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“FAN VA TA’LIM YANGILIKLARI”

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Bosh muharrir:
Shoumarov G‘ayrat Bahromovich, psixologiya fanlari doktori, akademik

Bosh muharrir o‘rinbosari:
Qodirov Umarali Do‘stqobilovich, psixologiya fanlari doktori (DSc), professor

Mas’ul kotib:
Muqimov Alisher

Texnik muharrir:
Qarshiyev Jamshid Murotaliyevich, pedagogika fanlari bo‘yicha falsafa doktori (PhD), dotsent v.b.

TAHRIR HAY’ATI:

01.00.00 – FIZIKA-MATEMATIKA FANLARI
Ayupov Shavkat Abdullayevich, fizika-matematika fanlari doktori, akademik
A’zamov Abdulla, fizika-matematika fanlari doktori, akademik
Zohidov Erkin A’zamovich, fizika-matematika fanlari doktori, professor

02.00.00 – KIMYO FANLARI
Normaxamatov Nodirali Soxobataliyevich, kimyo fanlar doktori, professor
Tojibayev Komiljon Sharobitdinovich, kimyo fanlar doktori, akademik

03.00.00 – BIOLOGIYA FANLARI
Abdurahmonov Ibrohim Yo‘lchiyevich, biologiya fanlari doktori, akademik
Sulaymonov Botirjon Abdushukurovich, biologiya fanlari doktori, akademik

04.00.00 – GEOLOGIYA-MINERALOGIYA FANLARI
Fayziyev Abdulhaq Radjabovich, geologiya-mineralogiya fanlari doktori, professor
Husanov Sultonboy To‘xtayevich, geologiya-mineralogiya fanlari doktori, professor

05.00.00 – TEXNIKA FANLARI
Allayev Qahramon Rahimovich, texnika fanlari doktori, akademik
Majidov Inom Urishevich, texnika fanlari doktori, professor
Turobjonov Sadritdin Maxamatdinovich, texnika fanlari doktori, akademik
Shaumarov Said Sanatovich, texnika fanlari doktori, professor

06.00.00 – QISHLOQ XO‘JALIGI FANLARI
Namozov Shodmon Ergashovich, qishloq xo‘jaligi fanlari doktori, akademik
Shoumarov Hikmat Bahromovich, qishloq xo‘jaligi fanlari nomzodi, professor

07.00.00 – TARIX FANLARI
Ziyo Azamat Hamid o‘g‘li, tarix fanlari doktori, akademik
Sagdullayev Anatoliy Sagdullayevich, tarix fanlari doktori, akademik
Yusupova Diloram Yunusovna, tarix fanlari doktori, akademik

08.00.00 – IQTISODIYOT FANLARI
Abdurahmonov Qalandar Xodjayevich, iqtisod fanlari doktori, akademik
Musayev Behzod Anvarovich, iqtisod fanlari nomzodi
To‘xliyev Nurislom, iqtisod fanlari doktori, akademik
G‘ulomov Saidahror Saidahmedovich, iqtisod fanlari doktori, akademik

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09.00.00 – FALSAFA FANLARI
Nazarov Qiyom Normirzayevich, falsafa fanlari doktori, professor
Saifnazarov Ismoil Saifnazarovich, falsafa fanlari doktori, professor

10.00.00 – FILOLOGIYA FANLARI
Mengliyev Baxtiyor Rajabovich, filologiya fanlari doktori, professor
Sirojiddinov Shuhrat Samariddinovich, filologiya fanlari doktori, akademik
Xidirov Rajab Gulmatovich, filologiya fanlari nomzodi, dotsent (Tojikiston)

11.00.00 – GEOGRAFIYA FANLARI
Nigmatov Asqar Nigmatullayevich, geografiya fanlari doktori, professor
Tojiyeva Zulxumor Nazarovna, geografiya fanlari doktori, professor

12.00.00 – YURIDIK FANLAR
Rustamboyev Mirzayusuf Hakimovich, yuridik fanlar doktori, professor
Saidov Akmal Xolmatovich, yuridik fanlar doktori, akademik
Xolmo'minov Jumanazar Toshtemirovich, yuridik fanlar doktori, professor
Qodirov Bobiromon Bekmurodovich, yuridik fanlar doktori, professor

13.00.00 – PEDAGOGIKA FANLARI
Djurayev Risboy Haydarovich, pedagogika fanlari doktori, akademik
Ibraimov Xolboy, pedagogika fanlari doktori, akademik
Musurmonova Oynisa, pedagogika fanlari doktori, professor
Umarov Bahrom Norboyevich, pedagogika fanlari bo'yicha falsafa doktori, dotsent

14.00.00 – TIBBIYOT FANLARI
Akilov Xabibulla Ataullayevich, tibbiyot fanlari doktori, professor
Nazirov Feruz Gafurovich, tibbiyot fanlari doktori, akademik

