

EAC 795-001

# Research in Web-Based Instruction

Dr. Brad Mehlenbacher, NC State University

When: 7:30 - 10:15 pm, Thursday, Spring Semester, 2010

Where: Poe Hall 220

Office Hours: 6:30 - 7:30 pm, 10:15 - 11:00 pm, Thursday

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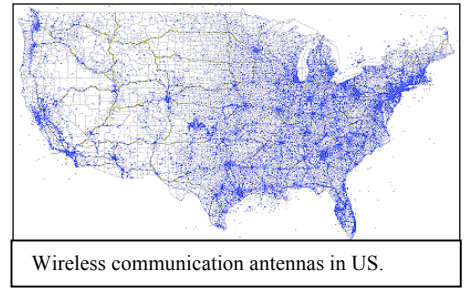


Image from *An Atlas of Cyberspaces*. Available online: <http://www.cybergeography.org/atlas/topology.html>.

## \_Course Description

Dede (2004)<sup>1</sup> argues that “... the fundamental barriers to employing ... technologies effectively for learning are not technical or economic, but psychological, organizational, political, and cultural” (p. 8). However, given these barriers or perhaps despite them, Web-Based Instruction (WBI) appears to have become an established part of what it means to teach and learn in higher education. Allen and Seaman (2003)<sup>2</sup> report, “Among all U.S. higher education students in Fall 2002, 11 percent took at least one online course” and “over one-third of these students ... took all of their courses online” (p. 1). And beyond online courses that are produced for higher education learners, information-seeking, leisure, and entertainment activities have increased as much as 50 percent or more across all users of the Internet, which make up approximately three out of four people in the U.S. (p. iv-v).<sup>3</sup>

This course begins, therefore, by assuming that the assertion that “more and more courses are moving online” has been well documented and requires limited elaboration. One might argue, instead, that it is useful to begin viewing all higher education teaching and learning as blended learning (that is, learning that involves both online and face-to-face approaches). Thus, it would be difficult for even the most ardent neo-luddite to avoid representing his or her course in the form of an online syllabus, to refuse to use e-mail, or to look up student information without access to the Internet. The important question is not whether online learning is “better” or “worse” than face-to-face instruction but, instead, that it is critical that we use this opportunity to ask how the Web enhances, limits, augments, or complicates both formal and informal teaching and learning.

WBI will be discussed and interpreted around five dimensions of all instructional situations (Mehlenbacher, 2002):

Dimensions of all Instructional Situations	Relevant Activities or Attributes
Learner Background and Knowledge	Ability to apply skills, learning and technology experiences, standardized test taking and general educational success, life experience, age, gender, intellectual abilities, attitude, and motivation
Learner Tasks and Activities	Actions with learning materials, exercises, goals, processes, e.g., reading to learn, reading to learn to do, reading to analyze, reading to compare, confirm, correct, submitting to computer
Social Dynamics	Interaction with instructor and peers, responsiveness, social abilities, personal style, strategies for scheduling, group management, and self-assessment
Instructor Activities	Communication of content, objective setting, information exchange requirements, topic pacing, sequencing, adaptation to audience, methods of evaluation, strategies for topic elaboration
Learning Environment and Tools	Numerous instructional materials, e.g., reading and writing tools, individual and shared documents, viewing and dissemination methods, atmosphere that promotes mentoring and open exchange of ideas and discussion; ergonomically designed for optimal usability

<sup>1</sup> Dede, C. (2004). Vignettes about the Future of Learning Technologies. *Visions 2020: Transforming Education and Training Through Advanced Technologies*. Washington, DC: Department of Education, 2-8.

<sup>2</sup> Allen, I. E., & Seaman, J. (2003). *Sizing the Opportunity: The Quality and Extant of Online Education in the United States, 2002 and 2003*. Needham, MA: Sloan-C.

<sup>3</sup> Madden, M. (2003). Washington, DC: *America's Online Pursuits: The Changing Picture of Who's Online and What They Do*. PEW Internet and American Life Project, iv-v.

# Research in Web-Based Instruction

## Assignments and Grades

Your grade will be based on the following assignments:

**Annotated Bibliographies ... 30%**

Generate annotated bibliography comprised of 30 articles or chapters over the course of the semester.

**Conference Proposal ... 20%**

Prepare a conference proceedings proposal for submission to a national or international conference related to education and technology (students will be introduced to, collect, and share conference proceedings calls for papers throughout the semester).

