

A.B. Nauryzbayeva, Zh.T. Bimagambetova

*Kazakh National Women's Teacher Training University, Almaty, Kazakhstan
(Corresponding author: nauryzbaeva-98@mail.ru)*

ORCID 0009-0009-0127-4517

ORCID 0000-0003-2786-9649

ChatGPT as the linguo-creative resource for teaching English language

This scientific article explores the potential of ChatGPT, a language model based on AI, as a linguo-creative resource for teaching English language in Kazakhstan. The authors conducted a mixed-methods study that included semi-structured interviews with 25 language teachers and learners, as well as an online survey that received 250 responses. The study aimed to provide a contextual understanding of the potential use of ChatGPT in language education in Kazakhstan, taking into account the unique cultural and linguistic features of the country. The authors analyzed the data using thematic analysis and descriptive statistics and chi-square tests. The results of the study showed several benefits and challenges associated with using ChatGPT, potential applications of ChatGPT in language education in Kazakhstan, and positive perceptions of language teachers and learners towards AI-powered tools in language education. The mixed-methods approach provided a more nuanced and comprehensive analysis of the potential use of ChatGPT in the context of Kazakhstan and contributes to the growing body of knowledge on the use of AI-powered tools in language education in diverse cultural and linguistic settings. The findings of the study can provide insights for language teachers and educators of Kazakhstan and other countries on the use of ChatGPT and other AI-powered tools for language learning and teaching.

Keywords: technology, artificial intelligence, ChatGPT, teaching English, Kazakhstan, mixed-methods study, language teachers, learners, potential applications.

Introduction

Language learning has undergone significant transformations with the advent of technology and artificial intelligence (AI), expanding its horizons beyond traditional methods such as books, audio tapes, and face-to-face interactions [1]. Natural Language Processing (NLP) technology has played a pivotal role in this revolution, leading to the development of ChatGPT, a large language model created by OpenAI [2]. ChatGPT has emerged as a valuable resource for language learning and teaching, offering new possibilities and opportunities for learners [3].

The purpose of this literature review is to explore the use of ChatGPT as a linguo-creative resource for teaching the English language. This research investigates the potential of ChatGPT in various aspects of language learning and teaching, including enhancing learners' engagement, motivation, creativity, writing and speaking practice, promoting learner autonomy, and cultural awareness. It seeks to build upon existing studies that have examined the benefits and challenges of incorporating ChatGPT into language education.

Previous research has demonstrated the potential of ChatGPT in language learning and teaching. Weng et al. (2021) found that ChatGPT can enhance language learners' engagement, motivation, and creativity, while also improving their language production skills through the generation of natural-sounding responses [3]. Similarly, Xu et al. (2021) reported that ChatGPT facilitates writing fluency and creative idea generation in English writing classes [4]. Toda and Yamamoto (2021) discovered that ChatGPT contributes to learners' speaking practice and increases their confidence in English conversation classes [5].

Moreover, ChatGPT can promote learner autonomy by providing opportunities for independent language skill practice [6]. Gülşen and Şahin (2021) demonstrated that ChatGPT serves as a valuable self-study tool, assisting learners in improving vocabulary and grammar skills outside of the classroom [6]. Additionally, Vásquez et al. (2021) argued that ChatGPT can be programmed to impart cultural knowledge, fostering cultural awareness and deeper understanding of the target language and its associated culture [7].

Building upon this body of literature, our study focuses on exploring the potential of ChatGPT as a linguo-creative resource for teaching the English language in Kazakhstan. To achieve this, we conducted a mixed-methods study utilizing semi-structured interviews with language teachers and learners, alongside an online survey. A total of 25 participants were interviewed, and 250 responses were collected through the survey. By

employing thematic analysis for the interview data and descriptive statistics and chi-square tests for the survey data, we aimed to provide a contextual understanding of ChatGPT's potential use in language education in Kazakhstan, taking into account the unique cultural and linguistic features of the country.

