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DIALOGIC PRACTICE WITH CHATGPT: ENHANCING SPEAKING SKILLS OF PRE-SERVICE TEACHERS THROUGH AI-MEDIATED INTERACTION

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This study examines the effects of AI-facilitated dialogic practice with ChatGPT on the speaking proficiency of pre-service English teachers at the Atyrau University, Kazakhstan. Given the increasing integration of artificial intelligence (AI) in education and the national emphasis on digital transformation, the research investigates how sustained interaction with an AI chatbot influences four subcomponents of oral proficiency: fluency, interactional competence, error correction strategies and communicative confidence. The study employed a mixed quasi-experimental design implemented over six weeks with the participation of 20 fourth-year students, pre-service English language teachers, with a B2 language proficiency level. The experimental group ($n = 10$) engaged in controlled AI-based speaking activities with ChatGPT, while the control group ($n = 10$) participated in face-to-face speaking tasks in a conventional classroom setting. Quantitative data were collected through pre- and post-test oral assessments and confidence scales. Qualitative data collected from ChatGPT interaction records and learner reflections. This study addresses the lack of regional, theoretical, and empirical research on AI-assisted speaking in Central Asian teacher education, offering evidence and practical insights into the pedagogical value of generative AI tools. The findings highlight the need to integrate AI-mediated communicative practice into teacher education programs, with human moderation to ensure responsible and informed use. Although there are limitations regarding sample size, duration, and feedback accuracy, the results show that ChatGPT can employ a transformative approach to facilitate open-ended generation and collaboration in learner-directed contexts that support oral language. In conclusion, the study demonstrates that consistent and guided practice with ChatGPT can serve as a powerful supplement to conventional speaking instruction, fostering digital fluency, communicative competence, and self-efficacy among pre-service teachers.

Key words: ChatGPT, AI-mediated language learning, dialogic drill, speaking proficiency, teacher-training program, activity theory, digital pedagogy.

CHATGPT-МЕН ДИАЛОГТЫҚ ТӘЖІРИБЕ: ЖАСАНДЫ ИНТЕЛЛЕКТ ӨЗАРА ӘРЕКЕТТЕСУ АРҚЫЛЫ БОЛАШАҚ МҒАЛІМДЕРДІҢ АУЫЗША СӨЙЛЕУ ДАҒДЫЛАРЫН ЖЕТІЛДІРУ

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Бұл зерттеуде Атырау университетінің (Атырау) болашақ ағылшын тілі мұғалімдерінің сөйлеу шеберлігіне жасанды интеллект көмегімен ChatGPT диалогтық тәжірибесінің әсері қарастырылады. Білім беруде жасанды интеллекттің (ЖИ) интеграциясының артуы және цифрлық трансформацияға ұлттық деңгейде баса назар аударылуы ескеріле отырып, зерттеу ЖИ чатботымен тұрақты өзара әрекеттесудің ауызша сөйлеудің төрт кіші компонентіне қалай әсер ететінін зерттейді: еркін сөйлеу, өзара әрекеттесу құзыреттілігі, қалпына келтіру стратегиялары және коммуникативтік сенімділік. Алты апта ішінде аралас әдістермен жасалған квазиэксперименттік дизайн жүзеге асырылды, оған B2 деңгейіндегі ағылшын тілін меңгерген жиырма төртінші курс дайындық курсының мұғалімдері қатысты. Эксперименттік топ ($n = 10$) ChatGPT көмегімен бақыланатын ЖИ негізіндегі сөйлеу әрекеттерімен айналысты, ал бақылау тобы ($n = 10$) дәстүрлі сынып жағдайында бетпе-бет сөйлеу тапсырмаларына қатысты. Сандық деректер

тестке дейінгі және тесттен кейінгі ауызша бағалау және сенімділік шкалалары арқылы жиналды, ал сапалық деректер ChatGPT өзара әрекеттесу журналдарынан және оқушылардың ой-пікірлерінен алынды. Бұл зерттеу Орталық Азия мұғалімдерін оқытуда жасанды интеллект көмегімен сөйлеу бойынша аймақтық, теориялық және эмпирикалық зерттеулердің тапшылығын қарастырады, осылайша генеративті жасанды интеллект құралдарының педагогикалық әлеуетіне дәлелдер мен практикалық түсініктер береді. Зерттеу нәтижелері жауапты және ақпараттандырылған пайдалануды қамтамасыз ету үшін адами модерациямен бірге жасанды интеллект арқылы коммуникативтік тәжірибені мұғалімдерді оқыту бағдарламаларына енгізудің маңыздылығын көрсетеді. Үлгі көлеміне, ұзақтығына және кері байланыстың дәлдігіне қатысты шектеулерге қарамастан, нәтижелер ChatGPT ауызша тілді қолдайтын оқушыға бағытталған контексттерде ашық ұрпақ пен ынтымақтастықты жеңілдету үшін трансформациялық тәсілді қолдана алатынын көрсетеді. Қорытындылай келе, зерттеу ChatGPT-мен тұрақты және басқарылатын тәжірибе дәстүрлі сөйлеу оқытуына күшті қосымша бола алатынын, сандық еркіндікті, коммуникативтік құзыреттілікті және дайындықтан өтуші мұғалімдер арасында өзін-өзі қамтамасыз етуді дамытатынын көрсетеді.

