

REVIEW OF *TECHNOLOGY-MEDIATED LEARNING ENVIRONMENTS FOR YOUNG ENGLISH LEARNERS*

Technology-Mediated Learning Environments for Young English Learners

L. Leann Parker (Ed.)

2007

ISBN: 978-0805862331

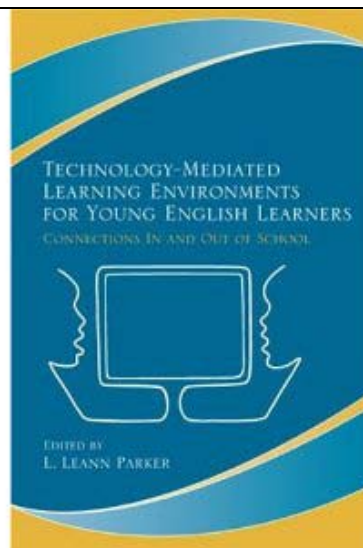
Paperback: US \$29.95

Hardcover: US \$120.00

336 pp.

Routledge

New York, USA



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Technology-Mediated Learning Environments for Young English Learners examines the challenges, benefits, and future potential of a wide array of technologies used to foster the language and literacy development of English Language Learners (ELLs) both in and out of school. With critical analysis of the research base and practical applications for the classroom and after-school settings, the authors of this edited volume address the needs of researchers and practitioners alike.

The term *technology* is a relative one, as acknowledged throughout the book, and therefore there is little focus on specific products, but instead on the analysis of purposeful and meaningful integration of technologies into effective instruction for the English language learner in and out of the elementary classroom. In order to address the theoretical and conceptual frameworks for technology intervention and integration, as well as the practical applications, the book is divided into seven chapters that address varying approaches, purposes, and contexts for technology-mediated learning with a strong emphasis on the construction of productive environments for the young English learner. Each chapter is followed by a reflection provided by another author in the same volume offering analysis, extension, and additional perspective on the issues presented.

In the first chapter, L. Leann Parker provides an in-depth introduction to the theoretical and conceptual frameworks for the subsequent chapters. The book is largely situated within a sociocultural context, which acknowledges the social and communicative nature of language learning and literacy development. With a guiding purpose to examine the potential of technology in assisting elementary-aged children, specifically those struggling with the development of their English language skills, particular attention is paid to the unique abilities of and challenges faced by young language learners in a global era. Additionally, a rationale for analyzing how technologies can maximally benefit the young English learner's overall language and literacy development is presented.

In Chapter 2, "Technology and Literacy Development of Latino Youth," Duran begins by addressing many of the underlying issues that persist in research involving English language learners in the United States. One of the more prevalent is the achievement gap between Latino youth and their mainstream peers. Duran acknowledges that access to computers is no longer a primary concern for most Latinos; rather, the issue is one of maximal use of computers and technology, a problem which is exacerbated by

issues of access to outside resources, home reading practices, and disparities in parent education and income levels. As it relates to the achievement gap, the use of technology in language and literacy instruction needs to extend beyond basic reading skills to higher-level literacy and communication skills in order to realize greater success in and out of school. From the cultural psychology perspective Duran presents, literacy cannot be viewed as an isolated set of skills, but rather as a mediation of symbols from a variety of sources. In this vein, technology is viewed as a facilitator of that mediation through access to activities and language that encourage meaning-making of the symbols and sounds that define what it means to be literate.

Using the perspective outlined, Duran provides summaries of projects that exemplify purposeful uses of technology to benefit literacy development of young English learners. Discussed extensively in different contexts throughout the book, one of the focus projects is the University-Community (UC) Links Network, which is an inter-related international system of after-school computer clubs. The UC-Links Network, including the Fifth Dimension cultural model, La Clase Magica, and Club Proteo, use written correspondence—usually through email and embedded English language instruction in the dialogue—to foster the language and literacy development of English learners outside of their traditional classroom experience. Other featured projects include Digital Underground Storytelling for Youth (DUSTY); Parents, Children, and Computers Project; and prototype software targeting English mathematics vocabulary. Duran notes that the effectiveness of these projects does not lie in the technology, but in the purposeful use of technology to meet the needs of students.