15.00.00 – FARMATSEVTIKA FANLARI
Abdullabekova Viloyat Nurillabekovna, farmatsevtika fanlari doktori, professor
Tulaganov Abduqodir Abdurahmonovich, farmatsevtika fanlari doktori, professor

16.00.00 – VETERINARIYA FANLARI
Daminov Asadullo Suvonovich, veterinariya fanlari doktori, professor
Jabborov Shuhrat Abdumajidovich, veterinariya fanlari doktori, professor
G'afurov Aktam G'afurovich, veterinariya fanlari doktori, professor

17.00.00 – SAN'ATSHUNOSLIK FANLARI
Ahmedova Nigora Rahimovna, sanatshunoslik fanlari doktori, professor
Hakimov Akbar Abdullayevich, san'atshunoslik fanlari doktori, akademik

18.00.00 – ARXITEKTURA FANLARI
Nozilov Dodo Avazovich, arxitektura fanlari doktori, professor
Uralov Axtam Sindarovich, arxitektura fanlari doktori, professor

19.00.00 – PSIXOLOGIYA FANLARI
Abdusamatov Hasanboy Usmonjon o'g'li, psixologiya fanlari doktori, professor
Barotov Sharif Ramazonovich, psixologiya fanlari doktori, professor
Karimova Vasila Mamanosirovna, psixologiya fanlari doktori, professor
Halimova Mashraboy Vohidovna, psixologiya fanlari doktori, professor
Lazar Drajeta, psixologiya fanlari doktori, professor, Belgrad, Serbiya
Karpinskiy Konstantin Viktorovich, psixologiya fanlari doktori, professor, Grodno, Belarussiya
Suletbayeva Ella Serikbayevna, psixologiya fanlari doktori, dotsent

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22.00.00 – SOTSIOLOGIYA FANLARI
Bekmurodov Mansur Bobomurodovich, sotsiologiya fanlari doktori, professor
Toshmuhamedova Dilorom Gafurdjanovna, sotsiologiya fanlari doktori

23.00.00 – SIYOSIY FANLAR
Fayzullayev Alisher Omonullayevich, siyosiy fanlar doktori, professor
Hasanov Otabek Abdurashidovich, siyosiy fanlar doktori
Paxrutdinov Shukritdin Ilyasovich, siyosiy fanlar doktori, professor
Omonov Baxtiyor Axtamovich, siyosiy fanlar doktori, professor
Quronboyev Qahramon Qo'chqorovich, siyosiy fanlar doktori, professor
Avazov Komil Xolliyevich, siyosiy fanlar bo'yicha falsafa doktori

24.00.00 – ISLOMSHUNOSLIK FANLARI
Ibrohimov Ne'matulla, filologiya fanlari doktori, akademik
Islomov Zohidjon Mahmudovich, filologiya fanlari doktori, professor

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UDK: 378.147:004.8:811.111

Bobomurodova Nafisa Raxmatovna,
Independent Researcher

AI-DRIVEN PEDAGOGICAL TOOLS IN HIGHER EDUCATION EFL CLASSROOMS: EXPLORING THEIR ROLE IN LEARNER AUTONOMY AND LANGUAGE PROFICIENCY

Abstract. The rapid development of artificial intelligence (AI) has created new opportunities to support language learning in higher education, particularly in English as a Foreign Language (EFL) contexts. AI-driven pedagogical tools provide learners with personalized feedback, adaptive learning opportunities, conversational practice, automated language support, and access to resources beyond the classroom. However, their educational effectiveness depends on how they are integrated into teaching and whether they encourage independent learning rather than technological dependence. This article explores the role of AI-driven pedagogical tools in fostering learner autonomy and supporting language proficiency in higher education EFL classrooms. Particular attention is given to learners' ability to set learning goals, select appropriate strategies, monitor progress, use feedback effectively, and take greater responsibility for their learning. The study also considers the potential of AI-supported practices to develop vocabulary, grammar, reading, writing, and speaking skills. At the same time, it addresses challenges related to overreliance on AI, inaccurate information, academic integrity, and the need for teacher mediation. The article argues that AI should not replace learner agency or teacher guidance but should create structured opportunities for more personalized, reflective, and autonomous language learning.

Keywords: artificial intelligence, AI-driven pedagogical tools, EFL, higher education, learner autonomy, language proficiency, personalized learning, AI-supported language learning.

