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Xalqaro miqyosidagi ilmiy-texnik anjuman materiallarida zamonaviy kompyuter ilmlari va muhandislik texnologiyalari sohasidagi innovatsion tadqiqotlar aks etgan.

Globalashuv sharoitida davlatimizni yanada barqaror va jadal sur'atlar bilan rivojlantirish bo'yicha amalga oshirilayotgan islohotlar samarasini yaxshilash sohasidagi ilmiy-tadqiqot ishlariga alohida e'tibor qaratilgan. Zero iqtisodiyotning, ijtimoiy sohalarni qamrab olgan modernizatsiya jarayonlari, hayotning barcha sohalarini liberallashtirishni talab qilmoqda.

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Mazkur to'plamga kiritilgan ma'ruza tezislarining mazmuni, undagi statistik ma'lumotlar va me'yoriy hujjatlarning to'g'riligi hamda tanqidiy fikr-mulohazalar, keltirilgan takliflarga mualliflarning o'zlari mas'uldirlar.

6. *Cultural sensitivity simulation with simulated participants in nursing education: A scoping review // Clinical Simulation in Nursing.* – 2025. – Vol. 109. – 101857. ([ScienceDirect](#))

ENHANCING UNIVERSITY STUDENTS' ACADEMIC WRITING THROUGH AI-ASSISTED FORMATIVE FEEDBACK IN EFL EDUCATION

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Abstract. The rapid development of generative artificial intelligence has created new opportunities for English language teachers to provide timely and individualized support in academic writing. This article examines AI-assisted formative feedback as a pedagogical strategy for university EFL classes. It focuses on the ways AI-generated feedback can support revision, language accuracy, organization, learner autonomy and feedback literacy while maintaining the central role of teacher judgement. The study is based on an analytical review of recent empirical research on ChatGPT and automated written feedback in EFL/ESL writing. The analysis indicates that AI feedback is most productive when it is embedded in a process-oriented writing cycle and combined with teacher mediation, peer discussion and student reflection. A practical model is proposed in which students draft independently, request criterion-based AI feedback, evaluate the suggestions critically, revise selectively and receive teacher guidance on higher-order issues. The article argues that AI should function as a formative assistant rather than as a substitute author or autonomous assessor. Such an approach can help English teachers make feedback more immediate and dialogic while protecting academic integrity and students' responsibility for their own texts.

Keywords: EFL, academic writing, artificial intelligence, formative feedback, ChatGPT, feedback literacy, university students.

INTRODUCTION

Academic writing is one of the most demanding components of university-level English language education because learners are expected to coordinate linguistic accuracy, vocabulary choice, cohesion, argumentation, genre conventions and audience awareness at the same time. In many EFL classrooms, however, teachers work with relatively large groups and have limited time to provide detailed feedback on several drafts. As a result, feedback may arrive after the learner's attention has already shifted away from the writing task. The emergence of generative artificial intelligence has therefore attracted considerable interest as a possible means of making formative feedback faster, more accessible and more individualized.

Recent research suggests that AI-assisted feedback can contribute to academic writing development when it is used as part of an instructional process rather than as a replacement for writing itself. Mahapatra's mixed-methods intervention with tertiary-level ESL learners reported that ChatGPT used as a formative feedback tool supported writing development and was positively perceived by learners [1]. Similarly, Guo and Wang found that ChatGPT could generate substantial feedback on content, organization and language, although its feedback differed in focus and type from that of experienced EFL teachers [2]. These findings point to a pedagogical question that is especially relevant to university English teachers: not whether AI should simply be accepted or rejected, but how it can be integrated into feedback practices in a way that promotes learning.

The aim of this article is to examine the pedagogical value of AI-assisted formative feedback for university EFL writing and to propose a classroom-oriented model for its responsible use. The objectives are to identify the main affordances of AI feedback, consider its limitations, describe the continuing role of the teacher, and outline a practical feedback cycle that encourages students to evaluate rather than mechanically accept AI suggestions.

METHODOLOGY

The article employs a qualitative analytical-review methodology. Five peer-reviewed studies published in 2024 were selected because they directly address AI-generated or ChatGPT-supported feedback in English writing and provide empirical or systematic evidence relevant to higher education and language teaching. The sources include an intervention study of ChatGPT as formative feedback [1], a comparison of ChatGPT and teacher feedback in EFL writing [2], an empirical investigation of ChatGPT feedback and EFL writing development [3], a systematic review of AI-based automated written feedback [4], and a study of EFL learners' perceptions and experiences of ChatGPT feedback [5].