An important reflection made in Rueda's commentary following Chapter 2 is that the mastery of technology is not an option for today's children, but rather a requirement for productive participation in a global society. This is a theme expanded upon in other chapters, at length, and of particular importance given the shift from technology as a supplement to traditional pedagogy. The focus throughout the book is one of technology for purpose—thoughtful integration focused not on one particular skill, but as an integral part of teachers' tools and delivery methods that must evolve to meet the ever-changing definition of literacy.

In the third chapter, "Technology, Literacy, and Young Second Language Learners," Jim Cummins addresses the issue of how digital technology interventions can be designed to benefit students learning English as an additional language. The analysis is situated on a continuum of three broadly defined pedagogical orientations: transmission, social constructivism, and transformation, with the potential role of technology as a support for learning that moves along a continuum from one of minimal contribution to full, purposeful integration. The digital divide of access to technology has been replaced with both a pedagogical divide, in which lower SES students receive transmission-based instruction and use technology for skill acquisition, rather than the higher SES students' use of technology for more powerful inquiry-based learning within a social constructivist framework.

From his analysis of *how* children are being taught to *what* they are being taught, Cummins suggests that the academic development of low-income ELLs is rooted in the stages of language development. While there is little or no need to use technology to assist in the early-stage development of conversational fluency, and only some evidence of the efficacy of technology as a support in the development of discrete language skills, there is considerable promise in the use of technology in the later-stage development of reading comprehension and academic language proficiency through authentic contextual integration into vocabulary instruction. In order to more clearly define what purposeful, authentic integration should look like, Cummins draws on Wood's (2001) framework for evaluating vocabulary instruction in software and identifies six core design principles for technology supported teaching and learning. These criteria are then applied to case studies of technology-supported learning that highlight the potential for creating effective learning environments.

In the fourth chapter, "Developing New Literacies among Multilingual Learners in the Elementary

Grades,” Castek and colleagues examine the potential of the Internet to facilitate language and literacy learning for multilingual children, with the understanding that the ability to maximally exploit the learning potential and information provided by the Internet requires new skills and strategies, thus allowing students to engage with what the authors believe to be the “defining context for language and literacy learning” (p. 111). The multitude of strengths and cognitive benefits of multilingualism are the foundation in establishing the need to create environments that respect the social and interactive nature of learning and recognize that multilingualism does not develop linearly or exclusively through the transfer of information from teacher to student. Merging this multilingual perspective with the New Literacies Framework, the authors define what they term the *Globalized Perspective*, in which they integrate these two theoretical frameworks with ten research-based principles designed to take advantage of the unique abilities multilingual children possess and to respect and embrace the global nature of today’s digital world. The Globalized Perspective recognizes that language and literacy learning take place both in and out of school and the technologies available to students now allow them to interact in meaningful ways with speakers of both their native and additional languages. Technologies, specifically the Internet, afford educators substantially greater alternatives for fostering language learning with contextual and cultural depth. The authors go on to evaluate several projects designed to meet the needs of multilingual learners, both in and out of school, using the core tenets of their Globalized Perspective.

In the response to this chapter on the Globalized Perspective, Dalton proposes five steps for improving the language outcomes of elementary multilingual children. These steps include using digital storybooks and online texts as a motivator for developing reading skills, using text-to-speech tools in English and the child’s native language to more effectively instruct and more accurately assess student learning, and creating multimedia texts and collaborative Internet projects that engage students in multilingual, multicultural literacy experiences.

