Chapter XII

Reading and Learning from Screen

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Abstract

Electronic texts are playing an increasing role in education in general and in language courses in particular. Computer-assisted language learning (CALL) tasks utilizing authentic texts on the Web require extensive screen reading. The flexible nature of electronic text encourages customization, which is important for effective screen reading and learning. For users to read comfortably and effectively, attention must be paid to the way electronic text is presented. Presentation includes factors related to the screen (e.g., contrast), to the reader (e.g., familiarity with the medium) and to the text layout (e.g., number of lines per screen). Navigation method (e.g., scrolling or paging) may also affect reading and learning from screen. Two studies conducted by the authors show that not everyone performs well with the same presentation mode and that preferences also vary. Designers of user-centered CALL materials should, therefore, allow for choice of presentation mode.

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Introduction

Electronic texts are playing an increasing role in education, and teaching and learning are moving in the direction of digital formats (Davidson, Shields, & Biscos, 1997; Wilson & Landoni, 2002). As a result, students are reading more from screen in both content and language courses. Yet, many of these students find reading on screen more difficult than reading on paper, even in their native language (O’Hara & Sellen, 1997). CALL tasks utilizing authentic texts on the Web require extensive screen reading in a second or third language. Since text display is an important factor, it is important for language students and teachers to be aware of the ways in which text is displayed on screen, of their own preferences and of the options available for changing the display. CALL developers should pay attention to screen presentation so as to facilitate screen reading for language learners.

The Background section of the chapter begins with a comprehensive survey of the literature on reading and learning from screen, including the differences between reading on paper and reading on screen, the special features and structures of digital text, and the concept of reading to learn. In addition, the section includes an in-depth discussion of the variables that affect the appearance of digital text and a description of various navigation methods.

The section Learning from Screen: Two Studies focuses on studies conducted by the authors that explored the effect of screen presentation mode on learning among advanced learners of English. This investigation can inform the design, development and use of digital text in CALL courses as well as other Web-enhanced courses.

The chapter ends with recommendations for on-screen text presentation to enhance reading and learning from screen. In addition, an outline of future trends related to reading and learning on screen is presented.

Background

Reading on Screen vs. Reading on Paper

Studies comparing performance when reading on screen and on paper have not been conclusive. For example, one study (Muter, 1996) found no difference on comprehension scores between the group that read on screen and the group that read on paper. A number of other studies that looked at reading comprehension support this finding (McKnight, Dillon, & Richardson, 1990; Muter & Maurutto, 1991). However, a study that offered subjects online reading assistance (Reinking, 1998) found that students who read expository passages from screen performed better on a comprehension test than those reading on paper. On the other hand, Heppner, Anderson, Farstrup and Weiderman (1985) found that students reading from paper performed better on a standardized test than those reading on screen; Kellogg (1999) also reported on better test performance when reading from paper.
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