



LINGUISTICS DEPARTMENT - STANFORD UNIVERSITY

An Invitation to CALL

Foundations of Computer-Assisted Language Learning

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An Invitation to CALL

Unit 1: Introduction to Computer-Assisted Language Learning.

WHAT IS CALL?

CALL is the acronym for computer-assisted language learning. Although, as we will see below, the field or significant parts of it sometimes go by other names, CALL seems to be the most widely accepted generic term. In this foundation course, CALL will be used in a broad sense to refer to any endeavor involving the computers and associated technologies of all types--desktops, laptops, tablets, smart phones, mp3 players, interactive whiteboards, etc.--in some significant way in language teaching and learning.

There are a number of ways to conceptualize field of CALL, but one useful way, especially for those just entering the field, is to divide computer use according to the functional roles of *tutor* and *tool*, concepts popularized for CALL by Levy (1997). A vocabulary flashcard program or set of online grammar exercises would represent tutor uses, where the computer in some way has a teaching function. A language learning activity involving social media, an email program, or a web search engine like Google would represent tool uses, where the computer has no overt teaching function. A third and increasingly important area not covered by Levy is *digital resources*: texts, audio recordings, and videos or other multimedia objects readily available on the web or through dedicated apps. These provide language content for learners to support reading and listening skills as well as provide a window into the target language cultures. They can also provide material to support interactive discussions. Online gaming platforms like [World of Warcraft](#) can simultaneously involve language resources and interactivity.

This distinction is sometimes reflected in an unfortunate division in CALL between those who see the computer primarily as a machine for delivering interactive language learning and practice

material--the computer as tutor--and those who see it mainly as a means for learners to experience the authentic language and communication opportunities and enhancements afforded by computers--the computer as tool. Because most early CALL applications were tutorial and tool uses arguably dominate now, it is easy to think of CALL as evolving, leaving tutorial CALL as something of a dinosaur.

In reality, all aspects of CALL have continued to develop, and in this course, we do not attempt to rate one as being more important or useful than the other. In fact, it is possible, even preferable, to recognize these not as opposing philosophies but as end points along the same sort of language teaching continuum, analogous to the one that balances teacher-fronted and group work in a classroom. In other words, effective language learning can include elements of both. Consequently, in this introductory course, I will try to strike a balance between them so that you are better prepared to recognize the potential advantages of using neither, one, or both for a given teaching situation.

ACRONYMS AND ATTITUDES

This field has gone by a number of different names as groups of practitioners have attempted to promote their own views and philosophies, in some cases in an attempt to distance the field from tutorial CALL, which is sometimes regarded as incompatible with interactionist and social constructivist approaches to language teaching. The list below is representative but not exhaustive.

- CALL - Computer-assisted language learning, sometimes expanded as computer-aided language learning
- CELL - Computer-enhanced language learning: suggests the computer's role is to make learning better
- TELL - Technology-enhanced language learning: this accommodates more than just computers, often bringing in video and seeing the computer as just one part of a larger system. It is increasingly popular as a generic term: for instance, while TESOL has a [CALL Interest Section](#), California TESOL has a [TELL Interest Group](#).
- TALL - Technology-assisted language learning: variant of CALL and TELL
- CALI - Computer-assisted language instruction: with "instruction" in it, it's more teaching oriented
- CBLT - Computer-based language training: views elements of language learning as "training" and tends to use an approach with definable, measurable objectives
- IT and ICT - Information Technology/Information and Communication Technologies are common acronyms outside of language teaching, particularly in Europe; sometimes this is presented as IT or ICT for LT (Language Teaching)
- NBLT - Network-Based Language Teaching: focuses on computers linked in networks, both locally and through the Internet, especially for computer-mediated communication
- DLL - Digital Language Learning: a relatively new term encompassing computers and other digital devices
- MALL - Mobile Assisted Language Learning: learning with mobile devices like smartphones and tablets (sometimes also used for Multimedia Assisted language Learning)

- Technology-mediated language learning - Usually presented without an acronym, this is probably the most generic and descriptive modern term, but it doesn't have a memorable acronym.