OLIY TA'LIM EFL DARSLARIDA SUN'IY INTELLEKTGA ASOSLANGAN PEDAGOGIK VOSITALAR: TA'LIM OLUVCHILARNING MUSTAQILLIGI VA TIL KOMPETENSIYASINI RIVOJLANTIRISHDAGI ROLI

Annotatsiya. Sun'iy intellekt (SI)ning jadal rivojlanishi oliy ta'limda, xususan, ingliz tilini chet tili sifatida (EFL) o'qitish jarayonida til o'rganishni qo'llab-quvvatlash uchun yangi imkoniyatlarni yaratmoqda. SIga asoslangan pedagogik vositalar ta'lim oluvchilarga individual fikr-mulohaza, moslashtirilgan o'quv imkoniyatlari, muloqot amaliyoti va auditoriyadan tashqarida turli resurslardan foydalanish imkonini beradi. Biroq ularning ta'limiy samaradorligi mazkur

vositalarning dars jarayoniga qanday integratsiya qilinishi hamda ta'lim oluvchilarda texnologiyaga qaramlikni emas, balki mustaqil o'rganishni qay darajada shakllantirishiga bog'liq. Mazkur maqolada oliy ta'lim EFL darslarida SIga asoslangan pedagogik vositalarning ta'lim oluvchilar mustaqilligini rivojlantirish va til kompetensiyasini oshirishdagi roli tahlil qilinadi. Jumladan, o'quv maqsadlarini belgilash, samarali strategiyalarni tanlash, o'zlashtirish jarayonini nazorat qilish, fikr-mulohazalardan foydalanish va til o'rganish uchun mas'uliyatni o'z zimmasiga olish masalalariga e'tibor qaratiladi. Shuningdek, SI vositalarining lug'at boyligi, grammatika, o'qish, yozish va so'zlashuv ko'nikmalarini rivojlantirishdagi imkoniyatlari ko'rib chiqiladi. Shu bilan birga, SIga haddan tashqari tayanish, noto'g'ri ma'lumotlar, akademik halollik va o'qituvchi nazoratining zarurligi kabi muammolar yoritiladi. Tadqiqot SI o'qituvchi va ta'lim oluvchining rolini almashtirmasligi, balki individual, refleksiv va mustaqil til o'rganish uchun samarali sharoit yaratishi lozimligini asoslaydi.

Kalit so'zlar: sun'iy intellekt, SIga asoslangan pedagogik vositalar, EFL, oliy ta'lim, ta'lim oluvchilar mustaqilligi, til kompetensiyasi, individuallashtirilgan ta'lim, SI yordamida til o'rganish.

ПЕДАГОГИЧЕСКИЕ ИНСТРУМЕНТЫ НА ОСНОВЕ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА В ЗАНЯТИЯХ EFL В ВЫСШЕМ ОБРАЗОВАНИИ: РОЛЬ В РАЗВИТИИ АВТОНОМИИ ОБУЧАЮЩИХСЯ И ЯЗЫКОВОЙ КОМПЕТЕНТНОСТИ

Аннотация. Стремительное развитие искусственного интеллекта (ИИ) создает новые возможности для поддержки изучения языков в системе высшего образования, особенно в условиях обучения английскому языку как иностранному (EFL). Педагогические инструменты на основе ИИ предоставляют обучающимся персонализированную обратную связь, адаптивные возможности обучения, практику общения и доступ к различным ресурсам за пределами аудитории. Однако их образовательная эффективность зависит от способов интеграции в учебный процесс и способности способствовать самостоятельному обучению, а не технологической зависимости. В статье анализируется роль педагогических инструментов на основе ИИ в развитии автономии обучающихся и повышении уровня языковой компетентности в занятиях EFL в высшем образовании. Особое внимание уделяется формированию способности обучающихся самостоятельно определять учебные цели, выбирать эффективные стратегии, контролировать прогресс, использовать обратную связь и принимать ответственность за собственное языковое обучение. Рассматриваются также возможности ИИ в развитии словарного запаса, грамматических, читательских, письменных и устных навыков. Наряду с этим освещаются проблемы чрезмерной зависимости от ИИ, недостоверной информации, академической

добросовестности и необходимости педагогического сопровождения со стороны преподавателя. Обосновывается положение о том, что ИИ не должен заменять самостоятельность обучающегося и педагогическое руководство, а его основная ценность заключается в создании условий для более персонализированного, рефлексивного и автономного изучения английского языка.

Ключевые слова: искусственный интеллект, педагогические инструменты на основе ИИ, EFL, высшее образование, автономия обучающихся, языковая компетентность, персонализированное обучение, изучение языка с использованием ИИ.

Introduction. Artificial intelligence (AI) has become an important component of digital transformation in higher education. Recent developments in generative AI, intelligent tutoring systems, automated feedback, conversational agents, and adaptive learning platforms have expanded opportunities for language learning. In English as a Foreign Language (EFL) education, these technologies can provide additional exposure, practice, feedback, and meaningful interaction beyond traditional classroom instruction [1–4, 9].

A major advantage of AI-driven pedagogical tools is their ability to support personalized language learning. EFL learners often differ in proficiency, learning pace, linguistic needs, and learning strategies, making individualized instruction challenging, particularly in large university classes. AI-supported tools can address some of these challenges by generating level-appropriate materials, providing immediate feedback, explaining language forms, suggesting revisions, and offering targeted practice [2, 7, 9].