Түйінді сөздер: ChatGPT, жасанды интеллект арқылы тіл үйрену, диалогтық жаттығу, сөйлеу шеберлігі, мұғалімдерді даярлау бағдарламасы, белсенділік теориясы, сандық педагогика.

ДИАЛОГИЧНАЯ ПРАКТИКА С CHATGPT: ПОВЫШЕНИЕ УСТНЫХ НАВЫКОВ БУДУЩИХ УЧИТЕЛЕЙ ПОСРЕДСТВОМ ВЗАИМОДЕЙСТВИЯ С ИСКУССТВЕННЫМ ИНТЕЛЛЕКТОМ

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В данном исследовании изучается влияние диалогической практики с использованием чат-бота ChatGPT и искусственного интеллекта на уровень устной речи будущих учителей английского языка в Атырауском университете (Казахстан). Учитывая растущую интеграцию искусственного интеллекта (ИИ) в образование и национальный акцент на цифровой трансформации, исследование изучает, как длительное взаимодействие с чат-ботом на основе ИИ влияет на четыре компонента устной речи: беглость речи, интерактивную компетентность, стратегии исправления ошибок и коммуникативную уверенность.

В исследовании использовался смешанный квазиэкспериментальный дизайн, реализованный в течение шести недель с участием 20 студентов четвёртого курса – будущих учителей английского языка с уровнем владения языком B2. Экспериментальная группа (n=10) выполняла контролируемые задания по развитию устной речи с использованием ИИ и чат-бота ChatGPT, в то время как контрольная группа (n = 10) участвовала в устных упражнениях в обычной аудитории. Количественные данные были собраны с помощью устных оценок до и после тестирования, а также шкал уверенности, в то время как качественные данные были получены из журналов взаимодействия с ChatGPT и отзывов учащихся. Данное исследование восполняет недостаток региональных, теоретических и эмпирических исследований по использованию ИИ для обучения устной речи в педагогическом образовании Центральной Азии, предоставляя тем самым доказательства и практические выводы о педагогическом потенциале генеративных инструментов ИИ. Результаты подчеркивают важность интеграции коммуникативной практики с использованием ИИ в программы подготовки учителей, с модерацией со стороны человека для обеспечения ответственного и информированного использования. Несмотря на ограничения, связанные с размером выборки, продолжительностью и точностью обратной связи, результаты показывают, что ChatGPT может использовать трансформационный подход для содействия открытому генерированию и сотрудничеству в контекстах, ориентированных на обучающихся, которые поддерживают устную речь. В заключение, исследование демонстрирует, что последовательная и направленная практика с ChatGPT может служить мощным дополнением к традиционному обучению устной речи, способствуя развитию цифровой беглости, коммуникативной компетентности и самозффективности среди будущих учителей.

Ключевые слова: ChatGPT, обучение языку с использованием ИИ, диалогические упражнения, навыки устной речи, программа подготовки учителей, теория деятельности, цифровая педагогика.

Introduction. Recent advances in artificial intelligence have opened new possibilities for language education, especially in oral communication. Globally, conversational agents like ChatGPT are now part of daily communication, reshaping how people access and use language. This shift is especially important for higher education in Kazakhstan, where modernizing teacher preparation requires future educators to demonstrate both communicative competence and digital readiness. This study aligns with Kazakhstan's state policy promoting the integration of artificial intelligence technologies in education. President Kassym-Jomart Tokayev has stated that AI supports personalized learning, teacher support, and digital transformation in the country [1]. These policies underscore the need to examine how artificial intelligence can facilitate language learning in higher education, particularly using chatbots.

Furthermore, recent studies highlight the growing importance of AI for all, particularly in developing speaking and dialogic skills among preservice teachers. AI systems such as ChatGPT consistently facilitate interactive learning environments, fostering autonomous behavior and increased communication engagement. Although scholarly interest is increasing, AI-supported speaking development remains underexplored, particularly in Central Asian teacher education.

