CALL in Canada: Examples of Current Research

Catherine G. Caws
University of Victoria

Marie-Josée Hamel
University of Ottawa

Mathias Schulze
University of Waterloo

CALL research in Canada has a long history of success (Chapelle, 2005; Paramskas, 1995). In a country where both French and English are official languages and are taught from kindergarten to university, where minority languages such as German, Spanish, Mandarin, and Punjabi are recognized as a part of the country’s heritage, and where several universities, including the University of Victoria, are at the forefront of indigenous languages revitalization, research on applied linguistics has had an impact internationally at many levels: political, societal, and personal. This general statement also applies to research, development, and pedagogic innovation in CALL as this “scholarship demonstrates a diffuse range of Canadian contributions to international CALL” (Chapelle, 2005, p. 208). When CALL developed as an academic discipline in the eighties, it helped to ground and focus the research practices of Canadian scholars working with technology in various fields of applied linguistics such as second language acquisition (e.g., Holmes & Kidd, 1982) and human language technology (Bailin, 1988; Lessard, Maher, Tomel, & Levison, 1994). However, as Paramskas (1995) notes in her review of the beginnings of CALL in Canada, networks emerged mainly through the widespread and common interest in software design and implementation and material development for CALL. Those interested in CALL research, development, and pedagogic innovation felt the need to connect with each other and did so by way of the newsletter CALLNET, which was distributed biannually between 1987 and 2001—for a detailed description see Craven & Sinyor (this issue). A strong motivation to establish a network of like-minded scholars has long been a characteristic of CALL in Canada. The CALL network in Canada organized three conferences—also discussed by Craven & Sinyor (this issue)—which had international participation and invited speakers from many countries. Canadian universities have also been host to international meetings. In 1997, the Foreign Language Education and Technology III (FLEAT III) conference was held at the University of Victoria with Peter Liddell as the main organizer. The year 2003 saw two major international symposia in Canada: the second WorldCALL conference was held at the Banff Conference Centre, organized by Martin Beaudoin (University of Alberta) and Brian Gill (University of Calgary); and CALICO held its annual meeting at the University of Ottawa (local hosts: Hélène Knoerr and Alyss Weinberg). This was the first CALICO conference outside of the USA. However, scholars did not just meet at CALL conferences.

The Canadian Association of Applied Linguistics (http://www.aclacaal.org) also saw, from the mid-nineties onward, a growing group of Canadian colleagues with a special interest in language learning and computers. The Association’s refereed journal, the Canadian Journal of Applied Linguistics, as well as the Canadian Modern Language Review (CMLR), have published articles on various aspects of CALL. In a special issue of CMLR on the use of information and communication technologies in second language learning, Chapelle (2005) summarizes contributions by Canadian scholars to CALL in North America and beyond and encour-
ages “CALL professionals in Canada to consider whether or not benefits can be obtained by defining and asserting a stronger identity for CALL the Canadian way” (p. 215). Collaboration and exchange, of course, extend beyond conferences and publications. Canadians have been able to initiate and pursue collaborative research in CALL through funding from the Social Science and Humanities Research Council (SSHRC) of Canada.