Learner autonomy refers to the ability and willingness to take responsibility for one's own learning. In language education, it includes identifying learning needs, setting goals, selecting strategies and resources, monitoring progress, evaluating performance, and making informed learning decisions. Therefore, learner autonomy is closely related to self-regulation and reflective learning rather than simply studying without teacher support [11–14].

AI can support these processes by allowing learners to obtain vocabulary explanations, receive writing feedback, practise simulated conversations, generate exercises, and explore alternative explanations. Such functions may increase learners' control over the content, pace, and direction of their learning [1, 17]. However, AI access alone does not guarantee autonomy. Using AI to complete assignments or generate answers without critical engagement can create technological dependence, whereas using it to identify weaknesses, obtain feedback, revise work, and reflect on progress can strengthen self-directed learning.

AI-supported practices may also contribute to language proficiency in vocabulary, grammar, reading, writing, speaking, and communicative competence. Automated feedback can help identify linguistic errors, conversational AI can

provide additional interaction practice, and adaptive or generative systems can offer individualized reading, vocabulary, and language-learning activities. These opportunities are particularly valuable where authentic English interaction outside the classroom is limited.

At the same time, AI-generated content may contain inaccurate information, unnatural language, or inappropriate explanations. Excessive reliance on AI may reduce independent language production and critical thinking, while academic integrity, privacy, transparency, and responsible use remain important concerns [2–5, 8]. Consequently, teacher mediation remains essential. Teachers should help learners evaluate AI-generated information, use feedback critically, formulate effective prompts, and distinguish learning support from task substitution [5, 10, 16, 18].

Despite growing interest in AI-assisted language education, technology adoption alone does not demonstrate educational effectiveness. Greater attention should be given to how AI-supported practices promote learner responsibility and meaningful language practice [1, 3, 17].

Against this background, the present study explores the role of AI-driven pedagogical tools in higher education EFL classrooms, focusing on learner autonomy and language proficiency. It examines how AI-supported practices can facilitate goal setting, independent practice, feedback use, self-monitoring, reflection, and language development while considering the risks of uncritical or excessive AI use.

Accordingly, the study addresses four research questions:

How can AI-driven pedagogical tools support learner autonomy in higher education EFL contexts?

What role can AI-supported learning practices play in developing English language proficiency?

Which forms of AI use are most conducive to self-directed and reflective language learning?

What pedagogical challenges may limit the effective use of AI for learner autonomy and language development?

By addressing these questions, the study seeks to clarify the relationship between technological support and learner agency in contemporary EFL education. It views AI integration as a balanced pedagogical process in which technology, learner responsibility, language practice, and teacher mediation work together.

Materials and methods. The study employed a conceptual-analytical research design to examine the role of AI-driven pedagogical tools in promoting learner autonomy and supporting language proficiency in higher education EFL contexts. This design was selected to identify and systematize the pedagogical relationships among AI-supported learning, learner agency, independent language-learning practices, and language development rather than to report the results of a controlled experimental intervention. The analysis draws on established concepts in learner

autonomy, technology-enhanced language learning, AI-supported education, and EFL pedagogy [1, 9–12, 17, 18].

For this study, AI-driven pedagogical tools are defined as digital applications that use artificial intelligence to provide generated content, automated or adaptive feedback, conversational interaction, personalized practice, or learning recommendations. The analysis covers four broad categories: generative AI systems, AI-based conversational tools, automated writing and language-feedback applications, and adaptive learning systems. These categories were selected because their functions can be directly incorporated into higher education EFL learning both within and beyond the classroom [4, 6, 10].

The analytical framework focuses on two principal dimensions: learner autonomy and language proficiency. Learner autonomy was examined through five interrelated indicators: goal setting, strategic choice, independent practice, self-monitoring, and reflection. These indicators represent key learning processes through which students can assume greater responsibility for their language development.

Language proficiency was examined across major areas of EFL development that can be supported through AI-mediated practice, including vocabulary, grammar, reading, writing, speaking, and communicative language use. The analysis did not assume that interaction with AI automatically produces proficiency gains. Instead, attention was given to the pedagogical mechanisms through which AI-supported practices provide additional input, practice, feedback, revision, and opportunities for language production.

Table 1. Analytical framework for examining AI-supported EFL learning

Dimension	**AI-supported practice**	**Expected pedagogical function**
Goal setting	Identifying weaknesses and generating learning plans	Supporting purposeful learning
Strategic choice	Selecting explanations, tasks and resources	Increasing learner control
Independent practice	Additional reading, writing, vocabulary and conversation practice	Extending learning beyond classroom time
Self-monitoring	Automated feedback and error identification	Developing awareness of performance
Reflection	Comparing drafts, responses and progress	Supporting self-evaluation
Language proficiency	Personalized input, practice and feedback	Supporting language development

A functional analysis was subsequently used to examine how different AI applications may contribute to these dimensions. Rather than evaluating particular commercial platforms, the study focused on pedagogical functions. This distinction is important because individual AI products change rapidly, whereas functions such as feedback provision, adaptive practice, conversational interaction, text generation, and language analysis have broader pedagogical relevance.

