

RESEARCH ARTICLE**Artificial Intelligence-Based Feedback in English Language Learning: Effects on Learner Performance – A Conceptual Review**

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Abstract:

Feedback is a central component of successful English language learning because it enables learners to identify errors, understand areas of difficulty, and improve their language performance. Traditionally, feedback in English language classrooms has been provided primarily by teachers and peers. However, increasing student numbers, limited classroom time, and the need for immediate individualized support have encouraged the adoption of Artificial Intelligence (AI)-based feedback systems. AI-powered language-learning applications, automated writing evaluation systems, speech-recognition technologies, and generative AI tools can provide immediate and personalized feedback on grammar, vocabulary, pronunciation, writing, speaking, reading, and listening activities. This conceptual review examines the effects of AI-based feedback on learner performance in English language learning. It explores the potential contributions of AI feedback to language accuracy, writing quality, speaking performance, learner engagement, motivation, self-correction, and learner autonomy. The review also identifies limitations related to inaccurate feedback, contextual interpretation, learner overdependence, privacy, academic integrity, and reduced human interaction. The paper argues that AI-based feedback is most effective when it functions as a supplement to teacher feedback rather than as a complete replacement. A human-AI collaborative approach can provide learners with immediate technological feedback while allowing teachers to offer contextual, pedagogical, and communicative guidance. The review concludes that responsible integration of AI-based feedback has considerable potential to improve English language learning outcomes and promote reflective and autonomous learning.

Keywords: Artificial Intelligence, AI-based feedback, English language learning, EFL learners, learner performance, automated feedback, language education

1. Introduction

Feedback is essential for language development because learners need information about the quality of their performance in order to identify errors and improve future performance. In English language education, feedback can address grammar, vocabulary, pronunciation, sentence structure, fluency, organization, and communication.

Traditional feedback is generally provided by teachers through written comments, corrections, oral explanations, and classroom interaction. Peer feedback is also frequently used to encourage collaborative learning. However, teachers may face difficulties in providing immediate and individualized feedback, particularly when teaching large groups. Artificial Intelligence has introduced new possibilities for addressing these challenges. AI-based systems can analyse learner language and provide immediate responses. Grammar-

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checking applications can identify grammatical errors, speech-recognition systems can evaluate spoken language, and generative AI tools can provide explanations and suggestions for improving written and spoken communication.

The purpose of this conceptual review is to examine how AI-based feedback may influence English language learner performance and to identify the opportunities and challenges associated with its use.

2. AI-Based Feedback in English Language Learning

AI-based feedback refers to feedback generated by computational systems that analyse learner language using technologies such as Natural Language Processing, machine learning, speech recognition, and large language models.

AI feedback may address:

- grammar;
- vocabulary;
- spelling;
- pronunciation;
- sentence structure;
- coherence;
- fluency;
- writing organization;
- reading comprehension;
- speaking performance.

Unlike traditional feedback, AI systems can provide assistance immediately after or during a learning activity. This immediacy can make feedback an integrated part of the learning process rather than an activity that occurs after assessment.

3. Effects on Grammar Accuracy

AI-based feedback can help learners identify grammatical errors in their written English.

Common areas of feedback include:

- subject-verb agreement;
- verb tense;
- articles;
- prepositions;
- pronouns;
- sentence structure;
- punctuation.

For example, an AI system may identify an incorrect verb form and suggest an alternative. More advanced systems can explain the grammatical principle involved.

Such feedback may encourage learners to recognize recurring errors and avoid repeating them.

However, learners should evaluate AI corrections rather than accepting them automatically because AI systems can sometimes misinterpret context.

4. Effects on Writing Performance

Writing is one of the areas in which AI-based feedback has significant potential.

AI tools can provide feedback on:

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- grammar;
- vocabulary;
- clarity;
- coherence;
- cohesion;
- organization;
- sentence construction;
- academic style.

Students can use AI feedback during different stages of writing.

A useful process is:

Planning → Drafting → AI Feedback → Critical Evaluation → Revision → Final Writing

This process can encourage students to view writing as a developmental process.

The effectiveness of AI writing feedback depends largely on whether learners understand and apply the suggestions rather than simply accepting automatically generated revisions.

5. Effects on Speaking and Pronunciation

AI-based speech-recognition systems can provide feedback on spoken English.

Learners can receive information concerning pronunciation, speech recognition, fluency, and sometimes stress and intonation.

This is particularly useful because classroom speaking time is often limited. AI systems can allow students to repeat speaking activities multiple times.

For example, students can practise introducing themselves, giving presentations, conducting interviews, or participating in simulated conversations.

However, pronunciation assessment can be influenced by accent, recording quality, background noise, and limitations in speech-recognition technology.

6. Immediate Feedback and Learning Efficiency

One of the greatest advantages of AI-based feedback is immediacy.

Traditional teacher feedback may require considerable time. AI can provide feedback almost immediately after a learner completes an activity.

Immediate feedback may help students:

1. notice an error;
2. understand the problem;
3. revise the response;
4. practise the correct form;
5. apply the knowledge to a new task.

This cycle can encourage active learning and reduce the delay between performance and correction.

7. Personalized Feedback

Learners differ significantly in their English proficiency and learning needs.

AI can potentially personalize feedback according to individual performance.

For example, one learner may require extensive support with grammar, while another may need advanced feedback on academic style and coherence.

AI systems can provide different levels of explanation depending on learner requirements.

Personalized feedback can therefore make learning more learner-centred and may increase the efficiency of

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practice.

8. Learner Engagement and Motivation

Feedback can influence learners' motivation.

AI-based systems can provide interactive responses, progress information, personalized tasks, and repeated practice opportunities.

Learners may become more engaged when they can immediately see how their performance can be improved.

