ARTIFICIAL INTELLIGENCE (AI) AS A USEFUL ASSISTANT IN ENGLISH LESSON PLANNING

ШТУЧНИЙ ІНТЕЛЕКТ (ШІ) ЯК КОРИСНИЙ ПОМІЧНИК У ПЛАНУВАННІ УРОКІВ АНГЛІЙСЬКОЇ МОВИ

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Traditional English lesson planning can be time-consuming and lack personalization. However, Artificial Intelligence (AI) is emerging as a powerful tool to address these challenges. AI can analyse vast amounts of student data, pinpointing individual strengths and weaknesses. This data-driven approach allows educators to tailor lesson plans to each student's needs, ensuring they receive appropriate challenges and support. This personalized learning experience caters to diverse learning styles and ultimately leads to improved student outcomes. Thus, the article is devoted to the role of AI in English lesson planning. AI-powered platforms like MagicSchool enhance lesson planning efficiency. The article covers features that these platforms offer, like lesson plan generators that create customized plans based on specific topics or learning objectives. Additionally, chatbot assistants within these platforms can generate educational resources like worksheets and activities, saving teachers' valuable time. In the article it is determined what MagicSchool's chatbot, Raina, can do to aid the teachers' work: it can even suggest teaching strategies like differentiated instruction, or technology integration, which incorporates educational apps and online resources to enhance engagement. However, the incorporation of AI in lesson planning presents some challenges. The digital divide, the gap between those with and without access to technology, can intensify educational inequalities if not addressed. Equitable access to AI tools is crucial to ensure all students benefit from this technology. Furthermore, ethical considerations regarding data privacy in AI systems require careful attention. It is also noted that educators and policymakers must work together to create guidelines and protocols that ensure student data is used responsibly and ethically, fostering a safe and secure learning environment. Despite these challenges, AI holds significant promise for the future of English lesson planning. By personalizing learning experiences, streamlining planning processes, and providing efficient assessment tools, AI empowers educators to create a more effective and engaging learning environment for all students. Further research can explore areas like the effectiveness of AI-powered assessments, the impact of AI on teacher workload and professional development, and the ethical considerations surrounding the use of AI in education. By embracing AI technologies and addressing the challenges, educators can unlock its potential to transform English lesson planning and ultimately improve the quality of education for all.
Key words: *Artificial Intelligence (AI), lesson planning, benefits of AI in English lesson planning, MagicSchool, chatbot, lesson plan generator.*

Традиційне планування уроків англійської мови може забирати багато часу та бути недостатньо персоналізованим. Однак штучний інтелект (ШІ) стає потужним інструментом для вирішення цих проблем. ШІ може аналізувати величезні обсяги даних про учнів, визначаючи їхні сильні та слабкі сторони. Цей підхід, заснований на даних, дозволяє викладачам адаптувати плани уроків до потреб кожного учня, гарантуючи, що він отримає відповідні виклики та підтримку. Такий персоналізований навчальний досвід враховує різні стилі навчання і, зрештою, призводить до покращення результатів учнів. Отже, стаття присвячена ролі штучного інтелекту в плануванні уроків англійської мови. Платформи зі штучним інтелектом, такі як MagicSchool, підвищують ефективність планування уроків. У статті розглядаються функції, які пропонують ці платформи, наприклад, генератори планів уроків, які створюють індивідуальні плани на основі конкретних тем або навчальних цілей. Крім того, чат-боти-помічники на цих платформах можуть створювати освітні ресурси, такі як робочі таблиці та завдання, заощаджуючи цінний час вчителів. У статті визначено, як чат-бот Raina від MagicSchool може допомогти вчителям у роботі: він навіть може запропонувати стратегії навчання, такі як диференційоване викладання або інтеграція технологій, що включає освітні програми та онлайн-ресурси для підвищення рівня залученості. Однак використання штучного інтелекту в плануванні уроків пов'язане з певними труднощами. Цифровий розрив, розрив між тими, хто має доступ до технологій, і тими, хто не має, може посилити нерівність в освіті, якщо його не подолати. Рівний доступ до інструментів штучного інтелекту має вирішальне значення для того, щоб усі учні могли скористатися перевагами цієї технології. Крім того, ретельної уваги потребують етичні міркування щодо конфіденційності даних у системах штучного інтелекту. Також зазначається, що освітяни і політики повинні спільно працювати над створенням керівних принципів і протоколів, які забезпечать відповідальне і етичне використання даних учнів, сприяючи створенню безпечного і захищеного навчального середовища. Незважаючи на ці виклики, штучний інтелект має значні перспективи для майбутнього планування уроків англійської мови. Персоналізуючи навчальний досвід, оптимізуючи процеси планування та надаючи ефективні інструменти оцінювання, ШІ дає викладачам можливість створити більш ефективне та цікаве навчальне середовище для всіх учнів. Подальші дослідження можуть вивчати такі сфери, як ефективність оцінювання за допомогою ШІ, вплив ШІ на навантаження вчителів і їхній професійний розвиток, а також етичні міркування, пов'язані з використанням ШІ в освіті. Впроваджуючи технології штучного інтелекту та вирішуючи проблеми, освітяни можуть розкрити його потенціал для трансформації планування уроків англійської мови і, в кінцевому підсумку, підвищити якість освіти для всіх.
Ключові слова: *штучний інтелект (ШІ), планування уроків, переваги ШІ в плануванні уроків англійської мови, MagicSchool, чат-бот, генератор планів уроків.*

