

REVIEW OF *LANGUAGE TEACHING AND LANGUAGE TECHNOLOGY*

Language Teaching and Language Technology

Sake Jager, John A. Nerbonne, A. J. van Essen (Eds.)

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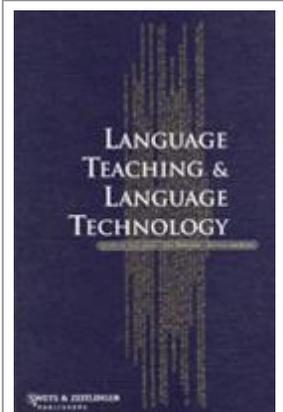
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Language Teaching and Language Technology is a selection of papers presented at a conference organized at the University of Groningen (the Netherlands) in 1997. The introduction to the volume provides the reader with an enticing, yet controversial, argument for an increased focus on the capabilities of language technologies for second language teaching. Jager, Nerbonne, and van Essen distinguish between language technology, or technology specifically designed for language-related tasks, and non-language technology. The former includes speech recognition and synthesis, lemmatization, syntactic categorization, vocabulary extraction, parsing, and text generation. In contrast, non-language technology includes hypertext, digital audio and video, database technology, and networked communication. The editors claim "that existing CALL program and packages seemed to make little use of language technology" (p. 1) and thus, the goal of the conference was for the L2 teaching profession to evaluate the potential usefulness of such technology for the purpose of improving language teaching. They argue that the use of language technology is not only useful for the assessment of language-based applications, but also justified because "phonological and morphological descriptions of many languages are quite complete--and massively more reliable than the analyses of most language teachers, so that their accuracy cannot be the stumbling block to effective CALL" (p. 2). The editors accept, however, that from a pedagogical perspective, "it is not the technology per se, but the contribution it might make to teaching and learning that determines its usefulness for CALL." Nevertheless, despite the avowed goal of bringing together capabilities of language technology and CALL pedagogy, the present volume appears to focus more on the former than the latter.

The volume contains an introduction, 24 chapters which are divided into six sections, and a conclusion. Each section surveys technologies that are best suited to specific areas of second language teaching: speaking (e.g., computational autosegmental phonology, automatic speech recognition), vocabulary (e.g., aligned corpora, language processors), grammar (e.g., specific programs such as HOLOGRAM, RECALL), reading, writing, and testing (e.g., GLOSSER, computer aided testing), distance learning (e.g., Web-enhanced language learning, e-mail), and users models (e.g., knowledge structures, learning itineraries). The final section, entitled "Reflections and Visions," comprises two papers which provide a concluding commentary for the future of language technology.

Most papers in this volume address technological features of Intelligent CALL (ICALL) programs to a larger extent than the teaching-learning dimension of the process. For instance, Carlson-Berndsen ("Computational Autosegmental Phonology in Pronunciation Teaching") describes a multimedia tool which models articulatory movements (with animated line drawings) to teach pronunciation in L2 German. The avowed pedagogical goal of Carlson-Berndsen is "to demonstrate to the learner the difference between the articulatory setting of the native tongue and the foreign tongue" (p. 14). The author motivates the proposed use of the computer-based program with the assertion that "a paper-oriented approach to pronunciation teaching÷(is) non-interactive and clearly cannot achieve the same visual synthesis as the computer-aided approach." This notion that feedback can lead to improved pronunciation, however, is not without controversy. Previous studies that incorporated the provision of sophisticated levels of feedback did not obtain the pedagogical effects expected by Carlson-Berndsen. For instance, Flege (1989) experimentally investigated the effect of visual feedback (on tongue position) provided to a Spanish speaker for the purpose of improving pronunciation of English vowels. Flege's results, however, were less than promising, as the analysis of the data revealed that the changes may have occurred not because of the visual feedback per se, but "simply as the result of focusing attention on vowel production" (p. 400). Moreover, Flege points out that in his study--as well as others--no claim can be made about the generalization of training to untrained items or conversational (i.e., less monitored) speech.

