

INVITED COMMENTARY

RESEARCH FOR PRACTICE: A LOOK AT ISSUES IN TECHNOLOGY FOR SECOND LANGUAGE LEARNING

Carol A. Chapelle
Iowa State University

At the **launch** of *Language Learning & Technology* fourteen years ago, it was impossible to foresee the splash—to put it mildly—that computer technology in general and the Internet in particular would make on second and foreign language teaching and learning. In that first issue of the journal, I suggested that research might be useful in helping applied linguists to understand how language learners interact and learn—or fail to learn—with the many new options made available by new technologies. Moreover, I suggested that it might be fruitful to approach research and development in a manner that draws from practices in instructed second language acquisition research. The need was clear at that time, as it is now, for research designs to move beyond quantitative, outcomes-oriented studies comparing learning through technology to learning in a classroom—a paradigm inherited from education. At the same time, however, I expressed the concern that the research should focus on second language learning rather than being guided by the objectives of other fields—fields with research objectives and methods relevant to studying the issues they are concerned with.

Over the past fourteen years, the pages of *Language Learning & Technology* have been filled with examples of research that take up the challenge of investigating second language learning through technology. It has been a period of expansion and growth in many ways. The expansion of technologies as well as their acceptance and use in language learning has provided a fertile field for investigating questions about language learning through technology. Over the same period, approaches to the study of second language acquisition have expanded, offering more constructs and methods that can be used in research on technology for second language learning. A look through *Language Learning & Technology* provides one valuable perspective on the richness of the research issues at the intersection of technology and language learning. Another perspective that I would like to offer comes from the themes and issues that we have targeted at our conference on Technology and Second Language Learning (TSLL) each year at Iowa State University. A retrospective look at the conference themes is useful for pointing out issues to be investigated from a practice-oriented perspective on technology for second language learning.

The purpose of the conference is to explore issues at the interface of research and practice with respect to the use of computer technology for second language learning. Pragmatically speaking, if one holds a vision that language learning can be improved relative to current practices, what is the understanding that needs to be developed in order to make progress toward this vision? The assumption is that an understanding of effective technology uses can be developed through research and reflective practice. For the conference each year, we identify a set of interlocking issues pertaining to practice—issues at the intersection of language learning and technology in need of research, reflection and focused discussion. Retrospectively, it is evident that we revisit several recurring themes as we sort out a focus for each year's conference: the selection and structuring of learning material, assessment of students learning, and the use of empirical data for evaluating the success of students' learning. These areas of inquiry play out differently in various areas of practice, and therefore the topics of the conferences reflect the specifics of practice.

The first TSLL conference, held in October of 2003, addressed a perennial issue in materials development: What aspects of language to target in order to address important learner needs. This perennial issue had a few new twists when viewed in the current context of computer-assisted research, individualized instruction, and assessment. The new version of the old question was addressed by a

confluence of perspectives in applied linguistics from corpus studies to second language acquisition and grammar pedagogy to assessment. Sylviane Granger (Université catholique de Louvain in Belgium) spoke on the use of learner corpora for the systematic study of learner language, and Ron Cowan (University of Illinois at Urbana-Champaign) spoke on the interpretation of such data from perspectives in second language acquisition. Trude Heift (Simon Fraser University) spoke about individualized responses to learners' input, and Jim Purpura (Columbia University) raised issues of evaluating grammatical knowledge. It was evident that a productive path for computer-assisted language learning materials development would entail such collaborations across these areas where only minimal collaborative work had occurred in the past, and thus an important idea that emerged in this event was the need to bring together researchers working in various strands of applied linguistics within a pragmatically oriented research agenda.

The second annual TSSL conference focused on how practices can be evaluated through the use of qualitative and quantitative research approaches that provide more detailed and instructive information to researchers than can be yielded through quantitative outcomes-based comparisons. Evaluation of instruction has been an important issue in second language teaching for many years, but when it is technology for language learning, both the needs for evaluation and the opportunities to do so are amplified. Invited speakers, Paul Gruba (University of Melbourne) and Joan Jamieson (Northern Arizona University), each examined methodological issues in designing such research and interpreting research results. Papers offered a variety of examples of how researchers had examined specific aspects of learning materials and activities using detailed methods aimed at revealing how specific conditions of learning might have contributed to learning.

The third annual TSSL conference was held jointly with the conference of the [MidWest Association of Language Testers \(MwALT\)](#), and we therefore took the opportunity to target the complex issues of assessment, which are so fundamental to evaluation of technology for language learning. The invited speaker, J. Charles Alderson (Lancaster University), spoke about his experience with technology for language testing in the large pan-European [DIALANG](#) project. His paper raised concerns about the state of knowledge in diagnostic assessment, a topic often presented in visions for technology-based assessments. The conference as a whole brought together concepts and practices dealing with assessment of learners' language through technology and assessment of technology for second language learning.

The topic of the fourth conference was the strategies language learners use with particular focus on strategies in their use of technology for language learning. Andrew Cohen, (University of Minnesota) spoke about his work in the study of learner strategies including the use of Web sites for helping foreign language students to develop their learning strategies. Phil Hubbard (Stanford University) demonstrated that the strategies learners use to direct their second language learning are critical when students use multimedia learning technologies, the Internet, and other electronic resources. Presenters discussed investigations of strategies that language learners use in technology-mediated environments, the impact of new technologies on learning strategies, the design of materials to prompt good learning strategies, evaluation/assessment of the effects of learner strategy training in CALL, current and future trends in educating language teachers to teach strategies for using technological language resources, and impact of distance and Web-based learning environments for language learning strategies. Discussion touched on the issue that tools give students access to a large range of learning resources and opportunities, but for the most part leave learners on their own to decide how to best use them. How to change this practice was identified as an important challenge.

