

Framework for the Design of Accessible Intelligent Tutoring Systems

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Abstract

We describe a framework for designing intelligent tutoring systems (ITSS) that are accessible to learners with disabilities. This framework is based on evidence centered design (ECD), which treats assessment designs, and their associated pedagogy, as parts of an evidentiary argument. That evidentiary argument involves claims about what a learner knows and can do and evidence for those claims. In the framework we specify three levels of ITS accessibility (basic, enhanced, and self-adaptive) that build upon each other with respect to their adaptivity to the needs of learners with disabilities. In the chapter we describe the framework and its application to ITSS and suggest areas for further research and development, including the need to develop ECD-based tools and improved technical standards.

Keywords: accessibility, assessment, disabilities, evidence centered design, intelligent tutoring systems, English language learners

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