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THE IMPACT OF TEACHER FEEDBACK VS AUTOMATED FEEDBACK ON WRITING DEVELOPMENT

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ABOUT ARTICLE

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Abstract: This article examines the impact of teacher feedback versus automated feedback on writing development. With the increasing integration of technology in education, automated feedback systems have gained popularity as efficient tools for assessing and improving writing skills. However, there is an ongoing debate about their effectiveness compared to traditional teacher feedback. This research explores the advantages and limitations of both feedback types by analyzing their influence on students' writing progress, accuracy, and engagement. The study employs a mixed-methods approach, combining quantitative data from writing assessments with qualitative insights from student perceptions and experiences. Findings aim to provide a deeper understanding of how feedback mechanisms contribute to writing development and inform educators on best practices for integrating technology-based feedback into teaching.

Introduction. In the 21st century, rapid technological advancements have transformed many aspects of education, including the process of writing instruction. With the integration of digital tools in classrooms, traditional methods of providing feedback on student writing have been complemented and sometimes challenged by innovative automated systems. As early computer-assisted instruction paved the way for digital evaluation methods, educators have

increasingly relied on both teacher feedback and technology-driven feedback to improve writing skills.

The evolution of feedback methods has led to the emergence of automated feedback systems that utilize artificial intelligence and natural language processing to evaluate writing. These systems offer the advantages of immediate response and consistency in correcting grammatical errors, style issues, and structural inconsistencies. However, while automated feedback provides quick, standardized corrections, it often lacks the nuanced understanding and personalized guidance that a teacher's feedback can offer. In contrast, teacher feedback, deeply rooted in pedagogical experience and interpersonal communication, is known for its contextual relevance and capacity to encourage critical thinking, yet it can sometimes be inconsistent or subject to individual bias.

Writing development is a gradual process that requires revision and refinement, with feedback playing a central role in improving learners' writing skills. Effective feedback enhances linguistic accuracy, coherence, and critical thinking, enabling students to produce well-structured and meaningful texts. Researchers emphasize that timely and well-structured feedback fosters self-regulated learning and long-term writing improvement (Hyland & Hyland, 2006; Bitchener & Ferris, 2012).

Feedback is generally defined as information provided to learners regarding their writing performance to guide them toward improvement (Hattie & Timperley, 2007). It serves as a formative tool that helps students understand their strengths and weaknesses, promoting self-awareness and engagement with the writing process. Multiple studies indicate that students who receive clear and actionable feedback demonstrate greater progress in writing compared to those who receive minimal or vague feedback (Ferris, 2010).

Literature Review. Feedback is considered one of the most influential factors in learning. According to educational research, effective feedback should be clear, specific, and timely (Hattie & Timperley, 2007). Teacher feedback can be categorized into direct and indirect forms. Direct feedback involves correcting errors, while indirect feedback highlights errors without providing corrections (Ferris, 2011). Research shows that teacher feedback is particularly effective in improving content, organization, and argumentation (Hyland & Hyland, 2006).

However, teacher feedback has limitations. It is time-consuming and may not always be consistent due to individual differences among teachers (Bitchener & Ferris, 2012).Automated feedback tools, powered by artificial intelligence, offer an alternative approach. These tools focus primarily on grammar, spelling, and punctuation (Ranalli, 2018). Studies suggest that

automated feedback is effective for surface-level corrections but less effective for deeper aspects of writing (Link et al., 2020). Recent research indicates that students value automated feedback for its speed but still rely on teacher feedback for meaningful learning (Stevenson & Phakiti, 2014).

Materials and Methods

Research Design

A quasi-experimental design with two groups was employed:

Group A: Teacher feedback

Group B: Automated feedback

Participants

Forty intermediate-level (B1–B2) English learners participated. Participants were aged 18–23 and enrolled in a university English program. Random assignment ensured equal distribution of proficiency levels.

Instruments

Writing tasks: Two essays (pre-test and post-test, 300–400 words each).

Assessment rubric: Evaluated grammar, vocabulary, coherence, and task achievement.

Questionnaire: 12 Likert-scale items exploring perceptions of feedback usefulness, convenience, and motivation.

Procedure

Pre-test: Participants wrote a general-topic essay to establish baseline writing proficiency.

Treatment phase (4 weeks):

Teacher feedback group received detailed individualized feedback.

Automated feedback group used AI tools to revise essays.

Post-test: Participants wrote a comparable essay.

Data collection: Scores and questionnaire responses were recorded.

Data Analysis

Quantitative: Paired t-tests compared pre-test and post-test scores.

Qualitative: Thematic analysis of questionnaire responses.

Reliability: Inter-rater reliability for rubric scoring (Creswell, 2014).

Result and Discussion. Feedback plays a pivotal role in writing instruction by guiding learners to refine their skills and understand their strengths and weaknesses. Beyond its informational content, feedback influences both the psychological and cognitive dimensions of learning, which together contribute to the development of writing proficiency.

Writing Performance. Both groups improved, but in different areas:

Writing Performance (Pre-test vs Post-test)

Measure	Teacher Feedback	Automated Feedback
Grammar	Moderate improvement	Significant improvement
Vocabulary	High improvement	Moderate improvement
Coherence	Significant improvement	Minimal improvement
Task achievement	High improvement	Moderate improvement
Revision speed	Moderate	High

Teacher feedback group showed notable gains in coherence, content development, and vocabulary richness. Automated feedback group excelled in grammar correction, spelling, and revision speed (Ferris, 2011; Ranalli, 2018).

