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INTEGRATING ARTIFICIAL INTELLIGENCE INTO RUSSIAN LANGUAGE TEACHING: A METHODOLOGICAL FRAMEWORK FOR NON-NATIVE LEARNERS AT HIGHER EDUCATION LEVEL

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Abstract
The integration of artificial intelligence (AI) technologies into foreign language education represents one of the most dynamic and consequential developments in contemporary applied linguistics. This article presents a methodological framework for the systematic incorporation of AI tools—including intelligent chatbots, neural network-based text generators, corpus technologies, and adaptive learning platforms—into the teaching of Russian as a foreign and second language (RFL/RSL) at the university level. Drawing on a mixed-methods study conducted over two academic semesters with undergraduate students at Jizzakh State Pedagogical University (Uzbekistan), the research examines the pedagogical potential and practical limitations of AI-assisted language instruction across four core competency areas: lexical-grammatical acquisition, communicative competence, reading comprehension, and writing skills. The results demonstrate that a balanced integration of AI tools with traditional communicative approaches produces statistically significant improvements in grammatical accuracy ($p < 0.01$) and learner motivation, while also revealing important challenges related to academic integrity, cultural-contextual gaps in AI-generated content, and the preservation of authentic human communicative practice. The article proposes a three-tier methodological model—diagnostic, instructional, and evaluative—adapted specifically for the Central Asian educational context, and provides concrete recommendations for curriculum designers and practitioners working with A1–B2 level learners.

Keywords: Artificial intelligence in education; Russian as a foreign language; language teaching methodology; adaptive learning; communicative competence; higher education; Uzbekistan.

Introduction

The rapid proliferation of artificial intelligence technologies has fundamentally transformed the landscape of language education in the twenty-first century. Across disciplines and institutional contexts, educators increasingly confront both the promise and the complexity of integrating machine-learning systems, generative models, and intelligent tutoring environments into pedagogically coherent instructional frameworks (Titova & Kharlamenko, 2025; Pogorelova & Savchenko, 2025). Within the field of Russian language teaching—whether as a foreign, second, or heritage language—these developments have generated particular scholarly interest, as the structural complexity of Russian morphology and syntax poses specific challenges to automated language processing and learner-centered instruction alike.

The teaching of Russian as a foreign language (RFL) in Uzbekistan occupies a unique sociolinguistic position. Russian functions simultaneously as a language of academic instruction, professional mobility, and intercultural communication throughout Central Asia, making its effective pedagogical transmission a matter of significant educational policy concern (Yeskarayeva, 2024). At the same time, the Uzbek higher education system faces structural pressures to modernize its instructional methodologies, diversify learning resources, and address the heterogeneous language proficiency profiles of incoming students. Artificial intelligence technologies offer a potentially transformative response to these pressures—yet their pedagogical integration remains undertheorized, particularly in the Central Asian context. The present study addresses this gap by proposing a comprehensive methodological framework for AI-assisted RFL instruction at the tertiary level, empirically grounded in classroom research conducted at Jizzakh State Pedagogical University. The framework is designed to be operationally practical, theoretically informed, and contextually sensitive to the realities of Uzbek higher education.

The research is guided by three central questions: (1) Which AI tools demonstrate the greatest pedagogical efficacy for specific Russian language learning tasks at A1–B2 proficiency levels? (2) How can AI-assisted activities be methodologically integrated with communicative and task-based instructional approaches without diminishing the quality of authentic language interaction? (3) What institutional and ethical considerations must inform the deployment of AI tools in RFL classrooms in the Central Asian educational context?

2. THEORETICAL BACKGROUND AND LITERATURE REVIEW

Research on AI in foreign language education has expanded exponentially since approximately 2020, with a notable acceleration in the study of Russian-specific applications after 2022 (Sysoyev & Filatov, 2024). Bibliometric analyses of the scholarly discourse reveal a clear evolutionary trajectory: early publications (2022) were primarily descriptive, cataloguing the technical capabilities of AI tools; subsequent work (2023–2024) shifted toward methodological integration and learning outcome assessment; while the most recent literature (2025) focuses increasingly on learner motivation, pedagogical personalization, and the sociocultural implications of AI-mediated language learning (Russian Language Studies, 2025).

Key theoretical frameworks underpinning AI-assisted language instruction include Vygotsky's (1978) Zone of Proximal Development (ZPD), reinterpreted in the context of intelligent tutoring systems as a dynamic "AI-mediated ZPD" in which adaptive algorithms substitute partially for the scaffolding role traditionally performed by the human teacher (Lantolf & Poehner, 2014). Communicative Language Teaching (CLT) theory has likewise been extended to account for machine interlocutors, raising foundational questions about the nature of authentic communicative intent in human-AI dialogic interaction (Warschauer & Healey, 1998; Chapelle, 2003).

