

## Creating a Web-Based Course

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In the few years since development of HTML, the coding language of the Web, we have become a nation of Web surfers, who do our banking, news gathering, Christmas shopping, and information seeking on the World Wide Web (WWW). Educators are rapidly converting courses for presentation via the WWW. "The Internet is bringing learning to students, instead of

bringing students to learning." (Department Of Education [DOE], 2000). While this network of computers provides exciting opportunities for distance teaching and learning, moving to the WWW requires careful planning, thoughtful presentation, changes in pedagogy, AND more time of faculty.

Research indicates that learning environments should be knowledge centered and focused upon learners, social interactions, and assessment (DOE, 2000).

Web-based instruction offers one way of focusing learning upon learners and creating self-directed critical thinkers, rather than rote memorizers who focus upon facts and superficial learning of course material. Creation of Web-Based Instruction forces faculty to think differently about education. Nothing has captivated the imagination and interest of educators more than has the World Wide Web. The Web is causing teachers from pre-school to graduate school to re-think the very nature of teaching, learning, and education.

While Web education is in its infancy, it heralds the dawn of a new era in education. That prophecy of the "sage on the stage" becoming the "guide on the side" is unfolding before us. In fact, with Web-based education, the "sage on the stage" is gone. We have opened the door to something that is very exciting and that has the power to take education to new levels and far different formats than anything we have ever known. Web-education is being invented as we go. Web-Based Instruction lets us present all aspects of education, course material, tutorials, quizzes and tests, visits to far-off places, and interactive simulations via the World Wide Web.

Keep in mind that all of this tremendous growth in on-line education is occurring at a time when most of us are experiencing a loss of faculty due to retirements. Web education is **absolutely not** a replacement for faculty. In fact, Web-education places additional learning and time requirements on faculty. To succeed on-line, instructors have to be good at com-

municating information and giving feedback clearly and meaningfully.

The starting point in creating Web education is **faculty development**. Transforming education from a process standpoint to take advantage of these new technologies is required. While many educators have grabbed onto the glitz of the Internet, few schools use the Web for what it does best: enabling learners to do research, to communicate with other students and to publish reports to the Web. "The main practical issue is professional development and teacher training" (Oblinger, 1997).

Part of the faculty development process includes getting faculty acquainted with on-line resources. Some of the items that faculty should be directed to review are on-line journals, guidelines for course development, resources for on-line course development, and the latest research of on-line course development and outcomes (Fredericksen, Pickett, & Shea, 2000).

The purposes of these activities are to get the faculty thinking "on-line course." Exploring other courses may give the faculty ideas about how to organize their course. In addition, both the good and bad features will be identified. Placing the faculty in contact with resources provides assistance with their own development and understanding of Web-based instruction. In addition, the growing body of literature provides affirmation of the outcomes of Web-based instruction and guidelines for Web development. Included in the assessment of outcomes are features of Web-education including access, convenience, preparation for work, socialization, and student satisfaction with the course as well as actual learning and appropriate use of technology (Billings, Connors, & Skiba, 2001).

Successful Web courses are more than putting a pile of papers onto the Web. While it is an easy matter to copy a course syllabus and place it on the Web, this does not create a Web-based course. Just making content available is not education. Action, interaction, and application are required for learning to be made useful. Interactive courses are those that "engage students in active application of knowledge, principles, and values, and provides them with feedback that allows their understanding to grow and evolve." (Hazari, S., 1998).

What features should be present in a Web-based course? Glitz and glitter are not the components that contribute to great Web courses and Web site. The following should be present:

- Original content - credible, original content. Sites that provide only links to other sites are essentially meta-lists.
- Content that is valuable, timely, and regularly updated. One of the strengths of the Web is also a weakness - that is the sheer volume of available information.
- Use graphics sparingly - graphics should be optimized for Web display (no more than 20KB per graphic and sized to fit a typical user's window). Text alternatives

should be provided for the individual with a slower modem or who does not care to download the graphic.

- Pages should be easy to read. Black text on a white background makes for an easy-to-read page. Dark text on a dark background makes for an impossible to read page.
- The site should be interactive. Interactive course material is a **must** for Web Based Instruction.
- A well-organized site increases the usability of the materials and facilitates navigation around the site.

Create your courses for ease of use. Pages should have a standard set of graphical elements. Headings should be used to orient the user to where they are in the course. Bulleted lists are an easy format for linking to other sections of content.