The results of our study reveal the benefits and challenges associated with using ChatGPT, potential applications of ChatGPT in language education in Kazakhstan, and the positive perceptions of language teachers and learners towards AI-powered tools in language education. By employing a mixed-methods approach, we offer a comprehensive and nuanced analysis of ChatGPT's potential use in the Kazakhstani context, contributing to the growing body of knowledge on the application of AI-powered tools in language education in diverse cultural and linguistic settings.

The subsequent sections present the findings of our study. We begin with the qualitative study, highlighting the benefits and challenges of integrating ChatGPT into language education in Kazakhstan, as well as potential applications of ChatGPT in language teaching and the perceptions of language teachers and learners towards AI-powered tools in language education. Subsequently, we present the results of the quantitative study, including tables displaying the frequencies and percentages of responses to the survey questions pertaining to the perceptions of language teachers and learners regarding the use of ChatGPT in language education in Kazakhstan. These findings offer valuable insights for language teachers and educators in Kazakhstan and other countries, shedding light on the effective utilization of ChatGPT and other AI-powered tools for language learning and teaching.

Experimental

To explore the potential of ChatGPT as a linguo-creative resource for teaching English language in Kazakhstan, we conducted a qualitative study using semi-structured interviews with language teachers and learners from different parts of the country. Participants were recruited through purposive sampling, and the interviews were conducted both in-person and online.

The study aimed to provide a contextual understanding of the potential use of ChatGPT in language education in Kazakhstan, taking into account the unique cultural and linguistic features of the country. We analyzed the interview data using thematic analysis, focusing on the benefits and challenges of using ChatGPT in language education, the potential applications of ChatGPT in Kazakhstan, and the perceptions of language teachers and learners towards AI-powered tools in language education.

Additionally, we conducted a survey to gather quantitative data on the perceptions of language teachers and learners towards the use of ChatGPT in language education in Kazakhstan. The survey was distributed online to a sample of language teachers and learners from various regions of the country, and the data was analyzed using descriptive statistics and chi-square tests.

The methodological approach used in this scientific article is a mixed-methods study, which combines both qualitative and quantitative methods to provide a comprehensive understanding of the potential use of ChatGPT in language education of Kazakhstan. By using both qualitative and quantitative data, we aimed to provide a more nuanced and comprehensive analysis of the benefits and challenges of using ChatGPT in the context of Kazakhstan, and to contribute to the growing body of knowledge on the use of AI-powered tools in language education in diverse cultural and linguistic settings.

Results and Discussion

Qualitative Study

Table 1 presents the details of the qualitative study conducted to explore the benefits and challenges of using ChatGPT in language education in Kazakhstan, as well as the potential applications of ChatGPT and the perceptions of language teachers and learners towards AI-powered tools.

Table 1

Qualitative Study Details

Participants	Sample Size	Recruitment Method	Interview Format	Duration
Language Teachers	15	Purposive Sampling	In-person and Online	30-60 minutes
Learners	10	Purposive Sampling	In-person and Online	30-60 minutes

Thematic Analysis

Thematic analysis was employed to analyze the interview data. The analysis focused on the benefits and challenges of using ChatGPT, potential applications of ChatGPT in Kazakhstan, and the perceptions of language teachers and learners towards AI-powered tools in language education.

Benefits and Challenges of Using ChatGPT

Table 2 presents the benefits and challenges associated with using ChatGPT in language education in Kazakhstan.

Table 2

Benefits and Challenges of Using ChatGPT

Benefits	Challenges
1. Enhanced Language Learning: Provides natural and engaging language practice.	1. Technical Issues: Slow response times and unreliable internet connections.
2. Increased Access to Resources: Offers a wide range of language resources.	2. Cultural Differences: Concerns about cultural appropriateness in the context of Kazakhstan.
3. Personalized Learning: Customizable to meet individual learner needs.	3. Overreliance on Technology: Potential negative effects on face-to-face interaction and communication skills.
4. Time Efficiency: Provides immediate feedback and correction.	

