GRAMMARLY FOR EDUCATION: AN AI-POWERED TOOL FOR LANGUAGE FOR SPECIFIC PURPOSES TEACHING IN UKRAINIAN HIGHER EDUCATION

Inna LEVENOK
Sumy State University

Abstract: *The article considers the place of AI-powered tools in the modern paradigm of language education. For Ukraine, the issue of distance education remains relevant due to the military aggression and the threat to the life and safety of participants in the educational process throughout the country. The article draws attention to the Ukrainian experience of using AI in teaching language for specific purposes. In particular, the article studies the experience of using the "Grammarly" service and its product "Grammarly for Education" to organize language education in Ukrainian universities. The article considers the possibilities and functions of this service, its implementation in the educational process, and the experience of using the AI-powered tool for teaching language for specific purposes using "Grammarly for Education". In particular, the study describes the Sumy State University's experience in participating in a pilot project on using this AI tool in the educational process. The effectiveness of implementing "Grammarly for Education" for teaching students English writing skills at the A2 level was tested through experimental training, the results of which are presented in the article. The article also offers examples of tasks using the capabilities of "Grammarly for Education" in English for specific purposes classes, as well as recommendations for implementing similar AI tools in the distance educational process within the framework of learning-by-doing and communicative approaches.*

Keywords: *artificial intelligence; AI-powered tools; educational technologies; language for specific purposes; Ukraine; Grammarly.*

Introduction

Digital technologies have been actively used in education for the last 30-40 years. However, in recent years, there has been a real "boom" in the use of the latest technologies in education, such as online learning resources and even artificial intelligence (AI). According to UNESCO, the number of students enrolled in Massive Open Online Courses (MOOCs) has increased from 0 in 2012 to at least 220 million in 2021. Worldwide, Internet users have increased from 16% in 2005 to 66% in 2022 (UNESCO). The coronavirus pandemic significantly impacted this fact, which has necessitated the rapid adoption of online learning tools.

From February 24, 2022, and as of 2025, the armed war of the Russian Federation against Ukraine has caused such problems for education in Ukraine due to the destruction of educational institutions, shelling and "blackouts", as well as the air threat, that causes the inability of students to physically visit educational institutions due to the danger to their lives and health. O. Topuzov and S. Alekseeva, analyzing the possibilities of using AI in the educational

process of Ukrainian educational institutions under martial law, indicate that the main way to solve the pressing problems of distance education in wartime has become online educational resources, including AI-powered ones (Topuzov & Alekseeva 6).

Ukraine is a Special Committee on Artificial Intelligence member at the Council of Europe. In 2020, Ukraine developed the "Concept for the Development of Artificial Intelligence in Ukraine". In addition, on December 9, 2022, the Minister of Education and Science of Ukraine presented the transformation program "Education 4.0: Ukrainian Dawn" (The Great Transformation Program), which involves the use of the latest technologies to improve the quality of the learning process and prepare students for life in a digital society. This creates an institutional and theoretical basis for introducing AI technologies into educational processes.

In particular, according to the "Concept…", AI is defined as an organized set of information technologies that can be used to perform complex tasks by using a system of scientific research methods and algorithms for processing information. In turn, researchers A. Kolomiyets & O. Kushnir interpret AI as the property of automatic systems to take on certain human intelligence functions (Kolomiyets & Kushnir 47). An example of such AI functions is the ability to choose and make optimal decisions based on previously acquired experience and rational analysis of external actions. These definitions imply the high effectiveness of AI in education, as it can accumulate and process information, surpassing all previous human developments in the field of information technology. In particular, scientists have developed the Turing test, which determines the level of similarity of artificial intelligence to a person based on the results of a dialogue. Today, "Chat GPT-4" is already able to pass the most difficult exams for many people (Ukrainian Digital Community).