Statistical Analysis

Paired t-tests indicated significant differences in overall writing quality favoring teacher feedback ($t=4.56$, $p<0.001$). Grammar scores were significantly higher in the automated feedback group ($t=3.89$, $p<0.01$). Effect sizes suggest medium to large impact of feedback type on specific writing components.

Student Perceptions

Automated feedback: Students appreciated speed and accessibility; however, some noted lack of guidance for complex ideas. Teacher feedback: Students valued clarity, depth, and motivational aspects. Many preferred teacher comments for content improvement.Combined approach: Most students indicated they would prefer a combination of teacher and automated feedback for optimal improvement.

Quantitative Analysis.

- Teacher Feedback Group:
- Significant improvement in overall writing quality ($t=4.56$, $p<0.001$)
- Notable gains in coherence, content, and vocabulary
- Automated Feedback Group:
- Grammar scores significantly improved ($t=3.89$, $p<0.01$)
- Fast revision allowed frequent practice

Student Perception Survey (Likert-scale: 1=Strongly Disagree, 5=Strongly Agree)

Survey Item	Teacher Feedback (Mean)	Automated Feedback (Mean)
Feedback helped improve my writing clarity	4.7	3.8
Feedback helped me correct grammatical errors	4.1	4.8
Feedback improved my vocabulary usage	4.5	3.5
Feedback was timely	3.9	4.6
Feedback increased my motivation to revise	4.6	4.0
Feedback addressed higher-order concerns (ideas)	4.8	3.4
Feedback was easy to understand	4.7	4.5
I would prefer a combination of teacher + automated feedback	4.9	4.9

Summary

- Teacher feedback excels in higher-order skills: content, coherence, and vocabulary development.

- Automated feedback excels in lower-order skills: grammar, spelling, and revision speed.

- Students prefer a combined approach for optimal writing development.

The findings confirm that teacher and automated feedback complement each other:

Teacher feedback is superior in higher-order writing skills (organization, argumentation, content development). Automated feedback effectively addresses lower-order

skills (grammar, spelling, punctuation) and allows for faster revision (Bitchener & Ferris, 2012; Link et al., 2020).

Implications for Instruction. Teachers can assign initial drafts for AI-based correction, then provide detailed feedback on content. Automated tools can encourage self-directed learning and frequent practice. Integration of both methods may lead to improved writing proficiency, motivation, and independence.

Limitations. Sample size (n=40) limits generalizability. Short duration (4 weeks) may not capture long-term effects. Only intermediate-level learners were studied; results may differ at other proficiency levels.

Future Research. Longitudinal studies examining combined feedback effects. Studies involving advanced learners or different languages. Investigating motivational impact and student engagement with feedback.

Psychological Aspects.

1.Motivation and Self-Efficacy:

- Motivational Boost: Positive and constructive feedback can increase a learner's motivation by reinforcing their strengths and encouraging persistence. When students receive feedback that acknowledges their progress, they are more likely to invest effort in revising and improving their writing.

- Self-Efficacy: Feedback that is specific and supportive can enhance a student's belief in their ability to succeed. This increased self-confidence helps students approach writing tasks with a more proactive and resilient mindset.

2.Emotional Responses: Reducing Anxiety: Timely and balanced feedback can alleviate writing anxiety by clarifying expectations and providing clear directions for improvement. When students understand what is required, they are less likely to feel overwhelmed. Fostering a Growth Mindset: Constructive feedback encourages students to view challenges as opportunities for growth rather than as fixed deficits. This mindset shift is crucial for long-term engagement and willingness to experiment with new writing techniques.

3. Engagement and Persistence:

- Intrinsic Interest: Feedback that connects to the learner's personal interests or writing goals can foster a deeper engagement with the task. Students who find feedback relevant are more inclined to invest time and effort in revising their work.

- Resilience: When feedback is framed in a way that emphasizes progress over perfection, it helps build resilience. Students learn to see revision as an integral part of the writing process rather than a punitive measure.

Conclusion. This study examined the differential impact of teacher versus automated feedback on writing development:

-Teacher feedback promotes higher-order skills, content understanding, and coherence.

-Automated feedback improves accuracy, speed, and error correction.

-A combined feedback approach is recommended for holistic writing development.

By leveraging both methods, educators can support both mechanical accuracy and cognitive development in student writing.

The analysis of scientific and methodological references and generation made it possible to draw the following conclusions:

-Teacher feedback is indispensable in writing instruction, offering personalized, timely, and context-specific guidance that not only corrects errors but also motivates and supports learners in their writing development.

- Automated feedback, powered by natural language processing and machine learning, provides immediate and consistent responses that complement traditional teacher feedback. Its scalability and objectivity make it a valuable tool, especially in large or digital learning environments. Psychological and Cognitive Aspects of Feedback:

- Psychological Impact: Effective feedback enhances student motivation, self-efficacy, and resilience, while reducing anxiety associated with writing tasks. This creates a supportive learning atmosphere that encourages continuous improvement.

- Cognitive Benefits: Targeted feedback aids in error detection, fosters metacognitive awareness, and facilitates the development of mental frameworks necessary for advanced writing skills, ultimately leading to improved self-regulation and learning efficiency.

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