

GENERATIVE AI (DEEPSEEK) IN LEARNING FOREIGN LANGUAGES AT A UNIVERSITY: OPPORTUNITIES AND LIMITATIONS

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Annotation. The main subject of this text is the application of generative AI in language learning. At the beginning of the text the author describes the evolution of neural language models. Special attention is given to the advantages and limitations of using this model in studying foreign languages. It is pointed out the potential of the DeepSeek platform in language learning context.

Keywords: neural network, artificial intelligence, personalized learning, digital technologies, foreign language, DeepSeek, chatbot.

Introduction. The evolution of digital technologies within foreign language pedagogy has progressed from the basic algorithmic systems of the 1980s to the current era of Large Language Models (LLMs).

While this integration has a long-standing history, the COVID-19 pandemic served as a critical catalyst, forcing an immediate transition to remote formats and necessitating the rapid development of new digital tools. A definitive shift in the public and academic perception of artificial intelligence occurred in late 2022 with the emergence of ChatGPT.

Moving beyond specialized academic interest, neural networks have integrated into everyday activities, fundamentally modernizing traditional teaching methods [1].

This article examines the didactic potential of the DeepSeek chatbot, evaluating its operational strengths and identifying specific limitations within the language learning process.

Main part. DeepSeek is a large language model with an open-source codebase, developed by the eponymous Chinese company [2].

The chatbot also enables the creation of diverse didactic materials: exercises, tests, reading texts, and sample dialogues. A user can request the generation of a test with a specific number of questions, followed by answer checking and error analysis. DeepSeek not only generates tasks but also provides detailed comments on correct answers, enhancing the learning effect.

A significant advantage of language learning with a neural network is its ability to adapt generated content to the user's language competence level and their professional or personal interests [3]. In contrast to static textbooks, the neural network allows for the creation of learning materials relevant to the student's specific field.

One of the most valuable functions is the opportunity to practice written language through dialogue. The neural network simulates the linguistic behavior of a native speaker, which can prove helpful for overcoming the language barrier: the network is impartial and does not judge errors, which can help reduce anxiety during conversation in a foreign language [3].

The neural network also assists in answering questions requiring comparative analysis of word meanings; it can list their areas of application and instances where using a word might be inappropriate. Moreover, one can ask DeepSeek an unlimited number of clarifying questions.

When translation of a text is required, DeepSeek also offers the possibility of explaining the translation choices made, justifying the selection of specific words or phrases. This contributes to the development of translation competence and a deeper understanding of the differences between languages.

Last, but not least, for language learning with a chatbot, users only need a device with internet access. This eliminates the need for expensive textbooks, tutoring sessions, or specialized software, making language practice accessible to a much wider audience regardless of their geographical location or financial resources.

However, one of the key drawbacks of DeepSeek for language learning at its current stage of development is the lack of support for voice input and output. This significantly limits its didactic potential for developing pronunciation skills, building listening comprehension, and practicing

spontaneous oral speech. For language learning, the ability for voice communication is critically important, as it allows training not only the lexical and grammatical aspects but also the phonetic dimension of speech.

Furthermore, like all large language models, DeepSeek can produce inaccurate or completely erroneous answers, especially when addressing highly specialized topics. This phenomenon, known as AI «hallucinations» requires the user to adopt a critical attitude towards the information received and the ability to verify it. Therefore, it is essential to treat the model's outputs as a starting point for further research rather than as definitive sources of truth.

Not only that, but during prolonged interaction, the model may lose track of certain parameters previously set by the user as learning boundaries. For example, if an instruction is given at the start of a dialogue to generate tasks strictly with three answer options, after several iterations the neural network may «forget» this condition and revert to its default generation format. Similar failures are observed in maintaining a specified difficulty level, text style, or output length. This limitation requires the user to constantly monitor adherence to the set parameters and periodically reiterate them in prompts.

Additionally, the neural network possesses no consciousness, empathy, or cultural experience in the human sense. Communication with such an interlocutor is merely interaction with a model reflecting a generalized perception of the linguistic worldview [3]. Traditional intercultural communication involves encountering a representative of a different culture, which entails an element of misunderstanding and conflict necessary for the genuine development of communicative competence.

An important limitation concerns linguistic diversity. Although other languages were not excluded from the training data during the model's development, its corpus predominantly consists of English and Chinese content. This means that when using other, rarer languages, the error rate increases, the quality of responses declines, and grammatical and stylistic accuracy suffer. Users note that when working with languages other than English and Chinese, the neural network may suddenly switch to English or Chinese during a dialogue and demonstrate a less profound understanding of complex phrases and stylistic nuances.

Chatbots also lack nuance when it comes to interpretation of words and phrases, whereas a human can play with the language, bending the initial meaning into something completely different. Humans intuitively navigate ambiguity, recognize when words are used ironically or figuratively, and can even invent new meanings on the spot. This ability to manipulate meaning is fundamental to authentic communication and cannot be replicated by pattern-matching algorithms [1]. Ultimately, this reveals that true linguistic creativity and playful ambiguity remain deeply human.

Conclusion. The conducted analysis allows us propose that the DeepSeek neural network represents a fairly effective tool for modernizing the process of foreign language learning [1]. Its functional capabilities create conditions for individualized and accessible language practice [3]. Yet it is not a substitute for human-led instruction. Its current limitations – ranging from the lack of audio support to linguistic biases – suggest that its optimal role is as a supplementary resource for independent practice and overcoming initial communicative barriers. As AI continues to evolve, the integration of such models must be balanced with the development of student critical competencies to ensure the accuracy and cultural depth of the learning experience.

References

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