The fifth annual conference, like the first one, brought together researchers who typically work in different areas of applied linguistics under the umbrella of improving individualized learning through the use of assessment and diagnostic assessment. The many invited speakers included Robert Mislevy (University of Maryland) in addition to researchers working in natural language processing and diagnostic assessment. The papers are in an on-line edited volume that appears at

http://apling.public.iastate.edu/TSSL/5th_2007/proceedings2007/. This volume captures complex areas in need of focused inquiry such as diagnostic language assessment, student models, natural language processing, and the design adaptive instruction. The practices of interest at this conference could eventually offer students level- and content-appropriate instruction through the use assessment strategies administered and interpreted diagnostically during the course of instruction.

The sixth annual conference revisited issues in language learning materials with focus on developing and evaluating language learning materials. The invited speakers were Dorothy Chun (University of California at Santa Barbara), Sue Otto and James Pusack (University of Iowa), and Sherry Preiss (Pearson Education). Presentations demonstrated the range of new language learning opportunities afforded by technology. The presenters pointed out that technology expands what teachers and learners see as language materials because they can include a variety of individualized, social and classroom learning, particularly through the combination of textbooks, workbooks, CD-ROMs, databases, and tools for linguistic analysis and communication. The presenters pointed out that the increase in options that technology provides underscores the significance of professional knowledge in developing and evaluating materials. The papers from this conference appear in the proceedings at <https://www.apling.engl.iastate.edu/tsll/2008/>.

The seventh TSSL was held in conjunction with the inaugural conference of [Pronunciation in Second Language Learning and Teaching](#) and therefore explored how the teaching of speaking and listening can be facilitated through the use of technology and what important issues are raised by trying to promote spoken interaction using technology. Papers and poster presentations touched on issues including the following: How technology can be used to promote spoken interaction, how new technologies can best be blended with printed materials to draw on their complementary strengths, how the use of spoken corpora improve materials design and classroom teaching, how listening materials can be made interactive by using computer technology, how technology can be used to assess listening and speaking skills, how multimedia technology can enhance listening comprehension, how technology can be used to supplement spoken language instruction for varied student populations, and how changes in teacher education programs need to help promote the use of technology for teaching oral communication. The proceedings from this conference appear online at <https://www.apling.engl.iastate.edu/tsll/2009/>.

The topic of the eighth TSSL conference was hybrid or blended learning for language classrooms particularly as it is informed by knowledge obtained in research and practice in CALL. Blended learning in practice can range from tutorial CALL to social networking resources, automated essay-scoring systems, and other emerging technologies. Use of such resources often precipitates questions concerning cost, training, and effectiveness. Papers included topics such as the following: How experience with CALL has helped in the development and evaluation of hybrid and online language courses, how results from SLA research can provide insight into the development and evaluation of these courses, what core research issues and methods need to be addressed when developing these courses, what knowledge can be gained from both successful and less successful attempts at reflective course conversion projects, and how public discussion with stakeholders can affect the development, evaluation, and success of hybrid language courses.

As we plan the ninth annual TSSL conference, we are returning to issues in the use of technology in assessment, and particularly the role of technology in developing innovations in assessment, as the conference is again held jointly with [MwALT](#). The invited presenters will consider what the test takers say about the use of technology in innovative assessments (Margaret Malone; Center for Applied Linguistics), research on the use of computers in scoring essays (Sara Weigle; Georgia State University), and research methods for examining innovation in assessment (Lia Plakans; University of Iowa).

As a chronological collection, the conference themes provide a glimpse of some of the characteristics of a practice-driven research path aimed at improving technology for language learning. Such an agenda needs

to have a principled means of investigating the detail of learners' technology use. Valid and useful inferences need to be made on the basis of a variety of data that can be obtained through the use of technology to implement acquisition-focused research. Such research needs to feed into subsequent materials and task design in an iterative fashion so that effective designs for technology can be developed and learners can be taught successful strategies for learning through technology.

Fundamental to these practices is a means of evaluating the success of learning that is relevant to the objectives of learning. Such assessments seldom, if ever, exist as a ready-made solution for research objectives and therefore perspectives on assessment are needed that are sufficiently sophisticated to develop specific purpose assessments that can be used in research and learning. Central to research needs in technology and second language learning then are perspectives on development and validation of assessments.

Our pragmatically-driven research topics at the conference have been energized and informed by developments in technologies, pedagogies and the research appearing on the pages of *Language Learning & Technology*. I hope that this brief look at the areas that we have chosen for the annual conference will in turn be useful to authors and readers who are creating this field of research and practice. It should be evident that the purpose of each conference was to open and explore an area, with the aim of sparking interest, ideas, and future research. I hope that this commentary helps to transmit some of the ideas that we have explored in Ames, Iowa, USA to *Language Learning & Technology* readers around the world and that it helps to enlarge the network dedicated to research for practice in technology for second language learning.

ABOUT THE AUTHOR

Carol A. Chapelle is Distinguished Professor of Liberal Arts and Sciences at Iowa State University, where she teaches courses and conducts research in language assessment and technology for language learning in the doctoral program in [Applied Linguistics & Technology](#). She has served as president of the American Association for Applied Linguistics and as editor of *TESOL Quarterly*.

E-mail: carolc@iastate.edu