International literature shows that chatbots can improve reading, vocabulary, grammar, and learner autonomy [2, 3, 4], but research on spoken interaction is less developed. Most studies use short-term tasks or self-reports, limiting analysis of real conversational processes. Key speaking subskills such as fluency, turn-taking, topic management, clarification, hesitation reduction, and self-correction are often oversimplified or measured indirectly.

Despite these positive developments, challenges remain in adopting AI in teacher education. While some studies report that AI-assisted speaking tasks increase participation and confidence, others highlight disparities in digital literacy, especially where technological infrastructure varies significantly [5]. Additionally, some argue that AI tools may provide inaccurate or overly general feedback, emphasizing the need for learners to think critically [6]. This balance of opportunities and constraints mirrors broader discussions in educational technology, where the benefits of AI must be weighed against concerns about reliability, ethical use, and over-reliance on automated support. These differing perspectives underscore the need for pedagogies that prioritize human supervision and informed decision-making.

A methodological comparison illustrates the complexity of current research. Qualitative studies refine our understanding of learner perceptions, confidence, and socio-emotional responses to AI-mediated interaction [7, 8]. These studies often emphasize motivational and affective benefits for preservice teachers. In contrast, quantitative research, typically using experimental or quasi-experimental designs, focuses on measurable improvements in speaking scores, error reduction, and oral complexity [3, 4]. While studies often focus on learning gains, they may overlook social, cultural, and psychological factors. This methodological diversity complicates drawing definitive conclusions about AI effectiveness and underscores the importance of mixed-methods approaches that integrate measurable outcomes with experiential insights.

A temporal analysis shows clear progression in AI-mediated speaking research. In 2021 and 2022, studies mainly investigated whether AI chatbots could improve pronunciation or fluency, treating the technology as a testing tool rather than a pedagogical partner [9, 10].

Another conceptual gap is the limited application of robust learning theories to analyse processes in AI-mediated communication. Most studies rely on cognitive or task-based perspectives, which do not fully capture the dynamic and socially distributed nature of learner-AI interaction.

Activity Theory provides a useful framework for addressing this gap by viewing learning as a mediated activity involving tools, subjects, rules, and community. In this context, AI chatbots act as mediating artefacts that reorganize communication, support learner participation, reduce interactional burdens, and may influence psychological states such as confidence. The absence further underscores the novelty and relevance of the present investigation.

In response to these gaps, the present study explores how six weeks of dialogic practice with ChatGPT (mobile version) influences the speaking competence of fourth-year pre-service English teachers at Atyrau University. The study focuses on four central components of oral proficiency: fluency, interactional competence, error correction strategies, and speaking-related confidence. It seeks to determine whether systematic chatbot-mediated practice yields measurable improvements over traditional classroom-based instruction and how interactional patterns in chatbot logs reveal emerging competencies.

Aim and objectives. The study also aims to interpret the learning process through Activity Theory, offering a holistic understanding of how learners engage with the AI tool, how the tool mediates their communicative actions, and how the mediated activity leads to developmental change.

To achieve these aims, the research addresses two central questions:

(1) How does sustained dialogic practice with ChatGPT influence the speaking performance of pre-service English teachers in terms of fluency, interactional competence, error correction strategies, and speaking-related confidence compared to traditional instruction?

(2) How do interactional patterns emerging in chatbot dialogue logs—such as turn-taking, clarification, self-correction, and topic development—mediate the development of communicative competence according to the principles of Activity Theory?

This study is significant because it offers theoretical clarity, empirical evidence, and practical guidance for integrating conversational AI into language teacher education. It addresses a clear educational need, fills a research gap, and introduces a rigorous analytic framework aligned with international trends in digital linguistics and technology-enhanced learning.

Materials and methods. This study used a mixed-methods quasi-experimental design, combining quantitative measurement of speaking performance with qualitative analysis of interactional patterns. This approach was chosen to observe both measurable linguistic changes and the underlying communicative processes during AI engagement. The study included three main stages: pre-testing, a six-week intervention, and post-testing with qualitative data collection. The transparent and replicable intervention structure allows other researchers to reproduce the experiment under similar conditions.

