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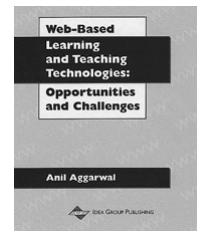
Meeting Today's Educational Demands: The Web Offers a Way

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The landscape of U.S. higher education is changing. The change is partially fueled by the transition to a knowledge economy that has increased demand for a highly educated work force and continuous learning. On the other hand, according to U.S. Department of Education statistics for 1995, only 21 percent of American adults age 25 or older hold a bachelor's degree or higher. Thus, the "new economy" will be driving a significant number of adults back to colleges and universities. The nature of demand for higher education from these adult learners is different from the demand from the traditional students. The adult students seek education that is convenient, accessible, and relevant.

Similar to the non-traditional students, the demand for higher education from the traditional students also is growing. The higher education industry is faced with the "baby boom echo," an estimated 72 million children of the baby boomers currently at the post-secondary education age. In addition to the growth in U.S. demand for post-secondary education, an increase in the global market for higher education also is anticipated. The growing size of both the domestic and global markets for higher education is attracting new forms of competition from both traditional and non-traditional sources. Many college and universities, as well as for-profit providers, are embracing the Internet and Web-based technologies to meet the new challenges and capitalize on new opportunities in the post-secondary education markets.

The Internet and Web-based technologies have created new business models and paradigms. Similarly, it is expected that they will lead to change and an extraordinary potential for transforming higher education and learning and teaching processes. Here is a book that examines this potential.



Web-based Learning and Teaching Technologies: Opportunities and Challenges
by Anil Aggarwal

Idea Publishing Group
372 pages, 2000.
www.idea-group.com

THIS BOOK CONSTITUTES A SUCCESSFUL step in capturing and reporting early innovations in application of Web-based technologies in various educational settings. As such, it provides useful guidelines and prototypes for those educators who are prepared to start their own experimentation with Web-based learning and teaching.

The book consists of four sections: web-based learning, web-based enhancing technologies and course development, web-based environment, and web-based case studies. The web-based learning section is comprised of three chapters and identifies and examines those factors that seemingly impact success of web-based education. Factors discussed in the section include: required changes in the traditional learning and teaching processes, availability of sufficient resources (e.g., funds and technology resources), and required technical support and training.

The second section, web-based enhancing technologies and course development, consists of six chapters. The chapters collectively describe a variety of hardware and software resources for development of effective web-based learning environments. Topics discussed in the section consist of the following: a framework for selection of technologies for development of web-based educational environments, human-computer interface, information navigation issues, and technology configura-



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holds the John M. and Lucy Cook's Chair in Information Strategy at the Goizueta Business School of Emory University. Her Ph.D. in MIS is from Ohio State University. Her research and teaching focus on knowledge management, technology-mediated learning, and e-business systems and process design. She has served as an associate editor for several information systems journals, including Information Systems Research, Journal of Strategic Information Systems, Journal of Management Information Systems, Information and Management, and MIS Quarterly (1987-1990). Dr. Alavi's publications have appeared regularly in key journals including Management Science, Academy of Management Journal, MIS Quarterly, Journal of MIS, and Communication of ACM. Alavi is the elected Vice President of Education of the Association of Information Systems (AIS) and was a 1996-97 Marvin Bower Fellow and a visiting professor at the Harvard Business School. She has consulted for several private and public organizations including Lucent Technologies, Lotus/IBM, Marriott Corporation, MCI Telecommunication, the American College of Physician, the General Accounting Office, and the World Bank.

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rations for web-based education (e.g., audio, video streaming, and desktop hosting of web-based courses).

Section 3 of the book, web-based environments, is made up of five chapters that address a range of changes in the educational processes required for effective transitions to the web-based environments. Examples include changes in the traditional pedagogies, student assessments, and management of assignments.

The fourth and final section of the book consists of case studies of web-based education in various courses (e.g., a computer programming course and a course in health communication program). The case studies described in the seven chapters comprising this section collectively identify a range of issues that need to be considered in implementation of web-based courses and programs.

Why Is This Book Important?

The reasons for change and innovation in higher education seem to be clear and compelling. Many colleges and universities are re-examining the form and nature of their educational processes, and most are viewing the web-based technologies as a key resource in enabling innovative pedagogies and learning experiences. The approach to change in this arena is not well understood and many questions need to be raised and effectively answered. For example, what role should web-based technologies play

in higher education? What are some barriers to change and how can they be reduced? To answer these and other pertinent questions and in order to avoid "re-inventing the wheel," we can learn from the early and successful initiatives. This book represents a step toward this goal by reporting on a number of thoughtful web-based learning and teaching innovations in various settings.

Considering the scope and the range of topics covered, two groups of readers can benefit from this book: (1) faculty/instructors (and instructional designers if different from those who teach the courses), and (2) educational administrators (e.g., deans, associate deans, program managers). Faculty and instructors responsible for development and delivery of the web-based education will benefit from the discussions of pedagogies and technologies for web-based education as well as case studies of web-based learning and teaching. Administrators responsible for managing web-based educational initiatives will benefit by developing a deeper understanding of the issues, opportunities, and challenges associated with these initiatives.

The Next Steps

This book provides useful frameworks and interesting application cases of web-based learning and teaching in various educational contexts. The next step is to study effective design and application of web-based learn-

ing and teaching environments. Examples of interesting research questions include the following.

- What role should web-based technologies play in support of various learning models such as objectivism, constructivism, collaborativism, and socio-culturalism?
- What variables influence the effectiveness of web-based educational environments?
- How do web-based educational environments influence student learning outcomes and student and instructor roles?

Because web-based technologies can lead to the creation of effective, alternative learning environments, does not mean that they will. As the variety, power, and availability of these technologies expand, their application to learning and teaching processes requires thoughtfulness and experimentation. Research and experimentation is needed to further enhance our understanding of benefits and constraints of web-based educational environments. ■

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IN MEMORIAM

Joanna R. Baker (October 5, 1951 - July 20, 2000)

Joanna R. Baker, Ph.D., 48, died Thursday, July 20, 2000, in Durham after a long illness. Dr. Baker was past president of SE DSI and SE INFORMS, and received the Outstanding Service Award from both organizations. She also served on the Institute's Board of Directors as a vice president.

Born October 5, 1951, in Bangor, Maine, Dr. Baker earned her B.S. and M.S. from the University of Maine, and her Ph.D. in systems engineering from Clemson University. Most recently, she was the founding director of the School of Information Technology at The University of North Carolina at Charlotte from 1997-1999. In 1999, the Charlotte Chamber



of Commerce presented her with the Blue Diamond Neel Award in recognition of her contributions to the Charlotte information technology community. Previously, she taught at Appalachian State University, Virginia Tech, and James Madison University.

Memorial contributions can be made to a graduate scholarship fund established in Joanna's memory at UNC-Charlotte. More information is available at (704) 547-5760 or www.jrbakervisionfund.com. Contributions can also be made to The Brain Tumor Center at Duke University Medical Center, Box 3624, Durham, NC 27710. ■