The idea of publishing a selection of papers on current research in CALL by Canadian scholars emerged after a symposium on “Computers in language learning” at the annual conference of the Canadian Association of Applied Linguistics in Ottawa in 2009, which was convened by Mathias Schulze and Trude Heift. This three-hour symposium brought together applied linguists and CALL researchers from seven Canadian universities: Catherine Caws (University of Victoria), Marie-Josée Hamel (then Dalhousie University), Martine Peters (Université du Québec en Outaouais), Anne Rimrott (Simon Fraser University), Nandini Sarma (Carleton University), Barbara Schmenk (University of Waterloo), Alyssé Weinberg (University of Ottawa), and the two organizers. After a successful symposium, the panelists agreed that a set of selected papers—not only from the symposium—which would highlight some of the contributions that Canadians have made to CALL research and development in North America, would be a worthy goal. Thus, we decided to approach the editor of the Calico Journal, Robert Fischer, with the view to publish a special issue on CALL in Canada. We are very grateful to the Editorial Board of the CALICO Journal for accepting our proposal and providing us with a forum for Canadian CALL. Since we have been collaborating for a number of years (e.g., Hamel & Caws, 2010; Schulze & Hamel, 2000; Schulze, Hamel, & Thompson, 1999), we started the work on this special issue with some excitement. With the CALICO 2011 conference coming to the University of Victoria in Canada in May, we thought that publishing a special issue in the same month would be a perfect fit. It will not only bring out Canadian contributions to CALL research, but also help to further illustrate the rich interconnection between researchers in CALL internationally, emphasize the influence we have on one another’s work, and, most importantly, highlight the similarities we share and which make us even richer in our endeavours.

A special paper follows this introduction. We are glad that Mary-Louise Craven and Roberta Sinyor, the two editors of the biannual newsletter CCALLNET, have taken the opportunity to look back on the beginnings of Canadian CALL through the lens of the newsletter and the three CCALL conferences. It is fitting to complement a synchronic snapshot of research activities of a geographically defined community with a diachronic exploration of the work carried out by a generation of scholars in the 1980s and 1990s in the same location. Our snapshot of current projects in CALL in the Canadian context consists of nine papers. As a testimony to the multicultural landscape of Canada, the articles represent the two official languages that are acquired as first or second languages—English: four articles, French: three articles—and one minority language learned as a foreign language—German: two articles. Two English as a Second Language articles (Cobb & Horst; Walker, Trofimovich, Cedergren, & Gatbonton) are studies conducted in Québec where French is the official language. In fact, it is important to remember the special status of French in Canada: French is taught as a first language in Québec and in New Brunswick (the only officially bilingual province in Canada). In all other Canadian provinces where English is the official language, French is taught as a first language to serve the Francophone communities (these are important in Ontario, the Maritimes, and Manitoba) or as a second language either through (early or late) immersion programs (e.g., Lyster, 2008), intensive programs (e.g., Netten & Germain, 2005), or core French programs (e.g., Lapkin, Harley, & Taylor, 1993).

Several themes and theoretical approaches unite these articles, which we used for grouping the contributions. We begin with a part on learning strategies (Weinberg, Knoerr, & Vandergrift; Kost; Peters, Weinberg, Sarma, & Frankoff). These studies view learning through the
lens of metacognitive and constructivist theories. The two subsequent articles (Cobb & Horst; Wood) are looking at *lexical development* and software design issues. *Socio-cultural learning* is at the core of the two articles (Allard, Bourdeau, & Mizoguchi; Hoven & Palalas) in the third part. The issue concludes with two studies (Walker et al.; Thomson) that pay particular attention to the use of *voice-enabled technologies* in CALL in the context of English for Specific Purposes. Of course, other perspectives could have been put forward to shape this special issue.

Taking a more theoretical perspective, for instance, we note a strong influence from learning theories: constructivism from a social (Peters et al.) or an ecological standpoint (Hoven & Palalas), a metacognitive framework (Weinberg et al.), as well as intercultural and socio-cultural influences (Allard et al.). Second language acquisition theories also are used to frame several research approaches presented in this issue: from a speech learning model (Thomson) to vocabulary acquisition theories (Cobb & Horst). Likewise, experimental research methodologies abound within the articles of this issue, which also indicate the importance of mixed methods using various combinations of tools and techniques such as (semi-)structured interviews (Peters et al.), pre- and post-questionnaires (Walker et al.), speech or written sample analysis (Thomson; Kost), observation (Hoven & Palalas), and user walkthroughs (Wood) for the collection and analysis of empirical data about the learner interacting with CALL applications. As recommended by Felix (2005), the authors pay careful attention to the learners’ experience with technology. Finally, another perspective we could have put forward within this issue is the design and development work done by several authors: from applications of natural language processing tools and speech technology (Walker et al.; Thomson; Wood) to technology such as podcasting, mobile communication, and gaming used for CALL purposes (Weinberg et al.; Hoven & Palalas; Cobb & Horst).