The analytical procedure consisted of four stages. First, the educational functions of AI-driven tools relevant to EFL learning were identified. Second, these functions were mapped onto specific components of learner autonomy. Third, their potential contribution to language-learning processes was examined. Finally, potential pedagogical limitations were considered to determine the conditions under which AI use may support or undermine autonomous learning.

The procedure can be represented as follows:

AI affordance → learner action → autonomous learning process → language practice → pedagogical outcome

This sequence places learner activity between technological affordance and educational outcome. For example, the availability of automated feedback does not itself constitute autonomous learning. Its educational value depends on whether a learner interprets the feedback, identifies a problem, makes an informed revision, and subsequently applies the acquired knowledge to another language task. The same principle was applied to other AI-supported functions.

Particular attention was therefore paid to distinguishing productive AI assistance from substitutive AI use. Productive assistance refers to situations in which AI provides scaffolding while the learner remains cognitively and linguistically engaged. Examples include requesting feedback on an independently written paragraph, comparing alternative expressions, practising a conversation, asking for explanations of errors, or generating additional exercises for an identified weakness. Substitutive use occurs when AI performs the central learning task on behalf of the learner, such as producing an entire assignment that the learner submits without meaningful engagement.

This distinction can be expressed conceptually as:

Autonomy-supportive AI use = learner agency + purposeful AI assistance + critical evaluation + reflection

Conversely, extensive technological assistance without learner decision-making or reflection was not interpreted as evidence of increased autonomy.

The relationship between AI-supported practices and language proficiency was analyzed according to the type of language-learning activity involved. Vocabulary development was associated with contextualized examples, lexical explanations, retrieval practice, and personalized exercises. Writing was examined in relation to feedback, revision, grammar, vocabulary choice, and text organization. Reading was considered through differentiated texts, comprehension support, vocabulary assistance, and follow-up activities. Speaking was examined through simulated

interaction, question-and-answer practice, and opportunities for repeated language production.

Table 2. AI functions and their potential application in EFL learning

AI function	Possible EFL application	Learner responsibility
Generative support	Examples, explanations and practice materials	Evaluate and select useful output
Automated feedback	Feedback on grammar, vocabulary and writing	Interpret and apply feedback
Conversational interaction	Simulated speaking and dialogue practice	Sustain and reflect on interaction
Adaptive practice	Level-appropriate exercises	Monitor difficulty and progress
Language analysis	Identification of recurring errors	Develop an improvement strategy

Teacher mediation was incorporated into the analytical framework as a cross-cutting pedagogical factor. In higher education EFL contexts, teachers may establish rules for responsible AI use, demonstrate appropriate prompting and verification strategies, design activities in which students critically evaluate AI responses, and require learners to explain how AI assistance contributed to their work. Teacher guidance was therefore conceptualized not as a limitation on autonomy but as scaffolding that can gradually support more informed and independent learning [5, 16, 18].

Finally, the analysis considered four major risks associated with AI-supported autonomous learning: inaccurate or misleading AI output, overreliance on automated assistance, academic integrity concerns, and insufficient critical evaluation. These factors were included because the educational value of AI cannot be assessed solely through its technological affordances. The central methodological assumption of the study is that AI contributes to learner autonomy and language development only when technological assistance is accompanied by meaningful learner engagement, critical judgment, and appropriate pedagogical mediation [2, 4, 5, 7, 8].

As the study is conceptual-analytical rather than experimental, no participant-based inferential statistics were applied. The results therefore present the outcomes of the analytical synthesis and framework development rather than experimentally measured treatment effects.

Results. The conceptual analysis identified a consistent relationship between AI-supported pedagogical functions and five dimensions of learner autonomy: goal setting, strategic choice, independent practice, self-monitoring, and reflection. However, the contribution of AI was conditional rather than automatic. AI supported

autonomy when learners retained responsibility for defining goals, selecting resources, interpreting feedback, and evaluating generated content [11–14].

Goal setting was identified as an important autonomy-related function. AI tools can help learners identify recurring weaknesses, formulate learning objectives, and generate targeted practice. However, learners need to evaluate these recommendations and relate them to their individual needs. Otherwise, automated personalization may replace rather than develop learner autonomy.

AI also expands opportunities for strategic choice and independent practice by providing alternative explanations, level-appropriate materials, vocabulary activities, writing prompts, and conversational simulations. These resources can extend learning beyond classroom hours, but their contribution to autonomy depends on informed learner choice and active engagement [1, 17].