AI can automatically adapt tasks to students' levels, offer interactive tasks, and provide instant feedback. This is especially useful in remote learning environments, where teachers have limited time for each student. AI-powered services help automate checking work, create listening and reading tasks, and provide interesting formats that engage students. Scientists note that AI has made significant progress in recent decades: AI systems drive autonomous cars, translate between different languages, generate easy-to-read texts, etc. Preparing students to work with AI is essential for their future success in the digital world. AI education should be accessible to Ukrainian students despite the state of war in the country. In wartime, AI can play an important role in education, helping to ensure access to learning, improve educational processes, and promote the students' psychological well-being.

Literature review

The issue of using AI in education is quite widely developed in modern literature. The evolution and use of "Grammarly" as a digital tool in English language teaching is studied by M. Khushk, H. Masroor and A. Naeem. The researchers indicate that "Grammarly" promotes personalized learning, helps students improve their writing skills independently. However, they warn about the risk of students becoming overly dependent on automatic feedback (Khushk, Masroor & Naeem 72).

C. V. Felix develops the role of the teacher and artificial intelligence in education (Felix 35). General aspects and possible scenarios of AI in the field of education and the consequences for the future of schools are outlined by researchers A. Gocen and F. Aydemir (Gocen and Aydemir 15).

The researchers H. Yu and Y. Guo provide a comprehensive analysis of the generative artificial intelligence application in the field of education and single out trends in its development in education in such aspects as personalized education, intelligent learning, collaborative learning and virtual learning (Yu & Guo). Personalized and interactive learning may be achieved by implementation of generative artificial intelligence, grounded on the work of modern chat-bots (D. Baidoo-Anu & Ansah 53). The basics of the work and the main functions of "ChatGPT", paying attention to the issue of academic integrity of the use of such tools in the field of higher education, was described by E. Sabzalieva and V. Arianna (Sabzalieva & Arianna).

The researcher Bailey D. R. et al. study students' feedback on the use of "Grammarly" to detect grammatical errors, improve sentence structure, and build confidence in writing. In general, scientists highlight the advantages of AI as an educational tool, but also point out disadvantages, such as impractical suggestions for replacing words or constructions, as well as the supposed limitations of the free version (Bailey et al. 91). G. Dizon & J. Gold focus on the emotional aspect of using AI as an automatic feedback tool in teaching students writing. Their study of the impact of "Grammarly" on students' emotional background showed a decrease in anxiety and an increase in internal autonomy of students learning English as a foreign language (Dizon & Gold 300). M. Guba et al. found that "Grammarly" can mostly help only low-level students improve their writing skills, while for higher-level students, using this tool can even hinder their ability to express themselves more individually (Guba 3).

The organization of the educational process in education institutions under martial law is actively studied by scientists of the Institute of Pedagogy of the National Academy of Educational Sciences of Ukraine. In particular, methodological and didactic principles of compensation for educational losses of students of complete secondary education (Alekseeva et al. 19); problems of a modern textbook regarding educational and methodological support of

education during martial law in Ukraine (Topuzov & Zasekina 7); organizational, pedagogical and programmatic and technical support of the educational process are studied (Malykhin, Aristova & Alieksieieva 820).

At the same time, there is currently a lack of relevant research on Ukraine's practical experience in implementing AI technologies in the educational process, particularly on the example of modern initiatives in the field of AI for language learning. Therefore, this article aims to study Ukraine's experience in using an AI-powered tool for teaching language for specific purposes using the example of using "Grammarly for Education" for higher education institutions.

The authors' interest in the potential of "Grammarly for Education" is due to their personal experience of participating in a pilot project aimed at implementing this AI tool free of charge at Sumy State University. This experience has not been described before and is of particular interest in the context of using AI tools in education in conditions of lack of access to face-to-face learning.