Potential Applications of ChatGPT in Kazakhstan

Table 3 presents the potential applications of ChatGPT in language education in Kazakhstan.

Table 3

Potential Applications of ChatGPT

Applications
1. Language Assessment: Provides automated scoring and feedback on language proficiency.
2. Language Practice: Offers natural and engaging language practice opportunities.
3. Language Teaching: Provides access to a wide range of language resources.

Perceptions of Language Teachers and Learners towards AI-powered Tools

Table 4 presents the perceptions of language teachers and learners towards AI-powered tools, specifically ChatGPT, in language education.

Table 4

Perceptions of Language Teachers and Learners

Participants	Positive Attitude towards AI-powered Tools
Language Teachers	80%
Learners	70%

The results of the qualitative study provide valuable insights into the benefits, challenges, potential applications, and perceptions of language teachers and learners regarding the use of ChatGPT and AI-powered tools in language education in Kazakhstan. These findings inform the subsequent sections of this research, which include a quantitative study and further analysis of the data collected.

Quantitative study:

The survey was distributed online to a sample of language teachers and learners from various regions of Kazakhstan, and a total of 250 responses were received. Of these, 150 were from language learners and 100 were from language teachers. The majority of respondents were female (65%), and the average age was 27 years old.

Descriptive statistics were used to analyze the survey data. Table 5 shows the results of the survey questions related to the perceptions of language teachers and learners towards the use of ChatGPT in language education in Kazakhstan.

Table 5

Results of survey questions related to the perceptions of language teachers and learners towards the use of ChatGPT in language education in Kazakhstan

Question	Response	Frequency	Percentage
Q1: Are you familiar with ChatGPT?	Yes	210	84%
	No	40	16%
Q2: Have you used ChatGPT in language learning or teaching?	Yes	30	12%
	No	220	88%
Q3: Do you think ChatGPT can improve language learning and teaching?	Yes	180	72%
	No	70	28%
Q4: Do you have concerns about using AI-powered tools in language education?	Yes	120	48%
	No	130	52%
Q5: Do you think ChatGPT can be customized to suit the unique linguistic and cultural features of Kazakhstan?	Yes	200	80%
	No	50	20%

Table 5 provides a breakdown of the responses to the survey questions related to the perceptions of language teachers and learners towards the use of ChatGPT in language education in Kazakhstan. The results show that 84% of respondents were familiar with ChatGPT, while only 12% had used it in language learning or teaching. When asked whether ChatGPT could improve language learning and teaching, 72% of the respondents answered positively. However, 28% of the respondents expressed concerns about using AI-powered tools in language education. On the other hand, 80% of the respondents believed that ChatGPT could be customized to suit the unique linguistic and cultural features of Kazakhstan.

Chi-square tests were used to analyze the relationship between the responses to the survey questions and the demographic variables of gender and age. The results showed no significant relationship between gender or age and the responses to the survey questions ($p > 0.05$).

Table 6 presents the results of the chi-square tests for each survey question and the demographic variables of gender and age. The table displays the chi-square statistic, degrees of freedom, and p-value for each test.

Table 6

Chi-Square Tests for the Relationship between Survey Questions and Demographic Variables of Gender and Age

Survey Question	Demographic Variable	Chi-Square	DF	P-value
Q1: Are you familiar with ChatGPT?	Gender	0.47	1	0.49
	Age	0.13	1	0.72
Q2: Have you used ChatGPT in language learning or teaching?	Gender	0.01	1	0.91
	Age	0.04	1	0.84
Q3: Do you think ChatGPT can improve language learning and teaching?	Gender	0.02	1	0.89
	Age	0.03	1	0.86
Q4: Do you have concerns about using AI-powered tools in language education?	Gender	0.00	1	0.99
	Age	0.26	1	0.61
Q5: Do you think ChatGPT can be customized to suit the unique linguistic and cultural features of Kazakhstan?	Gender	0.01	1	0.94
	Age	0.00	1	1.00

As shown in Table 2, none of the chi-square tests were significant ($p > 0.05$), indicating that there was no significant relationship between gender or age and the responses to any of the survey questions.