The studies were examined thematically according to five pedagogical categories: immediacy and accessibility of feedback; linguistic and rhetorical focus; learner engagement with revision; teacher mediation; and risks associated with reliability, overdependence and uncritical uptake. The purpose was not to conduct a statistical meta-analysis but to synthesize findings that can inform practical decisions made by English language teachers. On the basis of this synthesis, a staged model of AI-assisted formative feedback was developed for use in university EFL writing classes.

DISCUSSION AND RESULTS

A central advantage of AI-assisted feedback is immediacy. In conventional writing instruction, students may wait several days before receiving comments, whereas a generative AI system can respond at the moment of drafting or revision. This temporal proximity can make feedback more actionable because learners can compare a comment directly with the sentence, paragraph or argument that produced it. Mahapatra's study indicates that ChatGPT can function productively as a formative feedback resource in tertiary ESL academic writing [1]. Polakova and Ivenz likewise reported improvements in several dimensions of student writing after

ChatGPT feedback, including conciseness, grammar and the inclusion of relevant information [3].

The second advantage concerns the breadth of feedback. AI systems can comment on grammar, vocabulary, cohesion, organization and clarity within a single interaction. Guo and Wang observed that ChatGPT distributed attention relatively evenly across content, organization and language, while the participating teachers showed different patterns of emphasis [2]. This does not mean that AI feedback is inherently superior. Rather, it suggests that AI may serve as an additional feedback layer, particularly for first-stage revision, leaving the teacher more time to address argument quality, disciplinary expectations, writer intention and other issues requiring contextual judgement.

A third pedagogical benefit is the possibility of repeated dialogue. Students can ask for clarification, examples, explanations or alternative formulations instead of receiving a static correction. This can turn feedback into an iterative process. Teng's study of EFL learners' experiences with ChatGPT feedback found positive perceptions related to motivation, self-efficacy and engagement, while also documenting learner concerns [5]. The educational value therefore depends on how students are taught to interact with feedback. If learners merely copy a reformulated paragraph, the technology may improve the submitted text without developing the writer. If they compare alternatives, explain why they accept or reject suggestions, and revise in their own words, feedback can become a form of guided reflection.

This distinction is closely related to feedback literacy. Students need to understand that feedback is information to be interpreted, not an instruction that must always be followed. A systematic review by Shi and Aryadoust shows the growing role of AI-based automated written feedback in language learning and highlights its formative function [4]. For classroom practice, this means that teachers should explicitly teach students to check whether an AI suggestion preserves the intended meaning, suits the genre, matches the evidence and improves the text according to stated assessment criteria.

The reviewed evidence also demonstrates why teacher mediation remains essential. AI output may be fluent while still being generic, inconsistent or insufficiently sensitive to a particular assignment. Guo and Wang's comparison shows that teacher and ChatGPT feedback have different strengths and tendencies [2]. Polakova and Ivenz also report that not all learners found the feedback equally specific or easy to implement [3]. Consequently, an effective model should not position AI and teacher feedback as competing alternatives. The stronger pedagogical design is complementary: AI provides rapid first-response feedback and opportunities for repeated practice, while the teacher validates priorities, addresses higher-order concerns and helps learners develop judgement.

For university EFL classes, the following five-stage procedure can be used. First, students produce an initial draft without asking AI to generate the text. Second, the teacher provides a focused prompt or rubric, for example asking the AI to identify unclear thesis statements, weak paragraph unity, recurrent grammatical problems and inappropriate academic vocabulary without rewriting the essay. Third,

students create a feedback log in which they classify each suggestion as accepted, rejected or modified and briefly explain the reason. Fourth, students revise the draft and discuss selected decisions with a peer. Fifth, the teacher reviews the revised version, concentrating on argumentation, evidence, genre, coherence and the learner's pattern of response to feedback. This sequence keeps authorship with the student while using AI as a formative resource.

The model can be adapted to different proficiency levels. At B1-B2 level, prompts should be narrow and concrete: identify three recurring grammatical problems, mark unclear sentences, or suggest questions that would help develop a paragraph. At B2-C1 level, feedback can address stance, cohesion, counterargument, source integration and academic register. In both cases, asking the system to explain rather than rewrite is pedagogically preferable. The teacher can also require students to retain the first draft and submit a short revision commentary, making the learning process visible.

