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ARTIFICIAL INTELLIGENCE CHATBOTS AND THE DEVELOPMENT OF LEARNER AUTONOMY IN UNIVERSITY-LEVEL EFL SPEAKING INSTRUCTION

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Annotatsiya. *Ushbu maqolada sun'iy intellekt asosidagi chatbotlarning oliy ta'lim muassasalarida ingliz tili bo'yicha og'zaki nutq mashg'ulotlarida talabalar mustaqilligi (learner autonomy) va o'z-o'zini boshqargan holda o'rganish (self-regulated learning) ko'nikmalarini rivojlantirishga ta'siri tahlil qilinadi. Zimmermanning o'z-o'zini boshqargan o'rganish nazariyasi asosida 2022–2026-yillarda e'lon qilingan empirik tadqiqotlar sintez qilinadi. Tahlil AI-chatbotlarning maqsad qo'yish, strategiya tanlash va o'z-o'zini nazorat qilish kabi o'z-o'zini boshqarish komponentlarini rivojlantirishga ko'maklashishini, biroq mustaqillikning avtomatik ravishda emas, balki pedagogik yo'riqnoma bilan birga shakllanishini ko'rsatadi.*

Kalit so'zlar: *sun'iy intellekt, chatbot, talabalar mustaqilligi, o'z-o'zini boshqargan o'rganish, og'zaki nutq, ingliz tili, oliy ta'lim, chet tili ta'limi metodikasi, raqamli ta'lim, metakognitiv strategiyalar.*

Аннотация. *В статье анализируется влияние чат-ботов на основе искусственного интеллекта на развитие учебной автономии (learner autonomy) и навыков саморегулируемого обучения (self-regulated learning) студентов вузов при обучении устной речи на английском языке. На основе теории саморегулируемого обучения Циммермана обобщены эмпирические исследования, опубликованные в 2022–2026 гг. Анализ показывает, что AI-чат-боты способствуют развитию таких компонентов саморегуляции, как целеполагание, выбор стратегии и самоконтроль, однако автономность формируется не автоматически, а при условии целенаправленного педагогического сопровождения.*

Ключевые слова: *искусственный интеллект, чат-бот, учебная автономия, саморегулируемое обучение, устная речь, английский язык,*

высшее образование, методика обучения иностранному языку, цифровое образование, метакогнитивные стратегии.

Abstract. *This article analyzes the influence of artificial-intelligence-based chatbots on the development of learner autonomy and self-regulated learning skills among university students in English-language speaking instruction. Drawing on Zimmerman's theory of self-regulated learning, empirical studies published between 2022 and 2026 are synthesized. The analysis shows that AI chatbots support the development of self-regulatory components such as goal setting, strategy selection, and self-monitoring, but that autonomy is not fostered automatically and instead requires deliberate pedagogical guidance.*

Key words: *artificial intelligence, chatbot, learner autonomy, self-regulated learning, speaking skills, English language, higher education, foreign language teaching methodology, digital education, metacognitive strategies.*

Introduction

The cultivation of learner autonomy — the capacity of students to take charge of their own learning, set goals, select appropriate strategies, and monitor their own progress — has long been recognized as a central aim of foreign language education, particularly at the university level, where learners are expected to continue developing their language skills well beyond the confines of scheduled classroom instruction. Zimmerman's influential theory of self-regulated learning conceptualizes this capacity as a cyclical process comprising forethought (goal setting and strategic planning), performance (self-monitoring during task execution), and self-reflection (self-evaluation and adaptive response), each of which contributes to a learner's growing independence from external, teacher-directed instruction [1].

Traditional EFL speaking instruction, however, offers relatively limited opportunities for learners to exercise these self-regulatory capacities, since speaking practice is typically scheduled, teacher-initiated, and bounded by fixed classroom time. The proliferation of artificial-intelligence-based chatbots offers a potentially transformative alternative: because such tools are available on demand, learners can, in principle, decide for themselves when, how often, and on which topics to practice speaking, thereby exercising precisely the forethought and self-monitoring functions central to Zimmerman's model. The purpose of this article is to critically examine

recent empirical research on the relationship between AI chatbot use and the development of learner autonomy and self-regulated learning in EFL speaking contexts, and to identify the conditions under which this relationship is most likely to be realized.

Object of the Research and Methods Applied

The object of the present research is the relationship between artificial-intelligence-based chatbot use and the development of learner autonomy and self-regulated learning among university-level EFL learners engaged in speaking practice. The article employs theoretical analysis, systematization, and comparative-descriptive review of the literature: peer-reviewed journal articles and systematic reviews published between 2022 and 2026 were selected and their findings were thematically grouped according to the three phases of Zimmerman's self-regulation cycle. As in related theoretical-analytical work within this research program, the present article synthesizes existing international literature rather than reporting the results of an original pedagogical experiment; the empirical validation of the practical implications proposed here remains a task for subsequent, context-specific research within Uzbekistan's higher education system.

Literature Review.

A growing body of empirical research directly addresses the relationship between AI chatbot use and learner autonomy in EFL contexts. A large-scale cross-sectional study conducted among 852 EFL university students found that ChatGPT use was positively associated with learner autonomy and negatively associated with English speaking anxiety, with speaking anxiety serving as a partial mediating mechanism in this relationship — suggesting that chatbots foster autonomy not only directly, but also indirectly, by first reducing the affective barriers that would otherwise inhibit independent practice [2]. This finding is corroborated by Zhang's investigation of the role of AI tools in Chinese EFL learners' self-regulation, resilience, and autonomy, which similarly reported measurable gains in learners' autonomous behavior following sustained AI tool use [3].

