

Facilitating Language Learning Through Technology

A Literature Review on
Computer-Assisted Language Learning



Canadian Association of Second Language Teachers
Association canadienne des professeurs de langues secondes



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CASLT encourages excellence in second and additional language teaching and learning throughout Canada by creating opportunities for professional development, by encouraging research, and by facilitating the sharing of information and the exchange of ideas among second language educators.

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This literature review was conducted to provide information to guide decisions on the use of technology in second language teaching and learning. Although direction was given to the researchers to establish parameters for the task, the content of this document reflects the writers' perspectives on topics and subjects reviewed and does not necessarily reflect the position of CASLT.

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Contents



Introduction	1
Executive Summary	2
Effective Integration of CALL Resources	5
Basic Principles Underlying Effective CALL Resources	5
Developing Teachers' Skills to Work with Technology	6
Literature Review	6
Basic Principles Underlying Effective CALL Resources	6
Developing Teachers' Skills to Work with Technology	12
References	14
Targeting Multiliteracies with CALL	16
Literature Review	17
References	19
Production and CALL	21
Speaking	21
Pronunciation	22
Writing	22
Interactional Competence	23
Literature Review	24
Speaking	24
Pronunciation	27
Writing	28
Interactional Competence	31
References	34



Receptive Skills and CALL	37
Listening	37
Reading	38
Literature Review	39
Listening	39
Reading	42
References	45
Grammar, Vocabulary, and CALL	47
Grammar	47
Vocabulary	47
Literature Review	48
Grammar	48
Vocabulary	51
References	54
Culture and CALL	56
Literature Review	57
References	59
Assessing Learning and Providing Feedback in CALL	60
Assessing Learning in CALL	60
Providing Feedback	61
Literature Review	62
Assessing Learning	62
Providing Feedback	64
References	67

Introduction



CALL, which stands for computer-assisted language learning, has become a catch-all term to encompass any use of technology for language teaching and learning. The results of nearly 40 years of CALL research indicate that computers, tablets, and smartphones can be effective tools that enable learners to work autonomously, to receive individualized feedback, and to be exposed to real-world language in a range of varieties and voices. Technology can be used as an add-on to enhance classroom language teaching, and it can be used as the sole medium for language teaching and learning. Seemingly endless numbers of software packages, websites, and apps at a range of price points promise effective teaching of a range of languages. Recent developments in mobile-assisted language learning (MALL) mean that learners have access to language learning technologies regardless of where they are.

Deciding on which technology to use and then learning how to use it represent onerous tasks for teachers. Training on the practical details of making a given technology work properly in the classroom setting is far different than using it as an individual. More importantly, teachers need to know that the technology they have chosen offers an effective means of achieving learning goals and is thus appropriate for their group of learners.

CASLT has heard the concerns expressed by language teachers about the effective use of technology. As such, they commissioned researchers from the Language

Research Centre (LRC) at the University of Calgary to review and summarize selected research on the effective implementation of CALL inside and outside of language classrooms. The purpose was to focus on the following aspects: basic principles underlying effective CALL resources; research-informed means of targeting listening, speaking, reading, writing, grammar, vocabulary, and pronunciation skills with CALL; effective techniques for engaging learners with target cultures through technology; and an appraisal of systems for assessing learning and providing feedback in CALL.

This theory-neutral literature review, which provides readers with an overview of research into each of these broad areas, is organized into the following sections:

- Effective integration of CALL resources
- Targeting multiliteracies with CALL
- Production and CALL
- Receptive skills and CALL
- Grammar, vocabulary, and CALL
- Culture and CALL
- Assessing learning and providing feedback in CALL

While it would be impossible to provide a comprehensive review of the research in each of these areas, the review that follows provides summaries of seminal and recent literature published in leading scientific journals in each of these areas. It also highlights the implications of this research for Canadian language classrooms.¹

¹ Throughout this review we use “second language” or L2 as a catch-all term to mean any language learned after the age of three. As such, it also applies to third and fourth languages. It does not apply to home languages, including those acquired simultaneously in childhood. First language (L1) refers to one’s mother tongue.

Effective Integration of CALL Resources



Youngs (2019) reminds us of the importance of making informed decisions about using CALL resources, noting that teachers should consider which technology would be better suited for a given task and when it should be avoided altogether (p. 8). The potential benefits of technology for language teaching are many: its capabilities for **providing learners with authentic and enhanced linguistic input, pushed linguistic output and individualized instruction, and enabling learners to work at their own pace and engage in collaboration** are just a few. Youngs (2019) notes that teachers should consider the following when determining whether or not to use technology in their classrooms: the types of tasks and tools students require, the objective of the task, the location in which the objectives are to be achieved, students' levels of digital literacy, and how assessment will be carried out (pp. 33–34).

Basic Principles Underlying Effective CALL Resources

CALL resources have been gaining in popularity since the 1980s. The growth of the internet and the number of CALL resources available mean that teachers need to take a “critical approach in the selection and analysis of resources” (Guth & Helm, 2019, p. 99). They provide the following questions to assist in the selection process (p. 115):

- Who produced the resource and for what purpose and/or audience was it originally intended?

- How does the resource represent language and its cultures and subcultures — multiple, diverse, dynamic, changing or monolithic and static?
- Does the resource allow learners to make connections between their lives and those represented?
- What opportunities for exploration does the resource afford learners?
- Is the resource appropriate for the intended learners?

