
Bridging the Gap: Distance Education Courses on the Web

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"Farhad Saba refers to the traditional form of distance teaching as 'talk, chalk, and a hairy arm.'"

Distance education courses have developed rapidly in the last few years – from first generation courses, where print was the sole means of retrieving information, to second generation courses which combined print and other media, such as audio and/or video cassettes, computers and TV.

Farhad Saba refers to the traditional form of distance teaching as 'talk, chalk, and a hairy arm.' Even today you can still tune in on your local instructional cable channel and see examples of this approach: the expert stands before a chalkboard writing brief phrases and elaborating on them. Students in the studio classroom dutifully take notes and occasionally ask questions. Those viewing at a distance might be able to phone in a question or comment if the class is broadcast live, but more often than not their only role is to listen and retain what is said.¹

With the recent widespread use of the World Wide Web and its incorporation of audio, video, graphics, and text, third generation courses now place a heavy emphasis on interactivity and communication, both between the instructor and the students as well as between students. Although the advantages of a hypertextual learning environment can easily be seen, the drawbacks of having to use a computer also have to be taken into consideration.

The key principle of computer-driven interactive multimedia education systems is that the student can determine his or her own rate of progress through the subject matter and conduct the self training at self-determined intervals. With the inclusion of pictorial and audio material and the provision of multiple pathways or links the student can effectively steer and navigate a route which will favor that particular student's mode of learning. Unlike text-based materials, however, a computer program cannot easily be taken along on a train or bus or outdoor location. Thus while the mode of study is potentially enhanced, the study

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environment becomes restricted. The enhancements need to be sufficiently sophisticated to offset the confinements of the study location.²

In the following, I would like to describe some of my attempts at "enhancing" course offerings and will give examples from some of my Web sites, the MUSH which we are using in conjunction with the Web, and the *Deutsch Online* site which I am presently working on.³

To put this in perspective, let me briefly go back in time to the first distance education course I taught at the University of Waterloo in the mid-80s. It was a second generation course. Learners received their print materials and submitted them together with audio tapes. Without in any way slighting Canada's or any other postal service, suffice it to say the response time was a major factor which contributed to the learners (and my own) frustration. After submitting an audio cassette, for example, it took at least two weeks for the learner to receive the corrections. This was frustrating for me as well, because whenever I taped my corrections I was aware that by the time they reached the learner, he or she would be working on a completely different topic and would perceive the tape as a blast from the past.

In the last few years this situation has changed dramatically. Whereas previously the response time was far too long for any useful exchange, right now, in the digital age of email, some students expect the instructor to respond almost instantaneously – to the point where I have received emails inquiring as to why I hadn't replied within the hour.

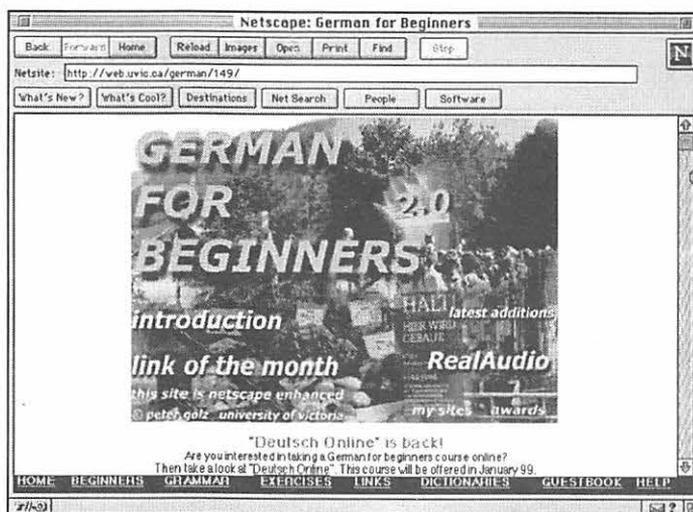
Instructor-student feedback is not the only area that has undergone rapid change. Third generation distance education courses also allow for student-student exchanges which are not limited to those enrolled in a particular course. With the help of digital communication, students can work with other students either in real time or with non-immediate response through email or the Web. Whereas the response time used to lag, and one could experience one or more life-changing experiences between sending and receiving information, now the opposite is true. The Web has such a wealth of information that students and teachers can find themselves lost inside a maelstrom of data.

