

# Enabling text comprehensibility assessment for people with intellectual disabilities using a mobile application.

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In research on Easy Language and automatic text simplification, it is imperative to evaluate the comprehensibility of texts by presenting them to target users and assessing their level of comprehension. Target readers often include people with intellectual or other disabilities, which renders conducting experiments more challenging and time-consuming. In this paper, we introduce *Okra*, an openly available touchscreen-based application to facilitate the inclusion of people with disabilities in studies of text comprehensibility. It implements several tasks related to reading comprehension and cognition and its user interface is optimized toward the needs of people with intellectual disabilities (IDs). We used *Okra* in a study with 16 participants with IDs and tested for effects of modality, comparing reading comprehension results when texts are read on paper and on an iPad. We found no evidence of such an effect on multiple-choice comprehension questions and perceived difficulty ratings, but reading time was significantly longer on paper. We also tested the feasibility of assessing cognitive skill levels of participants in *Okra*, and discuss problems and possible improvements. We will continue development of the application and use it for evaluating automatic text simplification systems in the future.