

**L2 OG'ZAKI NUTQ RAVONLIGINI OSHIRISHDA GENERATIV SUN'IY
INTELLEKT AGENTLARINING SAMARADORLIGI: 2026-YILGI CALL
TADQIQOTI**

**THE EFFICACY OF GENERATIVE AI AGENTS IN ENHANCING L2
SPEAKING FLUENCY: A 2026 CALL STUDY**

**ЭФФЕКТИВНОСТЬ ГЕНЕРАТИВНЫХ АГЕНТОВ ИСКУССТВЕННОГО
ИНТЕЛЛЕКТА В ПОВЫШЕНИИ БЕГЛОСТИ УСТНОЙ РЕЧИ НА ВТОРОМ
ЯЗЫКЕ: ИССЛЕДОВАНИЕ CALL 2026 ГОД**

To'ychiyev Abror Xabibulla o'g'li (O'zbek tilida)

Renessans Ta'lim Universiteti, Xorijiy filologiya kafedراسi assistent o'qituvchisi

Tuychiev Abror Khabibulla ugli (English)

Renaissance Education University, Lecturer of the Department of foreign philology

Туйчиев Аброр Хабибулла угли (Русский язык)

*Университет образования Ренессанс, Преподаватель кафедры зарубежной
филологии*

E-mail: a_toychiyev@renessans-edu.uz

ORCID: 0009-0005-7463-3075

Annotatsiya (Abstract – O'zbek tilida)

Sun'iy intellektning generativ texnologiyalari rivojlanishi Kompyuter yordamida til o'qitish (CALL) sohasini, ayniqsa, ikkinchi til (L2) og'zaki nutqini rivojlantirish jarayonini sezilarli darajada o'zgartirdi. Mazkur 2026-yilgi kvazi-eksperimental tadqiqot universitet darajasidagi ingliz tili (EFL) talabalari orasida generativ AI suhbat agentlarining L2 og'zaki ravonlikni oshirishdagi samaradorligini o'rganadi. Tadqiqotda ingliz filologiyasi yo'nalishida tahsil olayotgan 60 nafar talaba ishtirok etdi. Ular tajriba va nazorat guruhlariga ajratildi. 12 haftalik intervensiya davomida tajriba guruhi generativ AI agenti yordamida tuzilgan og'zaki mashg'ulotlarni bajardi, nazorat guruhi esa an'anaviy kommunikativ metod asosida ta'lim oldi. Oldingi va yakuniy testlar ravonlik ko'rsatkichlari – nutq tezligi, pauzalar soni, o'rtacha nutq bo'lagi uzunligi va tuzatishlar chastotasini o'lchadi. Natijalar tajriba guruhida statistik jihatdan ahamiyatli o'sish kuzatilganini ko'rsatdi ($p < .05$). Sifatli ma'lumotlar talabalar ishonchi ortgani, nutqiy xavotir kamaygani va leksik chaqirish tezligi oshganini tasdiqladi. Tadqiqot natijalari generativ AI agentlari universitet sharoitida L2 og'zaki ravonlikni oshirishda samarali qo'shimcha vosita bo'lishi mumkinligini ko'rsatadi.

Kalit so'zlar: *generativ sun'iy intellekt, CALL, L2 ravonlik, sun'iy intellekt ta'limda, EFL talabalar*

Abstract (English)

The rapid development of generative artificial intelligence (AI) has significantly transformed Computer-Assisted Language Learning (CALL), particularly in the domain of

second language (L2) speaking. This 2026 quasi-experimental study investigates the efficacy of generative AI conversational agents in enhancing L2 speaking fluency among university-level English as a Foreign Language (EFL) learners. Sixty undergraduate students enrolled in an English Philology program were divided into experimental and control groups. Over a 12-week intervention period, the experimental group engaged in structured AI-mediated speaking tasks using a generative AI agent, while the control group followed traditional communicative speaking instruction. Pre- and post-tests measured fluency indicators, including speech rate, mean length of run, pause frequency, and repair phenomena. Quantitative findings revealed statistically significant improvements in the experimental group across all fluency measures ($p < .05$). Qualitative data from learner reflections indicated increased speaking confidence, reduced anxiety, and enhanced lexical retrieval speed. The results suggest that generative AI agents can function as effective supplementary tools for improving L2 speaking fluency in university contexts. Pedagogical implications and directions for future research are discussed.

