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# The Web Can Be Suitable for Learning

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# The Web *Can* Be Suitable for Learning

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**This paper appears in the "Internet Watch" column (Editor: Ron Vetter, University of North Carolina at Wilmington) of *IEEE Computer Magazine*, February 1999.**

Hill Associates (http://www.hill.com) — a training and education firm that focuses on data communications and telecommunications — provides instructor-led courses and alternative media-based training. In cooperation with Champlain College (http://www.champlain.edu), one of our alternative media training initiatives is Web-based online distance learning (ODL). We therefore read with great interest Alfred Bork and David R. Britton, Jr.'s Internet Watch column called "The Web Is Not Yet Suitable for Learning" (June 1997, pp. 115-116).

We generally agree with the main points the authors raise regarding the difficulties associated with online learning:

- Online courses often only deliver information rather than foster the kind of interaction that leads to effective learning.
- Many students do not learn in our current educational systems.
- Large numbers of people in the world are not getting the education they need.
- The cost of learning is prohibitively high.

While these points make sense, we disagree with the idea that the Web has a long way to go before it can be a truly viable option for learning. Our (and our Champlain colleagues') experiences with the Web have shown some significant educational results.

Bork and Britton do, however, illuminate a key problem with online learning: poor design. Most Web-based courses lack interactivity, largely because many course developers fall prey to the tendency to migrate the lecture format to the Web by posting large text documents, which offer students information but aren't effective for interactive learning. Effective design for delivering ODL-with emphasis on *learning*-is essential to Web-based education.

Web-based ODL can and does work for most learners when designed with high levels of

interactivity and when cost and access issues can be adequately addressed. However, Web-based ODL requires a fundamental paradigm shift in how we define concepts like education and the classroom.

# Fostering interaction

One caveat that we must mention here is that we deliver Web-based distance learning courses in what we sometimes call an asynchronous mode. That is, the instructor creates a syllabus, delivers it to the learners with detailed instructions, then facilitates the learning progress with e-mail, messaging systems, and discussion lists or forums. Our designs require that learners be self-directed but that they also interact heavily with other learners, the course content, and the instructor through the Web-based learning system. Significant interactivity is the key.

Web-based distance learning has a different set of costs associated with it than the traditional classroom. These costs include the purchase or implementation of the Web-based delivery platform, the costs associated with server support, and the additional instructor time required to lead an online course. These costs are acceptable in the corporate training environment, although they may be less acceptable in other environments. The cost challenge is to design instructional systems that maximize the number of learners that can be served by a single instructor while maintaining high standards of instructional design and interactivity.

Vicky Phillips of Lifelong Learning in Waterbury, Vermont (http://www.geteducated.com), an ODL consultant and author who helped us design our first ODL course, cautioned us to remember two vital design points about ODL:

- Learners need and want to have explicit instructions on how and when to complete assignments.
- Learners need to interact with the information, the instructor, and the other learners.

There is an old adage that says, "If the only tool you have is a hammer, every problem pretty soon looks like a nail." This is, unfortunately, too often the case when it comes to applying new technologies to almost any endeavor, including education.

Consider the Internet and the Web as they affect the traditional classroom. Two of us have attempted to help bring the Internet to our own childrens' school districts. While the schools have been successful in getting wired, the presence of the Internet in the classroom has not changed the teathing methodology. The Web has now become an accepted tool for research as an adjunct to or substitute for the library, but teachers still teach courses the same old way. Very few teachers use the full capabilities of the Internet to enhance the educational experience of the learners.

Several years ago, for example, a solar eclipse was only visible in the eastern hemisphere. In response, interested parties created several Web sites to track the event in real time. One such site went online to monitor the effects that the eclipse would have on the wild animal population. None of our childrens' teachers thought that this event-which would not be repeated during our childrens' school careers-merited altering the lesson plan.

# Taking advantage of the Internet

Most teachers — for whatever reason — have not adapted their curricula to take advantage of the Internet, but rather have merely modified their curricula to be Internet-tolerant. There is little recognition that the Internet is a new medium with new potential and opportunities. We know there are teachers around the country who have redefined their teaching methods and are using the Web to do innovative and highly interactive learning activities, but they are the exception rather than the rule.

What, then, do we learn from this? We suggest that we need to change the basic assumptions about what learners need in the classroom. In particular, we need to examine what we, as teachers, offer and how we offer it. People learn best in highly interactive learning environments. The interactivity does not need to happen in real time, nor should student interaction be solely with the instructor. The concept of asynchronous distance learning allows for the creation of learning activities that require learners to interact with the course material, the instructor, and other learners.

The Internet-the Web in particular-is ideally suited to asynchronous interactive communications. It provides a tool that can equip all learners with access to forums. It provides a means whereby anyone can express an opinion and anyone else can argue. There are few time constraints on the Web. The role of the teacher can become more that of facilitator and guide rather than the traditional expert pontificating to the masses.

This virtual-classroom interaction has the added benefit of requiring learners to express their thoughts in writing, which we believe to be an important benefit, given the often poor quality of written communication we see in both school and work. Writing gives learners time to think about what they want to say and to formulate their arguments more effectively. The more learners write and think, the better they develop those essential skills.

Can highly interactive Web-based learning be created and delivered to the large number of people on Earth who need it? We believe the answer is yes. Is it worth the cost? The answer to this question is still unknown. But we must remember to factor in the cost of people missing out on education and training altogether. In certain circumstances, Web-based ODL provides a unique opportunity for students to access a classroom.

Our experiences have shown us that it is possible to design courses that effectively balance

delivery of information with highly interactive, cost-effective learning in both corporate and college-level environments. This type of learning can apply to a range of other learning environments as well.

The need for effective, alternative forms of education continues to grow. Can we design and deliver an online educational environment well enough to achieve acceptable-if not ideal-levels of interaction and satisfy at least some of the demand for alternative approaches to education? The answer is an emphatic yes, especially because, with the long reach of the Internet, the Web can play a key role.

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