

## REVIEW OF *CALL DIMENSIONS: OPTIONS AND ISSUES IN COMPUTER-ASSISTED LANGUAGE LEARNING*

### **CALL Dimensions: Options and Issues in Computer-Assisted Language Learning**

Mike Levy and Glenn Stockwell

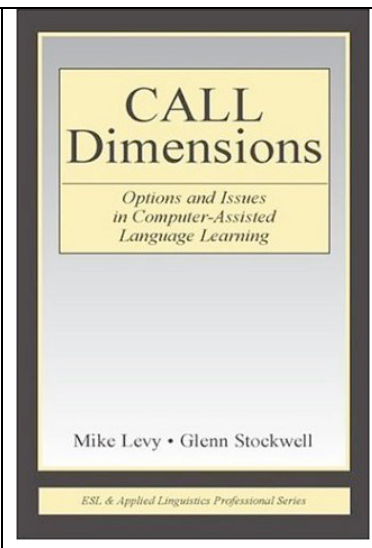
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### **Review by Chen Xiaobin, South China University of Technology**

*CALL Dimensions: Options and Issues in Computer-Assisted Language Learning* is based on a detailed analysis of a corpus of Computer-Assisted Language Learning (CALL) works and papers. By creating a thesaurus of CALL descriptors, such as “design” and “evaluation”, which are termed *identifiers* (p. 255) in the book, the authors, Mike Levy and Glenn Stockwell, are able to describe each corpus article and identify its areas of study. The frequencies of the identifiers’ usage were then counted and the seven most frequently used identifiers (design, evaluation, computer-mediated communication (CMC), theory, research, practice, and technology) are used in the book as chapter titles, also called *dimensions* of CALL. This approach enables the authors to develop a presentation of the most-researched areas in CALL, based on published papers in the field. However, the field of CALL can never be perceived as a discipline consisting of separate constituent parts because of the multiple aspects that need to be taken into consideration when practicing or researching it. Therefore, discussing these identifiers, or dimensions, individually may be misleading for the formation of a complete picture of the field. For example, it is unrealistic to talk about CALL design (Chapter 2) without mentioning evaluation, CMC, second language acquisition (SLA) theory, or technology, because these are the factors that determine design choices and process. To cope with this problem, the last section of the book (Chapter 9, *Integration*, and Chapter 10, *Emergent and Established CALL*) is devoted to helping readers form a holistic and integrated understanding of the field.

Organizationally, *CALL Dimensions* can be divided into three sections. Chapters 2 to 7 constitute the major part of the book and are the main focus of discussion. While discussing these dimensions, the authors use a clear description, discussion, conclusion structure for each chapter—the description section introduces the central concerns for each area, is followed by a discussion section that discusses issues related to their constraints and limitations, and concludes with a chapter summary. This makes the content of the book accessible to students or researchers who are new to CALL. Furthermore, the book draws its materials from a corpus of research articles and book chapters. This approach not only provides the book with a solid empirical foundation, but also with references that readers can consult when further

clarification or information is needed. As a whole, *CALL Dimensions* is designed and written to help the "language teacher, software designer, or researcher who wishes to use technology in second- or foreign-language education to absorb and relate what has been achieved so far, and how to make sense of it" (p. xi).

Chapter 1 introduces major areas of interest and growth in CALL. The authors stress that when seeking to implement CALL, researchers and practitioners should weigh not only the technological choices available to us and SLA theories that govern our conceptualization of CALL into consideration, but also evaluate the "critical factors derived from the nature of the learners and the learning context" (p. 6), such as the learners' background, needs, goals, technological and institutional settings.

Chapter 2 talks about CALL *design*. Designing CALL materials or tasks is usually the first obstacle that language teachers face when thinking about using CALL to enhance their students' learning of a foreign language. However, as concluded in Kohn (2001), combating such an obstacle can be rewarding, despite the fact that the task of designing CALL materials is becoming more complex and more demanding with the development of new technologies and language learning theories. As a result, Chapter 2, *Design*, is given priority over other CALL dimensions; moreover, the topic gets the most hits in the corpus keyword search. Various CALL designs with respect to tasks, online courses and syllabi, language-learning areas and skills, tutors, and tools are described in detail, and their respective strengths and limitations are evaluated. General guidelines that may lead to enhanced CALL designs, such as knowing the strengths and limitations of existing CALL materials and knowing one's prospective audience, are summarized at the end of the chapter for designers to follow.

Students', teachers', or any other third-party's feedback to a CALL product are valuable sources of information for its design and improvement process. This information comes from various kinds of *evaluations*, which are introduced and discussed in detail in Chapter 3. The authors conclude that understanding CALL evaluation requires knowing not only *what* to evaluate (i.e., the object of evaluations and descriptions—such as a multimedia program on CD for teaching pronunciation, a Web site for learning English, a Web-based cross-cultural curricular initiative and an online teaching tool), but also *how* to evaluate them (i.e., the criteria and principles for evaluation instruments and frameworks that guide the evaluation process).

CMC, one of the hotspots of CALL studies, has been defined as "communication that takes place between human beings via the instrumentality of computer" (Herring, 1996, p. 1). Its application in language learning and teaching is the main concern of Chapter 4, which describes the various modes of CMC, categorized as synchronous (chat, MOOs, conferencing) and asynchronous (E-mail/Short Message Service, Mailing Lists/Bulletin Board System). The discussion of their individual strengths and limitations concludes that CMC implementation decision making needs to be founded on knowledge of constraints and characteristics of the CMC tool itself, together with a pedagogical understanding of how the communication technology might be most effectively used for language learning.