More fine-grained evidence regarding the specific mechanisms of self-regulation comes from a mixed-methods study examining Chinese university students' self-regulated learning through AI chatbot intervention within an achievement-goal-theory framework, which found that chatbot-mediated practice supported learners' goal-setting and self-monitoring behaviors, while also cautioning

that the depth of self-regulatory engagement depended heavily on whether the intervention was accompanied by teacher guidance or left entirely to learners' own initiative [4]. A systematic review focusing specifically on how AI tools enable learner independence and self-regulation in language education likewise concluded that AI systems foster autonomy primarily through the provision of real-time, individualized feedback that encourages learners to self-monitor and self-correct, while simultaneously warning that over-reliance on AI tools may, in some circumstances, undermine rather than strengthen independent strategic thinking [5].

Evidence from classroom-based observational research adds further nuance to this picture. A comparative classroom observation of ChatGPT use across several Indonesian senior secondary schools found substantial variation in observed autonomy levels — ranging from highly autonomous, self-directed use characterized by initiative and metacognitive awareness in one setting, to passive, teacher-dependent use in another — leading the authors to conclude that autonomy does not emerge automatically from AI chatbot access alone, but requires deliberate pedagogical scaffolding to help learners move from dependent to strategic, self-regulated use [6]. Directly within the domain of speaking skills, Hapsari and Wu's chatbot-based learning model demonstrated that AI chatbot practice could simultaneously alleviate speaking anxiety, increase learner enjoyment, and foster critical thinking, three outcomes that plausibly support the motivational and reflective components of self-regulated learning even though the study did not measure autonomy as a separate construct [7]. Complementary findings from a quasi-experimental study of Saudi EFL learners further showed that generative AI chatbot use was associated with self-reported gains in autonomy-related behaviors such as goal setting, strategy use, and self-monitoring, alongside measurable gains in productive language performance [8].

Taken together, this body of research indicates that AI chatbots possess genuine potential to support each phase of Zimmerman's self-regulation cycle: the on-demand availability of chatbots supports learner-initiated forethought and goal setting; the interactive, low-anxiety nature of chatbot practice, consistent with Krashen's affective filter hypothesis and Horwitz et al.'s model of foreign language classroom anxiety, supports sustained performance and self-monitoring during speaking tasks [9; 10]; and the availability of instant, repeatable feedback supports learners' self-reflective evaluation of their own progress. However, the reviewed

studies converge on an important qualification: this potential is realized unevenly across learners and contexts, and in the absence of pedagogical scaffolding, chatbot use may simply substitute one form of external dependency (the teacher) for another (the AI tool), rather than genuinely fostering independent strategic behavior [5; 6].

Discussion.

The literature reviewed above suggests that the relationship between AI chatbot use and learner autonomy is best understood not as a direct causal effect of the technology itself, but as a conditional relationship mediated by the quality of pedagogical integration. Three converging observations support this interpretation: first, autonomy gains are consistently reported in studies where chatbot use is embedded within a structured instructional framework rather than left entirely unguided [4; 6]; second, affective factors such as reduced speaking anxiety appear to function as a necessary precondition for autonomous engagement, since learners who remain anxious are unlikely to initiate independent practice regardless of tool availability [2]; and third, the risk of AI over-reliance identified in the systematic review literature suggests that autonomy-oriented chatbot use must explicitly cultivate learners' independent strategic thinking rather than allowing the chatbot to simply replace the human instructor as an external authority [5].

These observations imply that instructors seeking to use AI chatbots to develop learner autonomy in speaking instruction should not simply grant learners open-ended access to a chatbot and expect autonomous behavior to emerge spontaneously. Instead, autonomy development should be treated as an explicit instructional goal, supported through structured guidance on goal setting, reflective journaling or self-assessment following chatbot sessions, and gradual withdrawal of teacher-imposed structure as learners demonstrate increasing self-regulatory competence.

Results and Their Analysis.

Based on the synthesis of the reviewed literature, mapped explicitly onto Zimmerman's three-phase model of self-regulation, the following pedagogical implications for fostering learner autonomy through AI chatbot-mediated speaking practice can be formulated:

At the forethought phase, learners should be guided to set specific, self-selected speaking practice goals (e.g., a target topic, duration, or number of chatbot sessions per week) rather than being assigned uniform tasks, since self-selected goals more directly engage the autonomy-related behaviors identified in the reviewed studies.

At the performance phase, chatbot practice should be designed to minimize evaluative pressure — consistent with the affective-filter and anxiety-reduction mechanisms discussed above — so that learners remain willing to sustain independent practice over time rather than avoiding it due to residual speaking anxiety.

At the self-reflection phase, learners should be required to engage in brief structured reflection after chatbot sessions (for example, identifying one strength and one area for improvement in their own performance), since self-reflection is the phase most directly associated with the transition from dependent to strategic, self-regulated engagement in the reviewed literature.

Finally, instructors should gradually reduce the structure and guidance provided around chatbot use as learners demonstrate increasing autonomous behavior, thereby avoiding the risk — explicitly identified in the systematic review literature — of learners developing dependence on the AI tool itself rather than genuine independent strategic competence [5].

Conclusion.

The reviewed literature demonstrates that artificial-intelligence-based chatbots hold genuine, empirically supported potential for fostering learner autonomy and self-regulated learning in university-level EFL speaking instruction, primarily by supporting learner-initiated goal setting, reducing the affective barriers that inhibit independent practice, and providing the repeatable feedback necessary for self-reflective evaluation. At the same time, this potential is not realized automatically: the literature consistently indicates that deliberate pedagogical scaffolding, rather than unguided access to chatbot technology, is the decisive factor distinguishing genuine autonomy development from mere technological dependence. Future research should empirically test the phase-specific pedagogical implications proposed in this article within the context of Uzbekistan's higher education system, measuring learners' self-regulated learning behaviors before and after a structured period of scaffolded AI chatbot practice.

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