In the fifth chapter, “Technology and Second Language Learning,” authors Zhao and Lai provide an overview of the uses, capacities, and capabilities of available technologies for second language development. They offer unique insight into design modifications and implementations that may best serve the needs of young ELLs. One of the fundamental issues Zhao and Lai point out is that educators must look at the technology not for what it says it can do, but for what capabilities it possesses and how it may best meet the needs of the language learner—essentially requiring the educator to find ways for the technology to fit the needs of the learner, rather than asking the learner to fit the specified use of the technology. For effective technology integration to occur in a second language learning classroom context in a way that results in meaningful student gains, the authors suggest that four conditions must be met: (a) the language input must be of high quality, (b) there must be ample communicative opportunities for practice, preferably in various social and cultural contexts, (c) the feedback received must be meaningful and of high quality, and (d) the content must be individualized for the student’s unique needs. The authors provide extensive, rich examples and explanations of various technologies that can be used to create an optimal language-learning environment based on the four conditions outlined above. While the technologies detailed show promise for second language learners, the authors suggest that their full potential can only be realized when uses shift from individualized applications to comprehensive second language programs that extend beyond the time spent in the classroom and evolve from instructional to learning technologies.

The sixth chapter is an in-depth look at the array of technologies available for language development. Parker examines the potential uses of technologies ranging from video game consoles to e-readers using the available empirical base as an analytical foundation, and then provides suggestions and extensions for best practice with the elementary ELL child. Educational software products are reviewed with specific attention paid to the quality, meaningfulness, and appropriateness of content, the language of focus and target audiences, and the instructional approach and design. While several specific software products are mentioned, her critical analysis provides a substantial framework for future research into the practicality,

value, and efficacy of implementation in elementary ELL instruction. Also in this chapter, Parker pays particular attention to the variety of ways technology can support the child, with the unique needs and abilities of the child as a primary consideration in implementation. When situated in a classroom context, technology-mediated learning environments can be successful when the experience is constructed with the child's linguistic and content needs as the focus. Cultural relevance is also a consideration in the selection of software for any given population, not just for the English learner. Finally, access to technologies facilitated by instructors who are knowledgeable in practical and appropriate applications is still an issue in need of attention. As Meskill's reflection to this chapter points out, children's access and attention to the technologies they are presented with are only meaningful in the context of the language and literacy community that surrounds and supports them.

In the final chapter, Eugene E. Garcia discusses what he describes as the intersection of multiple areas critical for creating and maintaining technological environments that best serve young bilinguals. The areas he considers include the following: (a) the complex and critical role of language in learning and teaching; (b) the linguistic flexibility, and subsequent metalinguistic advantages, held by bilingual children; and (c) the established importance of primary language instruction in the acquisition of English, as well as the need for comprehensible input. Garcia discusses the current state of research and makes suggestions for future research and technology based on his analysis, particularly based on the need for more learner-centered instruction, formative assessment, and attention paid to the importance of context. He points to the strength in versatility of technology and to the potential for complex differentiation and scaffolding of content to meet bilingual students' needs.

In this collection, the term *literacy* is situated in a constant evolution of technologies, and the skills and strategies required for processing and making meaning of content continue to influence the forms and functions of literacy. This dynamic definition is quite true for the term *technology*, as well. What is considered technology can evolve and morph into new forms seemingly overnight. When you consider the introduction of the iPad into classroom instruction, the navigation of content and construction and the deciphering of meaning is remarkably different from that found in general personal computing, and even more so when compared to the technologies and accompanying literacies of the not-so-distant past, like those of the typewriter and cassette recorder. To then use these technologies to support the development of academic language fluency is a challenge. In her final reflection, Parker notes that all contributors highlight that academic language fluency is critical for young English learners. Technology shows great promise to be used as far more than a supplement to instruction when used in purposeful and meaningful ways with the overall language and literacy development of the child as the guiding principle. Technology has far greater potential to foster the language development of the young ELL when used as a catalyst for more complex conversation, thought, and action.

ABOUT THE REVIEWER

Brenna Rivas is a post-doctoral researcher at Southern Methodist University on a project evaluating the school readiness of young English learners in a low-income community. Her research examines various technology-enhanced intervention strategies for helping young English language learners develop vocabulary and early reading skills.

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