SCHOLARLY ACTIVITIES IN COMPUTER-ASSISTED LANGUAGE LEARNING: DEVELOPMENT, PEDAGOGICAL INNOVATIONS, AND RESEARCH

Joint Policy Statements of CALICO, EUROCALL, AND IALLT
Arising from a Research Seminar at the University of Essen, Germany
30 April-1 May 1999

THE PURPOSE OF THIS DOCUMENT

Computer-Assisted Language Learning (CALL) is a relatively new and rapidly evolving academic field that explores the role of information and communication technologies in language learning and teaching. It provides fertile ground for leading edge, innovative, and highly creative thinking and scholarly work. Because of the multiplicities and changeability of the field, which include the emergence of new theoretical, methodological, and learning paradigms, special understanding and expertise is required to assess the quality and depth of such scholarly activities. This document has been drafted for departments, institutions, professional associations, and other decision-making bodies in order to provide them with: (a) a clearer understanding of the range and variety of CALL activities and (b) a framework and useful resources for evaluating development, pedagogical innovations, and research projects in CALL.

INTRODUCTION

The field of CALL is inherently multidisciplinary. It applies research from the fields of second language acquisition, sociology, linguistics, psychology, cognitive science, cultural studies, and natural language processing to second language pedagogy, and it melds these disciplines with technology-related fields such as computer science, artificial intelligence, and media/communication studies. In integrating these disciplines, CALL work requires a wide range of complex activities and initiatives in development, pedagogical innovations, and research. As indicated by the increasing presence of technology in professional conferences and publications, researchers in the fields of language learning and applied linguistics recognize the value of work in CALL, and they draw on CALL research and pedagogical innovations to further research in their own fields.

When the field of CALL began, limitations of computer hardware narrowly restricted pedagogical options. Today, CALL activities exploit improved technology to produce highly interactive learning environments, providing effective support for the acquisition of listening, speaking, reading, and writing skills. High-speed networks allow access to authentic cultural materials and link learners to speakers around the world. When integrated into a pedagogical plan, these new technologies enhance learning opportunities beyond anything previously possible. CALL researchers explore and evaluate these new instructional options to establish how they can best integrate them into effective pedagogy. They also research what these new instructional approaches can tell us about language learning processes.

ACADEMIC STANDARDS IN CALL

Scholarly activities in CALL include the development of learning environments, pedagogical innovations, and research on teaching and learning methods and second language acquisition. CALL researchers may stress one or more of these areas, as they engage in systematic inquiry seeking to discover new information, create or revise theories, and develop learning tools. Depending on the needs and goals of the project or institution, pedagogical, budgetary, or student needs may drive the search for new technology-based materials and improved instructional approaches. Development of these CALL solutions leads to new practical applications and to additional research. Success (or failure) in this cycle provides a better understanding of CALL and generates new theories on second language acquisition. In establishing criteria for academic standards, evaluation, recognition, and rewards, work in CALL must be analyzed in a multidisciplinary context and evaluated in terms of development, pedagogical innovations, and research.

Development
CALL researchers who work in development are involved in a variety of complex tasks. They build authoring tools and applications for language instructors to produce new interactive language learning materials. They develop rich multimedia content by researching and collecting relevant documents and creating new cultural materials that include written, aural, and visual media. They also design and program interactive learning environments, requiring a combination of complex technical skills and expertise in design and pedagogy. Quite often, development projects are based on previous research and/or include new research plans in which the materials are tested with learners and resulting data are integrated into the developmental process.

Pedagogical Innovations
Pedagogical work in CALL typically means adopting and adapting existing technology-based materials or learning environments to a specific course or learning program. Off the shelf software can rarely be used without modification. Usually, significant customization and expansion are needed to integrate technology into the curriculum in a way that maximizes learning opportunities and language exposure. Therefore, pedagogical innovations require the instructors to be proficient not only in the pedagogy but to be knowledgeable about current technological applications and tools as well. Another important way of integrating technology into powerful learning environments is to put the tools of creation into the students' hands, designing instructional units that channel student creativity into effective language learning activities. Under an instructor's skillful guidance, students can gain valuable language practice while they develop cultural web sites, create digital video class projects, and establish contacts with students in other cities and countries through internet-based, multi-user, interactive environments. It is in these pedagogically innovative environments that researchers investigate how technology-based learning affects the language ac-quisition process.

Research
Research in the field of CALL is continually expanding into new areas, drawing on theories from related fields and creating its own theoretical and methodological paradigms. Terminology has been standardized, points of reference established, and research is organized in a significant number of sub-branches of CALL. Research in CALL may refer to qualitative studies such as the description of a new learning environments, student responses to program interface options, reactions to diverse modes of presenting information, and mapping of student usage patterns within learning environments. It may also refer to quantitative studies such as the testing of the

acquisition of phonological and syntactic elements, the systematic investigation of psycholinguistic and sociolinguistic variables and their effect on learning with technology, and statistical analysis of the effectiveness of alternative instructional strategies.

Technology-based language learning materials can provide a superior environment for researching aspects of language acquisition. As an example, a CALL research study might confirm or disprove a hypothesis generated by Second Language Acquisition (SLA) theory. The process orientation of much current SLA research can significantly benefit from the collection and analysis of data on student use of CALL materials. Studies on how students learn with these materials can contribute to our knowledge of SLA and to the development of CALL theory itself, that is, understanding how the use of technology affects the process of language learning.

CONCLUSIONS

CALL draws on the empirical and theoretical work in many fields and returns tangible research results, new perspectives, and a deeper understanding of the nature of language learning and human/technology interaction. CALL also produces tools, learning materials, and pedagogical approaches of immediate concrete value in enhancing language learning programs. Increasing the use of computer-assisted learning systems is a prime goal of virtually every educational institution. However, few institutions have developed effective frameworks for assessing these systems or have formulated guidelines for properly evaluating and rewarding those whose contributions advance our understanding of the field. The evaluation of pedagogical innovations, development, and research in CALL can be based on assessment mechanisms as objective as those used in other fields. Such assessment requires an understanding of the particular challenges of CALL that is not yet widespread in language departments and academic institutions. Effective evaluation systems must draw on the current, organized, and demonstrable knowledge of national and international experts in the field.

References to documents, organizations, and experts in the field, and, eventually, model assessment systems, can be obtained from leading organizations such as EuroCALL, www.eurocall.org, the Computer Assisted Language Instruction Consortium (CALICO), calico.org, and the International Association for Language Learning Technology (IALLT), iallt.org.