

Third-generation CALL Research at the University of British Columbia

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This presentation explores the role of theory and research in two “Third Generation CALL” or “Intelligent CALL” (iCALL) research and development projects that were partnered with UBC over the past ten years. Each program will be described in enough detail to provide context for understanding the research that we conducted on the programs, following an historical overview of CALL research from its roots in Behaviorism to current interactive approaches that incorporate understandings of natural language processing (NLP) into their designs.

The first program, entitled “Edubba,” incorporates NLP in an immersive, virtual world that invites teen and young adult EAL learners to write to characters in the program. In forming questions as part of a larger assignment to complete news stories in the virtual world as apprentice newswriters, they link questioning, analysis, comparison, evaluation of evidence, and other academically-relevant thinking processes to their developing writing abilities. We will examine the role played by Content-Based Language Teaching theory in the program’s design, and also consider whether the program’s activities tend more to Task-based language teaching, or more closely toward a focus on linguistic form. Research, which played a very minor role in the development of this program, was preliminary in nature and descriptive in design, and examined how users collaborated on their writing using the tools of the virtual world of Edubba.

The second program, “The Reading Tutor” was designed by Project LISTEN at Carnegie Mellon University. The UBC team conducted a series of trials of the system to determine its scalability to readers who are also mastering English as an additional language (EAL learners). It employs advanced speech recognition (ASR) technology to “listen” to novice readers, and offers help when the system senses that the reader is having difficulty, or when the reader asks for help. We will look in some detail at a mixed-methods research trial conducted in a Vancouver school with young English language learners, which revealed a slight advantage of the ASR-enhanced reading over good classroom instruction supplemented with specialist EAL pullout support, and found high levels of user satisfaction with the experience of this iCALL system. We also report comparisons with human tutors, and successful trials with international university students. The presentation concludes with a brief comparison of the role played by research in these nominally “R & D” projects, and suggests that differences in their outcomes was a function of the place accorded to independent research in each project.

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