

# *A Conceptual Overview of the History of the CALICO Journal: The Phases of CALL*

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## **ABSTRACT**

Over the 30-year history of the *CALICO Journal*, various areas of research and development in CALL have come to the fore in articles published in the journal at different points in time. These areas, which reflect the general concerns of the profession, can be conveniently categorized under the general acronym of ICT: Information and Communication Technology. In this article, the former Executive Director of CALICO and Editor of the *CALICO Journal* traces the major lines of CALL research and development as reported in *CALICO Journal* articles.

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## **KEYWORDS**

History of the *CALICO Journal*, CALL, Trends in Research and Development

## **INTRODUCTION**

Academic journals reflect the interests and concerns of the members of the field they represent, and the *CALICO Journal* represents the interests and concerns of scholars in the field of computer-assisted language learning (CALL). An historical review of the articles published in the *CALICO Journal* provides a clear view of those interests and concerns and sheds light on the general themes that have been prevalent at various times in our field. On the occasion of the *CALICO Journal's* 25th anniversary, Fischer (2008) gave a relatively detailed accounting of the kinds of articles published in the *CALICO Journal* since its first issue appeared in 1983. Rather than update the kinds of articles that have been published in the *CALICO Journal* since 2008, the present article describes the general progression of major themes over the course of the *CALICO Journal's* 30-year history. For this purpose, the acronym ICT—information and communication technology—lends itself as a convenient organizing historical principle because the individual letters in the acronym represent the general categories of research and development activities, as described in articles published in the *CALICO Journal* that have dominated CALL at various times.

The ICT acronym, coined in the mid-1990s in the UK (Stevenson, 1997), is more commonly used in Europe than in the US. In the US, IT—in which the “I” stands for “instructional” instead of “information”—is more typically employed. The term IT implies a narrower range of the application of technology than ICT because IT typically describes the use of technology in ways that are closely aligned with the educational practices of academic institutions. ICT, on the other hand, implies a wider range of application of technology because it customarily refers to the use of technology in making information available to individuals and facilitating the efforts of individuals to communicate with others via the Internet. Since ICT encompasses a relatively broad spectrum of CALL activities, it provides a suitable historical framework to represent the breadth of the general categories of research and development described in articles reported in the *CALICO Journal*.

**ICT (TECHNOLOGY)**

This discussion of the history of the *CALICO Journal* begins with the last letter in the ICT acronym. In the early days of CALICO, from 1983 to approximately 1990, CALL practitioners had no choice but to concentrate on the "T" in ICT. In a context that predates by decades the situation described by Bax (2003) in which normalized use of technology leads to CALL becoming an invisible component of language teaching, CALL technology had to be at the forefront of practitioners' concerns because of the absolute newness of the field. This concern was reflected in the titles of articles appearing in the early issues of the *CALICO Journal* such as "An Algorithm for Controlled Integration for Sound and Text" (Wohlert & McCormick, 1985), "PILOT, SNOBOL, and LOGO as Computer Tools for Foreign Language Instruction" (Sanders, 1985), and "Using SuperPILOT for Creating the Russian Character Set" (Adamantobva-Abbas, 1986). It should be noted that getting the computer to display non-English characters was no small matter and was a persistent problem for many years. One of the earliest special interests groups in CALICO was "Foreign Character Fonts," which continued to operate up until 2004. Perhaps the spirit of the time can be best summarized by a comment made by an experienced CALL developer at a CALICO conference in the early 1990s. At that conference, the developer quietly mentioned to this writer that a sign of success in the early days of CALL was getting the computer to display a foreign language word in color and dynamically move it across the screen.

Even research in those days had a technological bent. For the author of an article entitled "Computer-Assisted ESL Research," research was understood to mean investigating "how simple for-next loops can be creatively integrated into different programs to act as timers" (Brownfield, 1984, p. 20). It is understandable that so much effort had to be put into the effective functioning of software and hardware since the desktop computers that are now so ubiquitously present in our daily lives had just been introduced. (The IBM PC and the Apple IIe, standard computers used by many CALL developers, were released in 1981 and 1983, respectively.) The field was in its infancy, and an immense amount of work had to be done in order to provide a reliable technical basis for CALL research and development.