**Peer Review ... 10%**

Review and provide feedback on classmates' conference proposals.

**Manuscript for Publication ... 40%**

Work individually or in teams of 2 or 3 to develop research projects that focus on education and technology in adult, higher, or human resource educational contexts. Generate publication-quality manuscripts for submission to peer-reviewed journals (journals that publish on numerous dimensions of technology, instruction, and learning will be shared throughout the semester).

## Incomplete Grades and Late Assignments

Each requirement must be completed according to the scheduled due dates provided. Any variation from the course schedule should ideally be limited to unusual circumstances and must be approved by the instructor as far in advance of the due date as possible. Examples or evaluation criteria for each requirement are available from the instructor and will be provided in advance of the assigned due date. As well, students will be expected to participate actively in the course including completing required readings, pursuing additional inquiry through recommended and individually identified resources, and maintaining regular communications with the instructor and other students. Each student is required to complete all four requirements.

## Attendance

Attendance is mandatory. Students are allowed to miss two classes without penalty. For each class absence over and above the second, a full letter grade will be deducted from the final course grade. See NC State University's Academic Policies and Regulations regarding Attendance Regulations at [http://www.ncsu.edu/policies/academic\\_affairs/courses\\_undergrad/REG02.20.3.php](http://www.ncsu.edu/policies/academic_affairs/courses_undergrad/REG02.20.3.php)

## Student Conduct

Each assignment must be completed without the assistance of any other person, unless assigned as group work. All students are expected to practice academic integrity throughout the course. Any evidence of academic dishonesty (cheating, plagiarism, etc.) will be pursued diligently. Please review the Code of Student Conduct ([http://www.ncsu.edu/policies/student\\_services/student\\_discipline/POL11.35.1.php](http://www.ncsu.edu/policies/student_services/student_discipline/POL11.35.1.php)) and adhere to the code at all times.

## Course Equity

I am committed to offering a course that maintains an atmosphere of ethical behavior, individual integrity, and equitable treatment of each person. You are asked to actively support this effort and are encouraged to confidentially identify circumstances, activities, or behaviors that are not contributing to that goal. If you do not believe the goal is being achieved in the course and are not satisfied with my response, you are asked to communicate your concerns to the department chair, Dr. Bob Serow ([robert\\_serow@ncsu.edu](mailto:robert_serow@ncsu.edu)).

## Students with Disabilities

NC State University is required to respond to the needs of students with disabilities as outlined in both the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 through the provision of auxiliary aids and services that allow a student with a disability to fully access and participate in the programs, services, and activities at NC State. If you have any concerns or want to learn more about NC State's policies regarding students with disabilities, contact the Disability Services Office (DSO) (<http://www.ncsu.edu/dso>), or directly at 919-515-7653 (voice) or 919-515-8830 (TTY).

