

Teaching Tip

Recommendations for Developing an Online Course

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ABSTRACT

The trend in higher education is to develop electronic delivery of courses and even entire academic degree programs through the Internet by using a web-based form of distance education. To be successful in the delivery of online, or web-based, education, faculty must break away from the old paradigm of teaching and learning, and adopt new techniques suitable to the new environment. This paper provides some recommendations for an educator who is interested in developing an online course or enhancing a traditional course with an online component. These recommendations are based on several years of practical experience in developing and delivering online courses.

Keywords: online education, electronic learning, distance education

1. INTRODUCTION

Once, students who were unable to attend classes in the traditional way used correspondence courses to earn a degree. Now the trend in higher education is to offer courses and degree programs via distance education, and in particular via the Internet with web-based, or online, instruction. The U.S. Department of Education's National Center for Education Statistics (NCES) recently released the results of a survey that shows the number of distance education programs have increased over 72% since 1995, with an additional 20% of institutions surveyed planning to implement distance education programs within the next 3 years. The survey also reports that the use of Internet-based instruction and two-way interactive video are the two technologies most institutions plan to use. [1]

These results indicate that online course delivery is dramatically on the rise. Whether the faculty member voluntarily decides to deliver a course in this manner, or whether is asked to do it, the result is the same. The course must be converted from an existing class format using the traditional methods of instruction: lecture, homework, exams, etc., to a format that will work effectively in the online environment.

2. DEVELOPMENT VERSUS FACILITATION

The *development phase* of an online course is what takes place from the initiation of the project up to the time that the course begins. This is when the instructor must organize the course, decide on the learning outcomes, and convert all of the course materials so that they are appropriate to the online format.

The second phase, *course facilitation*, takes place while the course is underway. The terms "facilitator" and "facilitation" are often used instead of "instructor" and "teaching" in the online learning environment. This is because instructors (facilitators) do very little direct instruction (lecturing). The facilitator is there to guide the student, to provide activities by which learning will take place, and to provide direction and feedback. Although there are several issues that must be considered during the facilitation phase, this paper focuses on the development phase.

3. RECOMMENDATIONS FOR THE DEVELOPMENT PHASE

The author has several years of experience implementing and facilitating online courses. The first course that she developed is called *Understanding and Using the Internet*, and is an

online course designed to teach students to effectively use the Internet. When first offered in the Fall of 1997, there were limited tools available, i.e. email, listserves, and self-made web pages. A year later, a course management software package was adopted by the university, which provides a ready-made framework for making course materials available. It also provides several other features such as a discussion list, support for group projects, examination features, online grade book, classroom chat, etc. The course management package is quite helpful because it frees the facilitator from many of the technical details, so that s/he can concentrate on the actual content of the course.

The author has also developed a second course for the "virtual classroom", *Introduction to Information Technology*. This is the first course required for majors in the CIS curriculum. Based on her practical experience, the author feels that she can provide some helpful insights into the process of developing an online course. Here are the recommendations:

- Allow more time to develop an online class than you would for a traditional class. Documents must be put into the proper format, activities must be developed, and often this is all accomplished through a web-based interface. Therefore plan to spend more time and effort (at least for the initial development) than for a traditionally taught course.
- Keep your department head and other administrators informed about what you are doing with the course. It is important that decision-makers be kept abreast of developments and problems, because this is a new endeavor for most institutions.
- Course integrity has to be your overriding concern at all times. An online course must achieve the same learning objectives as the equivalent traditional course. Try to make your online course as good, or better, than the traditional course. The effectiveness of distance education is under current debate [2], but there are many who think that there is no significant difference between courses delivered at a distance and those taught face-to-face. [3] and [4]
- Don't re-invent the wheel for each component of your course. The Internet provides vast resources for both you and your students. For example, if the lesson is about computer displays (monitors), you can assign something like this:

Display Monitors. The chances are that if you are using a desktop computer, it's got a cathode ray tube or CRT display monitor. If you're using a laptop computer, the chances are it uses a

small, lightweight flat panel display. These flat panel displays are beginning to replace the older CRT technology in some of the higher-end desktop computers. Visit the web site <http://www.optiquiest.com> and find the model number of a flat panel display (15" or as close as you can get to 15") and the model number of a 15" CRT. The model number will be something like Optiquiest Q75 (that's just an example).

Once you have your 2 model numbers, go to the web site <http://www.pricewatch.com> and do a search for both of those monitors. You will get several prices quoted for each monitor. State the price **range** (e.g. \$400 - \$565) that you get for each monitor.

Color Plasma Display. One of the most promising technologies is the color plasma display that may lead to TV's and monitors that hang on the wall like a painting. Do an internet search using the keywords "color plasma display." Explain in basic terms how this display works. How does this display compare in size and price to the two monitors that you looked at in the previous question?