While acknowledging the existence of these alternative labels, for the purposes of this course we will call CALL "CALL". One reason is because CALL as a label for the field may have more traction in university settings because of its association with the term *computer in* departments of computer science and computer engineering. There, the concept of computer encompasses the full range of digital devices and the networks that connect them, as well as the great variety of software including mobile apps.

A THUMBNAIL SKETCH OF CALL HISTORY

CALL began in the 1960s with mainframe-based drill and practice materials, especially those based on the University of Illinois' PLATO system. It remained an insignificant alternative for language learning outside of a few universities until the spread of the microcomputer into educational settings in the early 1980s. Early programs were written by teacher-developers on Apple II, IBM PC, and BBC computers, and were often distributed for free. Commercial programs, when available, were usually quite expensive but were generally more stable and technically sophisticated (though not as innovative). There was some work done with interactive laser disks during this time which provided the foundations for multimedia. The traditional language labs began to be replaced with dedicated computer labs for language learning, a trend that continues today.

In the late 1980s and early 90s, the Apple Macintosh replaced the Apple II in many educational settings in the US and became an immediate favorite among teacher-developers because of the support of HyperCard, a powerful but easy-to-use authoring program. The Mac had built-in sound, making it easier to work with than PCs, which had incompatible proprietary boards competing with one another. Early Macs (and HyperCard) did not support color, however, so commercial programs continued to appear for PCs. The PC market was also dominant in most countries outside the US because the machines could be obtained much more cheaply than Macs. Reasonably-priced authoring programs became available for PCs, and with the development of the Windows operating system for PCs and standardization of sound formats, the distinction between PC and Mac became less critical.

During this period, the use of the computer as a tool increased, especially as teachers developed innovative techniques for using email and word processors became integrated into writing classes. Some teachers helped students develop their own HyperCard projects or ones in similar applications developed for the PC, such as ToolBook. It was observed that building collaborative projects around the computer and using computer mediated communication (CMC) activities had a strong effect on some students' motivations and seemed to make it easier for shy students to become involved. Some teachers built assignments around student interactions in multi-user domains (MUDs and MOOs), types of enriched chat environments.

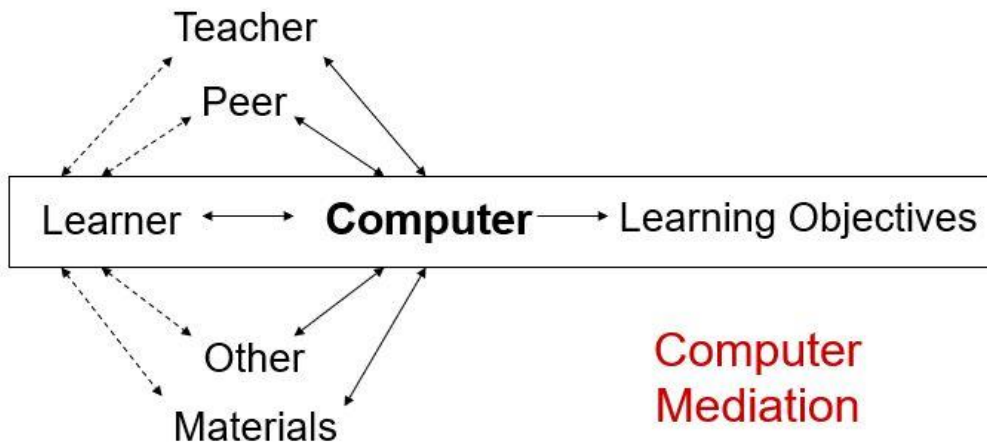
Two major changes came starting in the mid-1990s. One was the dramatic increase in commercial multimedia for language learning as CD-ROMs became standard in home computers. The other was the development of the world wide web. Because of the web and increased access to the Internet in general, the past has seen a major shift toward tool uses, and many newcomers to CALL define the field almost entirely in those terms. Increasingly, CALL is being integrated into language learning activities both in and out of class.

