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The proceedings of the annual conference include scientific articles of participants of the I Spring International Scientific and Practical Online Conference "Innovative Approaches of Language Teaching: Bridging Theory and Practice", which was held at the Foreign Languages Department on April 4, 2025 in an online format. Materials in these proceedings can be of interest to young and experienced researchers, university and school teachers, different level students who are involved in pursuing research into modern approaches to developing foreign language skills; competence-based modeling in foreign language teaching; interaction of multicultural communication, linguistics, translation with foreign language teaching; the use of information technologies in foreign language teaching.

Authors are fully responsible for the content of their scientific articles and the truthfulness of the facts indicated.

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TECHNOLOGY-ENHANCED LANGUAGE LEARNING

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УДК 8.81713

THE IMPACT OF ARTIFICIAL INTELLIGENCE ON STUDENT LEARNING

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Abstract: Artificial Intelligence (AI) is transforming education, providing students with personalized learning experiences, automating administrative tasks, and enhancing accessibility. However, its integration raises concerns regarding academic integrity, critical thinking, and reliability. This study analyzes students' perceptions of AI in education based on survey data. Findings indicate that while AI significantly aids learning efficiency and personalization, it also presents challenges related to dependency and misinformation. The study provides recommendations for responsible AI integration in education.

Keywords: artificial intelligence, personalized learning, academic integrity, student perception, digital transformation, integration.

Introduction

"AI-powered technologies allow each student to learn at their own pace, opening up new horizons for learning," says Susan Etlinger, an analyst at Altimeter Group. The development of Artificial Intelligence has already had a big change on education, offering tailored learning experiences and automating administrative tasks. However, concerns have emerged regarding academic integrity and overreliance on AI-generated solutions.

The purpose of this article is to look at the effects of AI on student learning, main job in improving educational efficiency and accessibility, while assessing possible problems.

The relevance of this article is determined by the increasing penetration of AI technologies in education. As institutions integrate AI into their learning processes, it is important to assess both the benefits and risks associated with its use. Existing research has explored the role of AI in optimizing learning (Holmes et al., 2019; Lakin, 2018, Zawacki et al. 2019), but there is a gap in empirical studies that directly assess student experiences and perceptions. This study aims to contribute to the current debate by providing data-driven insights based on student feedback.

The research methodology used in this article is based on the hypothesis that AI improves learning by providing personalized recommendations, automating repetitive tasks, and increasing accessibility. It has also been suggested that overreliance on AI tools may reduce students' independent problem-solving and critical thinking skills.

Literature Review

Stephen Hawking, a British theoretical physicist and cosmologist, believes that artificial intelligence (AI) could be both a benefit and a threat to humanity. It is important to understand the positive and negative effects of AI on students' academic pursuits.

AI integration into education has been studied by Holmes et al. (2019), who emphasize potential for tailored learning paths. Lakin (2018) argues that AI should be used alongside human learning, rather than replacing it. Seldon and Abidoye (2020) raise ethical concerns about AI in assessing student performance.

AI systems, such as GPT-4, Gemini and etc, have been shown to produce accurate results, but incorporating them into education remains a challenge. Basic AI models can produce plausible but

erroneous outcomes and perpetuate biases from training data. This shows the need strong verification mechanisms before using AI in educational environments.

AI has been shown to help student
engagement and learning outcomes, but its impact on critical thinking is still being talked about. Popenici and Kerr (2017) argue that students need digital
literacy skills to analyze AI content critically.

AI integration in education poses ethical, privacy, and inequality challenges, as discussed by Eden et al. (2024).

Methodology

This study employs a mixed-method approach, combining quantitative and qualitative research methods to assess the impact of artificial intelligence (AI) on student learning. The research design was structured to ensure the reliability, validity, and reproducibility of the findings.

The study was conducted through an online survey using Google Forms. A structured questionnaire was developed to collect data on students' perceptions, experiences, and concerns regarding AI-powered educational tools. The survey design was chosen due to its efficiency in gathering a large dataset within a short period while maintaining anonymity, thus reducing response bias.