This assignment is typical of those in an online course. The first part (Display Monitors) has the students visit a web site and extract certain information. Students will remember that information better because they have discovered it for themselves. The second part of the assignment (Color Plasma Display) requires the student to do a general search on the Internet and locate their own web site to find the information. In both cases, we rely on the resources of the Internet to find answers to the questions. The possibilities are virtually limitless.

- As you begin to gather and develop your course materials, it is a good idea to compile a *course portfolio* [5]. A course portfolio consists of materials that instructors collect and organize to demonstrate how a course is taught and/or facilitated. A course portfolio can include any relevant documentation such as the syllabus, exams, exercises, problem sets, samples of student work, etc. Some of the advantages of a course portfolio are: it can help to prevent "academic amnesia" (what did I do last term?); it can help the instructor reflect on aspects of the course; and it can provide a means for assessment of the course by an academic administrator. Administrators are generally unfamiliar with the online environment, thus a portfolio provides documentation so that the "teaching" of the course may be assessed.

4. GETTING STARTED

Here are some general steps to help you get started with the development process:

1. Write a list of all of the learning objectives for the course. What is it that you want students to know and understand after they complete the course?
2. Evaluate the course content in terms of the learning objectives. Is there course content that is not relevant or related to the objectives? If so, then should you eliminate it? If the content is important, then perhaps you need to add another course objective.
3. Brainstorm about what types of learning activities you can do that will accomplish the learning objectives. There are many learning activities that are well-suited to the online environment. One of the mostly widely-used activities utilizes the "Discussion List" as follows: students are given one or more questions to research and place their answer on the Discussion List, where their posting can be read by the other students in the class. Part of the assignment is to read other students' postings and respond to their answers. This encourages student-to-student interaction, which is an important part of the virtual classroom experience. Other learning activities for CIS courses are discussed in [6].

This is an important part of the development process, and you will need to provide a variety of activities, not just "read the book and answer these questions." There are many guides online that can help, such as the Distance Learning Network (<http://www.tme.nl/dln/>), or the Educator's Guide to Internet Resources (<http://users.cwnet.com/jedman/index.html>).

4. When designing the learning activities, think about how you will assess student learning. Exams are one possibility, but there are some logistics involved if the student cannot come to campus. Other types of assessments, based on student competencies, may be preferable to exams.
5. Work closely with your institution's technical staff to find out what technology is available to you. There may be a course management package in place, or you may have to use some other tools in facilitating your course. You need to know what technology you will use as the delivery mechanism before you begin the implementation of the course.

5. CONCLUSION

The trend in higher education is to develop electronic delivery of courses and even entire academic degree

programs by using a web-based form of distance education. The successful development of any e-learning program rests squarely on the shoulders of the institution's faculty. Faculty must break away from the old paradigm of lecturing and testing on those lectures, and adopt new techniques for teaching and learning. This paper presented a list of recommendations for an educator who is interested in developing an online course or enhancing a traditional course with an online component. These suggestions are based on several years of practical experience in developing and delivering online courses at our institution.

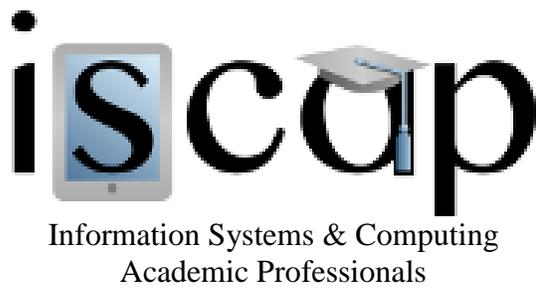
6. REFERENCES

- Lewis, Laurie, Kyle Snow, and Elizabeth Farris. (1999) *Distance Education at Postsecondary Education Institutions: 1997-98*. National Center for Education Statistics (NCES), U.S. Department of Education, NCES #2000-013. Washington, DC: U.S. Government Printing Office, <http://nces.ed.gov/pubs2000/2000013.pdf>
- Phillips, Ronald A. and Jamie P. Merisotis. (1999) "What's the Difference? A Review of Contemporary Research on the Effectiveness of Distance Learning in Higher Education". The Institute for Higher Education Policy, Washington, DC, (<http://www.ihep.com/difference.pdf>)
- Crow, Steven. "Virtual Universities Can Meet High Standards", *Chronicle of Higher Education*, October 29, 1999: B5.
- Jones, Edward R. "A Comparison of an All Web-Based Class to a Traditional Class", *Proc. 10th Annual International Conference Society for Information Technology and Teacher Education*, Assoc. for the Advancement of Computing in Education, San Antonio, Feb. 28 - Mar. 4, 1999.
- Pollacia, Lissa F. and A. R. Tarver. "Course Portfolio: A Tool for Online Teaching", *Proc. 11th Annual International Conference Society for Information Technology and Teacher Education*, Assoc. for the Advancement of Computing in Education, San Diego, CA, Feb. 2000.
- Pollacia, Lissa F. and Claude Simpson. "Web-based Delivery of Information Technology Courses", *Journal of Educational Technology Systems*, vol. 29, no. 1-2000 (to be published).



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ISSN 1055-3096