**LOOKING BACK**

Starting off with a reminder of Canadian CALL of ten to twenty years ago, Craven and Sin-yor take us back in time in their article “Looking Back: Tracing Trends in Canadian CALL”. The authors describe milestones of the semi-annual newsletter, *CCALLNET (The Canadian Computer-Assisted Language Learning Network at the Post-Secondary Level)*, which was created to form a network of colleagues at Canadian universities interested in CALL. CCALLNET planted a seed that spawned many fruitful projects, conferences, and, above all, established a strong presence of CALL scholars in Canada and beyond. Striking is the level of recognition and financial support that our colleagues received from their Dean in the late 80s to launch this initiative. At a time when universities are cutting budgets, we cannot help but wonder how such an initiative would be perceived today.

**Learning Strategies**

Learning strategies play a crucial role in evaluating the effects of CALL on language acquisition (e.g., Hémard, 2006; Oxford & Nyikos, 1989). Gone are the days when we tried to simply compare one class using CALL-based pedagogy to another using a ‘traditional’ language learning pedagogy. In attempting to determine to what extent a language learning task mediated through CALL has a positive effect on students’ learning, we look at many factors (see Chapelle, 2001), such as learner’s performance, learning opportunity, task authenticity, or the positive impact on strategies, notably metacognitive strategies, that learners should have a chance to develop while engaged in a CALL activity. Chapelle adds: “The positive impact of a CALL task refers to its effects beyond its language learning potential ... [Language learning tasks] should help learners to gain pragmatic abilities that will serve in communications beyond the classroom” (p. 57).
In "Creating Podcasts for Academic Listening in French: Student Perceptions of Enjoyment and Usefulness," Weinberg, Knoerr, and Vandergrift look at the potential of podcasts for developing listening strategies to improve students’ listening skills in an academic French immersion context. Grounded in metacognitive and L2 listening theories (Goh, 2008; Wenden, 1998), the article describes “what students themselves can do to facilitate comprehension strategies.” The focus on students’ metacognition is an important reminder that, in the end, our research should apply to improving learners’ success in acquiring and using their second language.

Kost focuses on “Investigating Writing Strategies and Revision Behaviour in Collaborative Wiki Projects.” Her study shows that the collaborative nature of wikis helps students develop good revision strategies and thus enhances their final writing projects. Learning strategies that are vital to a sound integration of CALL tools and techniques are a core component of Kost’s analysis, since technology in itself does not constitute a methodology, and that “merely transforming an activity into a web or CALL format will [not] guarantee its success for students” (Blake, 2008, p. 11).

In their article “From the Mouths of Canadian University Students: Web-based Information Seeking Activities for Language Learning”, Peters, Weinberg, Sarma and Frankoff investigate how students perceive the usefulness of various types of Internet resources for language learning and what usage preferences they have. Their study demonstrated that students have a natural tendency to expand their knowledge by actively seeking additional information and prefer form-focused web material such as online dictionaries or thesauri. In all cases, the most frequent reason given for seeking information was to improve language accuracy. Thus, their study indicates that today’s Internet-savvy students appear to be active participants in their learning. Their strong focus on form, however, might not have been intended by the instructor.

**Vocabulary development and CALL software design**

User testing and feedback are common tools in the software design cycle (Colpaert, 2004; Hémard, 1999) to test the effectiveness of CALL software. Both articles presented here are examples of methods used in CALL evaluation, both discuss software that aims to expand the language learners’ receptive and productive vocabulary knowledge, and both can be considered ‘smart’ CALL applications, in the sense that they rely on large (lexical) databases, natural language processing, and information retrieval techniques to offer the student a flexible, challenging, individualized language-learning experience.

