

What is Online Education?

Online education refers to any form of learning/teaching that takes place via a computer network. The network could be a local bulletin board system (BBS) or it could be the global internet and world wide web. The network could also be a local area network (LAN) or an intranet within a particular organization. Historically, online interaction has been called "computer mediated communication" (CMC), although this term covers applications beyond instruction (e.g., decision-making in work teams).

The most common function used in online education is electronic mail (email) that allows students and teachers to send messages to each other. In addition, most networks also provide conferencing capabilities that let participants conduct multi-person discussions either in real-time (often called "chats") or on a delayed basis (asynchronous). There are also more elaborate systems called MUD/MOOs for group interaction as well as many "groupware" programs. The latter often involve simultaneous viewing of graphics (slides) and use of a shared writing space (i.e., electronic whiteboard). Online education also involves access to databases in the form of text files or multimedia web pages, as well as the exchange of information (e.g., assignments, course materials) via file transfers.

Nature of Online Learning/Teaching

Learning and teaching online is much different than a traditional classroom experience (even when used as part of a conventional class). Since most communication takes place via written messages (or files), writing skill and the ability to put thoughts into words are paramount. People who have poor writing skills may be at a disadvantage in an online environment. On the other hand, having to write everything gives people a chance to think about their responses, especially in an asynchronous setting, where you do not need to respond immediately. Furthermore, one of the side effects of any class involving CMC is plenty of practice writing, often resulting in improved communication skills. For many learners, this outcome is just as important as the subject matter being learned.

CMC also changes the social dynamics of education -- putting everyone (students and teachers) on equal footing. Under usual circumstances, everyone can post messages, so each online participant has the same opportunity to contribute ideas or comments. Consider the situation of the WWW; a web page or site created by a high school student has exactly the same accessibility as one created by a Nobel laureate.

Similarly, anyone on the internet or a BBS can send a message to anyone else, regardless of who they are.

One of the important implications of this change in the status quo is that the teacher or expert does not automatically command a presence in an online environment. There is no counterpart to standing at the front of the classroom pontificating to a captured audience until the bell rings! Any teacher or expert who tries to "lecture" to an online group will quickly have them tuning out and doing other things (like sending messages to each other or forming their own discussion groups). In online education, the instructor must adopt a role as facilitator or moderator -- someone who encourages participation and keeps discussions focused on certain topics. As it turns out this is a much more difficult task than conventional classroom teaching which basically involves presentation of material.

There is another interesting aspect of the egalitarian nature of CMC. It minimizes discrimination and prejudice that arises naturally in face-to-face settings. Unless someone deliberately reveals it, you have no idea about the age, gender, ethnic background, physical characteristics or disabilities of participants in an online class. The discussions and comments that ensue in a online class are about as free of sociocultural bias as possible. Of course, if people post photos or video clips of themselves, this bias-free element is diminished, but actual interaction is still relatively unencumbered. (As desktop videoconferencing becomes more common many of the current characteristics of online interaction will change since this adds the "face-to-face" element back into the equation.)

Finally, it is important to note that people react differently to CMC -- and participate differently -- based upon their personalities and interests. Some people feel quite comfortable joining in and initiating email discussions, whereas others prefer to just read everyone else's messages, but not participate actively themselves (so-called "lurkers"). Teachers and students in online classes need to be tolerant of different levels and styles of participation.

Making the Most of Online Learning/Teaching

Like any endeavor, online learning/teaching can be done well or poorly. The single most important element of successful online education is interaction among participants. It is the instructor's role as a facilitator to ensure that a high level of interaction occurs in an online course. This can be achieved in many ways. The simplest technique is to have students complete regular (e.g., weekly) assignments which consist of answers to problems or questions posed by the instructor. If these responses are posted publicly so that everyone in the class can read them, this

provides a basis for sharing of ideas and discussion among participants. And, sharing of ideas is one of the most powerful aspects of online education.

An even more powerful form of interaction is group activity. Students can be divided into small groups of 3-4 based upon common or complementary interests/skills. These groups can be formed for the full duration of a course (e.g., design teams for a project) or they can be short-term for the completion of a particular assignment (e.g., weekly discussion of a problem/issue). Group membership can be assigned by the instructor or can be determined by the participants themselves. For example in some of our courses, we require students to work in online teams but we leave it up to them to determine who they want to work with (based upon background information posted by each participant beforehand). There are also a whole collection of "groupware" programs that allow more sophisticated group interaction (such as shared workspaces and decision-making tools) which can be employed in courses.

Getting feedback on things posted is very important to most people. In fact if participants do not receive feedback on their responses, they will eventually stop posting messages. Providing feedback is the primary responsibility of the instructor (or teaching assistants/tutors). Every major assignment completed online should entail some kind of feedback comments (even if they are very brief). With large groups, the instructor may have to provide group rather than individual feedback, i.e., summarize responses in one message to all participants. Another way to handle feedback is to use peer evaluation, i.e., have participants critique and comment on each other's work. This works particularly well if students are paired up and take turns evaluating each other's work over a series of assignments.

One of the intriguing aspects of online education is that it can sometimes succeed in spite of an ineffective instructor. If students form their own discussion groups or project teams using the email/conferencing capabilities of the system, there can be a high level of interaction regardless of what the instructor does/doesn't do. It is also possible for students to upload or exchange files (or web site addresses) so that useful information can be shared among participants. Online education is inherently student-centered and with a group of highly-motivated students, it can be a very powerful form of learning that is relatively immune to the quality of teaching. On the other hand, a good teacher who facilitates well and ensures lots of feedback can make an online class much more worthwhile and enjoyable for participants. Furthermore, online group activities take a lot of effort to organize and manage -- a task that should be performed by the instructor.