

Looking Back & Looking Ahead: Twenty International Years of CSCL Invited Presidential Symposium at CSCL 2013 in Madison

CSCL in North America – Gerry Stahl

• Origins and early stages of CSCL in North America

The origin of CSCL as a term is attributed to the international NATO-sponsored meeting in 1989 in Maratea, Italy. The CSCL research community seems to have emerged largely out of the AI in Education community, which recognized a potential for using computer technology to support innovation in education. There were related efforts in the US at educational software developers like BBN or Bank Street and in labs like the ENFI Project at Gallaudet University, the CSILE project at the University of Toronto and Cole's Fifth Dimension Project at UCSD. Other research included Brown and Campione's guided discovery and Bransford's Jasper Project. The CSILE (later Knowledge Forum) group led by Scardamalia and Bereiter was perhaps the most influential, training new researchers from around the world and disseminating its CSCL software internationally.

Starting in 1995, the biannual series of CSCL conferences began in North America (Bloomington, Toronto, Stanford, Boulder), largely through the efforts of Koschmann. In 2001 (Maastricht) and 2003 (Bergen) it began also meeting in Europe; in 2005 (Taipei) it started to cycle to Asia-Pacific as well.

ISLS was founded in 2002 at Boulder and became active in 2003 at Bergen. It provided an institutional basis for both the CSCL and ICLS conferences and journals. Incorporated in the US, ISLS has led to a closer relationship between CSCL and the Learning Sciences. Although CSCL may have emerged out of a split in the AI in Education community—between CSCL in Europe and the Learning Sciences in the US—this history has been largely forgotten through the merger in ISLS and the increased internationalization of the communities.

• Research questions, concepts and methods

For many of the leading early researchers, the goal was to use CSCL innovations as levers to transform education into a more student-centered (Papert), inquiry-based (Dewey) or constructivist (Vygotsky) mode—largely by promoting collaborative learning.

Research questions varied: design of technology, analysis of collaborative learning, evaluation of learning outcomes. Most of the methodology was brought in from traditions of quantitative and qualitative research in educational psychology and the social sciences, such as coding-and-counting, controlled experiments with pre and post tests, descriptive statistics of self-report surveys, qualitative case studies.

• Contributions to CSCL research

Perhaps the first distinction was to define collaborative learning as distinct from cooperative group work, in which tasks are divided up but interdependent and outcomes are measured for individuals. In contrast, the analysis of collaborative learning started to investigate the interaction within the group and the group processes. Some of this was influenced by North American social studies of small groups.

Discourse analysis brought in political dimensions and conversation analysis looked at interactional mechanisms, including computer-mediated communication. These were largely initiated in North America, although soon picked up by Europeans.

In terms of theory, the theory of knowledge building was developed by Scardamalia and Bereiter in Toronto, the emphasis on situated cognition came out of the Institute for Research in Learning in Palo Alto in the 1980s, involving Lave, Wenger, Suchman, Roschelle, J.S. Brown, Pea, Greeno and others. Ethnomethodology also arose in California earlier, with Garfinkel, Sachs and Goodwin. Hutchins and colleagues formulated distributed cognition in San Diego. Many CSCL researchers were post-docs at the Learning Research and Development Center in Pittsburgh.

Perhaps a major contribution of North America to CSCL research has been the emphasis on design-based research, in which iterative cycles of trial in realistic settings are used to drive design of technology and pedagogy. This provided an alternative to traditional lab experiments, which assume that technologies and issues of their use are stable and well understood, which is often not the case in our world, where research often lags years behind industry.

• **Different disciplines within CSCL research**

The mission of CSCL raises unique challenges for research and for the attempt to transform education. It requires an unprecedented level of interdisciplinarity and internationalization. For many years, workshops and special sessions at CSCL conferences have been discussing multi-vocality and how to integrate research at different units of analysis (e.g., individual, small group, community). We may need to go beyond the methods of other disciplines—in which many of us have been trained—and develop new methods to deal with the complexities of CSCL research agendas.

• **Future trajectories and a desirable future of CSCL research**

I do not foresee any future within CSCL that is specifically North American. Most of the important research being carried out is quite thoroughly international. Most leading researchers maintain international contacts, co-authors and collaborators. Innovative ideas, technologies, theories and methods spread rapidly. Many CSCL students study abroad. Perhaps the most important role for North American researchers is to train future CSCL researchers from underdeveloped parts of the world.

North America has never had a funded network of CSCL researchers, comparable to the EU's Kaleidoscope and subsequent networks—and it probably never will. An ideal would be to have such a network or set of networks on regional and international planes. The model of the Alpine Rendezvous could be duplicated to support the growth of such networks.

There are large parts of the world in which CSCL is still unknown; collaborative learning is not practiced in schools or universities; researchers are not prepared to publish CSCL research. Although the hardware and communication media are spreading around the world rapidly, educational practice and CSCL expertise lag considerably. Development of the field is quite uneven, not only internationally, but even locally. The point of outreach is not to make our conferences numerically larger, but to spread the educational vision, theories and approaches. While many elite universities in world capitals have recognized CSCL labs, whole continents (Africa, the Middle East, India and most of Asia, much of Latin America) do not. CSCL as a profession still generally requires some apprenticeship experiences; established CSCL researchers could mentor students and colleagues from other countries to spread expertise in CSCL research practices. Perhaps CSCL technologies and approaches could be adapted to supporting this.