Using observational and empirical tests, Cobb and Horst report on an evaluation of *My Word Coach*, an integrated suite of vocabulary training games developed for Nintendo™ by the company Ubisoft. The authors discuss conditions and desiderata for vocabulary expansion and argue that learners need to build a critical mass of vocabulary early on. This can be achieved through word games and the learning of vocabulary lists. Based on decontextualized word learning, the game described and tested with English as a Second Language learners has led to an above-average vocabulary growth.

Wood’s article “Computer-assisted Reading in German as a Foreign Language: Developing and Testing an NLP-based Application” presents *QuickAssist*, a web-based system that the author has developed and that relies on a set of natural language processing (NLP) tools, such as lemmatizer, part-of-speech tagger, and a concordancer. In his qualitative evaluation of *QuickAssist*, Wood seeks to better understand “the affordances of the application for the intended user groups: learners and instructors of German.” He conducted user walk-
throughs and recorded the students’ interactions with the program to obtain data for the software evaluation.

**Sociocultural Learning**

In the context of CALL, Kern (2006) argues that “identity construction and socialization are inherently intertwined with language” (p.198). Indeed, an increasing number of learning environments engage participants in real-life settings that provide a space for exploring one’s identity within a global cyber-community. These environments are advantageous at several levels: they develop language skills through authentic communicative tasks while at the same time allowing the development of critical literacy, electronic literacy, and sociocultural literacy.

Allard, Bourdeau, and Mizoguchi’s study entitled “Addressing L1 Interference and Related Cultural Factors using Technology” tackles the issue of L1 interference and shows how ontological modeling makes explicit some of the key factors underlying the phenomenon of interference. This then allows for the building of key instructional scenarios that can help circumvent some of the linguistic and cultural faux-pas language learners often make. The concept of L1 interference is connected to current discourses on language and culture (e.g., Kramsch 2002), intercultural learning (e.g., Byram, 2008), as well as global cultural frameworks (e.g. Hofstede, 2001).

Hoven and Palalas, with their article “(Re)conceptualizing Design Approaches for Mobile Language Learning,” report on an exploratory study where mobile devices were used in the context of English for Special Purposes in order to enhance the language learning experience by going outside the classroom into the “real-world”. Based on ecological constructivism theory (Lam & Kramsch, 2003), the pilot study reveals that mobile-assisted language learning was a fairly successful way to help learners develop their listening skills, and in particular that the students appreciated the audio podcasts.

**Voice-enabled CALL for ESP**

Learning of English for Academic or Specific purposes (EAP or ESP) by adult learners — whether Francophones, international students, or new immigrants — is gaining more research attention, in particular in Quebec. To the increasing number of adult learners who have limited time to spend on campus due to professional obligations, distance or mobile CALL systems have a lot to offer. The two articles in this part report on CALL systems developed to answer the specific needs of targeted ESP clienteles. In both cases, the authors have identified listening and speaking skills as core in overcoming barriers to proper integration of ESL speakers in the community. Voice-enabled CALL, sometimes relying also on automatic speech recognition technology, is thus the focus of the systems described here.

In their article “Using ASR technology in language training for specific purposes: A perspective from Quebec, Canada”, Walker, Trofimovich, Cedergren and Gatbonton describe the CALL training module Virtual Language Patient, which aims to increase the linguistic and cultural competence of Quebec Francophone nurses having to use English in their workplace in order to communicate with patients. Video-based medical interviews, designed to simulate a genuinely communicative interaction, are used with nurses to practice their oral comprehension and production skills while having their pronunciation assessed through automatic speech recognition. The authors report on positive preliminary results from using the Virtual Language Patient with preservice nurses.
Thomson’s paper “Targeting Perception Improves Pronunciation” addresses factors of L1 transfer in pronunciation and reports on an experiment in which ESL speakers were trained to better perceive English vowels using a high variability phonetic training system. The study favours the use of computer-assisted pronunciation applications in language learning by suggesting that it would improve the learners’ sound perception and the intelligibility of their pronunciation.