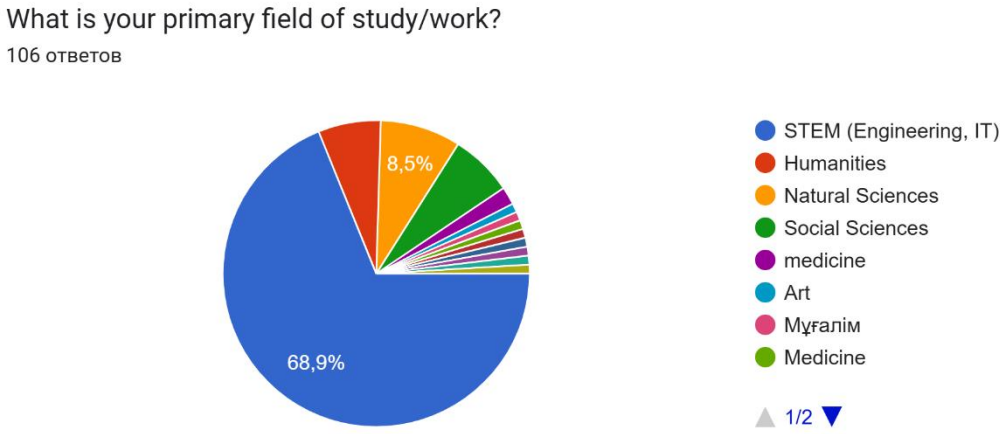
To ensure a comprehensive analysis, the study incorporated both closed-ended and open-ended questions. The closed-ended questions provided quantifiable data that allowed for statistical analysis, while the open-ended questions enabled participants to elaborate on their perspectives, contributing to a deeper understanding of their experiences.

The target population consisted of university students enrolled in various academic programs. A stratified sampling method was applied to include participants from different fields of study, ensuring a diverse and representative dataset. The survey was distributed across multiple online platforms, including university mailing lists and student forums.

The final sample included **106 participants**, with the following distribution:

STEM students: 68,9%
Humanities students: 6,6%
Social sciences: 6,6%
Natural sciences: 8.5%
And others: 9.4%

Table-1



This diversity allowed for an in-depth examination of how AI is perceived across different disciplines.

Replicability – the study's findings may not be easily replicable due to its specific methodology and limited scope.

The methodology outlined in this section guarantees that the study can be reproduced by other researchers. The standardized survey design, well-defined sampling procedure, and

statistical analysis techniques make it feasible to consistently replicate the findings in similar academic environments.

This methodological approach provides a robust basis for investigating the role of artificial intelligence in education, providing insights that can inform future research and policymaking.

Survey Analysis

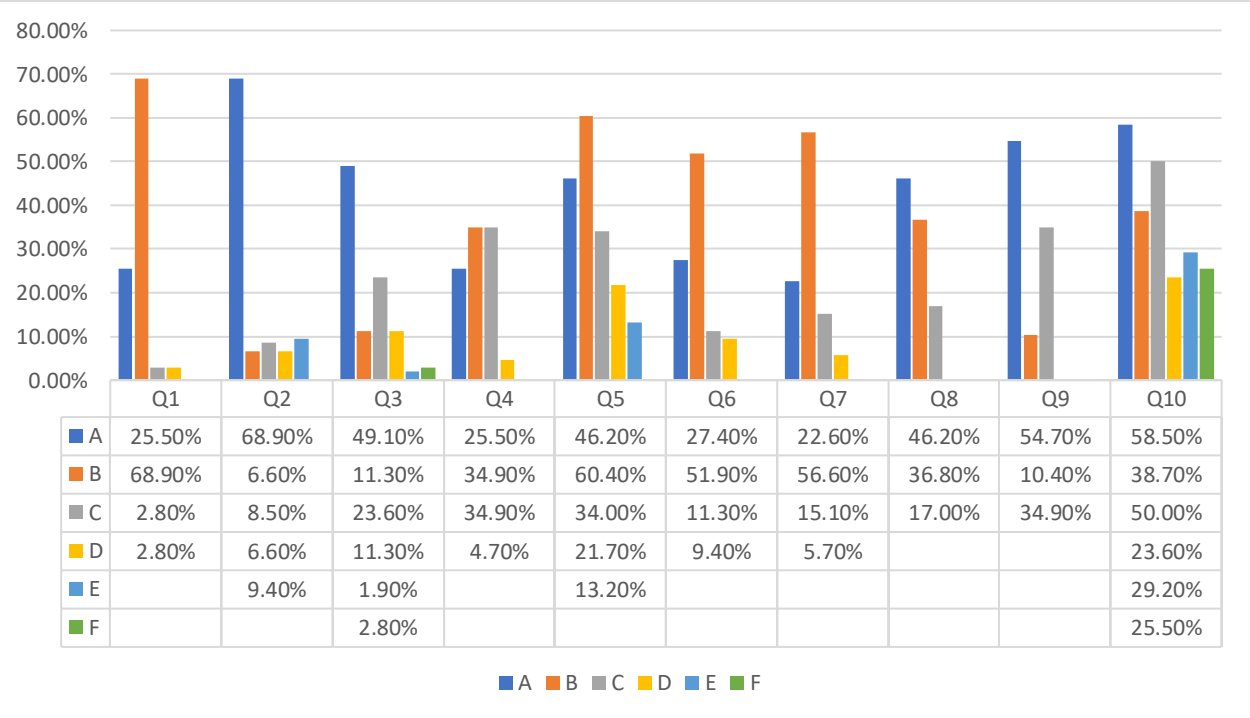
After defining the audience, the survey included the following key questions:

Table-2

Answers Questions	A	B	C	D	E	F
Q 1.What is your highest level of education?	High school student	Undergraduate student	Master's student	PhD student/Researcher	Educator	
Q 2.What is your primary field of study/work?	STEM (Engineering, IT)	Humanities	Natural Sciences	Social Sciences	Other	
Q 3.For which tasks do you use AI? (Select all that apply)	Information search/data analysis	Writing essays/reports	Solving problems (math, coding, etc.)	Grammar and style checking	Personalized learning (adaptive courses)	Other
Q 4.Do you agree that AI makes learning more personalized?	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	
Q 5.How does AI improve accessibility in education? (Select all that apply)	Reduces language barriers (translation tools)	Provides 24/7 access to materials	Supports students with disabilities	Lowers educational costs	No noticeable improvements	
Q 6. Do you believe AI reduces students' critical thinking abilities?	Yes, it is a major issue	Partially	No, AI complements critical thinking	Unsure		
Q 7. Have you encountered issues with AI-generated information reliability (e.g., errors)?	Frequently	Occasionally	Never	I don't use AI for information		
Q 8.How does AI affect academic integrity?	Increases risks of cheating/plagiarism	No impact if used responsibly	Unsure			
Q 9.In your opinion, which outweighs in	Pros	Cons	Too early to judge			

AI's role in education?						
Q 10.Which of the following do you consider the most significant risks of AI in education? (Select up to 3 most critical)	Overreliance on technology	Decline in social interaction skills	Reduced motivation for independent learning	Ethical concerns (e.g., data privacy, bias)	Decreased quality of human-teacher interaction	Spread of misinformation ("AI hallucinations")

Table -3



	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
A	25.50%	68.90%	49.10%	25.50%	46.20%	27.40%	22.60%	46.20%	54.70%	58.50%
B	68.90%	6.60%	11.30%	34.90%	60.40%	51.90%	56.60%	36.80%	10.40%	38.70%
C	2.80%	8.50%	23.60%	34.90%	34.00%	11.30%	15.10%	17.00%	34.90%	50.00%
D	2.80%	6.60%	11.30%	4.70%	21.70%	9.40%	5.70%			23.60%
E		9.40%	1.90%		13.20%					29.20%
F			2.80%							25.50%

The survey data revealed that 68.9% of participants were university students, 25.5% high school students, and 2.8% doctoral candidates or professors, indicating a correlation between academic status and engagement with AI-driven learning tools. A significant majority (85.9%) reported regular AI use, primarily for information retrieval (49.1%), problem-solving (23.6%), and text generation (11.3%). While 95.3% acknowledged AI's role in personalized learning, 4.7% expressed concerns about its potential to hinder critical thinking.

Key benefits included enhanced educational accessibility (60.4%), support for students with disabilities (34%), and cost reduction (21.7%). However, 27.4% encountered inaccuracies in AI-generated content, aligning with studies demonstrating lower factual accuracy in AI models (58%) compared to humans (94%) (Lin et al., 2021). Ethical concerns were prominent, with 46.2% of educators citing increased risks of academic dishonesty, such as plagiarism.

