IMPLEMENTING CHATGPT AND LARGE LANGUAGE MODELS (LLMS) IN EDUCATION: PROSPECTS, TRIALS AND EDUCATIONAL IMPLICATIONS

ВНЕДРЕНИЕ CHATGPT И БОЛЬШИХ ЯЗЫКОВЫХ МОДЕЛЕЙ ЕЙ (LLM) В ОБРАЗОВАНИЕ: ПЕРСПЕКТИВЫ, ВЫЗОВЫ И ПЕДАГОГИЧЕСКИЕ ПОСЛЕДСТВИЯ

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Abstract: *This research explores the increasing role of ChatGPT and Large Language Models (LLMs) in contemporary pedagogical contexts, examining their potential to change conventional instruction as well as learning methodologies. As artificial intelligence continues to progress unprecedentedly, educational institutions across the globe are starting to incorporate AI-driven tools into curricula, assessment systems, as well as student support services. This paper examines the way LLMs, including ChatGPT, Gemini, as well as related productive AI platforms, can play a role of intelligent teaching adjuncts, writing instructors, and individualised*

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learning supporters for learners across various academic subject areas. The study investigates both the possibilities and boundaries connected with the approval of these technologies in formal as well as informal learning atmospheres, together with exceptional emphasis to the teaching settings of Uzbekistan's current digital modification.

Keywords: *ChatGPT, LLMs, AI in education, individualised learning, EdTech, academic integrity, digital modification, innovative teaching.*

Аннотация: *Данное исследование изучает возрастающую роль ChatGPT и крупных языковых моделей (LLM) в современных педагогических контекстах, исследуя их потенциал для изменения традиционного обучения, а также методик обучения. По мере того, как искусственный интеллект продолжает развиваться беспрецедентными темпами, образовательные учреждения по всему миру начинают внедрять инструменты, управляемые ИИ, в учебные программы, системы оценки, а также службы поддержки студентов. В этой статье рассматривается, как LLM, включая ChatGPT, Gemini, а также связанные с ними производительные платформы AI, могут играть роль интеллектуальных вспомогательных средств обучения, инструкторов по письменной речи, а также индивидуальных помощников в обучении для учащихся в различных академических областях. Исследование изучает как возможности, так и ограничения, связанные с одобрением этих технологий в формальных и неформальных учебных средах, с особым акцентом на преподавательских ситуациях в цифровой трансформации Узбекистана.*

Ключевые слова: *ChatGPT, крупные языковые модели, искусственный интеллект в образовании, индивидуальное обучение, EdTech, академическая добросовестность, цифровая трансформация, инновационное преподавание.*

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Introduction

The rapid development of artificial intelligence (AI) has launched new fields in education. The outgrowth of LLMs among the most transformative innovations is complicated neural network-based systems of comprehension as well as ensuring human language together with noteworthy fluency. ChatGPT, evolved by OpenAI as well as launched in late 2022, became a turning point within generating these abilities available to the community, such as students and instructors across the globe. In Uzbekistan, the government whose national strategy to advance digital transformation within teaching is mentioned in primary policy documents as well as presidental decrees - has generated a rich atmosphere for incorporating such innovative technologies into instruction and learning. Both universities and schools are progressively investigating the way AI tools could improve teaching quality, foster student results, besides assist instructors handle workloads more efficiently.

On the other hand, during the experiment entailing these tools, important questions persist related to their appropriate implementation, their effect on academic integrity, as well as if their advantages are equitably handed out among students. This research's goal is to supply a more balanced, evidence-based summary of the current condition of LLM incorporation within integration, representing global study and locating it in the Uzbek educational settings. Research on using AI in education has rised significantly since the launch of transformer-based language models. Prior researches by Zawacki-Richter et al. (2019) classified AI applications in higher education into three fields: institutional organization, instructing and learning, as well as learner support. Newer work has emphasized particularly procreative AI tools.

AI-powered chatbots, operated by LLms, provide a new aspect of involvement as online education assistants or even main supporters for personalized student assistance. These models can process big datasets as well as comprehending language features, enabling them valued within

individualizing instructional content as well as involving within sensitive dialogue together with learners. This change are connected with wider teaching goals, entailing enhancing accessability and assisting instructors in controlling various student necessity (Ross et al., 2023).