**Download time** - Development and delivery of Web courses requires knowledge of technical aspects of course development specifically for the computer, including animation, use of images, and computer-based testing. Web courses must also be developed with consideration of download time - for the most commonly used computer. Today, a 586-Pentium computer is the lowest level of technology that will support a course.

**Cost Considerations** - How much does it cost to create a Web-based course? The usual answer is "It all depends. . ." A recent report stated that "creating a course for online delivery can take much longer, anywhere from 66 percent to 500 percent longer than creating traditional courses, and costs are widely variable. Even adding online components to an existing course takes time." (American Federation of Teachers [AFT], August 18, 2000).

Boettcher, (1998) reported that "based on much anecdotal evidence plus real experience over the last 10-15 years of building computer-based material, we can say with some level of certainty that it can take an average of about 18 hours of faculty time to create an hour of instruction on the Web. This means that the instruction is pretty much able to be delivered independent of an expert faculty member." Some simple math produces estimates of time for entire courses. For example, the usual on-campus class is 45 hours of lecture, 3 hours of class a week for 15 weeks. Students are expected to spend about two hours outside of class time for every hour in class. This means that the total of all lecture, study experiences, interaction, and assessment of 135 hours (45 X 3) equals a 3-credit course experience.

A faculty member generally creates reading assignments, experiences, and projects for the 90 hours of outside of class activities. To figure how many hours it will take to redesign the 45 hours of classroom time to an on-line Web context, we multiply 18 times the current 45 hours of class time, that means it would take an estimated 810 hours to move a course to the Web. By the time we add some time for startup with learning the software and technology for this new environment and arranging for any copyright issues, we have approached 1,000 hours for moving a course to the Web, using the current model. The article continued, "the figure of an average of 18 hours for Web development seems to be just about right with these supporting data. Perhaps we could be even more accurate by providing a range of 5-23 hours. Certainly, as faculty become more experienced and comfortable with the new Web environment, the number of hours required may go down.

My own experience supports these estimates for first-time faculty. Once I have created a course, the number of hours for development of each hour rapidly drops by 1/3, or to about 12 hours per instructional hour. This figure has remained relatively constant with subsequent courses.

Remember that these figures change with the degree of support staff available and use of templates. Using the same process by multiple faculty will further decrease costs.

**Changed Faculty Role** - Faculty who offer Web-based courses will realize a change in their role. They are truly facilitators of learning, guides, co-learners, and co-investigators. In addition, they may also be seen as computer expert and technical assistant. If e-mail is used as an instructional methodology, the faculty will spend more time using this form of communication with students than is usual with traditional courses.

As faculty develop Web courses, they must think through a number of pedagogical considerations. Among these are how to best use technology to provide and support a challenging curriculum that engages learners in collaborative learning, problem solving, critical thinking, and content mastery. To achieve these goals, learning tasks must be authentic, challenging, and multidisciplinary. Instructional models must be interactive and generative, meaning that they require new learning and interpretation of meanings as products or outcomes.

### Student Learning Outcomes

A question that is often asked is: Do students in Web-based courses learn as much as students in a traditional lecture course. The answer is yes, and perhaps even more. The caveat is: Web-based students learn as much or more, if the Web instruction is designed to be as effective as traditional instruction. "Learning will take place as long as the method and technologies used are appropriate to the instructional tasks, student-to-student interaction is promoted, and there is timely teacher-to-student feedback."(Armstrong, 1998,) In other words, educators must apply learning principles to designing Web instruction to create activities that require the student to spend time on the learning task that goes beyond rote memorization of facts and details, or a learning task that goes beyond rote memorization of facts and details, or a "surface approach" to learning.

There is widespread agreement that Web-based courses should be held to the same high standards required of traditional courses and programs. (DOE, 2000,).

Distant learners must be engaged in activities that force them to become selective and focused in their learning. (University of Idaho, 1998). The educational expectations for a Web-based course must be the same as in traditional education. The focus of instruction is upon guiding the student to meet the objectives of the course. Applying sound instructional principles becomes the focus of the materials, not the delivery method or technology. The assessment methods must address multiple outcomes, educational practices, and appropriate use of the technology (Billings, D., Connors, H., & Skiba, D.,2001).

**Future Directions** - The education community is rapidly embracing the Internet as a vital new teaching tool. Now that the newness is gone and the glitz has diminished, the question of how effective these efforts are remains to be answered. To maximize the power of the technology, we will want to design and develop short segments of more complex media.

Creation of television, computer simulations, animation, and digital video segments for inclusion in Web instruction will certainly enhance the teaching power of the Web.