Theoretical background

In times of martial war in Ukraine, using AI in education can provide several opportunities to improve access to education and ensure the safety of students and teaching staff. AI has significant potential to transform learning and improve the quality of education in martial law. One of the main advantages of AI in educational activities is its efficiency. Artificial intelligence programs quickly perform many tasks that generally require a lot of human resources and time. For example, "OpenAI" develops algorithms that can analyze large amounts of data and extract important information, which makes it useful for scientific research and many other industries. AI, in general, can be an indispensable additional tool for students and teachers. With the help of AI tools, it is possible to automatically check students' work and provide recommendations for its improvement, create various types of summaries, provide students with detailed and timely feedback on their work, etc.

According to a nationwide survey conducted in September-October 2023, 76% of teachers already use AI in their work, including for preparing for classes (44% of teachers), preparing for homework (30%), conducting classes (28%), testing students' knowledge (22%) and in extracurricular work (20%) (MESU). The results of this study are limited to school education, but they indicate a high percentage of AI use in Ukrainian education during wartime. But what AI tools have the most significant potential for use in education?

Artificial Narrow Intelligence (ANI) is today's most common type of AI today. ANI tools are used by the majority of active Internet users every day. ANI, such as "Siri", a customer service Chabot, or even Netflix's

recommendation algorithm, is "narrow" because it only does one or a few tasks well. This type of AI can only perform one task within predefined parameters. Narrow-profile AI tools cannot store and learn from data, or apply the acquired knowledge to other tasks. Accordingly, all their actions must be pre-configured and rule-based (Projector Institute). AI-powered tools for educational purposes also mainly focus on a single task.

Among some of the most common AI-powered tools for educational purposes, the following can be distinguished: "Gradescope" (a platform for evaluating and commenting on student work), "Undetectable AI" (a tool for creating unique texts), "Quizgecko" (an online quiz builder), "Decktopus AI" (a tool for creating presentations), "Grammarly" (AI-tool writing assistance). In the context of this study, we are most interested in the experience of Ukrainian educators in using "Grammarly" for language education.

"FlexOS" project states that "Grammarly AI" is ranked 3rd among the most popular AI-powered tools as of February 2024 (AI for Work Top 100). Powered by cutting-edge AI, "Grammarly" improves writing skills across platforms like "Gmail", "Facebook", and "LinkedIn". It is a one-stop solution for enhancing writing skills, perfect for students and professionals. It should also be noted that "Grammarly" is a Ukrainian company that has developed an AI-based communication assistant. Its product helps improve communication in English. "Grammarly" is used daily by over 30 million people worldwide and more than 3,000 educational institutions, including leading universities in the United States (MESU). The company adheres to the principles of safe and responsible use of AI. It has also developed the "AI for Students" course, which provides students with recommendations on the responsible use of generative AI technologies.

"Grammarly" improves the quality of written communication by offering recommendations for correctness (grammar and writing mechanics), clarity (brevity and readability), engagingness (vocabulary and variety), and tone of message (formality, politeness, and confidence) (Lardinois). The main functions of "Grammarly" include the following: it corrects grammar and spelling mistakes; enhances clarity and readability; offers advanced punctuation and writing style suggestions; provides contextual vocabulary enhancements; flags plagiarism and supports originality; assists in writing concisely; improves sentence structure; supports multilingual writing; provides real-time writing assistance; personalizes writing goals; offers a user-friendly interface; supports different writing formats; facilitates collaborative writing; encourages learning and growth; and is also available across multiple platforms (Mahrukh). This wide range of features makes "Grammarly" a valuable tool for language learning.

Grammarly is designed to augment human skills so everyone can communicate more clearly and more easily—while still preserving things like

individual voice and key context. This approach anchors every step of product development, which includes commitments to bias mitigation and inclusive language (Grammarly 2024). An implementing the "Grammarly for Education" service in educational institutions, perhaps, will contribute to raising the general level of English and its popularization as a language of international communication in Ukraine. To prepare teachers, special training on implementing the product was held in September 2024.