Twenty fourth-year pre-service English teachers from Atyrau University participated in the study. All had B2-level English proficiency according to institutional diagnostics. Inclusion criteria were current enrollment in a teacher education program, B2 proficiency, and willingness to participate fully. All participants completed the study. The sample included 15 females and 5 males, aged 20 to 22. Participants were divided into two equal groups: an **experimental group** ($n = 10$) engaged in structured AI-mediated dialogic speaking practice, and a **control group** ($n = 10$) completed conventional classroom-based speaking activities aligned with the university syllabus. We used purposive sampling to ensure a homogeneous group of prospective English instructors in terms of academic level, age range, and English proficiency. However, we assigned participants to the experimental and control groups non-randomly. Group membership reflected the existing organisation of seminar groups within the teacher-training program, which is a common constraint in institution-based quasi-experimental research when random allocation is not administratively feasible. Because this design cannot fully rule out pre-existing differences between the two groups, this limitation is acknowledged, particularly given the small size of each group ($n = 10$). Therefore, the findings should be interpreted as evidence from a preliminary, pilot-scale quasi-experimental study rather than as generalizable causal evidence.

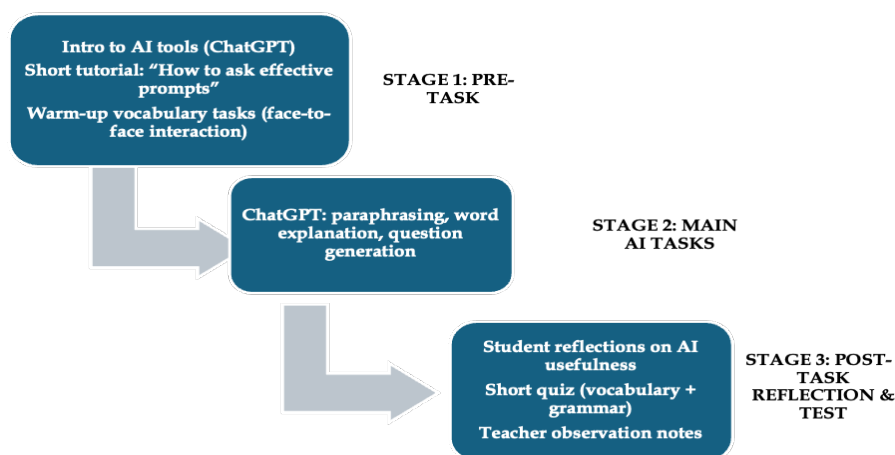


Figure 1 – Methods for Teaching That Applied in AI-Integrated Classrooms

The diagram (Figure 1) demonstrates the three instructional components employed:

- 1) Pre-Task Orientation – students were presented with AI tools and strategies to write a prompt;
- 2) Main AI-Integrated Tasks – learners worked on reading, vocabulary, speaking, and writing tasks using ChatGPT, Grammarly, Duolingo and ELSA Speak;
- 3) Post-Task Reflection & Assessment – involving participant reflections, collection of AI output data as well as a short achievement test.

The methods of data collection included analytic speaking performance assessment, a self-report confidence scale, and interaction logs. The pre-test and post-test speaking tasks were identical in content and difficulty, allowing reliable comparison. Performance was rated using an analytic rubric covering fluency, interactional competence, and error correction strategies. Fluency was measured by speech rate and pausing patterns; interactional competence referred to turn-taking, topic management, and collaborative moves; error correction strategies included self-correction and clarification requests. The confidence scale employed a five-point Likert format. Qualitative data were obtained from automatically generated ChatGPT conversation transcripts, which were analysed for discourse features. ChatGPT (mobile version) served as the technological instrument due to its naturalistic turn-taking abilities and its capacity to provide instant clarification or rephrasing. The intervention involved real-time, spoken dialogic exchanges using ChatGPT's voice mode. Participants spoke directly to the application, and after each session, ChatGPT generated a written transcript of the conversation, which served as the qualitative data source. Since both the intervention and the pre- and post-test assessments required live spoken responses, the outcome measures directly assessed oral performance rather than written skills.

The intervention protocol was fully standardized for reproducibility. Over six weeks, the experimental group completed three chatbot-mediated speaking sessions per week, each lasting about 15 minutes, totaling 270 minutes of AI interaction per participant. Sessions simulated authentic communicative scenarios such as problem solving, everyday conversation, debates, and academic discussions. Students used ChatGPT on their mobile devices, reflecting real-life digital habits and ensuring ecological validity. The control group completed equivalent speaking tasks with peers and instructors, without technology mediation. Both groups used the same themes and communicative goals to control for content differences.

Data analysis methods included descriptive statistics, mean gain calculations, percentage change, and effect-size estimation. The formula for percentage improvement was:

$$\text{Percentage Gain} = \frac{M1 - M2}{M2} \times 100$$

Effect size was calculated using Cohen's d:

$$d = \frac{M_2 - M_1}{SD_{\text{pooled}}}$$

$$SD_{\text{pooled}} = \sqrt{\frac{SD_1^2 + SD_2^2}{2}}$$

Qualitative analysis used a deductive coding scheme based on Activity Theory, identifying mediating behaviors such as reduced hesitation, structured turn-taking, self-initiated error correction, and psychological indicators of reduced speaking anxiety.