The first decade of the 21st century saw a continuation of all the previous areas along with the growth of language learning applications and activities for mobile devices, especially mobile phones (MALL), the spread of [Web 2.0](http://en.wikipedia.org/wiki/Web_2.0) (http://en.wikipedia.org/wiki/Web_2.0) and social media, and experimentation with language learning in virtual worlds. Increasingly, CALL was being integrated into language learning activities both in and out of class. In particular, streaming video services like Youtube made it possible to have access to an incredible supply of free, authentic spoken-language and cultural material. In the 2010s we have witnessed the incredible spread of smartphones and their apps into our lives, rapid expansion of streaming media, video CMC through Skype and many other applications, ubiquitous computing (including wearables, like watches), gamification, and increasing normalization, the last referring to a state where we're so used to technology we may stop thinking about it as creatively. The range of options continues to grow at a much faster pace than our understanding of them.

In 2009, I published a four-volume edited set, *Computer Assisted Language Learning: Critical Concepts in Linguistics* (Routledge), an anthology of 74 key articles covering the whole field of CALL. The introductory chapter, available at <https://web.stanford.edu/~efs/callcc/callcc-intro.pdf>, provides a more detailed overview of how the field developed through the late-2000s.

THE CORE OF CALL--TECHNOLOGY MEDIATION

Second language acquisition research and language teaching methodology today often involve technology as part of the context. At the core of CALL is the idea that this technology mediation is not neutral.



Levy & Hubbard (2005). "Why call CALL 'CALL'" (editorial). *CALL Journal* 18.3.

This figure from Levy & Hubbard (2005) shows how the learner interacts through the "computer" in the broadest sense with teachers, peers, others, and materials in the pursuit of language learning objectives. Among other things, this mediation can involve

- Archiving & indexing
- Transferring
- Linking
- Time control
- Transforming

These can and often do change the nature of the interaction, as when machine translation or speech recognition (speech transformed to text) is available.

INTERESTING, BUT WHY DO IT?

The basic reason for doing CALL is to make language teaching or learning "better". But what does that mean? Here are some ways in which CALL can impact the learning process.

- learners pick up language knowledge or skills faster or with less effort (learning efficiency)
- learners pick up what is targeted, retain language knowledge or skills longer, and/or learn more of what they need (effectiveness)
- learners can get materials or experience interactions that would otherwise be difficult or impossible (access)
- learners can learn with more or less equal effectiveness across a wider range of times/places (convenience)
- learners enjoy the language learning process more or are willing to engage in it more (motivation)

- learners require less space, less teacher time, or less expensive materials (institutional efficiency)

These have been the goals of CALL since the beginning (along with making the *teacher's* life better). It has become clear in recent years, though, that another reason for integrating technology into language learning is because when the teaching is done, learners will become *users* of the language and technology is likely to be the mediator of their language use as well. Thus, teaching with technology is an example of *authenticity*, not just an add-on to the classroom.

EXAMPLES OF RECENT TRENDS

CALL comes in many varieties. many of these are discussed in the units that follow, but for now, here is a taste of the sort of topics covered in recent academic journals and other scholarly resources attempting to build our understanding of how technology mediates second language learning and use.

- Virtual exchanges. Like the "pen pals" of the past, these involve groups of language students connecting online and typically collaborating on joint projects using the languages they are learning in their classes.
- Digital literacy. This is a growing area for both language learners and native speakers, learning to become both critical consumers and skilled producers of language and culture.
- Game-based language learning. Language learning may be enhanced through the motivation and engagement provided by digital game environments or by "gamifying" learning activities and tasks.
- Mobile-assisted language learning (MALL). Moving beyond the notion of just "anytime, anywhere" learning, the mobility can be in the learner, the device, or the task.

These applications and others are discussed throughout the course.

TEACHERS AND CALL

Teachers interested in using technology can get involved in a number of different ways, which can be seen as different *teacher roles*.