## \_Schedule

Week	Topic	Readings	Assignments
1	Introduction	Research in Web-Based Instruction Syllabus	
2	Online vs. Face-to-Face	<p>Allen, M., Bourhis, J., Burrell, N., &amp; Mabry, E. (2002). Comparing student satisfaction with distance education to traditional classrooms in higher education: A meta-analysis. <i>American Journal of Distance Education</i>, 16 (2), 83-97.</p> <p>Downes, S. (2003). Public Policy, Research and Online Learning. <i>Ubiquity</i>, 4 (25), August 13-26 [<a href="http://www.acm.org/ubiquity/views/v4i25_downes.html">http://www.acm.org/ubiquity/views/v4i25_downes.html</a>]</p> <p>Kassop, M. (2003). Ten Ways Online Education Matches, or Surpasses, Face-to-Face Learning, <i>The Technology Source</i>, May/June [<a href="http://ts.mivu.org/default.asp?show=article&amp;id=1059">http://ts.mivu.org/default.asp?show=article&amp;id=1059</a>]</p> <p>Sener, J. (2004). Escaping the Comparison Trap: Evaluating Online Learning on Its Own Terms. <i>Innovate: Journal of Online Education</i>, 1 (2) [<a href="http://innovateonline.info/index.php?view=article&amp;id=11">http://innovateonline.info/index.php?view=article&amp;id=11</a>]</p>	5 Annotations on WBI Theory
3	Sociocognitive Model of Learning: Theory	<p>Mehlenbacher, B., Miller, C. R., Covington, D., &amp; Larsen, J. (2000). Active and Interactive Learning Online: A Comparison of Web-Based and Conventional Writing Classes. <i>IEEE Transactions on Professional Communication</i>, 43 (2), 166-184 [<a href="http://www4.ncsu.edu/~brad_m/research/activelearning00.pdf">http://www4.ncsu.edu/~brad_m/research/activelearning00.pdf</a>]</p> <p>Mehlenbacher, B. (2002). Assessing the Usability of Online Instructional Materials. In R. S. Anderson, J. F. Bauer, and B. W. Speck (Eds.). <i>Assessment Strategies for the On-line Class: From Theory to Practice</i> (pp. 91-98). New Directions for Teaching and Learning Series, Number 91. San Francisco, CA: Jossey-Bass [<a href="http://www4.ncsu.edu/~brad_m/research/usablewbi02.pdf">http://www4.ncsu.edu/~brad_m/research/usablewbi02.pdf</a>]</p> <p>Anderson, J. R., Greeno, J. G., Reder, L. M., &amp; Simon, H. A. (2000). Perspectives on learning, thinking, and activity. <i>Educational Researcher</i>, 29 (4), 11-13.</p>	
4	Annotated Bibliographies	<p>Bain, J. D., McNaught, C., Mills, C., &amp; Lueckenhausen, G. (1998). Describing computer-facilitated learning environments in higher education. <i>Learning Environments Research</i>, 1 (2), 163-180.</p> <p>Mehlenbacher, B. (2000). Intentionality and Other “Nonsignificant” Issues in Learning: Commentary on Margaret Martinez’s “Intentional Learning in an Intentional World.” <i>ACM Journal of Computer Documentation</i>, 24 (1), 25-30 [http://www4.ncsu.edu/~brad_m/research/intentionality00.pdf]</p>	10 Annotations on 1 Learning Dimension
5	Sociocognitive Model of Learning: Practice	<p>Oliver, K. (2002). Web-Based Instruction. <i>Educational Technologies at Virginia Tech</i> [http://www.edtech.vt.edu/edtech/id/wbi/index.html]</p> <p>Wright, T. C., &amp; Howell, S. L. (2004). Ten Efficient Research Strategies for Distance Learning. <i>Online Journal of Distance Learning Administration</i>, 7 (1) [http://www.westga.edu/~distance/ojdl/spring71/wright71.html]</p>	
6	Theories of Online Learning	<p>Anderson, T., &amp; Elloumi, F. (Eds.). (2004). <i>Theory and Practice of Online Learning</i>. Athabasca, AB: Athabasca U [http://cde.athabascau.ca/online_book/index.html]</p> <p>Barab, S. A., &amp; Roth, W-M. (2006). Curriculum-based ecosystems: Supporting knowing from an ecological perspective. <i>Educational Researcher</i>, 35 (5), 3-13.</p> <p>Moore, M. G. (1992) Distance education theory. <i>American Journal of Distance Education</i>, 5 (3), 1-6.</p>	10 Annotations on 1 Learning Dimension
7	Conference Proposals and Peer Review	<p>Anderson, T., &amp; Elloumi, F. (Eds.). (2004). <i>Theory and Practice of Online Learning</i>. Athabasca, AB: Athabasca U [http://cde.athabascau.ca/online_book/index.html]</p> <p>Boote, D. N., &amp; Beile, P. (2005). Scholars before researchers: On the centrality of dissertation literature review in research preparation. <i>Educational Researcher</i>, 34 (6), 3-15.</p> <p>Moore, M. G. (2004). Research worth publishing. <i>American Journal of Distance Education</i>, 18 (3), 127-130.</p>	