Writing language learning software in low-level programming languages was (and still is) a very time-consuming process. One approach to reducing the time needed to develop CALL materials was the use of authoring systems in which the authoring tools took care of many of the programming details and allowed developers to focus more fully on instructional design and pedagogical procedures. By the mid-1990s, authoring systems such as Dasher, Libra, MacLang, and winCALIS had become popular. Because authoring systems featured easy-to-use tools, they were especially attractive to nonprofessional developers (e.g., foreign language instructors). However, authoring systems were also subject to substantial instructional constraints because their tools were designed for a specific purpose (e.g., to make written drill-and-practice exercises or multimedia listening comprehension lessons).

A final comment about the background of CALL practitioners in the early days is in order. For many CALL practitioners, CALL was an avocation, not a vocation. That is, many came to the field of CALL from other academic fields and of course had little or no formal training in CALL because of the newness of the field. Most CALICO members were faculty members in foreign language departments who had primary professional responsibilities in literature or linguistics but who were also interested in the use of computers to help improve foreign language teaching. Some were self-taught programmers, but most depended on staff in language laboratories or IT offices for technical support. Only a few had training in foreign language education, and fewer still in computer technology. It was not until much later (see below) that faculty with training in both second language acquisition (SLA) and CALL began to appear in the profession.

In summary, although it did not seem like it at the time, much of the research and development activity of this period of time was preliminary in nature, amounting in many respects to preparation for the future. If the early CALL enthusiasts had not been able to adapt computer hardware and software to meet the needs of foreign language teaching, CALL would have had a very short lifespan indeed.

### **ICT (INFORMATION)**

The dominant activity in CALL in the 1990s shifted from a focus on technical matters to a focus on presenting information (lesson content) to students and directing them to interact with that content. Thus, in the late 1980s, articles in the *CALICO Journal* still addressed basic questions of new technologies—"CD-ROM: Potential and Practicalities" (Woodbury, 1988) and "Technological Convergence under Windows: An Introduction to Object-Oriented Programming" (Mullen, 1989), but in the early 1990s articles began to appear that addressed the delivery of content—"Hypermedia in the Teaching of Italian" (Sanne, 1993) and "Improved Delivery of Lexical Information in a Computer-Assisted Reading Instructional Program" (Nara, 1994).<sup>1</sup> The emphasis had clearly shifted from technical matters to language learning matters. Success in CALL no longer lay in writing, for example, a parsing program but rather in using that parsing program to help students learn specific language structures (see Loritz, 1987; Labrie & Singh, 1991).

Up to the mid-1990s, the information to be presented to students was stored in local computers or local area networks, most often in the form of drill-and-practice exercises, grammar tutorials, or reading/listening comprehension lessons. Beginning in the mid-1990s (Fidelman, 1995-96),<sup>2</sup> access to the World Wide Web threw open the door to a seemingly endless supply of information in websites in other countries, a process that continues to expand to the present day. Although foreign language websites could have been exploited for a number of instructional purposes, most CALL practitioners at the time chose to focus on the immediate availability of cultural information presented in those websites. WebQuests, Internet searches in which students sought cultural information on foreign websites, were very popular in the 1990s, but most had run their course by the year 2000. The work of Dubreil, Herron, and Cole (2004) may best represent the enduring benefits of culture learning; they "examined the effects of authentic Francophone websites on cultural learning at the intermediate level [for] ... long-term gains in culture and the learning of practices, products, and perspectives" (p. 41).

In addition, materials designed to help individuals learn specific languages began to migrate from stand-alone computers and local area networks to the web, and language learning websites began to multiply with amazing speed. While the quality of the learning materials may have varied from one website to another, it became possible to access language learning materials in a large number of languages from around the world.<sup>3</sup> Also beginning in the 1990s and still continuing to this day, authoring tools like Hot Potatoes (<http://hotpot.uvic.ca>), the suite of Rich Internet Applications at CLEAR (<http://clear.msu.edu/teaching/online/ria/>), and even the commercially available Quia (<http://www.quia.com>) have enabled individuals to quickly develop language learning materials with relative ease. In 2004, in recognition of the contribution that websites make to language learning, the Esperantic Studies Foundation in conjunction with CALICO started offering an annual award to cost-free websites offering exceptional language learning resources (see <https://www.calico.org/page.php?id=507>).

