FROM THE SPECIAL ISSUE EDITOR

What is new in reading and technology research? An answer suggested by the contributions in this special issue of *Language Learning & Technology* is fresh confidence in taking on some of the big questions of second language acquisition. Experimentation has moved forward from the basic comparisons of reading on computer screens and reading on paper that were of interest a decade ago. In this issue, contributors relate their research to central themes in applied linguistics research, such as the availability of comprehensible input, the role of frequency in acquiring a new language, and characteristics of learner interactions. Three of the contributions emphasize the role of vocabulary knowledge in reading. While this is hardly a novel topic, it has been given new prominence in recent models of second language reading comprehension that identify vocabulary knowledge and first language literacy as important predictors of success. Second language educators cannot do much about levels of first language literacy of their students, but they can promote vocabulary acquisition in reading classes -- and technology can make this more effective. Research reported here suggests how.

The issue begins with Tom Cobb's research and development paper, "Computing the Vocabulary Demands of L2 Reading," that centers on a paradox in second language reading: readers need to know words in order to read but they must also read in order to learn words. Can they learn the words they need to know through reading itself? Cobb draws on corpus-based studies to provide an evidence-based answer that, in principle, they cannot. But technology can resolve the paradox, he argues, by tackling two problems of natural texts: one is that new words are not naturally recycled often enough to make them memorable to learners; the other is that new words tend to occur in contexts that are difficult to understand. Cobb advocates a text modification approach using the freely available web-based tools described in his paper to build in multiple occurrences of new lexical items and lower the lexical load of the materials to be used with learners. Supplementary activities such as concordancing can also offer learners multiple exposures to new words in context.

The second paper, "Vocabulary Learning in an Automated Graded Reading Program," by Hung-Tzu Huang and Hsien-Chin Liou echoes points raised by Cobb. They, too, are concerned about the insufficient recycling of new words in natural texts and the high unknown word densities that make it difficult for learners to infer meanings. But their approach to solving these problems involves selecting texts rather than modifying them. The innovative software they describe searched a corpus of readings for recurring words with the goal of identifying the set of passages that offered learners the best opportunities for meeting new words repeatedly. The program then used word frequency lists to order the syllabus so that the more comprehensible texts were read first.

Huifen Lin and Tsuiping Chen's study, "Reading Authentic EFL Text Using Visualization and Advance Organizers in a Multimedia Learning Environment," addresses text comprehensibility as well, but from a more global perspective. In their investigation, university students read an English text on computer about the workings of the human heart with the help of an illustration. In some conditions, the illustration was animated; some readers also saw advance organizers that previewed the content of the text. This carefully executed experiment reports the effects of the different types of support when used in combination and alone.

The fourth paper by Philip Murphy and the fifth by Yu-Ju Lan, Yao-Ting Sung and Kuo-En Chang take up the theme of interaction in collaborative reading tasks. Murphy situates his study, "Reading Comprehension Exercises Online: The Effects of Feedback, Proficiency and Interaction," in a comprehensive overview of research that links the interactionist perspective to issues in computer-mediated feedback. This literature review is recommended reading. In his experiment, learners of English at a Japanese university worked singly or in pairs to answer reading comprehension questions and received computerized feedback that was either minimally informative or more elaborated.The feedback techniques are assessed in both quantitative and qualitative terms.

Lan, Sung and Chang's paper, "A Mobile-Device-Supported Peer-Assisted Learning System for Collaborative Early EFL Reading," takes us into the world of Taiwanese third graders interacting as they complete text-based word learning tasks. Here the technologies are mobile devices with software that assists in building word skills and the communication software, *Skype*. Learners assessed as weak were able to call for help from stronger learners who served as consultants. The study shows how child-friendly technologies can be used in principled and innovative ways. The young learners' naughty and nice interactions also make for entertaining reading. I hope that you will enjoy reading all of the articles in this special issue as much as I have.

In conclusion, two observations. One pertains to the distinction between dedicated, text-specific technology support for reading, e.g., of the type explored by Lin and Chen and by Murphy, and more generally available support techniques that can be used with any text, e.g., of the type explored by Cobb and by Huang and Liou. Both types benefit second language readers as the studies here and elsewhere have shown. But creating resources that are attached to particular passages can be laborious; the designer must do it all again for each new text. Such pre-made lessons may also be of limited use to teachers working outside the contexts they were created in. Given these realities, it strikes me that we might be wise to invest research and design energies in developing technology resources of the second type, resources that teachers and learners can use as they see fit with any text they choose.

Secondly, I was struck by the fact that four of the five studies were situated in Asia -- one in Japan and three in Taiwan. Of course, this is not really surprising given the region's openness to new technologies. Also, in settings where access to native speaker input may be limited, it makes sense to use authentic text materials in tandem with technology that supports comprehension. Researchers in the Asian contexts are clearly well positioned to break new ground in technology-assisted reading and it will be interesting to see what the future holds.

Finally, I would like to thank the many reviewers who generously contributed their time and expertise to this issue. I enjoyed getting to know the editorial team at *Language Learning & Technology*; their friendly guidance was invaluable. A very special thanks goes to LLT's superbly organized Managing Editor, Hunter Hatfield, and decisively insightful associate editor, Batia Laufer.

Marlise Horst

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