The problem statement and its connection with important scientific or practical tasks. Artificial Intelligence (AI) has emerged as a transformative force in various sectors, including education. The integration of AI into educational practices is not merely a futuristic concept but a present reality. AI's ability to process and analyse large datasets enables educators to design personalized and adaptive learning experiences. Specifically, in English lesson planning, AI offers innovative tools and methodologies that enhance the efficiency and effectiveness of teaching. AI tools can assist in creating tailored lesson plans, assessing student performance, and providing real-time feedback. This technological advancement aligns with the growing need for educational personalization and efficiency. However, the potentials are not fully unveiled yet, therefore researchers and experts should set themselves the task of circumscribing and analysing the role AI plays in English lesson planning.

Analysis of recent studies and publications. Goksel and Bozkurt [1] believe that AI has the capability to customize educational experiences for each student by utilizing data to adapt lessons and recommend appropriate resources. This approach maintains student engagement through interactive learning activities. Additionally, AI serves as a valuable assistant for teachers by automating tasks such as grading and delivering immediate feedback to students [2]. However, AI should not be viewed as a replacement for teachers; instead, a balance between technological tools and human expertise is essential [3]. While there are challenges, such as disparities in technology access and potential biases in AI algorithms, the future of AI in education holds significant promise. Innovations like AI-driven language assessments and virtual tutors represent the potential advancements in this field [4]. Chen et al.'s [5] research investigates the utilization of AI in personalizing grammar instruction by pinpointing prevalent errors among students and creating exercises specifically designed to address these mistakes. This focused methodology does not only conserve valuable time for educators but also enhances the learning outcomes for students. Krstić et al. also discuss AI and its role in the educational process, concluding that '… playing an important role in promoting personalized teaching and learning, AI changes the way teachers teach and the way students learn. … Thanks to artificial intelligence, teaching, and learning programs are becoming more advanced' [6, p. 227].

Sociocultural theory highlights the critical role of social interactions and collaborative efforts in the learning process. AI can enhance this aspect by enabling students to participate in collaborative learning activities within virtual spaces, promoting peer-to-peer support and the exchange of knowledge. Furthermore, AI-driven adaptive learning systems can offer scaffolded learning experiences, providing temporary support that aids students in gradually achieving autonomy and proficiency [5]. Moreover, du Boulay [7] explores the changing ethical considerations surrounding AI in education. First, he examines early AI applications in the 1970s and progresses to the current state of the field. He states that initially AI tools were primarily student-focused. Today, the range of tools has expanded to support teachers in managing classrooms and administrators in overseeing student groups.

Ethical considerations were not a major concern in the early days of AI in education. However, they have become central to the conversation. This is due to several factors. First, there are legitimate concerns about potential threats to student and teacher autonomy. Second, the large-scale collection of student data raises concerns about misuse for unintended purposes. Third, there are fears that AI could introduce new biases into educational decision-making and exacerbate existing educational inequalities. Finally, the generally negative public perception of AI adds to the concerns about its application in education [7].

Outline of previously unresolved issues. Luckin et al. [8] published their first volume on AI in education in 2016. However, there is no mention of its role in lesson planning. Niemi et al. [9] edited a volume on the use and role of AI in learning, but it does not tackle the problem of AI in lesson planning. Therefore, our study is intended to fill the gap in academic literature on the relationship of AI and planning English lessons.

The purpose of the article is to explore the application of AI in English lesson planning, highlighting its benefits and potential challenges. It aims to examine how AI can address current challenges in ELT and create a learner-centred environment that caters to diverse needs and learning styles.

The tasks of the study are manifold: to describe the potential uses of AI in lesson panning; to identify the benefits of AI application in English lesson panning; to examine and characterise MagicSchool [10], an AI-based applicationfor English teachers and students; to define the challenges in applying AI for English lesson planning.

Research methods. To fulfil the predetermined tasks, the descriptive method of analysis was used, together with the methods of induction and deduction.

