectively. It may well be because these issue cut across two or more areas that make them particularly challenging! For example, if I say that the mechanics of giving feedback online student papers (as oppose to hardcopy) need to be devised, should this be under pedagogical, technical, administrative or interpersonal issues? I think a case could be made for each as being an appropriate category.

**Pedagogical Recommendations**

*Have Clear Objectives.* Participants must believe their online interactions is time well spent.

*Maintain as Much Flexibility as You Can.* Because of the individuality of the learners, courses need to remain flexible and the instructor needs to support this. Rather than presenting an elaborate seminar agenda at the outset and a complex process for students to fulfill, follow the flow of the conversation, while guiding it toward the subject.

*Encourage Participation.* The use of various learning options can stimulate learner participation and interaction--small group discussion, debates, polling activities, dyadic learning partnership exchanges, and one-on-one message exchanges recognizing students messages are some of the activities to use when encouraging participation.

*Maintain a Non-authoritarian Style.* It is usually better to avoid the "authority figure" role when teaching online, especially with adults.

*Be Objective.* Before generalizing to the conference about a contribution, consider such things as the tone and content of the posting, the author and his/her skills, knowledge and attitudes that you may know about from prior conference postings, and time of the posting in relation to the conference thread.
Don't Expect Too Much. Online instructors need to be content if two or three well articulated, major points are communicated in a particular thread of discussion.

Don't Rely on Offline Materials. Summarize the assigned readings online so that the discussion in the CC remains mostly self-contained.

Promote Private Conversations as well as Those in the CC. Design opportunities for private conversations among two or more people who you suspect have similar interests in the content.

Find Unifying Threads. Instructors can weave several strands of conversation into a summarization that may prompt people to pursue the topic further.

Use Simple Assignments. Group assignments are appropriate to this media, but an over-complicated design in them is not.

Make The Material Relevant. Develop questions and activities for learners that relate to the students’ experiences.

Required Contributions. In credit courses especially, students can be required to sign on and contribute substantively a certain number of times. With some computer conferencing systems, it is possible and may be appropriate to require a participant to respond to the topic or question under discussion before he/she can access the answers posted by other participants.

Present Conflicting Opinions. Instructors can draw attention to opposing perspectives, different directions, or conflicting opinions that could lead to debates and peer critiques.

Invite Visiting Experts. Guest experts may join the conference with students to respond to posted contributions, or so students can ask questions of the visitor.

Don't Lecture. Experience strongly suggests that a long, elaborate, logically coherent sequence of comments yields silence. Instead, use open-ended remarks, examples, and weaving to elicit comment and other views.

Request Responses. The instructor may ask particular learners for comments on a topic or question, then give them time to respond, for instance "by tomorrow."

Social Recommendations

Be Accepting of Lurkers. Recognize that there will be "lurkers" in the conference and they may never participate with comments. Some people learn by listening to others so do no assume learning is not taking place. Both lurkers (or any latecomers to the class) must be acknowledged and welcomed.

Guard Against Fear in Your Conference. Fear of public ridicule often stifles participation in CC. Be gently accepting of students' comments and deal with exceptions off the list.

Watch the Use of Humor or Sarcasm. It may be wise not to use humor or sarcasm due to different cultural and ethnic backgrounds that may be represented on the CC. Using text-based communications, it is especially difficult to construe intent and tone from on-screen text, unless you know the student’s very well.
**Use Introductions.** The facilitator should encourage the participants to introduce themselves, to help build the sense of community.

**Facilitate Interactivity.** A sense of interactive participation is often promoted by using special introductory techniques, dyadic partnering, and some assignments that facilitated informal discussion among learners.

**Praise and Model the Discussant Behavior You Seek.** Reinforcing and modeling good discussant behaviors, such as by saying, "Thank You" to students who respond effectively online, can be helpful to encourage courtesy and interaction.

**Do Not Ignore Bad Discussant Behavior.** Request change (privately) in poor discussant behaviors and have a written "netiquette" statement to refer to.

**Expect That Flames May Occur.** Participants may breach etiquette and respond with harsh or vulgar language. If this problem should occur, the tutor needs to react and remind people (privately) about computer etiquette.

## Managerial Recommendations

**Informality.** Depending upon the instructional objectives of the course, the instructor may decide that informality should be encouraged. One way to stress the informality of this communications medium is to let people know that perfect grammar and typing are much less important than making their meaning clear. It's simple to edit items that will become part of the group's report later.

**Distribute a List of Participants.** Distribute, or make available to all subscribers to the conference, a list of participants so that private messages can be addressed to individuals and not to the list.

**Be Responsive.** Respond quickly to each contribution. One way of doing this is by posting a personal message to the contributor or by referring to the author's comments in a post to the conference. In some conferences, it is not advisable to respond to each individual contribution, but better to respond to several at once by weaving them together. Experience with your content and students will need to guide the instructor—test different ways to see what works most effectively.

**Providing for Administrative Responsibilities.** Coordinating and providing information about activities for such things as registration, admissions, student counseling, normal bookstore activities and many other administrative functions often are questions which are unanticipated by the novice online instructor.

**Be Patient.** Messages sometimes are not acknowledged or responded to for days or weeks by conference participants. Contrast the last recommendation concerning responsiveness with this one: Be prepared to wait several days for comments and responses, and don't rush in to fill every silence with moderator contributions.

