

# Computer Assisted/Aided Language Learning

**Andrew Laghos**  
*City University, UK*

**Panayiotis Zaphiris**  
*City University, UK*

## INTRODUCTION

This entry provides a thorough introduction to computer-assisted and -aided language learning (CALL). It starts by providing the definition and history of CALL and associated relevant terms. Then, an existing CALL methodological framework is presented and discussed. This is then followed by an overview of the current state of CALL by citing some representative examples of its uses and discussing advantages and disadvantages of current CALL systems. The chapter concludes with a discussion of present and future research and commercial directions of CALL.

## WHAT IS CALL?

Computer-assisted language learning (also referred to as computer-aided language learning) can be thought of as the use of computers to help learn languages. Gamper and Knapp (2002) further define CALL as “a research field which explores the use of computational methods and techniques as well as new media for language learning and teaching,” and Levy (1997) defines it as “the search for and study of applications of the computer in language teaching and learning.”

Computer-assisted language learning was the expression agreed upon at the 1983 TESOL (Teachers of English to Speakers of other Languages) convention in Toronto (Chapelle, 2001), although many academics and researchers very often refer to it as computer-aided language learning. CALL falls under the broader category of computer-aided learning (CAL). More specifically, CALL is the type of CAL that deals exclusively with learning languages. There are a few other acronyms and terms that are either related to CALL or are specific applications

of it. Examples include network-based language teaching (NBLT), computer applications in second language acquisition (CASLA), and computer-assisted second language research (CASLR). Specific examples of CALL tools and utilities include games, tests, exercises, and word processors, and their use in a CALL session is determined by the syllabus, software, teacher, or learner.

## HISTORY OF CALL

The earliest applications of CALL date back to the 1960s. Warschauer (1998) divides the history of CALL into three stages.

- **Behaviorist CALL:** This was implemented in the 60s and 70s, and could be considered “a sub-component of the broader field of computer-assisted instruction.” Informed by the behaviorist learning model (Kern & Warschauer, 2000), this mode of CALL featured repetitive language drills, referred to as drill and practice.
- **Communicative CALL:** This emerged in the late 70s and early 80s. It was also during this time that behaviorist approaches to language teaching were being rejected at both the theoretical and pedagogical level, and new personal computers were creating greater possibilities for individual work. Warschauer (1998) mentions that proponents of communicative CALL stressed that computer-based activities should focus more on using forms than on the forms themselves, teach grammar implicitly, allow and encourage students to generate original utterances rather than just manipulate prefabricated language, and use the target language predominately or even exclusively (Jones &

Fortescue, 1987; Phillips, 1987; Underwood, 1984).

- **Integrative CALL:** This emerged in the late 80s and early 90s while critics pointed out that the computer was still being used in an “ad hoc and disconnected fashion.” Warschauer (1996) terms integrative CALL as “a perspective which seeks both to integrate various skills (e.g., listening, speaking, reading and writing) and also integrate technology more fully into the language learning process.”

## **CALL METHODOLOGY**

As Hubbard (1996) points out, the question for many language teachers now seems to be, not whether, but how computers can aid in the language-learning process. The use of computers in language acquisition is becoming common practice, a challenge for research and business opportunities.

In 1987, Hubbard stated courseware reviews often focus on technical considerations, often ignoring language-teaching and learning considerations. He proposed a CALL methodological framework that synthesizes the previously developed frameworks of Philips (1985) and Richards and Rodgers (1982). Key players in Hubbard’s framework are the learner, the developer, the evaluator, and the teacher. Hubbard’s methodology consists of three modules: development, evaluation, and implementation, in which “development necessarily precedes evaluation while both development and evaluation precede implementation.” Furthermore, in this framework, an integral approach to evaluation, development, and implementation is followed where “evaluation can inform development and implementation experiences can inform both development and evaluation” (Hubbard, 1996).

