

Foreward

Seven Years of TeleLearning Research in Canada (1995-2002)

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This special issue of the *Journal of Distance Education* highlights a number of articles that resulted from the research programs of Canada's Tele-Learning Network of Centres of Excellence (TL•NCE). This seven-year program of coordinated research had its roots in the development of new ideas that surrounded the birth and establishment of the World Wide Web in the early 1990s. It was in this environment of excitement and hope that the Government of Canada asked for proposals for a new Network of Centres of Excellence on technology and learning. After a competitive process, the TL•NCE was established in late 1995. This network of re-searchers, collaborating companies, and client community organizations across Canada worked together to explore issues of pedagogy, e-learning systems design, and socioeconomic impact. There were extensive field trials of new technologies, and the results from these trials have fed into new innovative methodologies and systems.

Seven years later, the e-learning world is much more publicly visible, encompassing thousands more educators, developers, students, tech-nologies, and projects. The TeleLearning network is only one of many sources in Canada for e-learning innovation. But over seven years, TL•NCE has acted as a major e-learning catalyst in this development and a key source of research-based telelearning solutions and strategies for schools, postsecondary institutions, public-sector organizations, and the workplace. Working in education, a field where innovation comes primarily through processes rather than patented products, the TL•NCE has achieved and promoted deep understanding of educational effective-ness and used that understanding to develop new methodologies, tech-nologies, and tools to support learning. Its work has helped to position Canada as an international leader in telelearning research and has played a key role in developing public and institutional awareness of the potential contribution of technology to effective education and training. Canada's telelearning landscape today and its e-learning future are richer because of the contributions of TL•NCE.

The TL•NCE research was organized around seven theme areas.

Theme 1: to develop pedagogy and pedagogical design principles for collaborative learning and knowledge-building based on modern recon-siderations of the nature of knowledge and its advancement, acquisition, and uses.

Theme 2: to produce guidelines for investment in learning and know-ledge-building technologies based on social and economic analyses.

Theme 3: to design next-generation systems for telelearning and to develop general principles

for telelearning interface design.

Themes 4-7: To develop and field-test innovative telelearning approaches in

- primary and secondary (K-12) education,
- postsecondary education,
- workplace training and continuing education, and
- educating the educators.

Themes 1, 2, and 3 integrated the Network's research by considering issues and solutions across sectors, whereas Themes 4-7 addressed research questions and applications in respective client communities.

TL•NCE has supported over 100 research projects. These have tended to fall into six types:

- 1 conceptual and theoretical work on foundations and models for process and software design;
- 2 iterative design experiments in which telelearning tools (delivery/col-laboration/conferencing systems, assessment tools, peer help agents, video authoring systems, etc.) and user interfaces were developed, implemented, observed in operation, analyzed, and enhanced based on experimental feedback;
- 3 development projects aimed at solving specific technological problems (creating a repository for learning objects, "quality of service" simulations leading to network design guidelines, etc.);
- 4 action research in creating and facilitating online communities of practice, learning, and peer support;
- 5 development, testing, and dissemination of content-specific learning tools (Web-based mathematics visualization modules, children's learning games, etc.), along with design guidelines to inform future work; and
- 6 economic and policy-related studies.

Many of the results of 1, 2, and 3 were integrated into a few key software products now in wide use (e.g., Virtual-U, Knowledge Forum, MISA/ADISA, and Explor@). These tools in turn were used to support the knowledge-building community projects in category 4 and refined based on feedback from those experiments. The TL•NCE projects thus worked in an integrated manner to support research innovation in educational models and technological tools to advance telelearning knowledge, experience, and practice.

The TL•NCE addressed problems inherent in any new technology with which users have little experience, as networked learning was at the formation of the Network. These included (a) the need for effective, col-laborative telelearning processes, (b) the need for tools to support col-laborative, accessible telelearning, (c) the need for greater public and professional awareness of the potential and practice of telelearning, and (d) the need for a critical mass of telelearning practitioners and experts. Progress on the first two of these was made through specific research outcomes; the third was advanced through the many workshops, col-laborative projects, and course offerings, demonstrations, and networking activities of the Network; and the fourth through training large numbers of students, research staff, educators, and telelearning practitioners. The TeleLearning Network has in all these ways contributed to the explosion of awareness and activity that now surrounds e-learning in Canada and elsewhere. TL•NCE researchers have moved on to secure future funding to continue to carry out their research and make their expertise more widely available through institutes, new research networks, researcher or industry alliances, and other means. These will ensure that the work of TL•NCE over its lifespan will become a foundation for new research, knowledge, and partnerships to advance Canada's telelearning expertise, profile, and impact in creating new generations of effective

learners and learning communities. We are proud to have been a part of this network, and we value the contributions of all our colleagues in the universities, collaborating companies, and other client community organizations.

Linda Harasim was the founder of Canada's TeleLearning Network of Centres of Excellence and served as its Network Leader and CEO from 1995 to 2001. She was Chair of the TL•NCE Program committee and a member of the Executive Committee, as well as an active researcher leading the Virtual-U research projects. For the last two years of the TL•NCE she was Leader for the Postsecondary Research Theme.

Tom Calvert is a professor and Acting Director of the Information Technology and Interactive Arts Program at Simon Fraser University, Surrey, BC. He had a number of roles in the TeleLearning NCE including Project Leader, Theme Leader, and Co-Leader of the Network.