But it is not just a matter of speed, where computers and networks allow only for faster communication. Realtime communication was, of course, already available via telephone conferencing or TV/satellite hookups. What makes the WWW such a great tool is that it presents 'true' interactivity; it goes beyond 'talking' to each other, and

allows learners and instructors to review, change, and expand the materials being discussed in class. The previously static textbook becomes a hypertext which can reflect and incorporate the interests of a specific group of learners.

Thus, Espinoza and Höök⁴ argue that the most important feature of an educational Web site is its degree of interactivity. At the interface level they suggest the use of graphs to portray how objects are inter-related, the use of text to act as standalone "information entities", "hot words" which link users to another page perhaps containing definitions or related information, and menus as an alternative to constructing questions. For this reason, both *German for Beginners* and *Deutsch Online* use a frame setup to allow learners to work simultaneously with two or more windows, for example, to surf to a site in Germany in one window and to have grammar explanations, vocabulary lists, or a dictionary open in a second window.

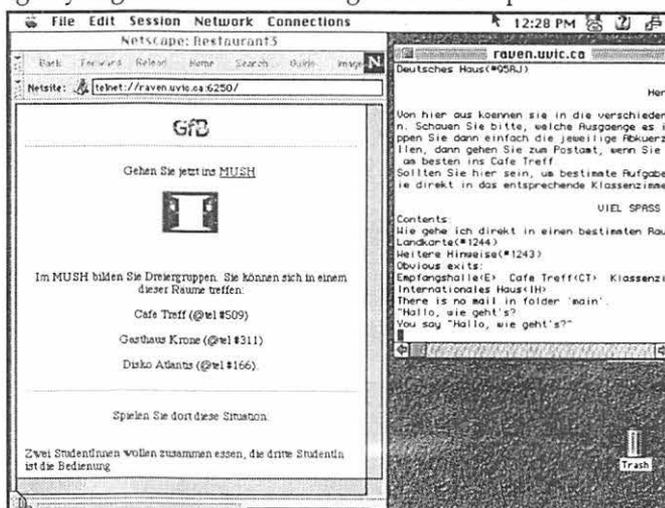
"What makes the WWW such a great tool is that it presents 'true' interactivity; it goes beyond 'talking' to each other, and allows learners and instructors to review, change, and expand the materials being discussed in class."



In terms of interacting with a Web site, or CMC (computer mediated communication) in general, one has to distinguish between automated and personal feedback. CGI-scripts, Java, or JavaScript can be used to correct answers and to supply explanations. One example of such a script can be found in the multiple-choice exercises generated by *Hot Potatoes*, developed (for Mac and Windows) at the University of Victoria by Martin Holmes and Stewart Arniel. This script not only corrects answers; it also keeps track of a student's score. Programs such as this not only work on the Web but can also be offered on disk. Distributing on the Web of course allows for easy and fast updates and incorporation of

learners' input. HTML forms, which are easier to write than Java Script, can also be used for multiple-choice exercises or for semi-automated feedback, where the correct answers are written in a form's 'name'.⁵

Although there are great advantages to automated responses, especially for large classes, personal responses are necessary to bridge the gap and to establish two-way communication with the learners and between learners. For example, the software company Texthaus⁶, located in Italy, is offering a totally automated set of exercises for beginners and intermediate learners of German. Because of the large demand, they have recently established a tutor system, where learners can submit exercises to a designated tutor for a slightly higher fee than the regular subscription.



Both for automated and for personal responses, one should keep in mind that the technology involved has to be easy enough not to create an extra barrier for the learners. The software has to be readily available and should not demand additional hardware (like *CU-SeeMe*). Of course it would be nice to use *CU-SeeMe* for distance education, and depending on the learners' location – e.g. at another university – this might be feasible. More likely, though, the learner probably only has regular online access, via a modem, and would not be able to transmit a stream of images at a watchable speed.

Many distance education courses thus rely on the most common means of communication through email. This can be used to collect submissions or to establish forums for discussion (for group projects, for example). A simple way of interacting with a homepage would be information retrieval from the Web and adding comments. This can be

achieved through 'quoting' and mailto, or through an HTML-form.⁷

Email (Nicknames) can further be used to set up a simple listserver-like communication between learners, whereby they can exchange information. It is also a means to expand the classroom time to allow students to communicate easily outside of class.