### **Development Module**

Hubbard’s development module is comprised of three sections: approach, design, and procedure. In the approach section, linguistic assumptions and learning assumptions are the two principal determining elements. The two fundamental components of the design section are the learner profiles and the syllabus. Finally, the procedure section of the devel-

opment model contains the elements to be considered in the actual layout of the program that presents the materials (Hubbard, 1996).

### **Evaluation Module**

The evaluation module is made up of three sections: teacher fit (approach), learner fit (design), and operational description (procedure). This module focuses on pedagogical issues like learning style, teaching approach, and linguistic assumptions (Hubbard, 1996). Although not addressed by Hubbard, one can assume that the evaluation module can also contain elements of the usability evaluation of the CALL system.

### **Implementation Module**

The implementation module is constituted by the areas to be considered for implementation such as accessibility, the flow of a CALL lesson, learner use of courseware, and teacher control. Hubbard (1996) states, “The two aspects of particular note are the central role of teacher control in learner use and the importance of supporting preparatory and follow-up activities.”

## **CALL TODAY**

Today CALL is more popular than it ever has been. Multimedia developments and technological advancements have given CALL systems the opportunity to be fully integrated with graphics, videos, and sounds. The Internet provides a new delivery medium and connects people from all around the world in virtual learning environments. Currently there are three main applications of CALL systems available.

### **Multimedia CALL**

Multimedia CALL systems have emerged as multimedia elements like audio became more readily available. Sound support is extremely important for language learning. The delivery medium for multimedia CALL is usually a stand-alone CD-ROM disk. The pros of multimedia CALL lie in the attractive presentation of the material (sound, video, etc.) and the users’ increased interactivity with the com-

4 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: [www.igi-global.com/chapter/computer-assisted-aided-language-learning/12128](http://www.igi-global.com/chapter/computer-assisted-aided-language-learning/12128)

## Related Content

---

### E-Learning: The Vision Beyond Current Norms and Processes in Higher Education

Lalita Rajasingham (2005). *International Journal of Information and Communication Technology Education* (pp. 1-12). [www.irma-international.org/article/learning-vision-beyond-current-norms/2271](http://www.irma-international.org/article/learning-vision-beyond-current-norms/2271)

### Informal Communication in Virtual Learning Environments

Werner Beuschel, Birgit Gaiser and Susanne Draheim (2005). *Encyclopedia of Distance Learning* (pp. 1076-1081). [www.irma-international.org/chapter/informal-communication-virtual-learning-environments/12236](http://www.irma-international.org/chapter/informal-communication-virtual-learning-environments/12236)

### Team Teaching in the Online Graduate Environment: Collaborative Instruction

Richard G. Fullerton and Jean Bail (2013). *Learning Tools and Teaching Approaches through ICT Advancements* (pp. 44-56). [www.irma-international.org/chapter/team-teaching-online-graduate-environment/68574](http://www.irma-international.org/chapter/team-teaching-online-graduate-environment/68574)

### Assessing the Technological Pedagogical Content Knowledge of Pre-Service Science Teachers at a South African University

Umesh Ramnarain, Annesca Pieters and Hsin-Kai Wu (2021). *International Journal of Information and Communication Technology Education* (pp. 123-136). [www.irma-international.org/article/assessing-the-technological-pedagogical-content-knowledge-of-pre-service-science-teachers-at-a-south-african-university/277382](http://www.irma-international.org/article/assessing-the-technological-pedagogical-content-knowledge-of-pre-service-science-teachers-at-a-south-african-university/277382)

### School Stakeholders' Experience with Navigating ICT Policy Reforms in Singapore

Vicente Chua Reyes Jr. and Catherine Chua Siew Kheng (2015). *International Journal of Information and Communication Technology Education* (pp. 83-96). [www.irma-international.org/article/school-stakeholders-experience-with-navigating-ict-policy-reforms-in-singapore/132788](http://www.irma-international.org/article/school-stakeholders-experience-with-navigating-ict-policy-reforms-in-singapore/132788)