**Request Comments on Metacommunications.** Request metacommunications) by inviting participants to tell how they feel about the course within the conference.

**Synchronize and Resynchronize.** As much as possible, ensure that all students begin in unison and in an organized fashion. Also, periodically design ways so that students can "restart" together.
Be Mindful of the Proportion of Instructor Contribution to the Conference. As a rule, instructors or moderators should generally contribute between one-quarter to one-half of the online material.

Procedural Leadership. The online tutor should initiate procedures and stifle frustrating procedural discussions. Change what isn't working, but don't allow the conference to be taken over by discussion of failed procedure rather than content or more useful discussion.

Use Private Email for Prompting as is Appropriate for Discussion. Using private messages the facilitator can urge participants to join in the discussion, to initiate debates, and to solicit suggestions.

Be Clear. Succinctly and clearly state the conference topic and the expectations for students within the conference. Clarify the topic and expectations throughout the conference proceedings.

Don't Overload. The instructor should pace the conference so that the equivalent of about one long post per day is made. If the participants have a lot to contribute, the moderator should contribute less so that the slower students can keep up.

Change Misplaced Subject Headings. Immediately change the subject line on a contribution posted under a wrong discussion heading to the more appropriate one.

Handle Tangents Appropriately. Return inappropriate digressions to the author or guide the participates back to the original topic.

Vary Participants' Amount of Contribution. If there is a participant who appears overly outspoken, ask that person (privately) to wait a few responses before contributing. Similarly, ask less outspoken individuals to participate more actively.

Student Leaders. It is perfectly reasonable to design elements of most online instruction so that students could take turns as assistant moderators and lead the discussion. This needs to be determined by the content of the class, and the skill, knowledge and attitude of the students. But again, one instructor does not necessarily need to solely execute all these roles and tasks.

Preparation Time. Instructors find that planning, developing and distributing course materials needs a substantially greater lead-time for preparation than may be anticipated at first.

End the Sessions. Decisively end to each discussion thread and the conference. Conclude discussions so that they don't drag on after they have served their purpose.

Have experienced instructors. Avoid having a first-time instructor also teach online the first time.

Technical Recommendations

Use Technical Support. Using face-to-face tutorials sessions for novice computer conference participants is recommended, but not always possible. If it is possible, it may be useful to have technical support people available at these sessions, and available to answer emailed or telephoned inquiries. Before the
conference begins, the instructor should know who is available for technical support that is needed beyond his/her skills level.

**Provide Feedback.** Provide swift feedback, especially to technical problems.

**Develop a Study Guide.** A common reader, study guide or workbook that addresses both the content and any common technical concerns is important. These could serve as the basis for discussion, provide introductory information, description of course activities, resources materials, and other information about the course components or procedures.

**Provide Time to Learn.** Learners need support as they learn and use new software features. Provide adequate time for novice users to be comfortable with the technology before they must participate.

**New Methods of Indicating Feedback.** One needs to develop standards for online feedback to students' work, such as how corrections or notes to the author can be accomplished working online versus hardcopy.

**Promote Peer learning.** Encourage novice email or e-conference users to work with more experienced peers.

**Avoid Lecturing.** Single contributions should be limited to no more than two screens. Longer postings are hard to read on screen, become tedious, and impede discussion. If lecture is in order, it is better to send the lecture separately as a reading, either electronically to be downloaded, or by mail.

**Giving Direction.** It is important to not give too much direction. Learners will often rebel if the structural design of the conference is excessive.

**Summary**

Each computer conference, regardless of the technology that carries it, has a different "feel" about it and what may work in one setting with one group of people may not in another. Both the teacher and each student are challenged by new roles, functions, and tasks they need to perform. While instructors are asked to articulate more clearly their goals and methods to others in the development team, students are also asked to take more responsibility for their learning. It takes time for student and instructor to develop effective use of technologically mediated instruction, and it takes time for students to learn in this environment. In many instructional situations, to be successful there often needs to be more discussion occurring among the students than the one way transmission of facts and information from teacher to student generally allows. Online instructors need to be aware that this can make some students and faculty profoundly uncomfortable and take positive steps to build both confidence and communicative competence in online instruction. Computer conferencing usually should not be the only medium one uses to create the elements in a learning environment. If your instructional goals and objectives lend themselves to the instructor focusing on the right questions to ask, rather than the right answer to give, then computer conferencing should be given serious consideration as an effective medium for communication within the instructional system being designed.
References


For Further Reading


Facilitating group collaboration in an online course is no doubt the most challenging facet of teaching in an online space; the skills required go way beyond teaching and sharing one’s area of expertise. In the last post I wrote about the elements needed to create a foundation for effective group collaboration online; in this post I outline five core skills online instructors need to be effective leaders of group learning assignments. This post delves into the elements of group collaboration and expands on the instructor’s role by fleshing out the core skills not just as a subject matter expert, but as a leader of learning. Learning Partners The role, then, of instructors becomes more engaged throughout but as partners in the process and not only as facilitators. While facilitation skills will still be important, the overall goal becomes one of collaborative work and mutual support so that ideas are not only generated but built upon and produced in a meaningful context of use. It’s a new way of doing things. It’s decentralized, open-source, and poised to take over online communications the way e-mail has, since it’s built as a fundamental protocol. But it’s not even just “the new e-mail”, it lets you do a lot more than that. This is not another reboot of the social network format the way Google redid e-mail with Gmail and redid search with Google Search.