Self-monitoring and reflection can be supported through automated feedback on grammatical, lexical, and organizational aspects of language production. The greatest benefit occurs when learners interpret feedback, compare different versions, revise their work, and apply the acquired principles to new tasks. Simply accepting AI corrections may improve an individual product without strengthening self-regulation or lasting language knowledge [10, 17].

The analysis also indicated that AI can support different areas of language proficiency. Vocabulary learning may benefit from contextual examples and retrieval activities; writing from feedback and revision; reading from graded explanations and comprehension support; and speaking from repeated conversational practice. These functions increase opportunities for language input and output but should not be regarded as direct evidence of proficiency gains [1–3].

A key result was the identification of three forms of AI use: substitutive, supportive, and autonomy-enhancing. Substitutive use occurs when AI performs the main linguistic or cognitive task for the learner. Supportive use provides assistance while the learner remains responsible for the task. Autonomy-enhancing use involves diagnosing learning needs, selecting appropriate AI assistance, critically evaluating its output, revising work, and reflecting on further learning decisions. Thus, the educational value of AI is greatest when it strengthens rather than replaces learner agency.

Table 3. Patterns of AI use and their pedagogical implications

Pattern of use	Learner role	Likely pedagogical implication
Substitutive use	AI performs the central task; learner engagement is minimal	Risk of dependency and reduced productive language practice
Supportive use	Learner completes the task and uses AI for targeted assistance	Potential support for accuracy, comprehension and revision

Pattern of use	Learner role	Likely pedagogical implication
Autonomy-enhancing use	Learner sets goals, selects support, evaluates output and reflects	Strongest alignment with self-regulated and autonomous learning

These patterns can be summarized as a progression from technological access to strategically regulated use. The relevant distinction is therefore not between AI use and non-use, but between forms of use that displace learner activity and forms that intensify learner decision-making.

AI access → guided use → critical evaluation → independent strategic use

Four constraints were identified across the framework: inaccurate or misleading output, overreliance on automated assistance, academic-integrity concerns, and insufficient critical evaluation. These risks reinforce the need for explicit AI literacy and teacher mediation. Existing work on AI literacy similarly emphasizes understanding, use, evaluation, and ethical considerations rather than operational skill alone [6, 10, 18].

Table 4. AI-supported language-learning functions and learner responsibilities

Language area	AI-supported function	Required learner engagement
Vocabulary	Contextual examples, definitions and retrieval tasks	Select, retrieve and reuse lexical items in new contexts
Grammar	Explanation and corrective feedback	Interpret corrections and apply rules independently
Reading	Adapted input, vocabulary support and comprehension prompts	Process the text and evaluate the relevance of support
Writing	Feedback, comparison and iterative revision	Produce original text, judge feedback and revise purposefully
Speaking	Dialogue simulation and repeated practice	Sustain interaction and reflect on communicative performance

Overall, the analytical results support a mediated model in which the educational effect of AI is shaped by learner agency and teacher guidance. Technology provides affordances, but pedagogical outcomes depend on what learners actually do with those affordances. This distinction provides the basis for the discussion that follows.

Discussion. The results indicate that the pedagogical value of AI-driven tools in higher education EFL classrooms depends less on the technology itself than on

how learners and teachers use it. AI can provide individualized support, immediate feedback, flexible practice, and access to language-learning resources; however, these affordances do not automatically develop learner autonomy. Autonomy emerges when learners participate actively in decision-making, evaluate AI-generated support, and remain responsible for their own learning [11–14].

A key implication is the distinction between assistance and substitution. AI is pedagogically productive when it supports tasks that still require learners' linguistic and cognitive effort. For example, students may request feedback on their own writing, explore alternative vocabulary, or practise speaking with conversational AI. In contrast, using AI to generate complete assignments or texts without meaningful engagement can reduce learner agency and encourage technological dependence. Therefore, the educational value of AI is determined primarily by the level of learner responsibility retained during its use.

AI also expands opportunities for independent practice beyond scheduled classroom instruction. Learners can practise vocabulary, reading, writing, and speaking and obtain explanations or feedback when direct teacher support is unavailable. Nevertheless, autonomy should not be understood as learning without teachers. Teacher mediation remains essential because learners may lack the critical literacy required to evaluate AI-generated content. AI systems can produce inaccurate information, inappropriate examples, or feedback that does not match learners' needs. Teachers should therefore guide students in verifying information, interpreting feedback, and using AI critically.

The relationship between AI use and language proficiency also requires careful consideration. AI-driven tools can provide additional input, corrective feedback, conversational practice, and opportunities for revision, potentially supporting vocabulary, grammar, reading, writing, and speaking. However, these opportunities do not guarantee proficiency gains. Sustainable language development still depends on active engagement, repeated practice, meaningful communication, and the transfer of knowledge from AI-assisted activities to independent performance.