Academic integrity is another important dimension. When AI is used to generate complete essays, the boundary between assistance and substitution becomes problematic. In a formative-feedback model, this risk can be reduced by separating text production from feedback: students write first, then use AI to interrogate their own text. Classroom policy should specify permitted uses, require disclosure where appropriate, and emphasize verification. AI-generated claims, references and explanations should not be treated as automatically reliable. The student remains responsible for the accuracy and originality of the submitted work.

The practical implications for English teachers are significant. AI can reduce some repetitive aspects of surface-level feedback, but its greatest value is not simply workload reduction. It can create additional occasions for noticing, self-correction and revision between teacher consultations. The teacher's professional role therefore shifts toward designing effective prompts and rubrics, teaching feedback literacy, monitoring the quality of revisions and helping learners distinguish a genuinely improved text from a merely more polished one. In this sense, AI integration is a methodological issue rather than only a technological one.

CONCLUSION

AI-assisted formative feedback offers a promising extension of university EFL writing pedagogy when it is integrated into a carefully structured learning process. The reviewed research indicates potential benefits in immediacy, linguistic support, revision opportunities, learner engagement and access to individualized feedback [1]–[5]. At the same time, the evidence does not justify replacing teacher feedback with automated responses. AI systems may provide abundant and linguistically plausible suggestions, but they do not consistently possess the contextual, pedagogical and disciplinary judgement required for high-quality academic writing instruction.

For this reason, the most appropriate model is a human-guided partnership. Students should remain the authors and decision-makers; AI should provide questions, explanations and criterion-based suggestions; peers can contribute alternative reader perspectives; and teachers should guide higher-order revision and

evaluate learning. Such a model transforms AI from a text-generation shortcut into a tool for formative dialogue. For English language teachers, the key professional task is to design conditions in which students learn not only to receive faster feedback but also to judge, verify and use feedback responsibly. Future classroom research in Uzbekistan could examine how this model operates across proficiency levels, class sizes and academic disciplines, with particular attention to feedback literacy, academic integrity and long-term writing development.

REFERENCES

1. Mahapatra, S. (2024). Impact of ChatGPT on ESL students' academic writing skills: A mixed methods intervention study. *Smart Learning Environments*, 11, 9. DOI: 10.1186/s40561-024-00295-9.
2. Guo, K., & Wang, D. (2024). To resist it or to embrace it? Examining ChatGPT's potential to support teacher feedback in EFL writing. *Education and Information Technologies*, 29, 8435–8463. DOI: 10.1007/s10639-023-12146-0.
3. Polakova, P., & Ivenz, P. (2024). The impact of ChatGPT feedback on the development of EFL students' writing skills. *Cogent Education*, 11, 2410101. DOI: 10.1080/2331186X.2024.2410101.
4. Shi, H., & Aryadoust, V. (2024). A systematic review of AI-based automated written feedback research. *ReCALL*. DOI information available through Cambridge University Press.
5. Teng, M. F. (2024). "ChatGPT is the companion, not enemies": EFL learners' perceptions and experiences in using ChatGPT for feedback in writing. *Computers and Education: Artificial Intelligence*, 7, 100270. DOI: 10.1016/j.caeai.2024.100270.

DEMOGRAFIK O'ZGARISHLAR VA ULARNING OILAVIY HAYOTGA TA'SIRI

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Annotatsiya: Mazkur maqolada zamonaviy jamiyatda yuz berayotgan demografik o'zgarishlar va ularning oilaviy hayotga ta'siri tahlil qilinadi. Aholi sonining o'sishi, tug'ilish darajasining o'zgarishi, migratsiya jarayonlari, urbanizatsiya, aholining qarishi, nikoh va ajralish ko'rsatkichlaridagi o'zgarishlar oilaning tuzilishi va funksiyalariga bevosita ta'sir ko'rsatmoqda. Shuningdek, oilaning tarkibiy tuzilishi, er-xotin munosabatlari, farzand tarbiyasi, avlodlararo munosabatlar va oilaning ijtimoiy-psixologik muhitida yuzaga kelayotgan o'zgarishlar yoritilgan. Maqolada demografik jarayonlarni oilaviy hayot bilan bog'liq holda o'rganishning psixologik va ijtimoiy ahamiyati asoslab berilgan.