Keywords: *generative AI, CALL, L2 speaking fluency, artificial intelligence in education, EFL learners*

Аннотация (Русский язык)

Стремительное развитие генеративного искусственного интеллекта существенно трансформировало сферу компьютерного обучения иностранным языкам (CALL), особенно в области развития устной речи на втором языке (L2). Данное квази-экспериментальное исследование 2026 года направлено на изучение эффективности генеративных AI-агентов в повышении беглости устной речи студентов университета, изучающих английский язык как иностранный. В исследовании приняли участие 60 студентов факультета английской филологии, разделённых на экспериментальную и контрольную группы. В течение 12 недель экспериментальная группа выполняла структурированные задания по устной речи с использованием генеративного AI-агента, тогда как контрольная группа обучалась по традиционной коммуникативной методике. До и после эксперимента измерялись показатели беглости речи: скорость речи, средняя длина речевого отрезка, частота пауз и самокоррекций. Результаты показали статистически значимые улучшения в экспериментальной группе ($p < .05$). Качественные данные подтвердили снижение речевой тревожности и повышение уверенности студентов. Полученные данные свидетельствуют о высокой эффективности генеративных AI-агентов как дополнительного инструмента развития устной речи в университетском обучении.

Ключевые слова: *генеративный ИИ, CALL, беглость речи L2, искусственный интеллект в образовании, студенты EFL*

1. Introduction

The integration of Artificial Intelligence (AI) into education has marked a paradigm shift in language learning methodologies. Within the framework of Computer-Assisted Language Learning (CALL), generative AI agents represent a new generation of interactive systems capable of producing contextually appropriate, human-like responses. Unlike earlier rule-based chatbots, generative AI systems employ large language models (LLMs) that enable dynamic conversational engagement.

Speaking fluency remains one of the most challenging aspects of second language acquisition (SLA). Fluency involves not only speed of articulation but also smoothness, automaticity, and reduced cognitive load during speech production (Segalowitz, 2010). University-level EFL learners often struggle with hesitation phenomena, limited lexical retrieval speed, and speaking anxiety.

Recent studies (e.g., Godwin-Jones, 2023; Li & Lan, 2024) suggest that AI-driven conversational tools can provide low-anxiety environments conducive to oral practice. However, empirical evidence measuring objective fluency gains remains limited. This study addresses this gap by systematically investigating the impact of generative AI agents on measurable L2 speaking fluency indicators in a university EFL context.

The study aims to answer the following research questions:

Does interaction with generative AI agents significantly improve L2 speaking fluency?

Which fluency indicators demonstrate the greatest improvement?

How do learners perceive AI-mediated speaking practice?

2. Literature Review

2.1 CALL and Speaking Development

CALL has evolved from drill-based software to communicative platforms facilitating real-time interaction. Warschauer and Healey (1998) identified three phases of CALL: behavioristic, communicative, and integrative. AI-based tools belong to the integrative phase, combining multimedia, interaction, and adaptive feedback.

Research has consistently shown that frequent meaningful interaction promotes fluency development (Nation, 2007). However, classroom constraints often limit speaking time per student.

2.2 Defining L2 Speaking Fluency

Fluency is operationalized through measurable features:

Speech rate (words per minute)

Mean Length of Run (MLR)

Frequency of filled and silent pauses

Self-repairs and repetitions

According to Tavakoli and Skehan (2005), improvements in fluency reflect greater proceduralization of linguistic knowledge.

2.3 Generative AI in Language Learning

Generative AI agents provide:

Immediate feedback

Unlimited conversational practice

Personalized scaffolding

Error reformulation

Preliminary findings indicate improvements in learner engagement and motivation (Huang et al., 2024). However, robust experimental designs remain scarce.