As more and more students used computer-based language learning materials, questions about the effectiveness of using the computers for language learning began to surface. Initially cast as an economic question because of the cost associated with setting up and maintaining computer equipment, the question of the value that CALL added to language learning was a major concern for many researchers.<sup>4</sup> Several articles published in the

*CALICO Journal* investigated the impact that CALL materials had on learning. Yoshii and Flaitz (2002) determined the benefit of using the computer to combine text+picture annotations (versus text-only and picture-only annotations) for incidental vocabulary learning. Payne and Whitney (2002) showed that the use of synchronous text chat had a significant effect on helping students to prepare the development of their speaking proficiency in Spanish. Kitajima (2002) demonstrated that displaying visual connections between distant discourse elements to represent anaphoric relations in written Japanese texts improved learners' ability to understand those texts. Hardison (2005) found that computer-based phonetic tools played a significant role in helping Chinese students improve their pronunciation of English. In a series of articles and software reviews, Burston (1995-96, 1999, 2008) and Murphy-Judy (2003) compared the benefits that various French grammar checkers offered to students to help improve the grammatical accuracy of their writings.

About the same time that evaluation studies were prevalent in the *CALICO Journal*, a noticeable change in the CALICO membership also occurred. Up to about the year 2000, many—if not most—of the members of CALICO came from other disciplines (see the vocation and avocation distinction described above). Now, however, a significant number of new researchers who had completed graduate-level training in both CALL and SLA began to have an immediate impact on the profession (e.g., see the chapters in Arnold & Ducate, 2006, 2011; Goertler & Winke, 2008; Lomicka & Lord, 2009).

In summary, this phase of CALL's evolution shows a general maturing of the field. Technology was no longer used for the sake of using but rather to advance the cause of language learning (Garrett, 1991). Also during this period, brief discussions were occasionally held on whether CALL should be properly considered a subfield of computer science or applied linguistics. Those who argued that CALL should be a subfield of applied linguistics eventually held sway, which had the effect of solidifying the position of the field and confirming its status. Researchers were now beginning to investigate in substantial and systematic ways the relationship between SLA theory and CALL.<sup>5</sup> As Fischer (1999) stated, "sound theory leads to good CALL products, and good CALL products contribute to theory building" (p. 564).

### **ICT (COMMUNICATION)**

The connectivity inherent in the Internet made communication with distant partners easily accessible to multitudes of foreign language learners. With the advent of communication tools (e.g., blogs, wikis, chat rooms, and email programs), computer-mediated communication (CMC) became the dominant force in CALL activities around the year 2000 (as an early proponent of CMC, see Warschauer, 1995-96) and remains the focal point of a great deal of work in CALL up to the current time in one form or another. Following are only a few of the many CMC articles that have appeared in the *CALICO Journal*:

- asynchronous text-based CMC (Johnson & Brine, 2000; Stockwell & Harrington, 2003)
- synchronous text-based CMC (Darhower, 2002; Savignon & Roithmeier, 2004; Sanders, 2006)
- asynchronous audio/video-based CMC (Dehaan, Johnson, & Kondo, 2012; Sun, 2012)
- synchronous audio/video-based CMC (Wang & Sun, 2001; Wang, 2004, 2007; Yamada & Akahori, 2009)
- immersive environments/virtual reality CMC (Sykes, Oskoz, & Thorne, 2008; Peterson, 2011)

In addition, Thorne and Payne (2005) edited a special issue of the *CALICO Journal* on CMC in which articles addressed all the major aspects of CMC, including pragmatics, intercultural tandem partnerships, native speaker-nonnative speaker and nonnative speaker-nonnative speaker corrective feedback, bimodal communication, grammatical development, and instructor effects on student discourse. Over the past five years, some 30 articles on CMC have been published in the *CALICO Journal*, essentially the same number of articles that have been published on all other aspects of CALL combined. CMC has unquestionably become the dominant object of research in CALL.

The results of CMC studies have shown the contributions that CMC has made to SLA and CALL. CMC encourages the development of communicative competence, promotes intercultural competence and cultural learning, supports negotiation of meaning, affords students the opportunity to use more complex syntactic structures, and serves to increase the quantity and quality of their language production in more equitable ways than in face-to-face communication.