In August, the webinar "Grammarly for Education" was held with the participation of Y. Zuban (online learning specialist in projects of the MESU), T. Tablyska (General Director of the Directorate of Digital Transformation of the MESU), and other experts and representatives of the ministry (Grammarly for Education Webinar). The authors of the article participated in this webinar as representatives of Sumy State University, which is one of the universities participating in this pilot project. The webinar provided Ukrainian university teachers with more comprehensive information about the potential of using the "Grammarly" tool for language teaching. MESU experts point out that "Grammarly for Education" helps students communicate more freely and saves time working with drafts. This function is essential for students and teachers, optimizing their work on preparing for classes or writing scientific papers. A significant advantage of "Grammarly" is that this tool is comprehensive and can be used not only on a computer but also on a smartphone or tablet, thus providing easy access to the necessary functions.

Users can get detailed insights into their user trends in the "Analytics" tab to improve their writing skills and better understand their mistakes. Awareness of common writing mistakes can improve the quality of a user's writing from the start, even before the user looks at "Grammarly's" suggestions. In general, based on the capabilities of the "Grammarly" tool, the following options can be offered for using this tool for teaching language for specific purposes (Table 1):

Options	Description
Option "Correctness"	"Grammarly" analyzes text using cutting-edge algorithms and artificial intelligence and proposes suggestions for improvement. It scans the text for grammar, spelling, and punctuation mistakes and offers suggestions for sentence structure, word choice, and style enhancements.
Option "Synonyms"	"Grammarly" provides a selection of synonyms for words used in the text. By clicking on a word, you can see synonym options that can be used to replace the words, avoiding repetition.

Option "Style"	"Grammarly" tools can be indispensable when working on text stylistics. The user can set the goals of their text (to tell about something, to motivate or convince the reader, to evoke certain emotions, etc.), and AI will help them to choose the necessary writing style. The "Expert" parameter allows the tool to ignore jargon and terminology in texts aimed at a narrow audience.
Option "Self-education"	The tool has useful features for the user's self-education. First, each mistake is explained with the corresponding rule, which allows correcting and analyzing the mistakes, and remembering the language rules. Click "See More" in the "Grammarly" settings to get information about the cause and explanation of the mistake. This feature is especially useful for students or non-native English speakers. Second, "Grammarly" has statistics that allow you to evaluate the most frequent mistakes, identify your weaknesses in writing in English, and pay attention to them.

Table 1 Options for using "Grammarly" tool for teaching English language for specific purposes (Created by the author)

Accordingly, with the capabilities of "Grammarly for Education", teachers of foreign languages for special purposes can supplement lessons with work with AI tools and help students develop skills for independent work with such resources. Several Ukrainian higher education institutions, including Sumy State University, already have experience in using AI tools, using the example of "Grammarly". In particular, the AI tool "Grammarly" was used at Sumy State University to improve the writing skills of students of various specialties in English classes during the first semester of the 2024-2025 academic year.

Methodology

Using the opportunities provided to us for the pilot use of the "Grammarly for Education" resource at Sumy State University, we studied of its effectiveness in the educational process. For this purpose, a modeling method was used, which allowed us to adapt the "Grammarly for Education" resource to teach students writing as part of studying English as a foreign language. Several exercises were developed based on "Grammarly for Education".

The implementation of these exercises took place through experimental training. The study had several stages: 1) development of

exercises using AI; 2) ascertaining stage: testing students' writing skills and grading; 3) formative stage: implementation of exercises using AI in the educational process; 4) control stage: testing qualitative changes in students' writing skills after working with AI. The ascertaining and control stages included testing students' skills in writing texts in English and were based on completing a written task. Students' grades obtained at the ascertaining and control stages were compared.

The study involved 5 groups of 18-20 students (98 people) with an English proficiency level of A2. The study was attended by students of the academic fields "073 Management", "051 Economics: Economics and Business Innovation", "281 Public Management and Administration: Administrative Management". The study was conducted within several units and covered several academic months for each group. While working on Topic 4 "Investment", students were assigned to write an essay on the topic "What kind of risk taker are you?". Students completed the Writing task independently and received the following grades for writing: 5 students received an A grade (90-100 points), and 11 students received a B grade (82-89 points). 34 students received a C grade (75-81 points), 30 students received a D grade (64-74 points), and 18 students received an E grade (60-63 points).

