

Chapter 42

Technology–Based Literacy Approach for English Language Learners

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ABSTRACT

There is a growing need to implement an alternative and viable solution in U.S. K-12 schools that will address the ever-growing gap that the rapidly growing English Language Learner (ELL) population presents. This chapter examines various technology-based tools and their potential impact. These technology-based solutions could help to alleviate an already taxed educational system, as well as significantly aid in improving and increasing English language acquisition among the nation's K-12 ELL population. A review of recent research provides evidence and a strong foundation that supports the integration of these solutions. An ELL Design Quadrant ensures that one follows best practices when integrating technology, and a practical applications section presents examples of contemporary technology with accompanying instructional strategies that educators can utilize in the everyday classroom. Throughout the chapter, references to language acquisition and learning theories provide the evidence and background knowledge necessary to integrate technology into the ELL literacy curriculum, based on sound judgment.

INTRODUCTION

“We cannot afford to waste the minds of young children simply because they cannot speak English” (Brewer & Harp, 2005, p. 145). English language learners (ELLs) represent the most rapid growing student population in U.S. schools. The highest

growth has occurred in grades 7–12, where ELLs increased by approximately 70% between 1992 and 2002 (NCTE, 2008). Furthermore, the projected number of school-age children of immigrants is projected to increase from 12.3 million in 2005, to 17.9 million in 2020, accounting for all the projected growth in the school-age population (Passel and Cohn, 2008). With the current K-12 education structure, many of these students will

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receive the majority of their English language instruction via a mainstream classroom. Due to resource and budget constraints, as well as an overall limited teacher expertise in ELL instruction, many school districts are struggling to fulfill the needs of this growing population. A proposed solution is the *Technology-Based Literacy Approach for English Language Learners (ELLs)*. This general model encourages those following it to implement components of instructional design into their planning and select teaching strategies based upon learning and language acquisition theories, as well as take into consideration the best practices that have evolved regarding accommodations for ELLs.

This chapter begins by providing a brief background of a variety of technological solutions for the language learner, then moves on to define why there needs to be a systematic approach when utilizing any and all of these solutions. Next, the chapter will illustrate a proposed model that education stakeholders can easily follow when integrating technology into the literacy curriculum, which aims to address quality. An *ELL Design Quadrant* will be shared as another tool to refer to when planning. Finally, examples of instructional strategies are paired with a technological tool or application along with a supporting pedagogical explanation and shared in the ‘practical applications’ section. Objectives have been identified and upon completion of this chapter, the reader should be able to:

- Describe recent evolvments in the fields of Computer-Assisted Language Learning (CALL), Computer-Assisted Pronunciation Training (CAPT), online interventions, and applications for mobile language learning.
- Conduct a needs assessment, pre-technology integration.
- Choose instructional strategies and technologies based on best practices.
- Incorporate the *ELL Quadrant* into planning.

- Motivate and prepare learners to utilize the technology.
- Assess effectiveness of technology integration and redesign if necessary.

BACKGROUND

Due to the recent economy, educators nationwide have felt the twinges of cutbacks, reductions, and limited funding, and in many cases, this results in an increased student-per-teacher ratio, with more ELLs placed in the inclusive classroom. Combine this with the continuous innovation and advancement of technology and the steadfast growth of the ELL student population, and it is quite obvious why the interest and research in the fields of computer-assisted language learning (CALL) and computer-assisted pronunciation training (CAPT) have experienced resurgence. A plethora of software programs, interactive hardware (e.g. SmartBoards, Promethean Boards) online interventions, learning games, simulations, and applications for mobile devices such as smartphones, iPads, iPods, and e-readers have been developed as a result. These innovations, if utilized consistently and correctly, have the potential to provide much needed support to classroom teachers who continue to struggle in meeting the needs of this population. Recent advances in technology offer an additional, engaging, and more private form of literacy instruction for ELLs. The computer is now an essential part of second language teaching, providing both independent and collaborative learning opportunities, through interdisciplinary and multicultural learning (Lai & Kritsonis, 2006). Not only do these interventions present the opportunity to help alleviate the current situation and aid in increasing literacy rates among ELLs, they also serve as powerful motivators for students and can help to minimize student learning downtime. For example, ELLs could engage in technology-based instruction that individually targets their learning level while their peers may

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