ACKNOWLEDGEMENTS

There are many colleagues and friends whom we would like to thank and acknowledge for this issue. First and foremost, we would like to show our gratitude to Robert Fischer for his open-mindedness, patience, and encouragement; Esther Horn for her work on the production and layout; and the Calico Journal Editorial Board for accepting a special issue with a Canadian slant. Secondly, we recognize that without the enthusiastic CALICO community, this issue simply would not exist. Last but not least, we are very grateful to the many reviewers from four continents who helped us make this special issue a success. Their careful comments contributed greatly to enhancing each and every paper and provided both their authors, and us, the editors, with constructive feedback. Thank you: Bonnie Youngs, Makoto Yoshii, Julie Sykes, Glenn Stockwell, Vance Stevens, Kirsten Söntgens, Bryan Smith, Ulf Schuetze, Ruth Sanders, Randall Sadler, Sylvie Roy, Anne Rimrott, Ana Oskoz, Sima Paribakht, Dana Paramskas, Terry Nadasdi, Gillian Lord, Lara Lomicka, Grit Liebscher, Peter Liddell, Kurt Kohn, Greg Kessler, Philip Hubbard, Melissa Holland, Volker Hegelheimer, Zoe Handley, Christian Guilbault, Senta Goertler, Lee Forester, Gillian Ford, Sébastien Dubreil, Dorothy Chun, Claire Bradin Siskin, Paula Bouffard, Françoise Blin, Martin Beaudoin, and Luiz Amaral.

We sincerely hope that you will enjoy this issue.

REFERENCES


Schulze, M., Hamel, M.-J., & Thompson, J. (Eds.). (1999). Language processing in CALL. *ReCALL special publication (Proceedings of a one-day conference "Natural language processing in computer-assisted language learning" held at UMIST, 9 May 1998, organised by the Centre of Computational Linguistics, UMIST, in association with Eurocall)*. Hull: CTICML.


**EDITORS’ BIODATA**

Catherine Caws is an Associate professor of French Linguistics and Chair of the Department of French at the University of Victoria, BC, Canada. She has been doing research in Computer-Assisted Language Learning for several years, focusing on the teaching and learning of French in higher education. Her work is mostly influenced by cognitive and constructivist theories as well as by Activity Theory. She is currently working with Marie-Josée Hamel on a research project that investigates the nature and effects of an electronic learning environment on second-language learners and which was funded by the Social Sciences and Humanities Research Council of Canada (SSHRC).
Marie-Josée Hamel is an Associate Professor of Applied Linguistics in the Official Languages and Bilingualism Institute at the University of Ottawa. She teaches in the Second Language Didactics program. Her interests are in the contribution of linguistic and second language acquisition theories to CALL and in the design and development of learner-centered CALL environments. She is a co-author of FreeText, an EU funded NLP-based text grammar environment for advanced learners of French and of Dire autrement, a SSHRC-funded dictionary prototype for advanced learners French.

Mathias Schulze is an Associate Professor of German in the Department of Germanic and Slavic Studies at the University of Waterloo and the director of the Waterloo Centre for German Studies. His research interests are in intelligent CALL – the application of artificial intelligence research to CALL – and the teaching and learning of grammar.

EDITORS’ ADDRESSES

Catherine Caws
Department of French
PO Box 3045 STN CSC
University of Victoria
Victoria, BC V8W 3P4
Canada
ccaws@uvic.ca
http://web.uvic.ca/french/professors/caws/
http://teachingfrenchtoday.blogspot.com/

Marie-Josée Hamel
Official Languages and Bilingualism Institute
University of Ottawa
600 King Edward Avenue
Ottawa, ON
K1N 6N5
Canada
marie-josee.hamel@uottawa.ca

Mathias Schulze
Waterloo Centre for German Studies
University of Waterloo
200 University Avenue West
Waterloo, ON
N2L 3G1
Canada
mailto:mschulze@uwaterloo.ca
http://wcgs.ca/~mschulze