**\_Schedule, Continued**

Date	Topic	Readings	Assignments
8	Theories, Cont'd	Anderson, T., & Elloumi, F. (Eds.). (2004). <i>Theory and Practice of Online Learning</i> . Athabasca, AB: Athabasca U [ <a href="http://cde.athabascau.ca/online_book/index.html">http://cde.athabascau.ca/online_book/index.html</a> ]	10 Annotations on 1 Learning Dimension
9	Learner Background and Knowledge	PEW/Internet & American Life Project Reports: Education [ <a href="http://www.pewinternet.org/PPF/c/10/topics.asp">http://www.pewinternet.org/PPF/c/10/topics.asp</a> ] Beers, M., Fair, B., & Millar, G. (2004). Meeting the Millenials. <i>British Columbia Institute of Technology Learning and Teaching Centre</i> , October [ <a href="http://online.bcit.ca/sidebars/current/index.htm">http://online.bcit.ca/sidebars/current/index.htm</a> ] Oblinger, D. G., & Oblinger, J. L. (2005). <i>Educating the Net Generation</i> . Boulder, CO: EDUCAUSE [ <a href="http://www.educause.edu/content.asp?PAGE_ID=5989&amp;bhcp=1">http://www.educause.edu/content.asp?PAGE_ID=5989&amp;bhcp=1</a> ]	
10	Spring Break	No Class: Read a poem	
11	Learner Tasks and Activities	Cooper, G. (1998). <i>Research into Cognitive Load Theory and Instructional Design at UNSW</i> . University of New South Wales, Australia [ <a href="http://education.arts.unsw.edu.au/CLT.HTML">http://education.arts.unsw.edu.au/CLT.HTML</a> ] Godshalk, V. M., Harvey, D. M., & Moller, L. (2004). The role of learning tasks on attitude change using cognitive flexibility hypertext systems. <i>Journal of the Learning Sciences</i> , 13 (4), 507-526.	Conference Proposal
12	Spring Holiday	No Class: Write a poem	
13	Social Dynamics	Rourke, L., Anderson, T., Garrison, D. R., & Archer, W. (2001). Assessing Social Presence in Asynchronous Text-based Computer Conferencing. <i>Journal of Distance Education</i> , 14 (2) [ <a href="http://cade.athabascau.ca/vol14.2/rourke_et_al.html">http://cade.athabascau.ca/vol14.2/rourke_et_al.html</a> ] Wang, F-K., & Bonk, C. J. (2001). A Design Framework for Electronic Cognitive Apprenticeship. <i>Journal of Asynchronous Learning Networks</i> , 5 (2) [ <a href="http://www.aln.org/publications/jaln/v5n2/v5n2_wang.asp">http://www.aln.org/publications/jaln/v5n2/v5n2_wang.asp</a> ]	Peer Review
14	Instructor Activities	Engeström, Y. (2000). Can people learn to master their future. <i>Journal of the Learning Sciences</i> , 9 (4), 525-534. Fischer, G., Greenbaum, J., & Nake, F. (2000). Return to the Garden of Eden? Learning, working, and living. <i>Journal of the Learning Sciences</i> , 9 (4), 505-513. Thompson, M. M. (2004). Faculty Self-Study Research Project: Examining the Online Workload. <i>Journal of Asynchronous Learning Networks</i> , 8 (3) [ <a href="http://www.aln.org/publications/jaln/v8n3/v8n3_thompson.asp">http://www.aln.org/publications/jaln/v8n3/v8n3_thompson.asp</a> ]	
15	Learning Environment and Tools	Fletcher, J. D., Tobias, S., & Wisher, R. A. (2007). Learning anytime, anywhere: Advanced distributed learning and the changing face of education. <i>Educational Researcher</i> , 36 (2), 96-102. Preece, J., Rogers, Y., & Sharp, H. (2002). <i>Companion Website for Interaction Design: Beyond Human-Computer Interaction</i> . Hoboken, NJ: Wiley [ <a href="http://www.id-book.com/index.php#">http://www.id-book.com/index.php#</a> ] Roth, W-M., McGinn, M. K., Woszczyzna, C., & Boutonné, S. (1999). Differential participation during science conversations: The interaction of focal artifacts, social configurations, and physical arrangements. <i>Journal of the Learning Sciences</i> , 8 (3/4), 293-347.	
16	Conclusions: Learning Futures	De Castell, S., Bryson, M., & Jenson, J. (2002). Object Lessons: Towards an Educational Theory of Technology. <i>First Monday</i> , 7 (1) [ <a href="http://firstmonday.org/issues/issue7_1/castell/index.html">http://firstmonday.org/issues/issue7_1/castell/index.html</a> ] Noble, D. (1998). Digital Diploma Mills: The Automation of Higher Education. <i>First Monday</i> , 3 (1) [ <a href="http://firstmonday.org/issues/issue3_1/noble/">http://firstmonday.org/issues/issue3_1/noble/</a> ] Bonk, C. J. (2002). Keynote: Current Myths and Future Trends. <i>Teaching Online in Higher Education Conference</i> . Fort Wayne, IN: Indiana University-Purdue U [ <a href="http://www.courseshare.com/cjbonk/myth_trend.html">http://www.courseshare.com/cjbonk/myth_trend.html</a> ]	Manuscript for Publication