CMC can take many forms, and one form that has become particularly appealing in recent times is the one associated with social networking sites. Social networking sites serve to establish a context for communication and at the same time provide the tools necessary for communication among those who visit the sites. Social networking sites run the gamut from general purpose sites (e.g., Facebook, <http://www.facebook.com>; Myspace, <http://www.myspace.com>) to those designed specifically for participants with special interests (e.g., dogster for dog lovers, <http://www.dogster.com>). Some are designed to promote communication among speakers of different languages and organize CMC sessions in which users communicate with other users in the second language (e.g., bilingual chat, <http://www.bilingualchat.com>; The Mixxer, <http://language-exchange.org>). Some websites that were originally created specifically for language learning have now adopted features of social networking sites and enable learners to contact native-speaking tutors to enhance or extend language learning activities. (e.g., live mocha, <http://livemocha.com>; babbel, <http://www.babbel.com/>).<sup>6</sup>

While CMC in social networking sites can promote language learning, a word of caution from the student's perspective is warranted. Stevenson and Liu (2010) found that students quickly and easily make distinctions between websites designed for language learning and those designed for social interaction and prefer to keep the two apart from each other. For example, the authors reported that the students in their study felt at a loss in communicative situations with native speakers in social networking sites because they had not been adequately prepared for those situations. The students stated that they felt the need to practice with static lesson content before engaging in CMC sessions. Even more important was the fact that they expected websites that claimed to be designed for language learning to provide a clear instructional focus, not simply offer a communicative space. They also disliked some of the extraneous trappings of social networking sites that were unrelated to their language learning interests (e.g., requests for relationship status information in user profiles). As the authors stated, a site that "looks like a 'dating site' as opposed to a 'learning site' will alienate adult learners who visit a website with specific educational goals in mind" (p. 251). They concluded by saying that their study showed users' interest in the potential of collaborative language learning, but also showed the importance of static, traditional content for language learners. While the social networks could give users access to a resource not otherwise available on traditional websites or even within the foreign language learning classroom, the importance and value of traditional language learning content cannot be denied. (p. 250)

In summary, CMC has become the primary focus of the current phase of the evolution of CALL. While it cannot be denied that CMC plays a vital role in facilitating students' language

learning, in this writer's opinion the question of whether CMC should be viewed as the primary means to advance students' learning requires careful consideration.

As a subfield of SLA, CALL reflects the major trends of SLA; just as sociocommunicative practices are currently at the forefront of SLA, so is CMC currently at the forefront of CALL. However, if we view language learning in a broad continuum bounded by internal (psycholinguistic) processes on one end and external (sociolinguistic) processes on the other end (see Garrett, 2009; Thorne & Smith, 2011), it seems that research and development in CALL has swung too far to the external end of the continuum. As the findings in Stevenson and Liu's (2010) study suggest, at least from the student point of view, a more reasonable balance between internal and external language learning processes is essential in CALL-mediated environments.

## CONCLUSION

This survey of studies published in the *CALICO Journal* is intended to highlight the basic categories under which CALL research and development has evolved over time. The acronym ICT provides a convenient lens through which to view these activities, and the examination of the individual letters in the acronym shows how the categories of "information," "communication," and "technology" have risen or fallen in prominence at various times over the course of the evolution of the *CALICO Journal*. This evolution is not one that is to be characterized by the complete absence of one category and the complete dominance of another category at any given point in time. Thus, for example, interest in presenting information was not completely neglected when technological matters consumed such a large portion of the profession's attention in the early days of our field, nor have concerns for technological matters disappeared in the profession's recent shift in focus to CMC. Even a cursory review of the individual articles in most issues of the *CALICO Journal* shows that the journal's issues have covered more than one of the categories described here. Nevertheless, the general progression of CALL activities reported in the *CALICO Journal* can be represented schematically as

**icT** → **Ict** → **iCt**

While this representation of course does not capture all the variations within each phase of the evolution of the *CALICO Journal*, it does give a clear view of the progression of the field as it stands at the current time. What will the next phase in the evolution of the field emphasize?

## NOTES

<sup>1</sup> It is interesting to note that the theme of the 1997 CALICO conference was an emphatic "Content! Content! Content!"

<sup>2</sup> The Vice President of the US, Al Gore, popularized the expression "information superhighway" to describe the widespread availability of information on the Internet in the early 1990s.

<sup>3</sup> A Google search for "learn Pashto online" returned 194,000 hits.

<sup>4</sup> The theme of the 2001 CALICO conference was "Using the Proven, Proving the New." This conference was devoted to the evaluation of the effectiveness of the use of CALL programs.

<sup>5</sup> "Language and Technology" has been one of the firmly established strands in the annual conference of the American Association of Applied Linguistics for many years now.

<sup>6</sup> Even the new Totale version of Rosetta Stone's language packages offer the services of a live tutor.

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