All materials used in the study – analytic rubrics, confidence scales, ChatGPT interaction logs, and the standardised speaking task descriptions are available from the researcher upon request, ensuring transparency and reproducibility of the study.

The experimental group participated in structured, AI-mediated speaking tasks three times per week, using ChatGPT as a conversational partner, feedback provider, and support for meaning negotiation. Each session included a warm-up prompt, a 10 to 12-turn dialogue, targeted pronunciation or error correction practice, and a brief self-evaluation. ChatGPT interaction recordings and weekly screenshots were collected to document the activity.

The control group completed similar speaking tasks aligned with the institutional syllabus, such as textbook discussions, pair-work role-plays, and teacher-led communicative exercises. No AI tools were used. Both groups received equal instructional time and thematic content to ensure comparability.

Several instruments supported data collection. Speaking performance was measured through pre- and post-intervention oral assessments using a standardized rubric for fluency, interactional competence, error correction strategies, and communicative confidence. Students also completed a confidence questionnaire adapted from established affective-measure scales. Qualitative data were collected from ChatGPT dialogue records, student screen recordings, and field notes on learner – tool interactions. Together, these instruments enabled a comprehensive analysis of outcomes and processes within the Activity Theory framework.

Before presenting findings on the interactional dynamics of chatbot-assisted learning, Figure 2 offers a visual overview of the Activity Theory framework used to interpret mediated actions in the dialogue logs.

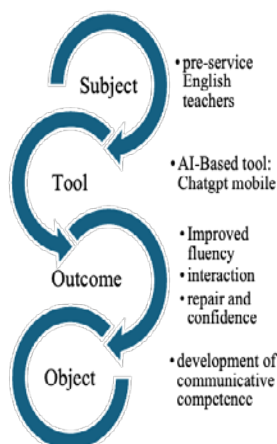


Figure 2 – The Activity Theory model forms the basis for analyzing AI-mediated dialogic speaking practice

This model shows how interactions among subject, mediating artifact, rules, community, and division of labor create a dynamic activity system that supports speaking competence. The figure clarifies the

theoretical lens for analyzing turn-taking, self-correction, clarification strategies, and topic development in the experimental group's chatbot dialogues.

Results and discussion. This section presents and interprets the results based on both research questions. Quantitative pretest-and-post-test data were studied to study students' development in speaking achievement. Qualitative analysis of chatbot discussion transcripts was used to explore conversational structures and mediating activities from an Activity Theory perspective.

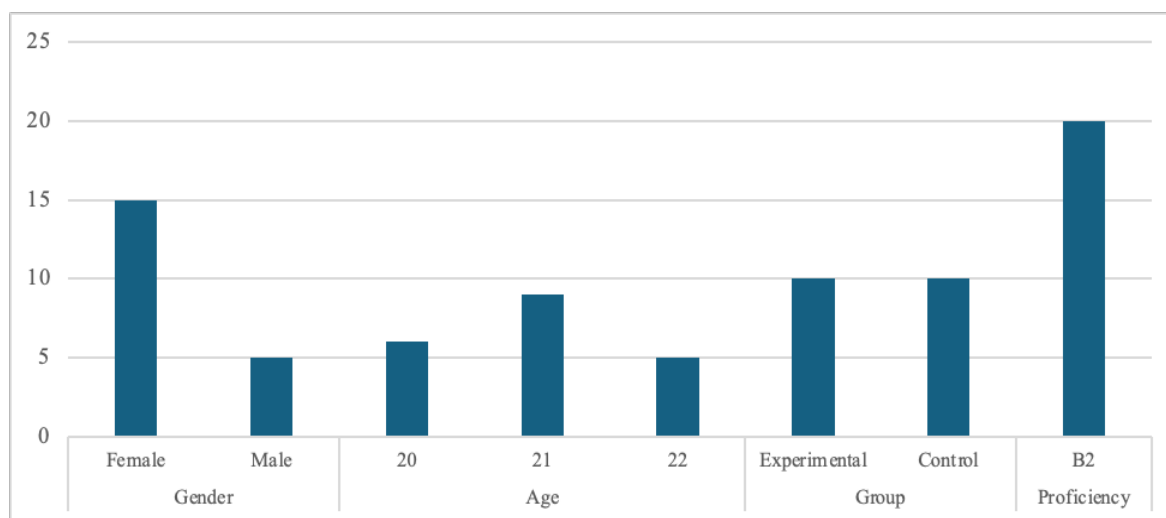


Figure 3 – Demographic Characteristics of Participants

The results of the study indicated a distinct, consistent trend in that pre-service English teachers who practiced dialogically with ChatGPT showed improvement in speaking performance over six weeks. The overall positive pattern of quantitative results showing significant improvement across all oral proficiency components such as fluency, interactional competence, error correction strategies and communicative confidence suggests that AI-mediated dialogue can significantly improve fundamental aspects of spoken language production.