AI can also provide a relatively low-pressure environment for learners who are anxious about making mistakes in front of classmates.

However, technological novelty alone does not guarantee sustained motivation. Meaningful tasks, clear learning goals, teacher encouragement, and authentic communication remain important.

9. Learner Autonomy and Self-Correction

AI feedback can support learner autonomy by enabling students to monitor and improve their own performance.

Learners can ask AI systems to identify recurring errors and generate practice activities based on those errors.

For example, a student who repeatedly makes tense errors can request additional exercises focusing on tense usage.

This encourages students to become more responsible for their own learning.

The most valuable form of AI feedback is therefore not simply correction but feedback that develops the learner's ability to self-correct.

10. Limitations and Challenges

AI-based feedback has several important limitations.

Inaccuracy

AI systems may occasionally provide incorrect or inappropriate corrections.

Contextual Understanding

Some language choices depend on context, culture, audience, and communicative purpose, which AI may not fully understand.

Overdependence

Students may become dependent on automated correction and lose confidence in their ability to identify errors independently.

Privacy

Learners may upload written or spoken data to external AI platforms, raising privacy concerns.

Academic Integrity

AI feedback can become problematic if students use AI to generate complete assignments rather than improve their own work.

Accent Bias

Speech-based systems may perform differently across accents and varieties of English.

These issues require careful implementation and teacher supervision.

11. AI Feedback versus Teacher Feedback

AI feedback and teacher feedback have different strengths.

AI can provide:

- speed;
- availability;

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- repetition;
- personalization;
- large-scale feedback.

Teachers can provide:

- contextual understanding;
- emotional support;
- pedagogical judgment;
- cultural interpretation;
- communicative guidance;
- individualized human interaction.

Therefore, AI should not be viewed as a replacement for teachers.

A combined feedback model can provide greater educational value.

12. Human-AI Collaborative Feedback Model

A practical model can involve the following stages:

Learner Performance → AI Feedback → Learner Reflection → Revision → Teacher Feedback → Independent Application

First, students complete a language task. AI identifies possible areas for improvement. Students critically evaluate the feedback and revise their work. The teacher subsequently provides contextual guidance. Finally, students apply the learning independently in a new task.

This approach ensures that AI becomes a learning resource rather than a substitute for learner effort.

13. Pedagogical Implications

Teachers can integrate AI feedback into English language classrooms through writing workshops, pronunciation practice, grammar activities, speaking simulations, and self-assessment tasks.

Students can also maintain individual feedback records documenting:

- repeated errors;
- corrections;
- explanations;
- improvement strategies.

Such records can support reflective learning and help teachers identify common areas of difficulty.

Institutions should also provide students with AI literacy training so that they understand both the capabilities and limitations of AI-generated feedback.

14. Future Research

Future research should investigate the measurable effects of AI feedback on English language performance.

Potential research areas include:

- grammar accuracy;
- writing quality;
- pronunciation;
- speaking fluency;
- vocabulary acquisition;
- learner motivation;
- learner autonomy;
- self-correction;

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- long-term retention.

Researchers should compare AI-only feedback, teacher-only feedback, and combined teacher-AI feedback. Longitudinal studies are especially important to determine whether improvements achieved through AI feedback continue when students complete tasks independently.

15. Conclusion

AI-based feedback represents a significant development in English language education. Its ability to provide immediate, personalized, and repeated feedback can support learners in improving grammar, vocabulary, writing, pronunciation, speaking, and other language skills.

AI feedback can also promote learner engagement, self-correction, autonomy, and reflective learning. However, automated feedback is not always accurate and cannot fully replace the contextual and interpersonal qualities of teacher feedback.

The most effective approach is therefore likely to be a human-AI collaborative model. AI can provide rapid and individualized assistance, while teachers interpret feedback, address complex language issues, provide communicative context, and support learners' broader development.

Ultimately, the educational value of AI-based feedback depends on how it is integrated into language pedagogy. When learners are encouraged to critically evaluate AI suggestions and apply feedback independently, AI can become a powerful tool for improving English language performance. Rather than replacing traditional feedback, AI should complement teacher and peer feedback and contribute to a more interactive, personalized, and learner-centred English language learning environment.

Works Cited

- Godwin-Jones, Robert. "Using Mobile Technology to Develop Language Skills and Learning." *Language Learning & Technology*, vol. 22, no. 3, 2018, pp. 2–17
- Holmes, Wayne, Maya Bialik, and Charles Fadel. *Artificial Intelligence in Education: Promises and Implications for Teaching and Learning*. Center for Curriculum Redesign, 2019
- Hyland, Ken, and Fiona Hyland. "Feedback on Second Language Students' Writing." *Language Teaching*, vol. 39, no. 2, 2006, pp. 83–101
- Kasneci, Enkelejda, et al. "ChatGPT for Good? On Opportunities and Challenges of Large Language Models for Education." *Learning and Individual Differences*, vol. 103, 2023, article 102274
- Kohnke, Lucas, Benjamin L. Moorhouse, and Di Zou. "ChatGPT for Language Teaching and Learning." *RELC Journal*, 2023
- Nicol, David J., and Debra Macfarlane-Dick. "Formative Assessment and Self-Regulated Learning: A Model and Seven Principles of Good Feedback Practice." *Studies in Higher Education*, vol. 31, no. 2, 2006, pp. 199–218
- Sharples, Mike. "Towards Social Generative AI for Education: Theory, Practices and Ethics." *Journal of Learning Analytics*, 2023
- UNESCO. *Guidance for Generative AI in Education and Research*. UNESCO, 2023
- Zawacki-Richter, Olaf, et al. "Systematic Review of Research on Artificial Intelligence Applications in Higher Education." *International Journal of Educational Technology in Higher Education*, vol. 16, 2019, article 39