Book Review

**Web-Teaching: A Guide to Designing Interactive Teaching for the World Wide Web**
David W. Brooks
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*Web-Teaching* was written for senior secondary school, college, university, and adult training instructors who wish to provide their courses through what Brooks calls ‘interactive teaching’ via the World Wide Web (WWW). As a volume in the series, *Innovations in Science Education and Technology*, the book appropriately takes most of its examples from the science curriculum, in particular chemistry, the author’s field. Unfamiliar subject content employed in some of the sample lesson fragments might make these less illustrative for teachers of disciplines beyond the sciences. Other than this initial narrowing, there is considerable ambiguity as to the book’s intended audience.

Brooks identifies his readers as ‘teachers and trainers with particular bents and biases toward technology’ (p. 4), and he warns off those who are not regular users of computers and e-mail. The presentation at many points certainly justifies this message. Discussion of particular software packages (e.g., GIF Wizard, p. 60, Micromedia Director/ Shockwave, QuickTime, p. 124, and JavaScript, p. 125) often appears to assume a working knowledge of the programs’ features and operation. In many cases I felt a need to have the particular program up and running on my computer while reading the text. On the other hand, at points, the book presents details (e.g., pictures of a network wall-jack, p. 31, and CD-ROM, p. 156) that must be familiar to any reader who finds meaning in the rest of the pages. Instructors planning to move their courses to the Web are likely to find the advice concerning classroom teaching using a computer, LCD display panel, and overhead projector (Chapter 14, Lecturing; Multimedia Classrooms) rather redundant.

Of the two purposes Brooks sets out for his book, ‘focussing on the nature of the task of creating active learning environments, and the other on the tools available to help you accomplish that task’, it is the latter that dominates. Only four of the fourteen chapters (2 - Research on Teaching; Web Issues, 8 - Encouraging Web-based Discussion, 9 - Interactive Strategies; Forms, and 10 - Promotion of Self-regulated Learning) address issues of teaching and learning. This theme starts off well with the observation that, although there is little research on Web-based teaching to be consulted when designing courses, there is much research on education in other contexts that could provide guidance. All too often, instructors excited about the Web’s potential ignore their own and our collective knowledge of teaching and learning in their efforts to incorporate this technology into their
courses. Past studies dealing with computer-mediated communications, multimedia support for teaching and learning, multiple intelligences, locus of control, pupil involvement in lessons, and collaborative learning could all provide initial guiding directions for Web-based teaching. Brooks acknowledges this potential, but all too briefly summarizes the research results and quickly brings us back to hardware and software details. The five-page discussion of cooperative learning and strategies for encouraging student input (pp. 87–91) delivers the message that, ‘for discussion what matters most to the teacher is not what is done with the Web server, but how one designs learning activities’ (p. 89). What follows is eleven pages focussing on the features of e-mail, listservs, news groups, group discussion software (NetForms, Lotus Notes), chat software (RoundTable), videoconferencing, and shared whiteboards.

Throughout the book there are hints of potentially valuable course structures and activities. For instance, Brooks notes that, ‘The strategy of having students publish their work increases the stakes for the students. When the stakes are raised, generally both the extent and quality of learning increase’ (p. 118). Unfortunately this idea is not developed further to the point where the reader fully understands how such an activity might be integrated into a course and conducted via the Web. Brooks does cite others who have written about establishing online learning communities and his bibliography could provide a starting point for readers who wish to explore intellectual and social issues of Web-based education.

Brooks’ choice of title, ‘Web-Teaching’, rather than ‘Web-Learning’ reflects the transmissive model of education that he appears to hold. He sees a need for interactivity in courses, but this interaction is largely between student and computer rather than human to human. The limited examples presented to illustrate Web-based discussion (p. 89) involve single students providing answers to instructor posed questions. Brooks does not appear to see the possibility of having an online ‘active cooperative learning community in place and functioning critically’ (p. 140) and holds that ‘an impersonal Internet course with no face-to-face exchanges and no judging of individual work is unlikely to succeed’ (p. 37).

The instructional model presented by this book is a version of computer-aided instruction (CAI) on a large scale with, programs, resources, and information distributed over multiple computer nodes on the Web. Interactivity and student involvement in learning is accomplished by providing choices as to links to follow. As in CAI, feedback for pupils is pre-programmed into the system. ‘If you can anticipate confusion and/or misconceptions, then you can create a trail of clicks that lead to a Web-based dead end, that is, a path that leads to a conclusion that flies in the face of reality’ (p. 140).

In his focus on technology, Brooks introduces a language that may be new for some readers. This is handled well, providing definitions without breaking the flow of the text. Each time a new technical, and possibly unfamiliar term, is first employed, the word appears in bold, indicating that it can be found in the extensive glossary at the back of the book. Instructors, after reading Web-Teaching, should experience an increase in their ability to converse with instructional technology support personnel.

If a reader’s institution provides Web site design and implementation assistance, Web-Teaching could help in the framing of questions and specific requests for service. Brooks
sketches the functionality of many pieces of software that one might wish to employ when mounting a Web-based course. Titles and brief descriptions of programs cited in the text are collected in a software list found at the end of the book. *Web-Teaching* also provides some excellent examples of sites that present interactive demonstrations of science concepts and give students opportunities to perform virtual experiments to test out their emerging ideas. The Web addresses for these sites are provided. Unfortunately, as Brooks notes, ‘The half-life of the information provided for much of the book’s contents is better measured in units of months rather than years’ (p. 3). The information given for some of the software is for program versions that have been replaced at least once since the publication of the book and a significant number of the Web sites and software suppliers can no longer be found at the addresses given. In some cases a search of the Web located new URLs, but some sites appear to have disappeared completely.

*Web-Teaching* paints a sketch of the potential of the Web for course delivery and provides considerable detail on the technology involved. For up-to-date software specifications and operating instructions other sources will be required. More importantly this book does not adequately explore the question of course structures that support Web based learning and teaching.