CALL designers, language teachers, and researchers tend to seek theoretical foundations for the decisions they make with respect to CALL materials' design and practice. Chapter 5, *Theory*, is devoted to the discussion of the theories that are most frequently used to inform, or justify, CALL activities, such as Long's interaction account of language learning (Long, 1996), Vygotsky's sociocultural theory (Vygotsky, 1978), and Leont'ev's activity theory (Leont'ev, 1978). Examples of their application and the challenges CALL practitioners face are also provided in this chapter. For example, the interaction account of SLA, which focuses on learning interactions that involve two or more people, or a person and the computer, has been particularly well used as a theoretical base in CMC-based CALL, such as e-mail and chat. However, a recent development of the interactionist tradition focuses its interests on form, because meaningful input and opportunities for interaction do not on their own appear to be sufficient for the ultimate development of target-like language proficiency levels (Doughty & Williams, 1998). This

provides a challenge for the design of CMC activities whose major concern is how to facilitate language learning with a focus on meaning.

Conducting research in CALL can be helpful for language teachers in refining pedagogical approaches, which in turn will shape language-learning tasks and promote learning outcomes. Chapter 6, *Research*, concentrates on six clearly identifiable research strands in CALL (general research, chat, intercultural language learning, reading and hypermedia, help design, and listening and vocabulary), whose approaches include survey research, comparative research, and experimental research. The chapter concludes with issues that CALL researchers need to be aware of when carrying out research, such as student attitudes and perceptions toward the learning environment, technology and tasks in different settings, and different theoretical models that may be used to analyze the same interaction data.

Chapter 7, *Practice*, deals with practical applications of CALL, specifically the types of CALL that can be used in the teaching of different language skills—listening, reading, writing, and speaking—as well as language areas, such as grammar, vocabulary, and pronunciation. For example, when talking about utilizing CALL in teaching listening comprehension, the authors discuss how Jones' (2003) learners are offered a great deal of control over how they listen to the materials (syntactically divided chunks of the passage, or the pronunciation of any one of the keywords that provide clues), and what annotations (visual or textual) they access. This is a feature only provided by computer technology and is impossible with traditional means. An essential factor in using technology to teach any language skill is that the technology should provide something that is not available through more traditional means. The discussion section provides readers with factors responsible for the complexity of CALL practice, such as language-learning objectives, technological options and their pedagogical implications, students' abilities, goals, and perceptions related to different types of CALL. As a result, Levy (2006) concludes that in order to make informed choices while practicing CALL, it is necessary for practitioners to "locate the optimal balance of approaches, resources and tools to meet the needs of particular learners in a particular learning context" (p. 1).

A large part of CALL is driven by the development of new technologies. Chapter 8, *Technology*, provides an overview of some state-of-the-art technologies that are being used in language learning and teaching, including authoring software, learning management systems (LMSs), audio-and video-conferencing, artificial intelligence (AI) and intelligent systems, speech recognition and pronunciation training technologies, as well as mobile technologies. These synopses are followed by a discussion of how these new technological developments are shaping the ways we think about, select, and use technology in language learning. However, although there are many technological choices available for CALL practitioners, their implementation in the classroom should not be technology driven—our decision needs to satisfy the pedagogical needs of the activity at hand, rather than the current trends of technology.

The authors conclude their book with a discussion of how to bring these dimensions together to provide a holistic picture of the field. Chapter 9, *Integration*, explains how to integrate CALL *vertically* into the education of technology outside the language class (e.g., in other courses within the institution, or at home), and *horizontally* into the wider technological infrastructure of the school or university (e.g., the preferred hardware and software, and the support and resources available). Chapter 10, *Emergent and Established CALL*, distinguishes two types of CALL that are related to technological development: established CALL, which utilizes accepted main-stream technologies, such as email and chat, and emergent CALL, which depends on emerging new technologies, such as Automated Speech Recognition and ICALL (Intelligent CALL). This distinction views CALL from a developmental perspective, confirming the vigorous evolving nature of the discipline.

The greatest contribution of *CALL Dimensions* comes from its approach to CALL. The identification of the most researched areas in CALL helps to establish it as an independent field of inquiry—a solid discipline that has its own subjects for research—namely, the seven dimensions. Thus, Levy and

Stockwell answer the more basic question of what CALL is rather than what CALL can do (a more comprehensive answer to the latter question can be found in Ducate & Arnold, 2006). This approach creates limitations as well as advantages: although the selected dimensions are recognized as the essence of CALL, its topics are far from exhausted. This runs the risk of neglecting other, also important, aspects of CALL. For example, teachers and researchers have been using computers to assist in genre and discourse analysis of authentic or student-generated language production, and the results of such analyses can then be transformed into teaching pedagogies that guide students' writing process. Topics of this kind are neglected in the book, but they might also be considered as important parts of CALL.

In general, Levy and Stockwell have achieved the goal of providing language teachers, software designers, and researchers involved in CALL with an overview of "how to absorb and relate what has been achieved so far [in CALL], and how to make sense of it" (p. xi). The valuable references to related studies in each dimension provided in the book can also serve as good starting points for those who would like to carry out further research on CALL on any of the dimensions discussed.

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### **ABOUT THE REVIEWER**

Chen Xiaobin is an M.A. student in Applied Linguistics at the South China University of Technology. His research interests are second language acquisition and computer-assisted language learning.

E-mail: [ch.xiaobin@mail.scut.edu.cn](mailto:ch.xiaobin@mail.scut.edu.cn)

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