

World Usability Day 2007-Engaging Discussion on Universal Usability

By Julie Strothman

This November, for the third year, the Landmark College Institute for Research and Training co-hosted World Usability Day New England (WUDNE) with Dartmouth College. The conference offered presentations, posters, demonstrations and a panel on the topic of Universal Usability for Teaching and Learning.

World Usability Day was started in 2005 by the Usability Professionals' Association (UPA), with a mission to increase the public's awareness of the need to make the services and products important to human life easier to access and simpler to use. Global issues such as healthcare, education and government are addressed through expert forums, exhibits, events and initiatives in numerous locations throughout the world.

Dr. Ben Shneiderman, University of Maryland professor and ACM fellow, offered the day's keynote, *The New Science of Universal Usability*. Dr. Shneiderman discussed the concept of Science 2.0 and our need to investigate the problems associated with our complex, interdisciplinary, and richly-connected world. He described the challenges as not only technical and technological, but "intensely human" and social. He asked, "How do we enable diverse users from novices to experts, young and old, and users across cultures, as they engage with increasingly complex and connected systems? How do we bridge the gap between what users know and what they need to know?" Shneiderman postulates that controlled research studies are no longer sufficient to understand the problems and elicit solutions—that long-term, in-depth ethnographic and case-study methods are also needed.

The keynote was followed by sessions in two tracks: teaching and learning, and web usability. In the teaching and learning track, Dr. Loring Brinckerhoff, Director of the Office of Disability Policy at Educational Testing Service (ETS) and Manju Bannerjee, Assistant Professor at University of Connecticut's Neag School of Education presented *Universal Design in Instruction: Moving Beyond Accessibility into Classroom Application*. Loring and Brinckerhoff addressed challenges of implementing universal design for instruction (UDI) in postsecondary classrooms through low-tech and high-tech examples, such as distribution of electronic versions of reading assignments in which the instructor includes highlights of important points as well as general comments. This technique also addresses UDI principles such as: making information perceptible; communicating information effectively regardless of student abilities; and the principle of creating a community of learners; the student has a sense of being in dialogue with the instructor and the reading. The value of such conceptual framework was echoed in the student panel later in the day.

The second teaching and learning session, *Universal Design for Learning in Practice*, was delivered by Michael C. Rydel and Andre Lukatsky, of The Hadley School for the Blind. Hadley offers over 100 free courses to 10,000 blind and visually impaired students through a variety of mediums. Rydel and Lukatsky discussed challenges and successes faced by students and instructors in their online courses and how the school approaches offering support to their students.

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In the usability track, Ann Chadwick-Dais and Marguerite Bergel of Fidelity Investment's user experience group echoed Dr. Shneiderman's emphasis on the need to understand how trust, empathy, responsibility, and privacy are developed within online collaborations. In 2006 they initiated a formal accessibility initiative, with particular interest in aging- and blindness-related access issues. In the session, *Universal Usability of Dynamic Content*, they demonstrated some of the access issues and described the process of working with programmers to identify approaches that are attractive but also work well for people who may listen to web pages through a screen reader and need to navigate via their keyboard or inputs other than a mouse. Fidelity has sophisticated user testing facilities and will make their evidence-based guidelines and techniques available for others to use when they are further along in their accessibility work.

The second usability track session, *Adaptive Design for Web Environments*, was presented by Sarah Horton, Dartmouth College Director of Web Strategy and Information Design, and Patrick Lynch, Yale University Director of Special Technology Projects. Horton and Lynch are co-authors of *Web Style Guide: Basic Design Principles for Creating Web Sites*, published by Yale University Press, which has sold over 120,000 copies and been

translated into eight languages. Horton discussed reasons to strive for adaptive design where the same document can adapt to a variety of viewing environments, such as a variety of screen sizes, mobile screens, and print layout. When a document is properly structured "under the hood," a variety of technologies can make use of the helpful design elements we usually associate with visual techniques, such as relationships among items that are proximally located and items that look similar. Lynch discussed reasons that good search capabilities are an access issue, and how the same methods used to derive success in access for people can result in good search engine rankings, both having a positive impact on the financial bottom line.

Conference attendees came together in the afternoon for a student panel followed by a roundtable discussion. Student panelists Isabel Arathoon, James Hoare, Jamie Killens, and Alice Stace-Naughton offered examples of ways universal design supports their creativity and ability to succeed. Isabel suggested that instructors explicitly identify items for focus when giving assignments. Alice, who manages physical pain daily, described the extent to which voice dictation software has reduced pain and increased her window of productivity. Jamie spoke of classes where he is offered a variety of ways to turn in an assignment—when he has the choice of turning in a concept map, a voice recording, or a piece of writing, he can focus on the content rather than being blocked by specific format requirements. James explained how he uses concept maps to generate ideas, arranging them visually, then using the outline generated by the software as the basis for writing assignments. James and Isabel expressed frustration with voice recognition software's inability to recognize foreign accents. We all enjoyed Alice's conviction that this technical limitation is unacceptable and unnecessary; students with accents and speech difficulties should be able to access this technology. After their panel, participants joined the students for continued discussion about universal design and learning disabilities.

The day closed with a roundtable discussion. Dr. Steve Fadden facilitated, asking questions such as: "What opportunities and obligations do we have to address the national need to broaden participation among underrepresented groups in science, technology, and engineering fields?" Dr. Shneiderman emphasized the need for interdisciplinary study of the "made world," aligned with nationally identified priorities toward solutions for modern challenges. Faculty participants encouraged continued education efforts in the area of accessible online materials and universal design for instruction, from professional education levels down through primary grades. Dr. Shneiderman encouraged that each effort we make should be a role model for others, and that there is "tremendous value in the public telling of good deeds within community." I am thrilled to announce that in our tradition of alternating locations, World Usability Day 2008 will be held at Landmark College in November, 2008.