Within the specific domain of RFL methodology, Sysoyev and Filatov (2024) have documented the pedagogical applications of corpus-based technologies, demonstrating that student access to the Russian National Corpus (RNC) significantly enhances collocation acquisition and genre-appropriate text production. Pogorelova and Savchenko (2025) conducted a systematic review

of neural network applications in RFL, concluding that AI tools demonstrate particular efficacy at B1 and above, while their utility for beginner learners remains constrained by the risk of grammatical confabulation and insufficient phonological modeling. The triad model of "learner – artificial intelligence – teacher," proposed by Sysoyev (2024), provides a useful conceptual scaffold for understanding the redistribution of instructional roles in AI-integrated classrooms, and forms one of the theoretical anchors of the present framework.

Research on AI integration in Central Asian educational contexts remains comparatively sparse. Buranova (2025) examined AI use in Uzbek medical universities, noting strong student receptivity alongside concerns about academic integrity. The present study extends this nascent body of work to the domain of RFL pedagogy, contributing the first empirically tested methodological framework specifically designed for the Uzbek higher education environment.

3. RESEARCH METHODOLOGY

The study employed a convergent mixed-methods design, combining quantitative pre-test/post-test assessment of language proficiency gains with qualitative analysis of learner and instructor perceptions. The research was conducted over two academic semesters (September 2024 – May 2025) at the Faculty of Philology and Language Teaching, Jizzakh State Pedagogical University.

3.1 Participants. The study involved 84 first- and second-year undergraduate students (ages 18–21) enrolled in Russian language courses at A2–B1 proficiency levels, as determined by standardized placement testing (TORFL diagnostic subtests). Participants were divided into an experimental group (n = 42) receiving AI-integrated instruction and a control group (n = 42) receiving conventional communicative instruction. Additionally, five experienced RFL instructors participated in semi-structured interviews and collaborative framework development workshops.

3.2 AI Tools Employed. The experimental curriculum integrated four categories of AI tools: (1) the conversational chatbot Yandex Alice for structured dialogue practice and pronunciation feedback; (2) ChatGPT (GPT-4) for text-based writing assistance, error correction scaffolding, and vocabulary extension tasks; (3) the Russian National Corpus (RNC) interface for corpus-assisted grammar and collocation work; and (4) the adaptive vocabulary platform Quizlet AI for personalized lexical consolidation. Tool selection was guided by the criteria of accessibility (free or institutionally licensed), pedagogical transparency, and alignment with established RFL methodological principles.

3.3 Instructional Design. The experimental group's curriculum was structured according to the three-tier framework proposed in this article (see Section 4). Each instructional unit comprised: a diagnostic phase (AI-generated profiling and adaptive task selection), an instructional phase (communicative AI-assisted tasks integrated with teacher-led activities), and an evaluative phase (AI-assisted formative feedback combined with peer and instructor assessment). Control group instruction followed the standard communicative syllabus without AI tool integration.

3.4 Data Collection and Analysis. Quantitative data were collected through pre- and post-test administrations of validated TORFL subcomponents (grammar, vocabulary, reading comprehension, writing). Inter-group differences were analyzed using independent samples t-tests and effect size calculations (Cohen's d). Qualitative data were gathered through learner reflective journals (n = 84), semi-structured instructor interviews (n = 5), and classroom observation protocols (n = 24 sessions). Thematic analysis following Braun and Clarke's (2006) framework was applied to all qualitative data.

4. CONCLUSION

This article has presented a theoretically grounded, empirically validated Three-Tier Methodological Framework for the integration of artificial intelligence tools into Russian as a foreign language instruction at the tertiary level. The TTMF-RFL model demonstrates that systematic, pedagogically principled AI integration can produce meaningful gains in grammatical accuracy, writing fluency, vocabulary acquisition, and learner motivation, while preserving the primacy of authentic human communicative interaction as the terminal goal of language education.

The study makes several contributions to the existing literature. Theoretically, it extends the learner–AI–teacher triad model (Sysoyev, 2024) into a fully operationalized three-tier instructional framework applicable to the specific structural and institutional conditions of Central Asian higher education. Empirically, it provides the first controlled, mixed-methods evaluation of AI-integrated RFL instruction in an Uzbek university context. Practically, it offers concrete, classroom-ready guidance for instructors at varied proficiency levels within the A1–B2 band.

Future research should address several limitations of the present study: the relatively small sample size, the restriction to a single institutional context, and the absence of longitudinal follow-up data. Comparative studies across Central Asian educational systems, as well as experimental work on AI integration at C1–C2 levels, would substantially advance the field. The development of culturally calibrated AI tools—trained on corpora that reflect the authentic Russian language use patterns most relevant to Central Asian learner populations—represents a particularly pressing priority for the interdisciplinary research agenda at the intersection of computational linguistics and RFL methodology.

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