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We hereby confirm that on the basis of a review procedure the article of authors Bisera Kostadinovska-Stojchevska, PhD, Elena Shalevska, MA, entitled *The Role of AI in Supporting Dyslexic Students in the Language Classroom* (scientific paper) has been accepted for publishing in the journal DIDACTICA SLOVENICA (3/2024).

With respect!

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## **The Role of AI in Supporting Dyslexic Students in the Language Classroom**

This qualitative paper, titled “*The Role of AI in Supporting Dyslexic Students in the Language Classroom*” explores the transformative potential of Artificial Intelligence (AI) in the language classroom, especially for students with dyslexia.

Language classrooms, in general, can present many obstacles for students with dyslexia. While these students may possess strong critical thinking and oral communication skills, the core elements of foreign or second language learning – reading, writing, and mastering vocabulary – can be significant hurdles. The root of these challenges often lies in phonological processing, the brain's ability to identify and manipulate the sounds that make up words. Weaknesses in this area can make it difficult for dyslexic students to connect letters to their corresponding sounds and vice versa, leading to struggles with reading fluency, spelling accuracy, and vocabulary development. Additionally, short-term memory difficulties can make it hard for them to retain new words and grammatical structures presented quickly in spoken language.

As a result, dyslexic students in the language classroom face a number of challenges to do with reading, spelling and writing. And these challenges are especially evident when they try to master, foreign, non-phonetic languages such as English. Foreign languages, as most are aware, have become increasingly important in today's globalized societies. Thus, students in countries such as North Macedonia, start to learn a foreign language at the very start of their primary education – in Grade 1. They continue to learn English throughout their entire (compulsory) educational journey and most learn English in some capacities even in colleges. This focus on foreign language acquisition makes it that much more important to understand the link between dyslexia and second language acquisition.

Dyslexia, as a learning disability, significantly complicates the acquisition of language-related skills. Thus, as mentioned, it impacts not only native language literacy but also the learning of foreign languages. Historical and modern research has characterized dyslexia as a difficulty with decoding (reading) and encoding (writing/spelling), with an estimated 15-20% of the global population affected by some form of language-based learning disability. Different approaches have been taken to address dyslexia and help dyslexic students throughout the years. By implementing specific strategies, teachers have managed to create a more inclusive and supportive environment for their dyslexic students. They provide individualized instruction, tailored to the student's specific needs and also employ Information and Computer Technology (ICT) in the classroom. The use of ICT has been a cornerstone for language instruction for the past decades, not only for dyslexic students, but for all students on all language-acquisition levels, in general.

As ICT evolves to include AI, the potential use of new educational tools that rely on AI is becoming particularly relevant, especially nowadays when AI use, especially through the use of certain AI models such as ChatGPT, is getting more and more popular everywhere in the world.

As the field of AI continues to evolve, it's exciting to see its potential applications in supporting dyslexic students in the language classroom. AI offers a plethora of unique opportunities to address the specific challenges dyslexic students face while creating a more engaging and effective learning experience.

In discussing previous research, the paper details the importance of AI in education, seen as a new frontier in intelligent cognition that can imitate human brain processes. This is particularly relevant for dyslexic learners, for whom AI can provide personalized learning

opportunities. In addition, the paper mentions AI's potential to improve mental well-being and academic engagement through personalized and responsive learning support .

Before moving to practical use of AI in the language classroom, to help dyslexic students, the paper lists the kind of varied challenges that dyslexic learners face, stating that the “inherent difficulties with phonemic awareness, linguistic information retrieval and processing, working memory, and stabilizing sound-symbol relationships in one's native language are mirrored and often magnified when learning a foreign language” (Simon, 2000).

Methodologically, the study proposes a conceptual model for integrating AI in teaching dyslexic students, acknowledging the subjective nature of qualitative research and the potential biases in literature selection. The suggested AI applications, while still conceptual, are argued to hold significant potential for practical implementation, subject to variations arising from technological limitations, individual learner differences, and educational contexts.

The potential of AI lies not just in its technical capabilities, but in its ability to personalize the learning experience. Dyslexic students often struggle with traditional, one-size-fits-all approaches. AI, however, can analyze a student's strengths, weaknesses, and learning style to create targeted interventions. This personalized approach would ensure that dyslexic students are not left behind or overwhelmed. Hopefully, this would result in a sense of accomplishment and a deeper engagement with the target, foreign language.

In the Results and Discussion section, the paper highlights three potential, innovative ways AI can be used within the language classroom to help dyslexic students with their foreign language acquisition.