Writing illustrates this principle particularly well. AI feedback can help learners identify grammatical, lexical, and organizational problems when they revise their own texts. However, generating complete texts through AI may bypass the cognitive processes involved in planning, formulating, and revising language. Similarly, conversational AI can increase opportunities for speaking practice and reduce barriers to participation, but it cannot fully reproduce the social, pragmatic, and emotional dimensions of human communication. AI-mediated speaking should therefore complement rather than replace teacher-led and peer interaction.

Another important finding concerns AI and feedback literacy. Effective use of AI requires more than technical knowledge; learners must be able to interpret feedback, verify information, recognize limitations, and determine when AI assistance is appropriate [10, 17]. Reflective activities can strengthen these abilities. For example, students may explain why they accepted or rejected an AI suggestion,

compare original and revised texts, and identify recurring language errors. Such practices transform AI from a source of answers into a tool for metacognitive development.

The analysis suggests a gradual model of autonomy development:

AI access → guided use → critical evaluation → independent strategic use

Initially, learners become familiar with AI tools; teachers then provide guidance on appropriate use. As learners develop the ability to evaluate the accuracy and relevance of AI-generated support, they can increasingly select and use AI independently according to their learning needs.

This progression has implications for higher education policy and classroom practice. Universities should establish clear principles concerning academic integrity, ethical AI use, information verification, and the distinction between appropriate assistance and inappropriate substitution. Teachers also need professional development to design activities in which AI contributes to learning rather than merely accelerating task completion [4, 5, 9].

Overall, AI-driven pedagogical tools can support learner autonomy and language proficiency when integrated within a structured pedagogical environment. Their greatest value lies in expanding opportunities for personalized practice, feedback, reflection, and self-regulation. However, these benefits depend on learner agency, teacher mediation, critical AI literacy, and the preservation of meaningful cognitive and communicative effort. Thus, effective AI integration in higher education EFL classrooms should be viewed as guided autonomy rather than unrestricted technological assistance.

Conclusion. The growing use of artificial intelligence (AI) in higher education provides EFL learners with personalized support, immediate feedback, adaptive practice, and additional opportunities for language use beyond the classroom. However, its pedagogical value depends not on technological availability alone but on how AI is integrated into the learning process.

AI can foster learner autonomy when students remain active decision-makers in goal setting, strategic choice, independent practice, self-monitoring, and reflection. Autonomy develops not through greater technology use or reduced teacher involvement, but through learners' ability to make informed decisions about when, why, and how AI should be used.

AI-driven tools can also support vocabulary, grammar, reading, writing, and speaking by expanding access to practice and feedback. Nevertheless, sustainable language proficiency requires active learner engagement, independent language production, revision, knowledge transfer, and meaningful communication. AI should therefore complement rather than replace these processes.

A central conclusion is the distinction between substitutive and autonomy-enhancing AI use. When AI performs the main linguistic or cognitive tasks, it may weaken skill development and self-regulation. In contrast, using AI to provide

explanations, feedback, revision support, additional practice, and opportunities for reflection can strengthen learner agency.

Teacher mediation remains essential. Teachers should guide learners in evaluating AI-generated information, interpreting feedback, distinguishing appropriate assistance from inappropriate substitution, and developing critical AI literacy. Effective integration can therefore be represented as:

Teacher guidance → purposeful AI use → learner engagement → critical evaluation → reflection → autonomous application

This progression highlights the importance of moving from guided AI use toward independent and responsible application. Higher education institutions should provide clear guidelines on AI literacy, academic integrity, content verification, and responsible use of automated feedback. Teachers should also design activities that require learners to explain, revise, compare, justify, and reflect on AI-supported work.

The study is limited by its conceptual-analytical design and does not provide experimentally measured proficiency gains or statistically tested changes in learner autonomy. Future research should use empirical and comparative designs, including pre- and post-intervention measures, validated autonomy scales, language proficiency assessments, classroom observations, and qualitative interviews.

In conclusion, AI-driven pedagogical tools have considerable potential to support EFL learning when technological assistance is balanced with learner responsibility. The primary goal should not be to increase learners' dependence on AI, but to use it strategically to develop more reflective, capable, and autonomous language learners.

References:

1. Kohnke, L., Moorhouse, B. L., & Zou, D. (2023). ChatGPT for language teaching and learning. RELC Journal, 54(2), 537–550. https://doi.org/10.1177/00336882231162868

2. Kasneci, E., Sessler, K., Küchemann, S., et al. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. Learning and Individual Differences, 103, 102274. https://doi.org/10.1016/j.lindif.2023.102274

3. Lo, C. K. (2023). What is the impact of ChatGPT on education? A rapid review of the literature. Education Sciences, 13(4), 410. https://doi.org/10.3390/educsci13040410

4. UNESCO. (2023). Guidance for Generative AI in Education and Research. Paris: UNESCO.

5. European Commission. (2022). Ethical Guidelines on the Use of Artificial Intelligence (AI) and Data in Teaching and Learning for Educators. Luxembourg: Publications Office of the European Union.