3. Methodology

3.1 Research Design

A quasi-experimental pretest–posttest control group design was employed.

3.2 Participants

Sixty undergraduate students (ages 18–21) enrolled in an English Philology program at a university participated. All were B1–B2 level learners according to CEFR placement testing.

Experimental group (n = 30)

Control group (n = 30)

3.3 Instruments

IELTS-style speaking tasks (Part 2 monologues)

Audio recordings analyzed using speech analysis software

Learner perception questionnaire (Likert scale + open-ended items)

3.4 Procedure

Duration: 12 weeks

Frequency: 3 sessions per week (20 minutes AI interaction per session)

Experimental group:

Role-play with AI agent

Topic-based monologues

Real-time reformulation feedback

Fluency-focused prompts

Control group:

Traditional pair work

Teacher-led speaking drills

Peer discussions

3.5 Data Analysis

Quantitative data were analyzed using paired-sample and independent t-tests ($\alpha = .05$).

Qualitative responses underwent thematic analysis.

4. Results

4.1 Quantitative Findings

Experimental group improvements:

Indicator	Pre-test Mean	Post-test Mean	% Increase
Speech rate	92 wpm	118 wpm	+28%
MLU	6.4 words	9.1 words	+42%

Indicator	Pre-test Mean	Post-test Mean	% Increase
Pause frequency	14/min	8/min	-43%
Self-repairs	11/min	6/min	-45%

All improvements were statistically significant ($p < .05$).

Control group improvements were modest and not statistically significant in pause frequency and repairs.

4.2 Qualitative Findings

Three dominant themes emerged:

Reduced speaking anxiety

Increased willingness to communicate

Faster lexical retrieval

Students reported feeling less judged and more comfortable practicing repeatedly.

5. Discussion

The findings confirm that generative AI agents significantly enhance measurable aspects of L2 speaking fluency. Increased speech rate and MLR suggest improved automaticity. Reduced pauses indicate enhanced processing efficiency.

These results align with Segalowitz's (2010) theory of cognitive fluency development. The AI-mediated environment appears to lower affective filters (Krashen, 1982), facilitating greater output production.

Pedagogically, AI agents should supplement—not replace—human interaction. Teachers remain essential for pragmatic, sociocultural, and discourse-level guidance.

6. Conclusion

This 2026 CALL study demonstrates that generative AI conversational agents significantly improve university-level EFL learners' speaking fluency across multiple measurable indicators. The integration of structured AI speaking tasks into university curricula can provide scalable, low-anxiety practice environments.

7. Limitations and Future Research

Limitations include:

Short intervention period

Single institutional context

Focus solely on fluency (not accuracy or complexity)

Future research should:

Conduct longitudinal studies

Compare different AI platforms

Examine impact on pragmatic competence

References (APA 7th Edition)

1. Godwin-Jones, R. (2023). Emerging technologies: Generative AI and language learning. *Language Learning & Technology*, 27(2), 5–15.

2. Huang, J., Li, M., & Zhang, Y. (2024). Artificial intelligence in EFL speaking instruction: A meta-analysis. *Computer Assisted Language Learning*, 37(1), 88–110.
3. Krashen, S. (1982). *Principles and practice in second language acquisition*. Pergamon.
4. Li, S., & Lan, Y. (2024). AI chatbots in second language education: Pedagogical affordances and challenges. *ReCALL*, 36(1), 45–62.
5. Nation, I. S. P. (2007). The four strands. *Innovation in Language Learning and Teaching*, 1(1), 2–13.
6. Segalowitz, N. (2010). *Cognitive bases of second language fluency*. Routledge.
7. Tavakoli, P., & Skehan, P. (2005). Strategic planning, task structure, and performance testing. *Language Learning*, 55(2), 239–273.
8. Warschauer, M., & Healey, D. (1998). Computers and language learning: An overview. *Language Teaching*, 31(2), 57–71.