While working on Topic 5 "Innovation", students were tasked with writing an essay on "Genuinely innovative products". The task was similar to that used in the assessment phase. In particular, they were asked to write a text of the same type and genre, which allowed for greater objectivity in the assessment. However, the teacher used AI tools to teach students how to write on this topic. In particular, the following types of exercises were offered to students:

Exercise 1. Before checking your essay, use the "Set Goals" function on the "Grammarly" resource, selecting the parameters you need to use. Check your essay for compliance with the specified parameters.

Exercise 2. Write down the main mistakes you made when writing the essay and work on the mistakes. Count the most common mistakes and prepare 5 English rules, in which you made the most mistakes.

Exercise 3. Correct the text of your essay using "Grammarly" and print out the original and checked versions. Give yourself a score for the first and second versions of the essay. How many changes have occurred in your essay?

Thus, all the work on the written part of the unit was carried out by students using the resource "Grammarly". Students worked with this tool as an assistant. However, their tasks included not only checking and correcting mistakes but also analyzing and working on mistakes, as well as stylistic analysis of their essay using the "Set Goals" function, which allowed them to check whether the style and choice of vocabulary in the text corresponded to the specified parameters.

The grades received by students for this writing unit were as follows: 15 students received an A grade (90-100 points), and 29 students received a B grade (82-89 points). 26 students received a C grade (75-81 points), 20 students received a D grade (64-74 points), and 8 students received an E grade (60-63 points). Figure 1 schematically represents the comparison of student assessment results.

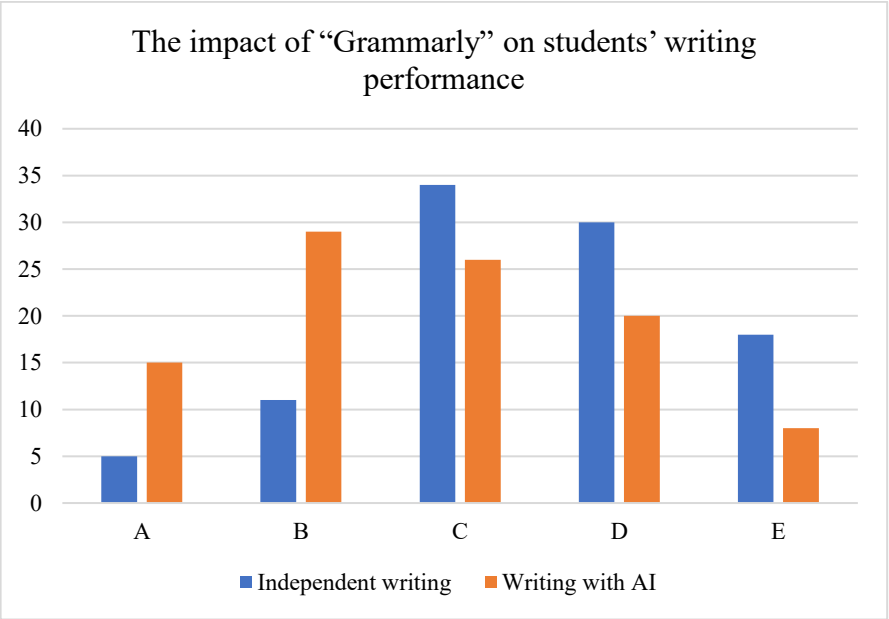

Fig. 1. The impact of using “Grammarly” AI-powered tool on students’ writing performance

The statistical study showed that the number of students who improved their grade to A increased by 10.21%, while 18.37% of students improved their grade to B. On the contrary, the number of students with a grade of C decreased by 8.16%, with a grade of D – by 10.2%, and with a grade of E – by 10.21%. These research results are presented in Table 2:

