Chapter 10
Identifying and Evaluating Language-Learning Technology Tools

Farideh Nekoobahr
https://orcid.org/0000-0002-1528-1410
The University of Houston, USA

Jacqueline Hawkins
The University of Houston, USA

Kristi L. Santi
The University of Houston, USA

Janeen R. S. Antonelli
The University of Houston, USA

Johanna Leigh Thorpe
The University of Houston, USA

ABSTRACT

Digitization and the globalization of English have made it possible to incorporate different forms of digital technology into the infrastructure of English language programs. However, there are no clear criteria in the existing literature to identify and evaluate appropriate language-learning technology tools. To fill the gap, this project proposed empirically supported guidelines in a rubric called the ULTIA Rubric to facilitate and accelerate the process of identifying and evaluating technology-supported language-learning tools. The ULTIA Rubric has its basis in the major components of the five concepts of universal design for learning (UDL), learning science (LS), technology acceptance model (TAM), intelligent tutoring system (ITS), and automatic speech recognition (ASR). The rubric can function as a practical solution for program administrators, instructors, and English language learners (ELLs) who are seeking a reliable roadmap to evaluate language-learning software.

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INTRODUCTION

All English language learners (ELL) who strive to access higher education opportunities in the United States need to be English proficient. A lack of English language proficiency not only impedes international students' academic achievements, but research also shows that it affects both their self-esteem (Terui, 2012) and their relationship with peers and professors (Wu, Garza, & Guzman, 2015). In addition to a lack of English language proficiency, many ELLs face other challenges. These often include time limits due to their visa status and the high costs of living and education in the US. Thus, they would benefit from a curriculum that not only facilitates their language proficiency but also accelerates it. Currently, many of these curricular enhancements incorporate technology. Digitization and the globalization of English have made it possible to incorporate different forms of digital technology into the infrastructure of English language programs. However, in the existing literature, there are not systematic, clear, and research-based criteria that could be applied by all users for identifying and evaluating appropriate language-learning technology tools.

To fill this gap, and considering the fact that there is a broad range of such tools with different purposes, this problem-oriented project has created a system that can be extremely beneficial to not only educators and administrators who wish to support ELLs' language-learning proficiency but also the ELLs themselves who intend to be autonomous learners. This system attempts to apply easy-to-understand, empirically-supported guidelines in a rubric called the ULTIA Rubric (Table 1) to facilitate and accelerate the process of identifying and evaluating appropriate technology-supported language-learning tools. The guidelines can help educators or individuals save their time and manage their budget by providing them with a systematic roadmap to follow so that they can select the most effective technology tools. The ULTIA Rubric which is registered by the researcher with the US Copyright Office (registration number: TXu 2-095-958) has its basis in 43 major components of the following five research-based concepts: Universal Design for Learning (UDL), Learning Science (LS), Technology Acceptance Model (TAM), Intelligent Tutoring System (ITS), and Automatic Speech Recognition (ASR). The ULTIA Rubric (each letter of the acronym standing for the first letter of the first word of the five concepts) supports the user to answer the degree to which a language-learning technology tool (a) is systematically structured based on the major components of Universal Design for Learning and Learning Science (b) can be personalized based on the needs of its users and their native language speech patterns, (c) is engaging and motivating, (d) can save learning time, (e) identifies and detects errors, (f) provides corrective, immediate feedback, and (g) can support the intended language skills.

BACKGROUND

Universal Design for Learning (UDL)

In education, UDL refers to "a set of principles for curriculum development" that provides "effective instruction to all learners" and gives them "equal opportunities to learn" (National Center on UDL, 2014). The purpose of UDL instruction is to create a motivating "learning environment that challenges and engages all students" (The IRIS Center, 2017).