- As researchers: into second language acquisition, human-computer interaction, what works for CALL
- As consumers of CALL for class use or for homework or other outside student activities
- As directors, helping students find and use supplementary CALL materials or web resources
- As managers of computer-mediated communication among learners in and out of class
- As software or web developers, either "from scratch" or adding new materials to existing templates

- As coaches to help students develop software, websites, and general computer literacy
- As CALL experts for your program, helping other teachers and administrators with CALL implementations
- As CALL professionals, consulting on external projects, doing software reviews for journals, making conference presentations, writing papers, interpreting and applying CALL research, and/or providing input to the field at large.

Mike Levy and I (Hubbard & Levy, 2006) have taken this idea of role and developed it further it to try to delineate the field for the purposes of CALL teacher education. Specifically, we distinguish two types of roles for individuals engaged in CALL: institutional and functional. Institutional roles include classroom teachers, both pre- and in-service, specialists of various kinds (language lab managers, language skill area specialists, etc.), and professionals (those whose career centers on CALL). Functional roles include practitioners, developers, researchers, and trainers. This will be covered in more detail in [Unit 7](#).

TESOL TECHNOLOGY STANDARDS

In late 2008 TESOL International Association (formerly Teachers of English to Speakers of Other Languages: www.tesol.org) published the *TESOL Technology Standards Framework*, the first set of technology standards aimed specifically at teachers and learners of English, but readily extendable to other languages. I was one of six members of the writing team that drafted those standards.

The Standards are meant to serve a number of purposes, including the following:

- Lead teachers to learn to use digital technology appropriately and effectively for language learning and insure their students can do likewise
- lay out a clear set of targets for judging technology competencies for language learning;
- Motivate teacher educators and teacher education program to integrate technology training and use into their curricula;
- Guide administrators and policy makers as they develop curriculum, arrange training for in-service teachers, and make new hiring decisions

Users of this course are encouraged to become familiar with the teacher standards in particular and to use them as guides in setting targets throughout this course and beyond. The Standards Framework has now been made available for free by TESOL at http://www.tesol.org/docs/books/bk_technologystandards_framework_721.pdf. See Unit 7 for more information. It is highly recommended that you begin this course by reviewing the Standards and evaluating your current CALL proficiency with respect to them. See the performance indicators starting on p. 29 of the framework document.

SOME GENERAL REMARKS

I had two calls a few years ago that stuck in my mind: one from someone interested in knowing about best practices and cutting-edge apps and another from someone trying to collect support for the idea that online learning was not effective for language learning. The calls represented the

range between those who almost blindly accept the notion that new technology automatically equates with better learning and those that continue insisting that technology across the board gives a degraded learning experience. The key concept is this: technology mediates between learners and teachers, peers, others (including native speakers), and a vast array of digital text, audio, and video materials. It is understanding the nature of that mediation and how learners react to it that defines this field. As we will see in [Unit 7](#), both teachers and learners will profit from knowledge and skill training in this area.

In the next unit, we will be discussing evaluation of software, materials, and tasks for CALL, along with some brief notes on development and implementation.

SOME RECOMMENDED BOOKS

There have been many CALL books, especially edited volumes, written in the past 30 years and the number has increased noticeably since the turn of the century. Here is a sample of some relatively recent ones worth looking at, but there are many more.

- Beatty, Ken (2010). *Teaching and Researching Computer-Assisted Language Learning* (2nd edition). London: Pearson. A relatively recent and readable broad introduction to the field of CALL.
- Blake, Robert (2012). *Brave New Digital Classroom* (2nd Edition). Washington DC: Georgetown University Press. An up-to-date overview of the field and its relevance for the foreign language classroom.
- Chapelle, Carol A. and Jamieson, Joan (2008). *Tips for Teaching with CALL* (includes CD-ROM). White Plains, NY: Pearson Education. A book with CALL-focused techniques, activities, and tasks linked to second language learning research.
- de Szendeffy, John (2005). *A Practical Guide to Using Computers in Language Teaching*. Ann Arbor: University of Michigan Press. Provides a variety of useful activities and more technical information than most other CALL books.
- Ducate, Lara & Arnold, Nike (eds.) (2011). *Present and Future Perspectives of CALL: From Theory and Research to New Directions in Foreign Language Teaching* (2nd ed.). San Marcos, TX: CALICO. An introductory textbook covering a range of topics; each chapter includes a literature review, discussion of key principles, and practical applications.
- Egbert, Joy (2005). *CALL Essentials: Principles and Practice in CALL Classrooms*. Alexandria, VA: TESOL. A teacher-friendly introduction to the field covering both dedicated ESL and general education resources relevant for language learning.
- Egbert, Joy & Hanson-Smith, Elizabeth (eds.) (2007). *CALL Environments: Research, Practice, and Critical Issues* (second edition). Alexandria: TESOL. A collection of both research and practice-oriented articles, arranged in sections according to concepts connected to optimal learning environments.
- Fotos, Sandra & Browne, Charles (eds.) (2004). *New Perspectives on CALL for Second Language Classrooms*. Mahwah, NJ: Lawrence Erlbaum. An edited volume with a range of chapters on CALL topics, many with a theory to practice orientation.