Table 2. Results of the statistical study

	A	B	C	D	E
Independent writing	5.10%	11.22%	34.69%	30.61%	18.37%
Writing with AI	15.31%	29.59%	26.53%	20.41%	8.16%
The difference	10.21%	18.37%	8.16%	10.2%	10.21%

Comparative and statistical analysis show that as a result of using the "Grammarly" AI-powered tool, the number of students with high scores (A and B) increased, while the number of students who received average or satisfactory scores (C, D, and E) decreased. This is a positive result, which is also confirmed by the observations of an English as a foreign language teacher, who noted the benefits of working on writing mistakes using the "Grammarly" resource. Students could clearly see the number and frequency of mistakes that occur in their writing, which helped most of them get rid of such mistakes.

In addition to quantitative indicators, one can rely on qualitative ones, namely on the feedback of the students, who positively assessed the work with AI. Most students indicated that with the help of "Grammarly" it was easier for them to correct their mistakes and correct them and that they better remember the English rules in which they made mistakes more often.

Thus, using "Grammarly" as an AI tool for learning a foreign language for special purposes is effective, since this resource allows productive work on terminology and scientific styles and genres. However, it is important to properly organize students' work, provide a sufficient level of teacher's control, and focus on the educational potential of "Grammarly".

Results and recommendations

It should be noted that the "Grammarly" functions are especially useful for students studying English for special needs (engineers, programmers, doctors, lawyers, etc.), as they allow working with special terminology and stylistics of special scientific texts. In addition, at Sumy State University, within the framework of English for special needs lessons, a general practice is being introduced for students to use "Grammarly" tools to perform specific exercises given by the teacher and in learning a foreign language. The use of AI tools for performing other tasks is encouraged, which is designed to facilitate the learning process and optimize students' time spent on various types of learning tasks. The results of implementing an AI-powered tool for teaching language for specific purposes can be assessed in the long term.

Despite the strong arguments in favour of "Grammarly" as a high-quality AI tool that can be effectively used in education, several limitations can be identified. First of all, we agree with the opinion of I. Pane et al. regarding difficulties interpreting "Grammarly's" feedback, as well as the tool's inability to fully understand context and nuance, which can result in inaccurate or irrelevant suggestions (Pane et al. 92). In addition, we can note the technical aspects of using "Grammarly", which can also create difficulties. It is also worth mentioning the limitations that not only "Grammarly", but also any AI tool has in the context of the Ukrainian learning experience during crisis conditions. In particular, any AI resource requires a stable Internet

connection and sufficient speed, which is not always available to Ukrainian students in war conditions.

Additionally, our personal experience with "Grammarly" in editing text suggests that sometimes the AI is limited in understanding the ideas the author wants to convey. This is especially true for stylistic design, but even in scientific texts that require Passive Voice, "Grammarly" often tries to correct these sentences to the Active Voice, although this is not always appropriate. Therefore, one cannot rely solely on the AI's "opinion". It can only be an additional tool, but not the main one, in developing writing skills.

Another essential problem with using AI for language learning for special purposes is the violation of academic integrity rules using these resources and other "pitfalls" of using AI tools in education. In the case of "Grammarly", there are fewer such risks than with "Chat GPT", for example, which can fully generate essays and entire scientific papers. However, using "Grammarly" without error analysis and a learning component, in our opinion, can also hinder the development of students' language and speech competencies.

In particular, if a student only uses this tool to check their work and correct mistakes every time, without analyzing the mistakes themselves, they will improve their score for the submitted work. Still, they will make the same mistakes over and over again. Using "Grammarly" will not be effective, so the teacher must ensure that students work on mistakes. This part of working with "Grammarly" should not be left to the student. This should perhaps be the most important part of working with an AI tool, allowing the teacher to ensure that all students have worked on their mistakes effectively. Only such an approach will make AI tools useful for students and fully unlock their educational potential.