**Summary** - the future is here. Attending classes without setting foot on a college campus is a reality. Internet-based distance education allows the teaching/learning process to occur "at any time and any place". A classic characteristic of this technology is the ability to provide asynchronous interactive learning activities with no regard for distance or time. Because of these characteristics, the term "24-7" has become a standard part of the language of distance education. In addition, Internet-based education has become distinctly different from traditional classroom-based, "seat-time" oriented education. It offers exciting new opportunities and challenges to students and teachers. We are creating the future direction of higher education.

The beauty of the Web is that it provides an entirely new context for teaching and learning. It removes the physical and time constraints for *instructors* as well as learners. (Boettcher, J.V. & Conrad, R.M. 1999).

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## 39th Annual Isabel Maitland Stewart Conference on Research in Nursing

### Call for Abstracts

*Innovations in Nursing Practice, Education, and Management* will be held April 19, 2002. Sponsored by the Nursing Education Alumni Association, Millbank Chapel, Teachers College, Columbia University, NYC

Abstracts for paper and poster presentation are invited on innovations in health care delivery, undergraduate and graduate nursing education, bedside and advanced practice nursing, evidence-based practice, and healthcare management and administration. Abstracts must be received by December 17, 2001. Send abstracts and materials to: Stewart Planning Committee Abstract Review Committee, Linda Scheetz, EdD, RN, CS, CEN, College of Nursing, Ackerson Hall, Rutgers, The State University of New Jersey, 180 University Avenue, Newark, NJ 07102

## NSNA and Nursing Spectrum Writing Contest

Nursing students across the country have the chance to win the opportunity to win a trip to England, the country of Florence Nightingale, by entering the NSNA/Nursing Spectrum Student Writing Contest. Students, who must be NSNA members, must submit an article (no more than 1,000 words) related to the following topic: What can be done to attract more young people to the nursing profession? The grand prize winner will receive a free trip to England as part of Nursing Spectrum's Nightingale Tour; a \$1,000 travel stipend; complimentary registration to the NSNA National Convention in Philadelphia (April 3-7, 2002), where the winner will receive a special plaque and NSNA Leadership U certificate; publication of the winning article in *Imprint* (NSNA's official publication) and online at [www.nсна.org](http://www.nсна.org); publication of the winning article in all 10 editions of *Nursing Spectrum* and online at [www.nursingspectrum.com](http://www.nursingspectrum.com).

The winner will also receive a selection of Nursing Spectrum CareerWare<sup>SM</sup> Merchandise, and three free contact hours of continuing education (CE) credit. The four runners-up will receive a selection of Nursing Spectrum CareerWare Merchandise, one free CE module (1 contact hour), a special plaque, and a NSNA Leadership U certificate. A faculty member must sponsor each entry and submit a letter stating the contestant will receive school recognition as part of NSNA Leadership U. (Visit [www.nsnaleadershipu.org](http://www.nsnaleadershipu.org) for more information about this program.) Faculty members for the winner and runners-up will receive a free CE module (1 contact hour), a plaque, and a Leadership U certificate.

"Nursing students have always been creative, and this contest provides them with a unique opportunity for written expression, and for formal recognition both from their peers and the nursing community. Thanks to *Nursing Spectrum*, this contest will surely inspire budding journalists to develop their interest in writing. The topic could not be more timely, and I

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look forward to reading the winning submissions," says Diane Mancino, RN, EdD, CAE, executive director for NSNA.

"Everyone keeps saying that we need to get kids into the nursing profession," adds Cynthia Saver, RN, MS, Nursing Spectrum's Corporate Editorial/Production Director. "It makes sense that the best advice we can get on how to do this would come from the students who have just recently made the commitment to nursing."

Entries must be received by 5 PM ET on January 31, 2002. Winners will be notified by February 14.

Students should send three copies of the article (do not include a name on the article to enable a blind review) along with their name, address, phone, home e-mail, copy of NSNA membership card, and sponsoring faculty member's name, signature, and contact information to NSNA/Nursing Spectrum Writing Contest, 555 West 57th Street, Suite 1327, New York, NY 10019. No faxes or e-mail submissions are permitted.

Essays will be judged on relevance to theme, writing style, originality, grammar, and spelling. Judges include representatives from Nursing Spectrum and leaders of professional nursing organizations.

Note: If students are not members of NSNA, they can obtain membership information by calling 212-581-2211.

NSNA is a nonprofit organization founded in 1952 representing approximately 26,000 students in Associate Degree, Diploma, Baccalaureate, generic Masters, and generic Doctoral programs preparing students for Registered Nurse licensure, as well as RNs in BSN completion programs.

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