Despite 54.7% viewing AI's benefits as outweighing drawbacks, major risks included technological dependency (58.5%), reduced motivation for independent learning (50%), and threats to social interaction skills (38.7%). Additional concerns involved misinformation propagation (25.5%) and copyright/ethical issues (23.6%). These findings underscore the need for institutional guidelines to balance AI's educational potential with safeguards for academic integrity and critical thinking.

Conclusion

This study underscores the transformative potential of artificial intelligence (AI) in reshaping educational paradigms, while simultaneously illuminating critical challenges that

demand urgent attention. The empirical findings reveal a dual narrative: AI serves as a catalyst for personalized learning, operational efficiency, and equitable access, yet its integration introduces systemic risks that threaten academic integrity, intellectual autonomy, and the veracity of knowledge dissemination.

The analysis of student perceptions demonstrates that AI tools are predominantly leveraged for information retrieval (49.1%), problem-solving (23.6%), and grammar refinement (11.3%), reflecting their utility in streamlining academic workflows. A striking 85.9% of respondents reported regular AI usage, with 95.3% acknowledging its role in personalizing educational experiences. However, these benefits are tempered by concerns: 27.4% of participants encountered inaccuracies in AI-generated content, while 56.6% reported occasional reliability issues. Such findings align with prior research by Lin et al. (2021), whose TruthfulQA benchmark revealed a 36% disparity in factual accuracy between AI models and human performance, underscoring the persistent challenge of algorithmic hallucinations.

Three critical implications emerge from this investigation:

1. Pedagogical Adaptation: The prevalence of AI-assisted plagiarism risks (46.2% of respondents) necessitates institutional frameworks that balance technological adoption with academic safeguards.
2. Cognitive Trade-offs: While 85.8% praised AI's time-saving benefits, 50% expressed concerns about eroded motivation for independent learning—a paradox highlighting the need for pedagogical strategies that harness AI without undermining metacognitive development.
3. Ethical Imperatives: The identification of algorithmic bias (23.6%) and social skill attrition (38.7%) calls for transparent AI design protocols and multidisciplinary oversight committees.

To navigate this complex landscape, three policy recommendations are proposed:

- Implementation of mandatory AI literacy curricula focusing on source verification and ethical usage.
- Development of hybrid assessment models combining AI analytics with human evaluation to preserve academic rigor.
- Establishment of cross-institutional consortia to standardize AI governance frameworks and mitigate equity gaps.

Future research should put first longitudinal studies assessing AI's impact on skill retention and interdisciplinary collaborations exploring neuro-cognitive adaptations to AI-mediated learning. AI is not just a technological advancement but a societal current reshaping education's foundations. The problem is in amplifying human potential while safeguarding intellectual virtues.

This conclusion synthesizes empirical data and theoretical ideas, providing a roadmap for stakeholders to harness AI's disruptive potential while preserving core values of critical inquiry and great learning. The next steps demands a detailed symbiosis where AI elevates the human dimensions of learning.

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FOOD WASTE IN EDUCATIONAL INSTITUTIONS: THE ROLE OF ARTIFICIAL INTELLIGENCE IN MITIGATION

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Abstract

Food waste in educational institutions is a significant global concern, contributing to environmental, economic, and social issues. Schools and universities generate considerable amounts of food waste due to overproduction, improper portioning, and lack of awareness among students and staff. Artificial Intelligence (AI) is emerging as a promising solution to mitigate food waste by optimizing food supply chains, enhancing waste monitoring, and promoting sustainable consumption behaviors. This paper explores the causes of food waste in educational settings and examines AI-based technologies that can help minimize waste. Through AI-driven forecasting, automated waste sorting, and data analytics, institutions can significantly reduce their food waste footprint.

Keywords: Food waste, Educational institutions, Artificial Intelligence, Waste reduction, Sustainability

Food waste is a pressing issue worldwide, with educational institutions being significant contributors. Schools, colleges, and universities serve thousands of meals daily, often leading to substantial food losses due to inefficient meal planning, excessive portions, and limited awareness