Another email setup that I use in my film course is anonymous peer-evaluation of short essays. At the beginning of the term, every student is told which short essay he/she will have to evaluate and when. On the Web site, there are instructions on how to write film criticism, a style sheet, and a list of criteria that should be used for the evaluation. As soon as I have received the essay and the evaluation, both are posted on the Web site. These evaluations have proven to be very effective and also help the students to better formulate their own arguments.

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Whereas email exchanges necessarily have a time-delay, other forms of communication, just as easily accessible with standard software, enable students to communicate in real time with each other (and, of course, with the instructor). As a very basic setup we used a regular talk-connection last term to interview a director whose film we had watched in a previous class. Because the director only had access to a MacPlus, the common denominator was a telnet connection, where she would answer questions submitted by students through an open terminal, i.e. everybody could type in questions.⁸

A more advanced form of such real time communication, also without the need of additional hardware, is the VCR MUSH (Virtual Classrooms Multi-User Shared Habitat), which was established at the University of Victoria and which is used to teach various languages. I used the MUSH to co-teach a course with a colleague at the University of Trier in Germany a couple of years ago. In the meantime, students (generally speaking) are more demanding and want to go beyond text-based environments (in terms of MUSHes and MOOs and in terms of other software). The solution to this problem might be a combination of a text-based environment (with all its advantages of relatively easy setup and access) and the WWW so that learners simultaneously work in both environments. Depending on the course, students can then either expand the text-based environment (which involves learning the basic command structure) or they can use it as an elaborate chat-environment in conjunction with homepages.⁹

Such a combination of virtual environment and homepages will be used extensively with *Deutsch Online*, a Web-based first year German course which is to start in 1999. This course will combine the means of interaction discussed above and will also incorporate numerous sound files. Since the quality of sound transmission on the Web depends on many factors, we will also offer a CD-ROM with sound files in .au format. For longer reading passages and updated information (or lectures), students can also listen to *RealAudio* files. To combine the Web offerings with software supplied on a CD-ROM seems to make a lot of sense because this way it can be guaranteed that all learners have the same version of certain programs and also have the opportunity to access some course materials without necessarily being connected to the Web.

To move the *Deutsch Online* site (and the CD-ROM offerings) beyond a fancy textbook and to guarantee its interactivity, "the extent to which students can manipulate the content of a Website"¹⁰ has to be a key factor in the design of such distance education courses. Instruction in basic HTML¹¹ (which will also be supplied on the CD) can guarantee the expansion and improvement of such a site and such a course. It also gives the learners a sense of accomplishment and trains a skill that is, arguably, just as important as knowing how to type.

To bridge the gap, interactivity and communication between everybody involved in distance education courses has to be paramount. The gap between the instructor and the students has to be narrowed to allow for courses which are continually being rewritten and expanded. Digital texts, or more accurately, hypertexts enable us to build a bridge (and here the metaphor fails) to a place where there are no more delimited borders and where the bridge itself becomes part of the river, the flow of information. ♦

Notes

¹Bernie Dodge. "Distance Learning on the World Wide Web." Available at <http://edweb.sdsu.edu/people/bdodge/ctptg/ctptg.html>.

²Spennemann, Dirk H.R. "On-line Study Packages For Distance Education – Some Considerations of Conceptual Parameters." Formerly available at <http://life.csu.edu.au/~dspennem/DSPENNEM/DIRK-CV.HTM> ("In Press").

³A list of my sites is available at <http://web.uvic.ca/german/149/sites.html>.

⁴Fredrik Espinoza and Kristina Höök. "An Interactive WWW Interface to an Adaptive Information System."

Available at http://www.sics.se/~kia/espinoza_hook.html.

⁵See, for example, <http://web.uvic.ca/german/dol-demo/1/meinl.html>.

⁶"Texthaus" can be reached at <http://www.webcom.com/~texthaus/index.html>.

⁷I use the 'mailto'-function in a film course, where learners have to submit film evaluations after every screening. See <http://web.uvic.ca/german/439/eval.html>. An example of submitting the same information through forms is available at http://web.uvic.ca/german/439/eval_form.html.

⁸This interview is available at <http://web.uvic.ca/german/444/interview.html>.

⁹Examples of such homepages are at <http://web.uvic.ca/german/400/students/index.html>.

¹⁰Greg Gay. "Using Research to Design Effective Distance Education." Available at <http://www.oise.utoronto.ca/~ggay/distance.htm>.

¹¹See the various assignments at <http://web.uvic.ca/german/400/>.

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"Texthaus." <http://www.webcom.com/~texthaus/index.html>.

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