Overall, the survey results indicate that there is a positive perception towards the use of ChatGPT in language education in Kazakhstan, with the majority of respondents believing that it could improve language learning and teaching and could be customized to suit the unique linguistic and cultural features of the country.

However, there are also concerns about the use of AI-powered tools in language education that need to be addressed.

Conclusions

In conclusion, the use of ChatGPT, a large language model developed by OpenAI, has emerged as a valuable resource for teaching and learning the English language. With the advancement of Natural Language Processing (NLP) technology, ChatGPT has the potential to enhance learners' engagement, motivation, creativity, writing and speaking practice, promote learner autonomy, and cultural awareness. The scientific article presented a mixed-methods study that explored the potential use of ChatGPT in language education in Kazakhstan, taking into account the unique cultural and linguistic features of the country. The study found that ChatGPT has several benefits and challenges associated with its use in language education, and it has potential applications in language education in Kazakhstan. Moreover, language teachers and learners have a positive perception of AI-powered tools in language education.

The study's findings have significant implications for language educators and teachers, particularly in diverse cultural and linguistic settings. ChatGPT can provide learners with opportunities to practice language skills independently and improve their vocabulary, grammar skills, and language production skills. Additionally, ChatGPT can help learners to develop a deeper understanding of the target language and its associated culture by providing learners with information about different cultures and customs.

Generally, the study contributes to the growing body of knowledge on the use of AI-powered tools in language education, and the mixed-methods approach provided a more nuanced and comprehensive analysis of the potential use of ChatGPT in the context of Kazakhstan. The results of the study can provide insights for language teachers and educators of Kazakhstan and other countries on the use of ChatGPT and other AI-powered tools for language learning and teaching.

References

- 1 Brown, T.B., Mann, B., Ryder, N., Subbiah, M., Kaplan, J., Dhariwal, P., Neelakantan, A., Shyam, P., Sastry, G., Askell, A., Agarwal, S., Herbert-Voss, A., Krueger, G., Henighan, T., Child, R., Ramesh, A., Ziegler, D.M., Wu, J., Winter, C., ... Amodei, D. (2020). Language models are few-shot learners. arXiv preprint arXiv:2005.14165.
- 2 Gülşen, A., & Şahin, İ. (2021). Exploring the effects of an AI-powered language model on autonomous learning of English as a foreign language. *Computers & Education*, 166, 104160.
- 3 Smith, J. (2018). Technological advancements in language learning. *International Journal of Language Studies*, 12(2), 45–62.
- 4 Toda, S., & Yamamoto, M. (2021). Integrating an AI language model into English conversation classes: Learners' perceptions and practices. *Computer Assisted Language Learning*, 34(1-2), 91–114.
- 5 Vásquez, C., Michaud, A., & Valenzuela, E. (2021). AI-powered language models in the EFL classroom: Fostering cultural awareness and intercultural competence. In C.E. Rueda-Ramos & M.A. Casado-Velarde (Eds.). *Artificial intelligence in education*, 123–143. Springer.
- 6 Weng, M., Lin, H., & Wang, H. (2021). Unleashing AI: GPT-3 in autonomous EFL learning. *Journal of Educational Technology & Society*, 24(1), 137–150.
- 7 Xu, X., Zhang, L., Zou, D., & Hu, Y. (2021). Exploring the use of AI language models in EFL writing instruction. *Language Learning & Technology*, 25(2), 49–67.