6. Long, D., & Magerko, B. (2020). What is AI literacy? Competencies and design considerations. In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems (pp. 1–16). ACM. https://doi.org/10.1145/3313831.3376727

7. Farrokhnia, M., Banihashem, S. K., Noroozi, O., & Wals, A. (2024). A SWOT analysis of ChatGPT: Implications for educational practice and research. Innovations in Education and Teaching International, 61(3), 460–474. https://doi.org/10.1080/14703297.2023.2195846

8. Tlili, A., Shehata, B., Adarkwah, M. A., et al. (2023). What if the devil is my guardian angel: ChatGPT as a case study of using chatbots in education. Smart Learning Environments, 10, 15. https://doi.org/10.1186/s40561-023-00237-x

9. Crompton, H., & Burke, D. (2023). Artificial intelligence in higher education: The state of the field. International Journal of Educational Technology in Higher Education, 20, 22. https://doi.org/10.1186/s41239-023-00392-8

10. Ng, D. T. K., Leung, J. K. L., Chu, K. W. S., & Qiao, M. S. (2021). AI literacy: Definition, teaching, evaluation and ethical issues. Proceedings of the Association for Information Science and Technology, 58(1), 504–509. https://doi.org/10.1002/pra2.487

11. Holec, H. (1981). Autonomy and Foreign Language Learning. Oxford: Pergamon Press.

12. Benson, P. (2011). Teaching and Researching Autonomy in Language Learning (2nd ed.). London: Routledge.

13. Little, D. (1991). Learner Autonomy: Definitions, Issues and Problems. Dublin: Authentik.

14. Reeve, J., & Tseng, C. M. (2011). Agency as a fourth aspect of students' engagement during learning activities. Contemporary Educational Psychology, 36(4), 257–267. https://doi.org/10.1016/j.cedpsych.2011.05.002

15. Council of Europe. (2020). Common European Framework of Reference for Languages: Learning, Teaching, Assessment – Companion Volume. Strasbourg: Council of Europe Publishing.

16. Celik, I., Dindar, M., Muukkonen, H., & Järvelä, S. (2022). The promises and challenges of artificial intelligence for teachers: A systematic review of research. TechTrends, 66, 616–630. https://doi.org/10.1007/s11528-022-00715-y

17. Moorhouse, B. L., Kohnke, L., & Zou, D. (2024). Exploring ChatGPT literacy in language education: A global perspective and comprehensive approach. Computers and Education: Artificial Intelligence, 7, 100278. https://doi.org/10.1016/j.caeai.2024.100278

18. Sperling, K., Stenberg, C. J., McGrath, C., Åkerfeldt, A., Heintz, F., & Stenliden, L. (2024). In search of artificial intelligence (AI) literacy in teacher education: A scoping review. Computers and Education Open, 6, 100169. https://doi.org/10.1016/j.caeo.2024.100169

FAN VA TA'LIM YANGILIKLARI
JURNALI

2026-yil
9(1)-son

Muassis - "FAN VA INNOVATSIYA YANGILIKLARI" MCHJ
Jurnal hamkori - «PROFI UNIVERSITY»

Jurnal O'zbekiston Respublikasi Prezidenti Administratsiyasi huzuridagi axborot va ommaviy kommunikatsiyalar agentligi tomonidan 2024-yil 24-may kuni № 454068-sonli guvohnoma bilan ro'yxatga olingan.

Jurnal 2024-yilda tashkil etilgan, 1 oyda bir marta o'zbek, tojik, qozoq, qirg'iz, qoraqalpoq, rus va ingliz tillarida nashr etiladi.

Tahririyat manzili: 190110, Toshkent shahri Uchtepa tumani, Bog'iston MFY, 14-mavze, 8-uy.

Telefonlar: +998 90 749 00 00
+998 90 749 77 77
+998 91 902 05 01
E-mail: saen_2024@mail.ru
Jurnal sayti: www.saen.uz
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Maqolada keltirilgan fakt va ma'lumotlarning to'g'riligi uchun mualliflar mas'uldirlar.

"Fan va ta'lim yangiliklari" ilmiy-amaliy jurnali Oliy attestatsiya komissiyasi Rayosatining qarori (25.08.2025 y., №374/5) bilan pedagogika va psixologiya fanlari bo'yicha falsafa doktori (PhD) va fan doktori (DSc) ilmiy darajasiga talabgorlarning dissertatsiyalari asosiy ilmiy natijalarini chop etish tavsiya etilgan milliy ilmiy nashrlar ro'yxatiga kiritilgan.

ISSN: 3093-8694