Other papers that also focus on various types of feedback provided by language technologies reflect similar limitations insofar as the analysis of the pedagogical effectiveness of the program is concerned. For instance, Hu, Hopkins, and Phinney ("Native English Writing Assistant: A CALL Product for English Reading and Writing") describe a grammar checker called the Native English Writing Assistant which functions as "an add-on product that integrates seamlessly with popular word-processors and Internet browsers" (p. 95). The writing assistant identifies errors in non-native speakers' writing by means of matching error patterns with a database (developed through analysis of corpus research). Hu et al. argue that their program is effective because "it provides specific correction alternatives that are easy to understand such as 'Use apologize to ÷,' as opposed to 'This verb cannot take an object.'" That is, the assistant provides more extended functional explanations that may help the writer better understand the need for the suggested changes. The pedagogical relevance of the writing-assistant tutor, however, is not supported with empirical evidence to substantiate the above-mentioned argument.

A few contributions do focus on the pedagogical opportunities provided by recent technological developments that allow for the fast and seamless integration of various media (speech recognition and synthesis, text analysis, video scripting, etc.). For instance, Borchardt ("For, Against, for the Development and Dissemination of CALL") describes how the emergence of Web technologies allows for the rapid development and implementation of principled-based applications of CALL. More importantly, Borchardt claims that internet-based technologies bring about opportunities for more natural use of language than was ever afforded by previous CALL programs: "authentic-like materials simply work better in the classroom than disconnected utterances which illustrate, however transparently, some grammatical rule rather than a meaning" (p. 219). Along similar lines, Rothenberg ("The New Face of Distance Learning in Language Instruction") outlines the advantages of Web-based language courses for L2 acquisition (e.g., well-coordinated visual and aural information, more interesting and interactive games). Rothenberg, justifies the design of a Web-based language course which does not provide for learner-learner interaction as follows: "we feel that in a beginning language class there is little pedagogical benefit obtained from student interaction and collaboration" (p.148). Few L2 researchers, however, would support such argument. In fact, most current research in second language teaching emphasizes the pedagogical advantages of functional linguistic interaction starting with the very first stages of acquisition (e.g., Lantolf & Appel, 1994; Long & Robinson, 1998; Swain & Lapkin, 1995; Willis, 1996). To be fair, although Rothenberg denies the pedagogical benefits of interacting with other learners, he does argue in

favor of interaction with native speakers, and such interaction is a component of the Web-based language course he describes. However, it is inherently limiting--both functionally and pedagogically--to restrict communication to native speaking groups only. Finally, in some papers, the authors focus on the pedagogical advantages of strictly non-language technology. For instance, Holliday ("The Grammar of Second Language Learners of English EMAIL Messages") describes the benefits of using e-mail for pedagogical purposes. Most important, Holliday claims that "by far the most reliable and robust use of the Internet for language learning is still e-mail" (i.e., non-language technology) (p. 136).

In sum, despite the editors' claim that the current technological sophistication of language-specific software allows for the development of more useful and powerful language learning programs, the papers in this volume do not yet provide a compelling argument. As argued above, the assessment and successful implementation of pedagogical capabilities of new language technologies should follow the establishment of principled pedagogical objectives. The value of *Language Teaching and Language Technology*, however, lies in the fact that it highlights an area of research which has received little attention and which--justifiably--is starting to be further emphasized. For instance, Ehsani and Knodt (1998, p. 47) echo Jager et al.'s call and argue that speech technology is "ready to be deployed successfully in second language education," and warn that the search for a theoretical grounding of CALL systems can only lead to disappointment "when combined with little or no knowledge of the underlying technology." While that claim is certainly valid, the need to understand the limitations and capabilities afforded by new technologies should not make us forget that such technical knowledge must be complemented with an understanding of the pedagogical process of second language learning. Theoretical discussions that compare the pedagogical effectiveness of using CALL systems as tools or tutors (e.g., Higgins, 1988, Levy, 1997), or alternatively, as open or closed systems (e.g., Crook, 1994; Wegerif & Scrimshaw, 1997) provide a principled foundation for the use and assessment of language-specific technological advances. Consequently, the chapters in this volume provide readers with important perspectives on the implementation of language technologies for second language teaching. The pedagogical possibilities afforded by language technologies, however, can be most profitably evaluated when the theoretical context discussed in the above-mentioned alternative volumes is also taken into account.

ABOUT THE REVIEWER

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