- Levy, Mike & Stockwell, Glenn (2006). *CALL Dimensions: Options and Issues in Computer-Assisted Language Learning*. Mahwah, NJ: Lawrence Erlbaum. An scholarly and well-researched overview and commentary on the current state of CALL.

SOME RECOMMENDED JOURNALS

CALL has been around as a professional specialization since the early 1980s. There are a number of professional organizations devoted to CALL around the world, dedicated national and international conferences, and refereed academic journals, such as those below.

- *LLT*. <http://www.lltjournal.org/> Language Learning and Technology Journal. Primarily a theory and research journal, though it includes reviews. An outstanding *free* resource. Full articles are available online.
- *CALL-EJ Online*. <http://callej.org/> CALL Electronic Journal Online. Another free resource; more practice-oriented than *LLT*
- *CALICO Journal*. <http://www.equinoxpub.com/journals/index.php/CALICO> Journal of the Computer-Assisted Language Instruction Consortium; www.calico.org: online to individual and institutional subscribers. Articles over three years old and reviews are available free.
- *CALL Journal*. <http://www.tandf.co.uk/journals/titles/09588221.asp> Computer-Assisted Language Learning: print, but electronic version is available to institutional subscribers.
- *ReCALL*. <https://www.cambridge.org/core/journals/recall> The journal of the EuroCALL professional organization, published by Cambridge University Press; print, but electronic version is available to individual and institutional subscribers.

OTHER RESOURCES

TESOL CALL Interest Section [Annotated Software List](#), <http://www.eltexpert.com/softlist/index.html> (by Deborah Healey & Norm Johnson)
ICT4LT. See <http://www.ict4lt.org/en/index.htm>. An excellent set of modules giving in-depth coverage to the field of CALL, though increasingly dated.

[Claire Bradin Siskin's Edvista Site](http://edvista.com/claire/) <http://edvista.com/claire/>. A number of useful CALL resources for teachers

For fun: Ohio University's Holodeck at <https://www.youtube.com/watch?v=z06WZse-AOo>; <https://www.youtube.com/watch?v=kMDALpA2T1I>

TRY IT YOURSELF

1. Try learning a *new* language through web-based or mobile app software for an hour or two and reflect on your experience.

<http://www.busuu.com>

<https://www.duolingo.com/>

<http://www.memrise.com>

See comments on these and alternatives at <https://www.thebalance.com/the-7-best-free-language-learning-apps-1357060>

2. Download the free version of the TESOL Technology Standards Framework at https://www.tesol.org/docs/books/bk_technologystandards_framework_721.pdf. Starting on p. 29, use the performance indicators to help rate your self in terms of meeting the Teacher Standards.

REFERENCES

Hubbard, Philip & Levy, Mike (2006). "The Scope of CALL Education" in Hubbard, Philip & Levy, Mike (eds.) *Teacher Education in CALL*. Amsterdam: John Benjamins.
www.stanford.edu/~efs/callted

Hubbard, Philip (Ed.) (2009). *Computer Assisted Language Learning: Critical Concepts in Linguistics*. London: Routledge. www.stanford.edu/~efs/callcc

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