Results and discussion. One of the most significant advantages of AI in lesson planning is its ability to support personalized learning. AI systems can analyse individual student data, including learning preferences, strengths, and areas for improvement. According to a study by Holmes et al. [4], AI can identify patterns in student performance and suggest specific activities or resources that cater to individual learning needs. This personalized approach ensures that each student receives the appropriate level of challenge and support, enhancing their learning outcomes. Because of all this, differentiation among

students, which is a timely issue in large heterogeneous classes, also appears easy. According to Guan et al. [11], it is because with the help of diverse AI-powered tools teachers can more easily and faster meet the needs of their students. As a result, students can learn at their own pace, thus achieving better results and become more motivated in the long run. Hashem et al. also believe that 'integrating AI tools optimises teacher planning, enhances instructional support, and refines resource allocation, contributing to AI's academic potential' [12, p. 19].

AI can also assist teachers in generating educational resources. Tools such as automated content creation platforms can produce worksheets, quizzes, and interactive activities based on predefined learning objectives. These resources can be tailored to various proficiency levels, ensuring that all students are adequately challenged. For instance, research by Luckin et al. [8] demonstrates how AI can generate diverse and inclusive educational materials that reflect the cultural and linguistic backgrounds of students.

Efficient assessment and feedback are crucial for effective lesson planning. AI-driven assessment tools can provide instant and accurate feedback on student assignments. This immediate feedback helps students understand their mistakes and improve their skills more rapidly. A study by Wang and Heffernan [13] shows that AI-based systems can assess complex language tasks, such as essay writing, with a high degree of accuracy, thereby reducing the burden on teachers and allowing them to focus on instructional strategies.

We can identify three major benefits of AI in English lesson planning: time efficiency, data-driven insights, and enhanced student engagement. AI significantly reduces the time teachers spend on administrative tasks, allowing them to focus more on instructional activities. Automated grading systems and resource generation tools streamline the planning process, enabling teachers to allocate more time to student interaction and personalized instruction. AI provides educators with data-driven insights into student performance and engagement. By analysing data collected from various learning activities, AI can help teachers identify trends and adjust their teaching strategies accordingly. This data-driven approach leads to more informed decision-making and improved educational outcomes. AI-powered educational tools often incorporate gamification elements and interactive features that enhance student engagement. Students who engage with AI-based learning platforms demonstrate higher levels of motivation and participation compared to traditional learning methods. These tools make learning more interactive and enjoyable, fostering a positive attitude towards English language learning [14].

There are plenty of applications that teachers can make use of when preparing and planning their lessons. MagicSchool [10] is one of them. It is a comprehensive AI-driven platform designed to assist educators in various aspects of their teaching responsibilities, particularly lesson planning. At the time of writing this article, it has 71 tools that can help teachers in their work (e.g. adapting texts for varied reading levels, creating worksheets, generating science experiments, and even providing advice on handling student behaviour issues). One of the most helpful tools we consider the Lesson Plan Generator because it can create lesson plans tailored to specific topics or learning objectives. It ensures alignment with educational standards, making it a valuable resource for both experienced and novice teachers. By streamlining the lesson planning process, MagicSchool [10] helps educators save significant time. This efficiency allows teachers to focus more on refining their instructional techniques and individualizing student learning experiences.

MagicSchool [10] has a chatbot assistant called Raina It is designed to support teachers with various tasks related to lesson planning and resource creation. It can generate various worksheets, activities, or discussion sheets on topics that the teachers provide it. The chatbot can give clear explanations and examples of grammar structures or vocabulary. In addition, it can assist with some concrete lesson planning strategies, namely:

1. Differentiated Instruction: it helps to create activities and resources that cater to different learning styles and abilities within the same lesson, ensuring all students are engaged and challenged.

2. Incorporating Technology: it can suggest ways to integrate technology tools like educational apps, online resources, or digital platforms into English lessons to enhance student learning and engagement.

3. Cross-curricular connections: it can assist in creating lesson plans that incorporate elements from other subjects such as history, science, or art to provide a more holistic learning experience for students.

4. Project-based learning: it can provide ideas and resources for project-based learning activities where students work on extended projects to deepen their understanding of a topic or theme.

5. Formative assessment strategies: it can help design formative assessment tasks like quizzes, peer reviews, or self-assessments to gauge student understanding and provide timely feedback.

The above list is far from exhaustive. One needs to further study the potentials of the application under analysis to more deeply understand its benefits and drawback (if any). Overall, MagicSchool [10] is positioned as a leading AI platform for educators, enhancing the teaching and learning experience through innovative and efficient tools.