Researchers also identify other risks and challenges of using AI technologies in education. R. Hariri, I. Lee et al. and R. Yilmaz & T. Karakus identify the following threats and challenges of using AI in education:

1. Technology dependency. AI can make students vulnerable to possible technical problems or failures in AI systems. Dependence on this technology can affect the skills and knowledge of future professionals, as it may be difficult or even impossible for them to work without AI.
2. Data inaccuracy. Machine learning models built on big data can reflect incorrect and inaccurate data on which they were trained, leading to inaccurate research results and incorrect conclusions.
3. Teaching and education. Using AI requires specialized knowledge and skills that are not always available to teachers. Insufficient training can limit the effectiveness of using this technology in educational activities (Hariri 10; Lee et al. 50; Yilmaz & Karakus 5).

Combining the limitations of AI in understanding some aspects of language as a living organism and the problem of ethics, U. O. Donatus also highlights the issue of teacher-student relationships in the use of AI in education (Donatus 2). In the context of our experience, it is also worth pointing out this ethical aspect because despite all the development of AI, it is not able to replace the guidance of the teacher and cannot replace it. It is only a tool in the hands of a true specialist who can see all its limitations and productively direct the strengths of AI for the benefit of students.

Based on our experience in implementing "Grammarly" in professional English teaching, we can formulate the following recommendations:

1. Integrate "Grammarly" into the writing process. Ask students to type their essays, letters, or creative assignments into "Grammarly" (an online editor or app). Let them review the highlighted errors and explanations, and then discuss with the teacher why the suggested corrections are useful. Encourage students to write "drafts" first in their word processor and then check them in "Grammarly". In pairs, one creates the main text, the other follows the corrections suggested by "Grammarly", commenting on each replacement.

2. Focus on explanations, not just the result of the corrections. Regularly demonstrate to students that "Grammarly" not only corrects errors, but also offers explanations of rules (parts of speech, punctuation, lexical collocations). When the system highlights "subject–verb agreement," ask students to read a short explanation and restate the rule in their own words.

3. Reflect on corrections. After receiving the automatic corrections, see if students agree with the suggested changes. Discuss cases where "Grammarly's" algorithm might make a "not-so-accurate" recommendation (for example, in complex stylistic or idiomatic constructions). Encourage them to add their own comments: "I agree, but I could write it differently…".

4. Build self-correction and mindful learning skills. At the beginning or end of class, display a few "errors of the week" from student texts (anonymously). Discuss with the class how "Grammarly" corrected these errors, which rules were broken, and how to avoid them in the future. Ask students to choose a short piece of text of their own (e.g., a social media post in English), check it with "Grammarly", write down the three main types of errors (e.g., incorrect articles, errors in verb tenses, and inconsistency of verb forms with the subject), and formulate their own recommendations to themselves.

5. Be aware of the limitations and develop a critical attitude towards the tool. Explain to students that "Grammarly" is an algorithm that can sometimes make mistakes (for example, misinterpreting the context of an idiom, or suggesting "too formal" constructions when the text was supposed

to be colloquial). Encourage students to justify their choices: if they reject a suggested option, they should explain why. Gradually reduce reliance on automatic correction: at the end of the semester, conduct a "correction without Grammarly" exercise (the teacher gives a text with errors, and students find and correct them on their own).

Among the recommendations that can be formulated for higher education institutions regarding using "Grammarly" resource in the educational process, the technical component can be highlighted. It should be noted that the technical equipment of university computer classes must be adapted to use all the capabilities of "Grammarly". In particular, "Grammarly" has a plugin for "WordPress". If the university software uses the "WordPress" editor, it can be successfully combined with the capabilities of "Grammarly", which will improve the editor's work and expand its functionality. A beta version of the "Grammarly" add-on for "Google Docs", which many students use for their studies, has also been developed (Gregory). Combining these products also improves the functionality of "Google Docs", especially in checking and correcting mistakes. Improving the technical and software components of universities' work is essential when incorporating AI tools into educational and work processes in higher education institutions.