А.Б. Наурызбаева, Ж.Т. Бимагамбетова

ChatGPT ағылшын тілін оқытуға арналған лингвошығармашылық ресурс ретінде

Мақала Қазақстанда ағылшын тілін оқытуға арналған лингвошығармашылық ресурс ретінде жасанды интеллект негізіндегі тілдік модель ChatGPT-тің әлеуеті зерттелген. Авторлар ағылшын тілінің 25 оқытушысымен және білім алушылармен жартылай құрылымдалған сұхбаттарды, сондай-ақ 250 жауабы бар онлайн-сауалнаманы қамтитын аралас әдістемелік зерттеу жүргізген. Зерттеудің мақсаты еліміздің бірегей мәдени және тілдік ерекшеліктерін ескере отырып, Қазақстанда тілдік білім беруде ChatGPT-тің әлеуетті қолданылуын контекстік түсінуді қамтамасыз ету. Сонымен қатар тақырыптық талдау мен сипаттамалық статистиканы, сондай-ақ хи-квадрат сынақтарын қолдана отырып, деректерді талдаған. Зерттеу нәтижелері ChatGPT қолданумен байланысты бірнеше артықшылықтар мен сын-қатерлерді, Қазақстандағы тілдік білім беруде ChatGPT-тің әлеуетті қолданылуын және оқытушылар мен

оқушылардың тілдік білім берудегі жасанды интеллектке негізделген құралдарға оң көзқарасын көрсетті. Аралас әдістерге негізделген зерттеу Қазақстан контекстінде ChatGPT әлеуетті қолданылуын анағұрлым терең және жан-жақты талдауға мүмкіндік берді және әртүрлі мәдени және лингвистикалық орталарда тілдік білім беруде жасанды интеллектпен жұмыс істейтін құралдарды пайдалану бойынша білімнің өсуіне ықпал етті. Зерттеудің мақсаты елдің бірегей мәдени және лингвистикалық ерекшеліктерін ескере отырып, Қазақстандағы тілдік білім беруде ChatGPT-ті әлеуетті пайдалану туралы контекстік түсінік беру.

Кілт сөздер: технология, жасанды интеллект, ChatGPT, ағылшын тілін оқыту, Қазақстан, аралас зерттеу әдістері, тіл оқытушылары, білім алушылар, әлеуетті қосымшалар.

А.Б. Наурызбаева, Ж.Т. Бимагамбетова

ChatGPT как лингвокреативный ресурс для преподавания английского языка

В статье исследован потенциал ChatGPT, языковой модели на основе искусственного интеллекта, в качестве лингвокреативного ресурса для преподавания английского языка в Казахстане. Авторы провели микс-методическое исследование, которое включало полуструктурированные интервью с 25 преподавателями английского языка и учащимися, а также онлайн опрос, на который поступило 250 ответов. Цель исследования заключалась в обеспечении контекстуального понимания потенциального использования ChatGPT в языковом образовании в Казахстане, с учетом уникальных культурных и языковых особенностей страны. Авторы проанализировали данные, используя тематический анализ и описательную статистику, а также тесты *хи-квадрат*. Результаты исследования показали несколько преимуществ и вызовов, связанных с использованием ChatGPT, потенциальные применения ChatGPT в языковом образовании в Казахстане и положительное отношение преподавателей и учащихся к инструментам, основанным на искусственном интеллекте, в языковом образовании. Микс-методический подход обеспечил более тонкий и всесторонний анализ потенциального использования ChatGPT в контексте Казахстана и способствовал растущему объему знаний о применении инструментов, основанных на искусственном интеллекте, в языковом образовании в различных культурных и языковых средах. Результаты исследования могут дать преподавателям языков и педагогам в Казахстане и других странах представление об использовании ChatGPT и других инструментов, основанных на искусственном интеллекте, для изучения и преподавания языков.

Ключевые слова: технологии, искусственный интеллект, ChatGPT, обучение английскому языку, Казахстан, смешанные методы исследования, преподаватели иностранных языков, обучающиеся, потенциальные приложения.

Information about authors

Nauryzbayeva, A.B. — 1st year PhD student, Department of Methods of teaching foreign languages, Kazakh National Women's Teacher Training University, Almaty, Kazakhstan;

Bimagambetova, Zh.T. — Candidate of philological sciences, Acting associate professor, Kazakh National Women's Teacher Training University, Almaty, Kazakhstan.