Challenges and Considerations

Despite the numerous benefits, the integration of AI in English lesson planning presents several challenges. One major concern is the digital divide, which refers to

the gap between those who have access to technology and those who do not. Ensuring equitable access to AI tools is essential to avoid exacerbating educational inequalities. Furthermore, there are concerns about data privacy and the ethical use of AI in education. Teachers and policymakers must address these issues to create a safe and inclusive learning environment.

Conclusions and further research. AI has proven to be a valuable assistant in English lesson planning, offering personalized learning experiences, efficient resource generation, and effective assessment tools. While challenges such as the digital divide and data privacy need to be addressed, the potential benefits of AI in education are substantial. By embracing AI technologies, educators can enhance the quality of English instruction and better support their students' learning processes. As AI technology continues to evolve, further research is necessary to fully understand its long-term impact on English language classrooms, which might focus on the effectiveness of AI-powered assessments. In addition, it can investigate the impact of AI on teacher workload and professional development. Another topical interest worth researching could be the ethical considerations surrounding the use of AI in education.

REFERENCES:

1. Goksel N., Bozkurt A. Artificial intelligence in education: Current insights and future perspectives. *Handbook of Research on Learning in the Age of Transhumanism.* IGI Global, 2019. P. 224–236.

2. Gillani N., Eynon R., Chiabaut C., Finkel K. Unpacking the "Black Box" of AI in education. *Educational Technology & Society.* 2023. Vol. 26, №. 1. P. 99–111. https://doi.org/10.30191/ETS.202301_26(1).0008

3. Kacsó P. The potential in using AI in English lesson planning : Project work manuscript. Berehove : Ferenc Rákóczi II Transcarpathian Hungarian College of Higher Education, 2024. 9 p. URL: https://classroom.google.com/g/tg/NjgyMDEyODgyNDQ1/NjgzNjgwNzc5NDAy#u=MzIwMjA1NDQ0MTQ3&t=f (дата звернення: 10.06.2024).

4. Holmes W., Bialik M., Fadel, C (2019). Artificial Intelligence in Education: promises and implications for teaching and learning. Center for Curriculum Redesign. 2019. 39 p. URL: https://www.researchgate.net/publication/332180327_Artificial_Intelligence_in_Education_Promise_and_Implications_for_Teaching_and_Learning (дата звернення: 10.06.2024).

5. Chen L., Chen P., Lin Z. Artificial Intelligence in Education: A Review. *IEEE Access.* 2020. Vol. 8. P. 75264–75278. URL: https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9069875 DOI: https://doi.org/10.1109/ACCESS.2020.2988510 (дата звернення: 31.05.2024.)

6. Krstić L., Aleksić V., Krstić M. Artificial Intelligence in education: A Review. *9th International scientific conference Technics and Informatics in Education – TIE 2022, 16-18 September 2022* : зб. матеріалів доп. учасн. 2022. P. 223–228. https://doi.org/10.46793/TIE22.223K (дата звернення: 31.05.2024.)

7. Boulay, B. du. Artificial intelligence in education and ethics. *Handbook of open, distance and digital education* / за ред. O. Zawacki-Richter, I. Jung. Singapore, 2023. P. 93–108. URL: https://doi.org/10.1007/978-981-19-2080-6_6 (дата звернення: 31.05.2024.)

8. Luckin R., Holmes W., Griffiths M., Forcier L. B. *Intelligence unleashed: an argument for AI in education*. Pearson. 2016. 64 p. URL: https://www.pearson.com/content/dam/one-dot-com/one-dot-com/global/Files/news/news-annoucements/2016/intelligence-unleashed.pdf (дата звернення: 04.06.2024.).

9. AI in learning: designing the future / за ред. H. Niemi, R. D. Pea, Y. Lu. Cham : Springer, 2023. 344 с.

10. *MagicSchool* : веб-сайт. URL: https://app.magicschool.ai/tools (дата звернення: 04.06.2024.).

11. Guan C., Mou J., Jiang Z. Artificial intelligence innovation in education: a twenty-year data-driven historical analysis. *International Journal of Innovation Studies.* 2020. Vol. 4. P. 134–147.

12. Hashem R., Ali N., Zein F. E., Fidalgo, P., Khurma, O. A. AI to the rescue: exploring the potential of ChatGPT as a teacher ally for workload relief and burnout prevention. *Research and Practice in Technology Enhanced Learning*. 2024. Vol. 19, № 23. P. 1–26.

13. Wang Y., Heffernan, N. Ethical issues in computer-assisted language learning: perception and practice of secondary language teachers. *British Journal of Educational Technology*. 2010. Vol. 41, № 5. P. 796–813.

14. Lesson planning with AI: save time and get ideas. *Ditch That Textbook* : веб-сайт. URL: https://ditchthattextbook.com/ai-lesson-planning/ (дата звернення: 12.06.2024).