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Artificial Intelligence and Easy-to-Read Methodology for Students with Special Needs in Primary Education

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ABSTRACT

Reading skills of primary school students are crucial to properly train the citizens and professionals of the future. If students do not have a good level of reading skills, they could present problems in the rest of the competences. To improve the reading ability of primary school students, particularly of those with special educational needs, is one of the objectives of our service-learning project named "Learning to Read FACILE: Easy-to-Read and Artificial Intelligence in Primary Education Texts". This project focuses on using the Easy-to-Read (E2R) Methodology (UNE 153101:2018 EX Standard) and Artificial Intelligence (AI) to improve the reading comprehension of texts in Spanish. Specifically, the aim is to use an AI-based application called FACILE, which helps in the process of adapting texts in Spanish to the E2R Methodology. AI experts in collaboration with teachers of Therapeutic Pedagogy and teachers of Hearing and Language selected the most common linguistic constructions that imply a difficulty concerning reading comprehension. In addition, such teachers adapt educational texts to E2R using FACILE with the help of AI and E2R experts. The main expected outcome of this project will be a methodology based on E2R and AI to improve text comprehension in Primary Education, with a focus on students with special educational needs. In addition, it is expected to have a positive impact (a) on the academic results of the primary school students participating in the project, and (b) on the way teachers prepare educational texts to be used in reading comprehension tests.

Keywords: cognitive accessibility; learning difficulties; reading comprehension; servicelearning project; special educational needs