

# CILT2000: Technology, Equity, and K-14 Learning

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This paper summarizes activities and perspectives from the Center for Innovative Learning Technologies' annual conference in 2000. The theme of the conference was technology and equity, seeking to promote collaborative discourse and deeper understanding of the complex challenges and opportunities of improving quality of learning for all students.

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**KEY WORDS:** technology; equity; community; policy.

The annual conference of the Center for Innovative Learning Technologies (CILT) is a forum that brings together researchers, educators, developers, and policymakers to advance the learning technology field. CILT2000 was held October 26–29, 2000, just outside Washington, DC. This paper set summarizes the outcomes of that conference.

The mission of CILT conferences is to define and respond to the critical issues that face the learning technology community. Our strategy is to bring together leaders in diverse fields—university researchers, Capitol Hill staffers, school principals and teachers, technology designers, and many others—to share perspectives, demonstrate innovations, and define important new directions for research, development, and policy. To promote lasting results from this work, CILT offers seed funding for innovative collaborative projects that begin to pursue the agendas defined through conference activities.

At *CILT2000: Technology, Equity, and K-14 Learning*, the theme of equity played a central role. At CILT, we define equity not just in terms of access to computers and the Internet, but in terms of the quality of learning opportunities that this access has the potential to afford. We chose this theme for two reasons: The increasing threat that the innovations discussed here may in practice be available to some communities of students more than to others, and the powerful role that innovations like these can

play in helping to open doors for students in need of improved educational opportunities.

Technology-related equity has been the topic of numerous conferences and reports of national importance over the last year (see, for example, the U.S. Department of Commerce's October 2000 report *Falling Through the Net*, the President's Information Technology Advisory Committee's *Resolving the Digital Divide*, and *Disconnected, Disadvantaged, and Disenfranchised* from the Consumers Union (Cooper, 2000)). Roy Pea opened CILT2000 with a summary of important findings (Pea, 2001), emphasizing the importance and demands of "digital inclusion"; growing inequities in home access, school computer use, and teacher preparedness across income and racial groups, as well as less recognized barriers in appropriate content and quality of service; and important accomplishments by federal programs such as E-Rate. The conference's first morning continued with speakers exploring the issues of equity from a number of angles: Roberta Katz (recent TechNet CEO) described the high tech industry's commitment to investments in education as venture capital to promote the skilled workforce of the future; Bonnie Bracey (George Lucas Educational Foundation Fellow) pleaded for opportunities for teachers to experience the power of technology rather than the "granular metadata" so often offered by research; Larry Scadden (National Science Foundation) reminded us that connectivity is not the same as usability, particularly for the 1 in 10 technology users with disabilities; Cynthia Samuels (iVillage.com) discussed the power of community involvement to promote technology use in

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underserved areas; and Sam Carlson (World Links) opened the discourse to the concerns of 80% of the world's population, for whom the "digital divide" as framed in popular American discussion is a quibble among the already-privileged. These perspectives and others set the tone for more in-depth discussions that followed in workshops and other conference venues.

As in past years, much of the work at CILT2000 took place in extended workshops, convening *theme teams* of like-minded participants whose collective expertise can contribute substantially to breakthrough innovation in an area of current importance. In workshop sessions, groups looked more specifically at issues of equity in relation to the work of each theme. Theme teams considered the opportunities presented by the innovations they were discussing, potential barriers to equitable experience of those innovations, and ways to structure future work to overcome those barriers. CILT2000 theme team workshop topics were as follows:

- *Assessments for learning* (led by Drs Barbara Means, John Bransford, Jason Ravitz, and Sean Brophy): Technology-based assessment models that both reveal and motivate meaningful student learning.
- *Community tools* (led by Drs Roy Pea, Jeremy Roschelle, Jim Gray, and Nathan Bos): Technical, cognitive, and social supports for on-line collaborative learning.
- *Ubiquitous computing* (led by Drs Bob Tinker and Philip Vahey): Handheld and wireless devices that enable widespread student access to powerful educational applications.
- *Visualization and modeling* (led by Drs Marcia C. Linn, Nancy Songer, and Yael Kali): Educational tools for powerful, accessible, and interactive representations of complex scientific and mathematical phenomena.
- *Synergy/teacher professional development* (led by Drs Ray Rose, Louis Gomez, Eric Baumgartner, and Sherry Hsi): Cutting across the other themes, this strand focused on

the adaptation and adoption of promising innovations.

The papers that follow describe the outcomes of each of the above theme workshops, summarizing (a) the progress of the field to date; (b) critical issues that need to be addressed as we move forward, paying special attention to equity concerns; and (c) specific activities defined to meet those needs. In many ways these papers describe the maturation of the learning technology field, moving from the initial exploration of interesting application ideas to research on design principles that characterize more general categories of learning environments, and to the application of these environments to particular settings, subjects, and communities of learners. For more information on the projects that have resulted from CILT theme workshops, see <http://www.cilt.org/>.

Beyond the theme workshops, CILT2000 also included plenary sessions with prominent speakers and panelists from a host of fields who shared their insights on broad issues of importance to learning technology policy and practice. To pull it all together, Allan Collins participated in CILT2000 as "conference discussant," observing and synthesizing the insights gained during the proceedings. Dr Collins's comments are offered here as the final paper in this set.

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