Given the recent explosion in mobile technologies, many of the language learning resources currently available enable mobile learning, which Duman, Orhon, and Gedik (2015) define as “teaching and learning with the use of mobile technologies such as mobile phones, media players, PDAs, smartphones, and tablet computers, which are potentially available anytime and anywhere” (p. 198). Mobile-assisted language learning (MALL) is distinguished from CALL by the fact that it relies on portable electronic devices. **Researchers have found that the use of mobile devices may lead to greater learner autonomy and may also encourage collaboration among language learners** (e.g., Pellerin, 2014). Within classroom environments, the use of MALL may be affected by teachers' perceptions that mobile devices distract learners and by teachers' general lack of training in the effective use thereof (Van Praag & Sanchez, 2015). Although researchers once distinguished between CALL and mobile-assisted language learning, given the ubiquity of MALL technology, the review that follows does not distinguish between the two.

It is possible to evaluate a number of aspects of a particular CALL technology. When we talk about “**evaluation**,” we can cite Hémard (2004), who notes

attract online audiences, and collaborate with peers. **One further example of a changed dimension is our social identity.** Therefore, teachers need to consider the extent to which digital tools can be used to manage impressions and create and maintain online identities in the classroom (Hafner et al., 2015, pp. 2–3).

Literature Review

Blattner, G., & Fiori, M. (2011). Virtual social network communities: An investigation of language learners' development of sociopragmatic awareness and multiliteracy skills. *CALICO Journal*, 29(1), 24–43.

- This study investigates the use of a social networking community (SNC) — Facebook — in the context of a language class to promote sociopragmatic awareness and multiliteracy skills. It looks at the importance of developing sociopragmatic knowledge (the ability to use a language, such as forms of address, in a variety of communication situations) while learning an L2. In addition, the researchers were interested in determining how the integration of Facebook in the classroom provided language teachers with an easily accessible tool that allowed learners to enhance their abilities to interact in a specific electronic environment. The study aimed to a) suggest a means to promote sociopragmatic development through technological applications in a way that encourages interpretation and collaboration and b) address multiliteracy skills development. The participants were 13 undergraduate students (19–24 years) in an intermediate-level Spanish culture course at a private college during the fall term of 2008. The students had to create Facebook accounts, after which they had to join the academic group created by their professor. The task required them to find and post to three different Facebook groups whose content was thematically related to each of the three units covered in the course. They had to identify, examine, reflect upon, and analyze the language posted in the Facebook groups chosen for a specific unit in terms of greetings, leave taking, and the vocabulary used. The data were from the students' written assignments and follow-up discussions in class. The findings revealed that the students used norms in greetings in the context of Facebook discussion forums, which is “the first step in the recognition of this electronic discourse as a genre” (Hanna & de Nooy,

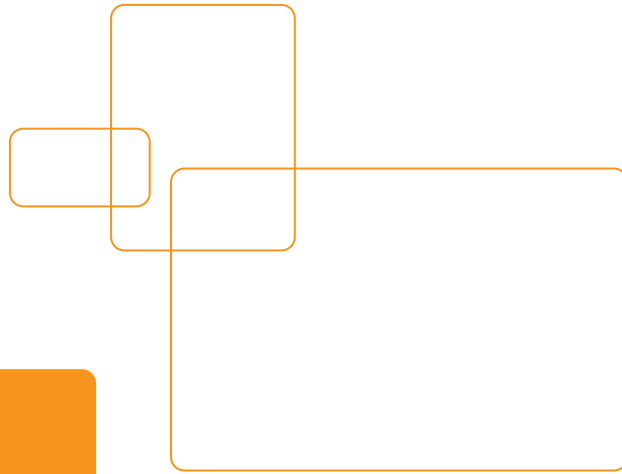
2003). Additionally, the researchers report that students demonstrated multiliteracy development in that they associated particular greetings with the appropriate communicative context. Furthermore, the findings reveal that participating in this kind of SNC activity provides cultural information that stimulates language learners to autonomously explore a target culture and thereby actively engage in the use of authentic source materials. **The study suggests that language teachers may show learners how to exploit social networking sites such as Facebook for academic purposes to create a dynamic learning environment, promote critical thinking, offer authentic L2 learning opportunities, and make deeper connections with the target culture(s).**

Hepple, E., Sockhill, M., Tan, A., & Alford, J. (2014). Multiliteracies pedagogy: Creation of claymations with adolescent, post-beginner English language learners. *Journal of Adolescent and Adult Literacy*, 53(3), 219–229.

- The paper investigates the benefits experienced by three adolescent English language learners who participated in claymation projects as well as the teachers' reflections on using claymation (i.e., the process of stop-action filming of clay figures) as a way of meeting the students' diverse language and literacy needs within the constraints of their teaching context. The project took place in a high school in Australia, and it involved eleven post-beginner students of English from different cultural and linguistic backgrounds. Most of them spoke more than three languages, and had received their schooling in refugee camps. Data analysis is mainly based on three students who represented a range of language proficiency levels within the class. They had noteworthy engagement with the claymation process. The results presented in this paper are from two claymation projects involving adapting the storyline of two movies. The findings revealed that the pedagogy used promoted learner agency, which presupposes “construction of knowledge and understanding in which all members play an active role” (Wallace, 2001). Furthermore, the multimodal approach allowed student ownership of the work, leading to engagement and sustained collaboration. Working collaboratively to produce multimodal texts provided a student-initiated learning environment. In addition, the study demonstrated that **students engaged in a claymation project used a range of linguistic,**

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Computer-assisted language learning (CALL) can be effective in enabling learners to work autonomously, to receive individualized feedback, and to be exposed to real-world language in a range of varieties and voices. Deciding on which technology to use and then learning how to use it, however, represent onerous tasks for teachers. To make this process easier, CASLT commissioned researchers from the Language Research Centre (LRC) at the University of Calgary to review and summarize selected research on implementing CALL effectively, both inside and outside of language classrooms.



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