The threats and challenges of using AI in education and research highlight the importance of careful planning, ethical deliberation, and collaboration to ensure this technology's practical and responsible use. Failure to address these challenges could limit the potential of AI in education. Educators should guide students in exploring the possibility of AI tools like "Grammarly". Properly constructed communication with the resource, when students critically evaluate the obtained test result, require an evidence base in the form of references and pay attention to explanations for corrections, will always have the proper didactic effect. Otherwise, students will use the new technology at their discretion, AI will become a tool for copying and plagiarism, and teachers will receive standardized and impersonal essays or answers to questions.

Limitations

Due to the small sample of students, the results of the quantitative study cannot be fully representative; instead, they can serve as an initial stage of assessing the effectiveness of using AI in writing. Limitations also relate to the level of language proficiency of students (only level A2 was covered). The experiment tested only the impact on students' written competence and did not present the effects on their grammatical and lexical competence, which may represent further research prospects. In addition, only students' work on one type of written task (essay writing) was taken for analysis, while the result may vary depending on the type and genre of text that students can work with using AI.

Conclusion

Artificial intelligence has become one of the key technological revolutions of the XXI century, affecting various areas of life, including education and scientific research. The use of AI in education provides many opportunities to improve the effectiveness of learning, which expands the horizons of foreign language learning. The use of AI in modern education is currently extremely relevant and has the potential to modernize the training of future teachers. This innovative technology creates new opportunities for increasing the efficiency and accessibility of education. Still, it is accompanied by serious challenges and threats, such as social and ethical issues, technical challenges, and many others. AI is transforming the educational landscape, offering new opportunities to improve the learning process and learning outcomes.

In language education, one of the practical AI-based tools is "Grammarly" – a product of Ukrainian developers, which allows one to check and edit texts and contains a database of grammatical, lexical, syntactic, punctuation, stylistic, and other rules. This resource can be a valuable aid for students and teachers when working on written assignments as part of learning a foreign language for specific purposes. The "Grammarly for Education" initiative makes the implementation of this AI tool in higher education on a large scale in the context of a difficult security situation and distance learning in Ukraine possible. This initiative is a product of the "Grammarly" company and is designed to provide Ukrainian students and teachers with access to advanced tools for improving their English language skills and knowledge. This initiative has been implemented in many Ukrainian higher education institutions since September 2024 and has demonstrated positive results.

The conducted study, which had ascertaining, formative, and control phases, confirmed the hypothesis of improving students' writing skills through using AI as an auxiliary tool. In addition, further observation of the learning process of the group participating in the experiment showed that students successfully integrated the acquired skills and used them for learning. This allowed for increased productivity in writing instruction, but also challenged the teacher to use AI ethically in teaching and preventing possible problems. A study of the potential of using this AI tool at higher education institutions has shown that it is effective if the teacher correctly incorporates it into the learning process.

In general, in wartime conditions, the use of AI in education has a number of essential aspects: personalized learning (AI systems can create customized learning programs for each student, taking into account their needs and abilities, which helps ensure effective learning, even in the absence of direct contact with teachers); virtual learning environments (virtual reality systems and other technologies supported by AI can create immersive learning environments that allow students to study material in an interactive way, even

if their physical educational institutions have been damaged); curriculum optimization (AI can help analyze data on student performance and curriculum effectiveness to improve educational approaches in wartime); distance learning (AI can help in the development and implementation of distance learning systems that enable students to learn online, this is especially important in wartime, when traditional educational institutions may be inaccessible or unsafe for students).

Prospects for further research relate to improving the quality of education and empowering students and teachers using "Grammarly for Education" tools to minimize educational losses under martial law. AI has changed the way teachers teach and students learn. More comprehensive, context-specific research on AI in higher education is needed. It is important to publicly share best practices for implementing AI systems in teaching across educational components and find ways to overcome challenges collectively.

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