Feature Article

Teaching On-line: Not Just Another Teaching Assignment!

Roger Hiemstra

Introduction

It is almost trite to say that personal computers have revolutionized the way we approach teaching and learning, yet that premise is hard to deny. Today more than 50% of all U.S. households have a PC, and more than 80% of these have Internet access (U.S. Department of Commerce, 2000). Miller (2001) reports that 89 million people used the Internet, at home or work, in April, 2001, up 19% from the previous year. More than 25 million U.S. children, ages 2 to 17, are on-line, and the number is increasing, so the revolution only intensifies (Grunwald Associates, 2001).

The implications for distance learning are nothing short of phenomenal. By 2002 it is estimated that 15% of all educational enrollments will be via distance learning (Web-Based Education Commission, 2000), and the global on-line college market is expected to reach 13.5 million students, up from 3.4 million in 1995 (Cisco Systems, 2001).

This means that the number of higher education institutions offering courses and even complete degree programs via some form of distance education increases almost daily. For example, the University of Georgia (2001), National-Louis University (2001), and the Pennsylvania State University (2001) offer on-line master's degrees in adult education. Thus, if you have an affiliation with higher education, you may already be, or soon will become, involved with on-line teaching.

Of the various computer-based technologies, computer-mediated conversations (known hereafter as CMC) seem the most promising and most used technique for on-line teaching (Berge & Collins, 1995). CMC provides opportunities for electronic, asynchronous communication, real-

Roger Hiemstra is Professor and Chair, Adult Education, Elmira College, Elmira, NY.

time chatting, the delivery of instructional materials, and student-to-student and student-to-teacher electronic interactions. It is a format that provides considerable flexibility in the way instruction is conceived, delivered, and utilized.

What do you need to know to be successful with on-line teaching? It really is not just another teaching assignment, venue, or location. Converting a current course or developing a new one for an on-line format takes careful planning, good instructional design, and a thorough understanding of the various techniques that make it work.

I taught my first on-line course in 1987 at Syracuse University as part of a Kellogg Foundation supported project (Hiemstra, 1993). This was before the emergence of the World Wide Web (WWW) and when a university mainframe computer was the essential delivery medium. Since then I have taught one or more on-line courses almost every year. With all that the WWW now has to offer, with increasing computing and connection speeds, and because there are increasing numbers of students who are very sophisticated with computer technology, in some ways it has gotten easier. However, there still are many aspects that need careful attention.

This article will be an explanation of what has worked for me. You will find additional related information on my web page (http://www.distance.syr.edu/), and I will be pleased to dialogue with you electronically (rhiemstra@elmira.edu) and even share many of the instructional materials I have developed during the past 15 years.

Why Should You Consider Teaching On-Line?

Why should you join the growing movement to on-line instruction and the incorporation of various forms of technology into your teaching efforts? It has been my experience that there are a number of benefits to teaching on-line. For example, there is frequently an improved quality in the class discussion. The asynchronous nature of CMC discussion, where student contributions are stretched out linearly over time, provides each person an opportunity to reflect on what she or he wants to say in a manner typically impossible in synchronous, face-to-face discussions. Learners often do associated research on the WWW or through other sources before composing contributions to a conversation. There is also a sequential development in the depth of responses as learners can reread previous contributions before adding their own remarks.

I have found that written products generally have a higher quality, too, as students' ability to reflect, think critically, and carry out on-line

research seems to carry over to their writing. This access to on-line resources, coupled with an ability to dialogue electronically about stages of their writing effort with fellow classmates, seems to be a significant advantage.

For those of us who teach part-time graduate students, on-line courses provide greater opportunities for participation by those learners who are busier than ever just surviving job and life, let alone pursueing educational endeavors. In addition, many students who may be shyer than others or less able to compete with highly vocal students in the traditional classroom are able to participate more equally in the CMC environment. In many ways, we can extend our ability to serve students in a wide variety of settings, circumstances, or locations and even meet the needs of brand new audiences impossible to have considered only a few years ago.

Perhaps more important, I am convinced that most students who participate in on-line learning experiences develop a greater appreciation for learning and their own capabilities as learners. This development involves a growing ability in and recognition of personal self-directed learning ability, and it is in keeping with the work of Hiemstra and Sisco (1990), Brockett and Hiemstra (1991), and the many other people involved with related scholarship.

Finally, the WWW is one of the most accessible and versatile instructional tools available to teachers. Once you learn some on-line teaching fundamentals, the ease with which you can create, publish, and revise instructional resources will enhance your effectiveness as an instructor and increase your ability to help each student live up to his or her individual potential.

Designing an Effective On-Line Course

I believe I have become a better teacher because of my involvement with on-line courses. I have had to be better organized and plan much further ahead. My on-line lectures, typically created now in PowerPoint, are more succinct, frequently include graphical enhancements, and often contain multiple hot links to related resources. I also have created various ways that learners can take increasing responsibility for their own learning as a course progresses.

If you are initiating the process of teaching your first on-line course, I recommend that you create a vision for your course very early in your planning efforts. Ask yourself such questions as these: What do you want the course and students to accomplish? What are the basic objectives you

wish to achieve? What kind of learning experiences or activities can best be used? Draves (1999, 2001) and Driscoll (1998) provide a variety of questions helpful in designing courses for the WWW environment.