This stidy emphasizes three primary difficulties within contemporary practices:

1. The challenge in offering available, individualized learning assistance out of classroom hours, leaving learners with no help when they face barriers.

2. The limited of authentic, adapted feedback to assist learners in accurately understanding, as well as reinforce comprehension instantly.

3. The increasing strain on instructors to manage both repeated administrative or perhaps educational assignments, altering their focus from complicated pedagogical efforts as well as individualized teaching.

These difficulties underscore the possibility of chatbots as AI-driven education supporters to minimize strain on teaching sources as well as improve student learning results. By tackling these significant issues, this study tries to examine the role of AI-driven chatbots in encouraging individualized teaching, besides enhancing the effectiveness of teaching systems.

Methodology

LLMs have demonstrated within automating feedback as well as evaluation procedures, essentially in large pedagogical contexts in which individualized feebcak might otherwise be difficult to measure. Researches underscore the efficiency of LLMs in producing in-depth feedback on learner activities, supporting them enhance their skills in contents like language arts as well as coding (Dietrich, 2023). Through exploring student answers, LLMs could recognize usual miscomprehensions, give constructive feedback, as well as suggest marked materials, enabling them important assests within formative assessment.

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On the other hand, such feedback systems demand cautious standardization to make sure accuracy and relevance, as LLMs might frequently provide false or excessively generalized feedback (Udias et al., 2024). Founding a feedback validation system, in which human instructors revise and adapt AI-driven answers, may reduce such risks, keeping the quality, as well as reliability of automated feedback.

The methodology of this research precedes a systematized revision approach, motivated by the PRISMA framework, selected for its capability to both comprehensively and critically measure the condition of study on productive artificial intelligence within instructional contexts, essentially emphasizing LLMs, including GPT from the OpenAI company. Systematized revisions suggest an organized, as well as clear method for investigating present literature, mitigating bias via well-mentioned processes within recovering and viewing researches.

For the literature recovery phase, Scopus was chosen as the main database because of its extended reportage of peer-revised literature across areas related to both AI technology and instructional study. Scopus is well-respected for its inclusive classification, besides progressive separating choices, ensuring its suitability for systematized revision demanding access to a wide category of high-impact publications. In addition, Scopus suggests sophisticated examination practicalities, ensuring obvious management over search parameters, that was significant for processing the literature pool to connect together with the particular emphasis on LLMs within teaching. Furthermore, productive AI and LLMs enhance interactive learning atmospheres, supporting learners in gaining problem-solving skills in comparison to conventional teaching environments. Figure 1 shows the related patterns between new-age and conventional learning approaches.

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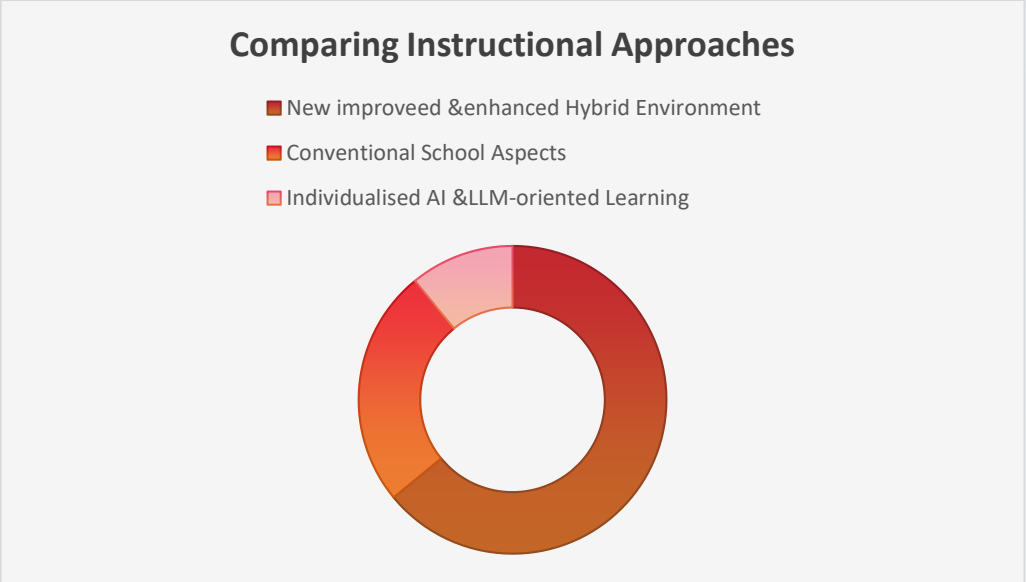


Figure 1. Overlapping patterns of new-age as well as conventional learning.

