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Original
research paper

Artificial intelligence in foreign language teaching: Evaluating the reliability of large language models with a focus on Serbian as a foreign language

Extended summary

Artificial intelligence for teaching purposes can be defined as a tool that adapts to students' knowledge. The most famous type of artificial intelligence is certainly generative artificial intelligence, i.e., large language models that have the ability to generate new textual or audio-visual content. At the beginning of the paper, an overview of the most frequently pointed out positive aspects of the use of artificial intelligence tools in the process of learning and teaching foreign languages was given. We also addressed the shortcomings of the application of this type of technology, with a special emphasis on the issues of ethics, misuse of a large range of different data, including those that fall into the domain of personal data, as well as the tendency of users to use these tools even for the simplest tasks, instead of their own cognitive capacities.

The aim of this paper is to explore the possibilities of using these models in teaching a foreign language at higher levels and to assess their reliability in interpreting dialectal texts and phraseological expressions. For the purposes of the research, three large language models were selected (Claude, ChatGPT, and Gemini), as well as three texts of different difficulty written in dialects of the Serbian language (Petrijin venac by Dragoslav Mihailović – in the Kosovo-Resava dialect, and Ivkova slava and Zona Zamfirova by Stevan Sremac – in the Prizren-Timoč dialect). The selected excerpts were entered into large language models with the request that the language tools translate them into standard Serbian. The quality of the translation was assessed by respondents from different target groups – non-philologists, foreign language teachers, and

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teachers of Serbian as a mother tongue or as a foreign language. The quality of the texts was assessed based on a predefined list of criteria, and the respondents were not aware of the fact that the texts were translated by artificial intelligence. Descriptive statistics methods were used to process the obtained statistical data, as well as one-way ANOVA with post-hoc tests (Bonferroni test). The initial hypothesis is that the translations will be assessed as reliable in translation from dialect to standard language, and that they will be assessed as useful for students of Serbian as a foreign language in understanding and interpreting dialect texts and phraseological expressions. Given the different educational profiles of the evaluators, one hypothesis is that non-philologists will assess the translations as of higher quality compared to other target groups, since their assessment is based exclusively on personal language experience in everyday situations, while teachers who teach Serbian as a native language or Serbian as a foreign language will be the strictest evaluators because they have both professional experience and knowledge in this field.

The research results indicate that all three language models received very high translation quality ratings according to all criteria. No statistically significant difference between the performances was found, based on which it can be concluded that all three tools can be helpful in interpreting dialectal and phraseological expressions in the Serbian language. When it comes to the ratings of the different groups of respondents, there is also no statistically significant difference among them, although the mean values of the ratings are slightly lower for the respondents who teach Serbian as a foreign language or Serbian as a native language.

With the help of generated translations, an example of the application of artificial intelligence in foreign language teaching at higher levels is presented in this paper. Based on the results, additional didactic guidelines for the use of artificial intelligence in foreign language teaching are given in the discussion. For example, large language models can be used to create curricula, individual lessons, and additional materials for each lesson. Certainly, the application of artificial intelligence in foreign language teaching is a very broad field and opens up numerous opportunities for further research.

Keywords: glottodidactics, large language models, artificial intelligence in teaching, ChatGPT in teaching, Serbian as a foreign language

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