The average scores of the experimental group increased significantly between the pre-test and post-test (Table 1): fluency (68.4 to 83.2), interactional competence (70.1 to 82.9), error correction strategies (66.3 to 77.5) and communicative confidence (64.5 to 80.3). These results relate to average percent gain ranges between 16.9% and 24.5%, with all of them statistically significant ($p < .01$).

Table 1 – Pre-test and post-test results of experimental group

Component	Pre-test Mean	Post-test Mean	Mean Gain (%)	Cohen's d	Significance
Fluency	68.4	83.2	21.7	1.05	$p < .001$
Interactional Competence	70.1	82.9	18.3	0.94	$p < .002$
Error correction strategies	66.3	77.5	16.9	0.88	$p < .006$
Confidence	64.5	80.3	24.5	1.12	$p < .001$

Large effect sizes, as measured using Cohen's d, were observed for all variables demonstrating statistical and practical significance of the changes. With minimal improvement observed in the control group over this same time frame, these gains provide compelling evidence for a cohort of undergraduates who were systematically interacting with ChatGPT leading to measurable linguistic and psychological development.

In addition to the quantitative increase, the qualitative results provided a detailed account of the transformation in participants' communicative activities during the intervention. Several underlying interactional patterns emerged that characterize the learning process in ChatGPT dialogues. As training progressed, participants increasingly corrected their own errors before receiving feedback from the AI, suggesting the internalisation of linguistic monitoring. Their dialogues also demonstrated more fluent turn-taking and a more balanced interaction with ChatGPT, reflecting improved natural language control. Additionally, topic elaboration became increasingly sustained and complex as students introduced new topics, requested further details, and assumed greater responsibility for directing the conversation. The frequency of fillers (e.g., "uh," "you know") decreased over time, suggesting increased confidence and fluency. These patterns collectively underscore AI's transformative potential as a mediating tool that facilitates learner participation, reflection, and the development of dialogic competence over time.

These qualitative trends were corroborated by statistical analyses. Paired-sample t-tests revealed significant increases in each temporal performance measure, with all p-values less than 0.01. Independent-samples t-tests confirmed that post-test means differed significantly across all measures. Correlation analyses identified strong positive relationships between fluency and confidence ($r = 0.89$) and between interactional competence and error correction strategies ($r = 0.76$). The frequency of AI interaction showed a strong correlation with improvements in fluency ($r = 0.82$), and this association was positively related to fluency gains. However, due to the small sample size, this coefficient is sensitive to individual observations and does not independently establish that engagement with ChatGPT directly caused the observed gains. These findings suggest that the consistency and authenticity of dialogic practice, rather than mere exposure to technology, may be associated with fostering oral language development. This interpretation, however, requires confirmation in studies with larger samples.

Table 2 – Correlations among key variables

Variable Pair	Correlation (r)	Interpretation
Fluency ↔ Confidence	0.89	Strong
Error correction strategies ↔ Interactional Competence	0.76	Moderate–Strong
AI Session Frequency ↔ Fluency Gains	0.82	Strong

Qualitative survey responses collected at the conclusion of the intervention corroborated the statistical findings by documenting participants' perceptions of their learning experiences. The majority (85%) reported increased confidence was observed among participants, with 70% reporting reduced anxiety when speaking English using ChatGPT and noting that the AI "never judges and is supportive." Most participants reported improvements in vocabulary and sentence construction through practice, describing the AI as a "safe space" for experimenting with new phrases. However, about one-third of respondents noted occasional inaccuracies or overly general responses from ChatGPT, underscoring the need for teacher support to facilitate critical engagement with AI-generated content. These findings are consistent with those of Kartal (2024) and Moorhouse et al. (2025), both of which emphasise the motivational and pedagogical challenges associated with AI in language learning.