AI technologies maintain the possibility to adjust 'content curriculum' improvement as well as at the same time connects with job market necessities. Moreover, such frameworks with a multi-layered curriculum can improve instructional evaluation assets by examining several data points as well as producing adjustable evaluations which adapt and hand out particular features of the curriculum according to learner responses. Such tools can also subsidize developing individualized learning plans, making sure students gain the vital skills and knowledge for their selected careers. These plans can adjust over time as learners' nessesities as well as conditions alter, with AI assets offering aimed sources to assist their learning joirney. Overall, the implementation of AI permits an individualized and interchangeable level of learning. Therefore, students graduate with high level of knowledge, be prepared for the international job market, regardless of their learning demographics.

Not everybody is a follower of traditional textbook based learning, in which some study says people acquire and comprehend more via visualsso, many AI-driven teaching assests entail visual gamified aspects by enclosing intricasies, levels, as well as rewards, such assests change unremarkable

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learning assignments into more engaging tasks. For instance, a history lesson may become an interactive game in which learners 'withdraw' hisotircal circumstances by responding questions accurately, while a math exercise can engage earning points when tackling a enigma according to math issue in which agents give hints to learners time to time so that learner could tackle it (Smagulov, 2016).

Results and Discussions

Generally, such forms of technology also has particular disadvabtages. Models might face difficulties to interpret both intricaties and complexities of scientific contents, as well as their output can be less complicated and innovative rather than human-produced text. Tackling ethical problmes, including unintended plagriasm or producing dishonest data "hallucination" is important. When treating with new studies with inadequate reference sources, AI-driven text might fail to deliver the gap as well as settings of human authors, possibly yielding both quality and intelligibility. To conclude, completely depending on AI-driven text to begin writing research out of your field might mindfully restrict your higher cognitive process, as well as writing style. Possibly concealing your creativity and unusual ideas.

AI assets provide likely formatting, style-checking, as well as editing solutions within research papers. One of the benefits is their capability to swiftly investigate and correct language mistakes, thus enhancing the intelligibility and understandability of the scripts. These assets can also guarantee support to research journals' certain formatting, as well as citation style demands, not wasting authors time and minimazing the probability of submission mistakes. But there also drawbacks aligned with utilizing AI assets within research writing. Besides, including AI-driven content within research papers can be come with disfavor by some scolars who might inquire the credibility of the research.

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Conclusion

The outgrowth of AI as well as chatbots corresponds the prior days of the internet in the 1980s, beginning small as well as bit by bit combining into our survivals. Adjusting to these technologies while applying invariable governings as well as assistance to protect users from possible damage is significant. To conclude, applying AI in teaching as well as study indicates both chances and intricasies which must be cautiously judged. As education field develops, adjusting AI assets and innovative learning methodologies is significant for setting up a negotiable and adjustive atmosphere. A contemplative, counterbalanced, implementative integration of AI as well as human assistance can evolve all-embracing support systems which profit scholars, teachers, and students across different spheres. To ensure the efficient adjustment as well as accountable usage of AI technologies, entailing related subjects in the curriculum, dealing webinars on AI's influence on teaching and research, as well as offering important sources can ease the smooth implementation of AI into our lives.

REFERENCES

1. Choung, H., David, P., & Ross, A. (2023). Trust in AI and its role in the acceptance of AI technologies. International Journal of Human–Computer Interaction, 39(9), 1727-1739.

2. Dietrich, Eric (2023). Why Philosophy Makes No Progress. Global Philosophy 33 (2):1-14.

3. Smagulov, Y. (2016). Analysis of dynamics of high school graduates who participated in the unified national test Kazakhstan. International Electronic Journal of Mathematics Education, 11(8), 3176-3186.

4. Udias, A., Alonso-Ayuso, A., Alfaro, C., Algar, M. J., Cuesta, M., Fernández-Isabel, A., ... & Ortega, F. (2024). ChatGPT's performance in

university admissions tests in mathematics. International Electronic Journal of Mathematics Education, 19(4), em0795.

5. Zawacki-Richter, O., Marin, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education. International Journal of Educational Technology in Higher Education, 16(1), 1-27.

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