You also need to develop strategies for integrating and applying technology. These might include deciding on an on-line discussion mechanism such as the O'Reilly CMC WebBoard secure server system (SecureWebs, 2001) or Blackboard (Blackboard, 2001); learning how to use certain supportive software, such as PowerPoint and Adobe Acrobat; and developing instructional material to aid first-time learners in using any associated technology. I prefer WebBoard because it displays the threads of a conversation visually on the left side of a split screen, provides a word processing supported environment on the right side for composing responses, allows for the inclusion of hot links in the message environment, permits the inclusion of the message author's photo (as a GIF or JPG file) with each response, and has an easy-to-use task bar, with many supplemental features, at the top.

Space limitations in this article do not permit a detailed description of how an on-line course works, but the general design is summarized in the following points (see Rohfeld & Hiemstra, 1995, for a more detailed explanation):

1. The determination of various learning options designed to achieve course objectives built around CMC and independent or small group study activities.
2. The development of an extensive course study guide or workbook that provides introductory information, a description of the course requirements, details on how to work in a CMC environment, and supplemental resource materials. Unless a printed copy of the guide is provided to students, make it available on-line in HTML and/or PDF format so learners can access it as desired or even print out a hard copy.
3. The creation of resources necessary to train learners to use the CMC software through FAQs, examples, precise signing-on instructions, easy beginning tasks, and initial on-line discussions with a fellow classmate as a learning partner.
4. Creation in the CMC environment of a student center (electronic café) area for informal conversations; a read-only bulletin board for the instructor's announcements; several small and large group discussion topics; and supplemental, read-only topics.

5. The determination and clarification of the level of expected or required participation by students in the CMC activities. For example, I typically require each student to make a minimum of three contributions each week during a semester-long course and have active participation be a certain percentage of the final grade.
6. The design of electronic conversations among learners and the instructor built around PowerPoint or other lecture materials, related readings, and/or text material. These will be the heart of each course's intellectual interactions where learners write messages, responses, or statements corresponding to posted topics that are then read by all class members or by members of a small group, and subsequent electronic discussion takes place as appropriate. The instructor acts as moderator to help keep the discussion flowing, provide summarizing comments as needed, and encourage contributions from students who are slow in participating.
7. The use of learning contracts so that learners can develop individualized study plans to meet course objectives and describe their level of participation in the CMC activities (Hiemstra & Sisco, 1990).
8. Preparation of varied evaluation opportunities via electronic conversations with the instructor, electronic communication with colleagues, and on-line forms to be completed.

Reducing the creation of an entire on-line course to eight short points over-simplifies the process. However, Berge and Collins (1995); Hanna, Glowacki-Dudka, and Conceicao-Runlee (2000); Palloff and Pratt (1999); Schweizer (1999); and White and Weight (1999) are some of the excellent resources available to guide you through details of the process.

Discussion Techniques

The heart of an on-line course usually consists of electronic interactions among students and between students and the teacher. There are various instructional techniques that can be used to stimulate or maintain student involvement. Here are some I have found to be successful:

1. Brainstorming activity where open-ended questions or situations are posed about some course issue or topic and students brain-

storm possible answers or solutions. This sets the stage for more involved discussion later.

2. Debate situations in which one small group takes a view on a course issue and a second group another view. CMC is used as a means for debating the issue. The facilitator's role is one of determining the groups, posing the issue, doing occasional summarizing or clarifying, and providing summary remarks at the debate's conclusion.
3. Synchronous discussion time periods of one to two hours that are established periodically during which everyone agrees to read and post responses. Although such conversations are not quite the same as face-to-face meetings, they can generate considerable discussion and interest.
4. Invited guest lecturers who are invited to participate electronically in a conference, thereby introducing a new voice. During a one- or two-week period they can present some initial ideas, interact with learners as they post their responses, and then provide summary remarks as appropriate.
5. Student-moderated discussion periods during which learners take on the role of initiating discussion, interacting with participants, and providing weaving or summary remarks. The instructor provides appropriate training, support, and intervention as needed.
6. Collaborative learning where learners in small groups create, discuss, and revise materials that are usually discussed electronically in the large class setting and submitted as course products. CMC mechanisms like WebBoard easily facilitate the assigning of students to small groups where only those group members can access and read each other's contributions.

Individual Learning Techniques

You will continue to use many familiar techniques or approaches for students to demonstrate their accomplishment of learning objectives, such as tests, written papers, and other products. However, here are three techniques I use that take advantage of the electronic medium:

1. Electronic journals or diaries, where students record their reflections in electronic form and publish them for others to read or submit them to the instructor for feedback (Hiemstra, 2001).

2. Personal portfolio development, where students create web site materials that record various course products, professional materials, and personal experiences for future job seeking or other uses. Hiemstra (1999) provides a simulation of an electronic portfolio.
3. Student-designed web pages, where they display material for others to examine.

What Does the Future Hold?

One or more journal articles could be written just on this topic alone. However, there are three things on the near horizon that will have a profound impact on on-line teaching:

1. The development of *Internet 2,* where advanced network applications and technologies will be made available so people can collaborate and access information in ways not possible using today's Internet (University Corporation for Advanced Internet Development, 2001*).*
2. Hardware convergence, where high-speed, broadband connectivity; content digitization; increased evolution of multimedia computers; enhanced video conferencing opportunities; and wireless and networkable PDA's (handheld computing and communication devices) merge together to create new and unique ways learners can access information.
3. The emergence of new methods for securely storing and retrieving data either on-line or via networkable personal devices that will facilitate students' ability to access information whenever or wherever they are (Schaffner, 2001).

Where the future may lead is very exciting to contemplate but scary in terms of figuring out how to keep up with the increasing speed of change. My advice is to dive in and let lifelong learning truly be our field's and our own mantra for progressing through life.

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