From the perspective of Activity Theory, AI functions not only as a language tool but also as a facilitator that transforms communication practices among learners. Participants utilised a shared lexical resource developed through collaborative language activities, which fostered novel approaches to language engagement, conversation management, and autonomous learning. ChatGPT enabled rapid feedback and explanations, distributing communicative responsibilities between teacher and learner. This active participation in the learning process promoted co-construction of meaning and increased student engagement. The findings demonstrate that technology can transform conventional classroom speaking tasks into authentic, interactive learning experiences that enhance both linguistic competence and digital literacy. Although the results were predominantly positive, some unanticipated challenges emerged. Two learners showed minimal improvement in self-correction, potentially because they relied too heavily on ChatGPT's automatic feedback without actively monitoring their own language. This finding suggests that effective AI-supported practice should incorporate explicit instruction on self-reflection to foster enduring communicative awareness. Nevertheless, the overall results indicate that AI-supported conversation can help create a supportive social environment, providing feedback that encourages students to participate confidently and without apprehension.

Table 3 – Independent sample t-test for experimental and control group

Component	Mean Difference	t-value	p-value	Significance
Fluency	13.2	4.15	0.001	Significant
Interactional Competence	12.8	3.88	0.002	Significant
Error Correction Strategies	10.9	3.17	0.006	Significant
Confidence	15.4	5.22	0.0005	Highly Significant

The present results are consistent with those of Fathi et al. (2024), Sok and Shin (2025), and Huang (2024), who found improvements in fluency, complexity, and willingness to communicate among students using AI-based tasks. This study builds on previous research by applying Activity Theory to explain both the nature of these learning gains and the mechanisms through which technological interaction supports them. By combining quantitative and qualitative data with theoretical analysis, this research offers a comprehensive view of AI's pedagogical value in language teacher training (LTT).

In summary, dialogic practice with ChatGPT improved pre-service teachers' fluency, interactional competence, and speaking confidence, as well as their metacognitive development and digital readiness. These results suggest that AI-driven interaction can effectively support traditional language teaching, especially when facilitated by educators. By fostering communicative competence through mediated interaction, ChatGPT has the potential to prepare future teachers to navigate both linguistic and technology-rich educational environments, supporting Kazakhstan's broader objective of integrating AI into higher education.

Conclusion. The results of this pilot-scale quasi-experimental study indicate that dialogic interaction with ChatGPT is associated with improvements in pre-service EFL teachers' speaking competence, particularly in fluency, interactive ability, error correction strategies, and communicative self-confidence. Both quantitative and qualitative analyses suggest that AI-mediated interaction can support measurable enhancements in language ability as well as in psycholinguistic and cognitive development related to communicative competence over time. However, these patterns require confirmation through studies with larger and more diverse samples before generalising to the broader population of pre-service English teachers is warranted.

These results both complement and challenge recent international studies on this topic [3, 4, 6, 7], and reinforce the view that AI serves as a transformative pedagogical mediator in language teaching when applied thoughtfully. This article advances the field by employing Activity Theory as a theoretical framework for the structured teaching and learning of AI-mediated dialogues, thereby deepening theoretical understanding of technology-enhanced communicative competence.

This study addresses a recognized gap in Central Asian teacher education: limited information and resources on AI-facilitated speaking development. Unlike previous research that has primarily focused on reading-based AI tools or those aimed at improving comprehension and grammatical knowledge [2, 11], this study centers on speaking interaction within AI-assisted pedagogy. The results demonstrate that ChatGPT functions not only as a linguistic tool but also as an effective dialogic partner, enabling authentic communication. Furthermore, the findings align with the national policy on AI integration in Kazakhstani schools [1]. This research contributes to ongoing local and regional discussions on modernizing teacher training and developing digital citizenship among future educators. Consequently, it addresses both theoretical and practical gaps regarding AI technology in higher education, thereby supporting the advancement of professional communicative competence.

This study's results have significant implications for educational design and policy. The findings suggest that teacher training programs can integrate structured, AI-directed conversations to promote communicative competence and confidence, especially in contexts where regular interaction with native speakers or authentic conversational settings is limited. The study also underscores the importance of teacher-mediated supervision, which ensures pedagogically sound AI use and allows teachers to correct inaccuracies in automated feedback. When carefully curated, AI-mediated interactions can complement traditional schooling by providing dynamic, adaptable agents that support customized and independent learning, thereby enhancing both linguistic competence and digital literacy. AI should therefore be viewed not as a replacement for human instruction, but as an augmentative tool that enriches the teaching-learning process and fosters learner autonomy.

Despite the promising outcomes, several limitations must be acknowledged. The small sample size ($n = 20$) restricts the generalizability of the findings, and the six-week duration, while sufficient to observe initial changes, may not capture long-term retention or transfer effects. Furthermore, inconsistencies in the accuracy of AI-generated feedback highlight the ongoing need to update and refine language models for educational applications. A main limitation relates to the AI voice interface rather than how it is used. Although ChatGPT's voice mode allows real-time spoken interaction, it differs from human speakers in speech rhythm, delay, and body language. Automatically created transcripts may not be as accurate as human transcription or sound analysis in capturing speech features like pauses, tone, and hesitation sounds. Future research should combine ChatGPT-generated transcripts with sound measurements or human-checked transcription to confirm these detailed speech features. Studies could also compare AI voice partners with human conversation partners to identify the specific effects caused by the AI. These limitations do not diminish the study's contributions but rather reflect the increasing complexity of investigating AI-mediated pedagogy in evolving educational contexts.

The study's findings extend beyond immediate classroom practice and open several avenues for further research. Future investigations could include longitudinal studies to assess the long-term sustainability of AI-mediated improvements in speaking, cross-cultural studies to examine context-specific factors. Moreover, further research should explore mixed-reality applications that combine chatbot systems with immersive learning environments. It is also important to integrate AI literacy into teacher education to ensure educators gain the critical and ethical skills needed for effective technology use. Additionally, studying how students and AI collaboratively construct knowledge may offer valuable insights into communicative learning, especially when viewed through socio-cognitive and affective frameworks.

In summary, this pilot study offers preliminary evidence that dialogic interaction with ChatGPT improves pre-service teachers' oral communication skills, supporting their growth as language learners and digital innovators. By showing how AI tools foster authentic, reflective, and confidence-building communication, this study advances the theoretical and pedagogical foundations of technology-enhanced language teaching.

Ultimately, the findings highlight a key paradigm shift: the future of language education depends on designing collaborative systems that develop articulate, confident, and digitally literate educators.

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БІЛІМ БЕРУ МАЗМҰНЫНДАҒЫ ГЕНДЕРЛІК РӨЛДЕР РЕПРЕЗЕНТАЦИЯСЫН ҚАБЫЛДАУ: ОҚЫТУШЫЛАР МЕН СТУДЕНТТЕРДІҢ КӨЗҚАРАСТАРЫН ЭМПИРИКАЛЫҚ ТАЛДАУ

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Қазіргі білім беру саласында гендерлік теңдік мәселесі жаһандық деңгейде өзектілігін арттырып отырған маңызды ғылыми бағыттардың бірі болып саналады. Зерттеудің мақсаты – оқытушылар мен студенттердің білім беру мазмұнындағы гендерлік рөлдер репрезентациясын қалай қабылдайтынын анықтау. Бұл қабылдаудың дәстүрлі гендерлік стереотиптермен, педагогикалық құндылықтармен және гендерлік теңдікке қатысты көзқарастармен өзара байланысын эмпирикалық тұрғыдан талдау. Зерттеу сандық әдіснамаға негізделіп, деректер 5 балдық Ликерт шкаласындағы сауалнама арқылы жинақталды және SmartPLS 4 бағдарламасында құрылымдық теңдеулерді модельдеу әдісімен (PLS-SEM) өңделді. Зерттеуге 227 респондент, оның ішінде 109 оқытушы және 118 студент қатысты. Құрылымдық модель төрт латентті конструкцияны қамтыды. Дәстүрлі гендерлік стереотиптер, педагогикалық құндылықтар, білім беру мазмұнындағы гендерлік репрезентацияны қабылдау және гендерлік теңдікке қатысты көзқарас. Алынған нәтижелер аталған конструкциялар арасында статистикалық байланыстар бар екенін көрсетті және олардың өзара байланысу сипатын эмпирикалық тұрғыдан нақтылауға мүмкіндік берді. Сонымен бірге модельдің түсіндіру қабілетінің салыстырмалы түрде төмен болуы гендерлік ұстанымдардың қалыптасуы білім беру мазмұнымен ғана шектелмей, әлеуметтік-мәдени, институционалдық және тұлғалық факторлармен де байланысты болуы мүмкін екенін аңғартты. Зерттеудің ғылыми жаңалығы білім беру мазмұнындағы гендерлік репрезентацияны тікелей контенттік талдаудан өткізуден гөрі, оқытушылар мен студенттердің оны қабылдау ерекшеліктерін құрылымдық модель арқылы кешенді бағалауымен сипатталады. Зерттеудің практикалық маңызы алынған эмпирикалық нәтижелерді оқу материалдарын сараптау, педагог кадрларды даярлау, гендерлік сезімтал педагогикалық тәсілдерді жетілдіру және білім беру мазмұнын қайта қарау бағыттарында пайдалануға болатындығымен айқындалады.

Түйінді сөздер: гендерлік теңдік, білім мазмұны, гендерлік репрезентация, дәстүрлі гендерлік стереотиптер, педагогикалық құндылықтар, PLS-SEM, гендерлік көзқарас.