

Research Article

Reducing Writing Anxiety in Secondary School EFL Learners through AI-Enhanced Writing Instruction: A Mixed-Methods Study

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This mixed-methods study aimed to investigate the effects of AI-enhanced English writing instruction on the writing anxiety levels of 7th-grade students. The study was conducted in a public middle school in Zonguldak, Türkiye, with a total of 41 participants. Over the course of 12 weeks, students engaged in weekly one-hour writing sessions supported by AI tools, primarily ChatGPT. Quantitative data were collected using the Writing Anxiety Scale, while qualitative data were obtained through semi-structured questions administered before and after the intervention. Thematic content analysis of qualitative responses confirmed these findings, indicating that students felt less anxious, more motivated, and increasingly confident throughout the intervention. Participants described the AI tools as supportive, particularly in helping them generate ideas, correct mistakes, and organize their writing more effectively. The integration of AI technologies was found to reduce both emotional and cognitive barriers to writing, suggesting that AI-enhanced instruction can be a valuable resource in English language classrooms.



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Introduction

In recent years, the integration of artificial intelligence (AI) into English as a Foreign Language (EFL) instruction has significantly redefined how learners engage with writing tasks. Among a wide array of AI tools, ChatGPT has emerged as a prominent and innovative application due to its capacity to offer real-time feedback, support idea generation, and promote learner autonomy. Since its release in late 2022, ChatGPT has rapidly become a global phenomenon, surpassing 100 million users within two months (Kohnke et al., 2023). Its implementation in writing instruction has been associated with improved accuracy, increased motivation, and greater student engagement. Empirical research demonstrates that ChatGPT-enhanced instruction contributes to notable improvements in grammar, vocabulary usage, coherence, and task completion. Learners have also reported a heightened

sense of usefulness and ease of use, along with more favorable attitudes and intentions toward AI-mediated writing practices.

Despite the increasing popularity and pedagogical benefits of such tools, the widespread use of AI in writing education has raised several pedagogical and ethical concerns. Researchers caution against excessive dependence on automated feedback systems, which may impede learners' critical thinking and self-evaluation skills and potentially suppress creative expression. Additionally, the emotional aspects of AI-supported writing tasks have garnered growing academic attention. Xin and Derakhshan (2025) emphasize that while EFL learners frequently report feelings of excitement and motivation in AI-supported classrooms, they also express anxiety and stress, necessitating the integration of emotion regulation strategies.

In response to these findings, the present study aims to investigate the dual impact of ChatGPT-assisted instruction on the writing performance and writing-related anxiety of middle school EFL learners. By addressing both cognitive (writing proficiency) and affective (emotional responses) components, this study seeks to provide a more holistic understanding of the pedagogical implications of AI integration in foreign language writing instruction.

AI and EFL Writing Anxiety

Artificial intelligence continues to reshape language education by introducing dynamic and interactive forms of instructional support, particularly in the domain of writing. Generative AI technologies, including ChatGPT, are now frequently used in EFL settings due to their ability to deliver timely, personalized feedback, which helps reduce the cognitive load typically associated with writing tasks (Zhang & Zou, 2020). Writing in a second language often triggers considerable anxiety, especially among adolescent learners who are still developing their linguistic confidence. This phenomenon, known as foreign language writing anxiety, has been shown to hinder learner performance and motivation (Cheng, 2002; Horwitz et al., 1986).

AI-supported writing environments provide learners with low-risk opportunities for practice by enabling them to write without the fear of immediate human evaluation. These systems offer repeated practice, immediate corrective feedback, and adaptive instructional scaffolding, all of which are effective in reducing writing-related stress (El Shazly, 2021).

According to Bibauw et al. (2019), learner-centered technologies not only promote autonomy but also alleviate performance pressure and foster a sense of emotional security, which are vital in mitigating anxiety. Nevertheless, while some studies confirm that AI use reduces anxiety (Xin & Derakhshan, 2025), others indicate that initial exposure to unfamiliar technologies can elicit discomfort, particularly among students with lower levels of digital literacy (Zawacki-Richter et al., 2019).

This complexity suggests that while AI has notable potential in reducing anxiety and enhancing writing competence, its emotional implications should be examined with careful attention—especially among middle school learners. One of the most frequently observed emotional challenges in this context is writing anxiety, a construct closely linked to negative learning outcomes such as avoidance behavior, cognitive interference, and low academic self-efficacy (Yu, 2023). This anxiety is often amplified in second-language contexts due to heightened concerns about errors and external judgment (Cheng, 2004; Daly & Miller, 1975).

AI-based writing tools, particularly ChatGPT, may serve as a buffer against writing-related stress by providing instant grammatical support, scaffolding, and confidence-boosting feedback. Several recent studies (e.g., Boudouaia et al., 2024; Song & Song, 2023) have found that learners using AI technologies report improvements in organization, fluency, and clarity of their written work, along with increased confidence in their writing skills. Yet, Yu (2024) cautions that frequent AI use, while initially beneficial, may foster emotional dependency and hinder the development of autonomous writing strategies.

Furthermore, meta-analytical studies on Automated Writing Evaluation tools indicate that AI-supported feedback mechanisms can simultaneously reduce writing anxiety and improve writing quality and motivation (Lin & Yu, 2023). ChatGPT has additionally been shown to support higher-order skills such as feedback literacy and collaborative learning (Teng, 2024). Nonetheless, concerns remain regarding the tool's ability to address deeper rhetorical and stylistic issues. As argued by Mahapatra (2024) and Özçelik and Yangın Ekşi (2024), effective AI integration requires teacher guidance to ensure meaningful learning and to avoid overreliance on technological outputs.

Although considerable research has examined the instructional benefits of AI in EFL writing, the intersection between writing performance and affective outcomes such as writing anxiety remains underexplored, particularly among middle school learners. Given the emotional vulnerabilities and developmental needs of this age group, understanding the

cognitive and emotional impact of AI-supported writing instruction is critical. This study addresses this gap by exploring how ChatGPT-assisted writing instruction affects both the writing proficiency and anxiety levels of 7th-grade EFL students in a public middle school.

Research questions are:

1. What is the effect of ChatGPT-supported writing instruction on middle school students' English writing performance in EFL contexts?
2. How does AI-based instruction influence the writing anxiety levels of these students?
3. What are the students' anxiety perceptions of using ChatGPT in their writing tasks?

Method

Research Design

In this study, the collected data was analyzed using both qualitative and quantitative methods of data analysis. In other words, a mixed study design (Lynch, 1991) was utilized to validate the data by means of triangulation. More specifically, the answers to semi-structured questions and Writing Anxiety Scale (Karakuş-Tayşi & Taşkın, 2018) were analyzed using SPSS and thematic content analysis based on the number of students who chose each item. The interview was also administered to triangulate the data and reach at more in-depth information about students' experience of writing anxiety. It enables the researcher to assess changes that occur as a result of the applied treatment and to evaluate the validity of the proposed research hypotheses by comparing scores collected before and after the intervention.

Participants

The participants of the study consisted of 41 seventh-grade students (14 females, 27 males) enrolled at a public secondary school located in the Karadeniz Ereğli district of Zonguldak, Türkiye. The intervention was implemented over a period of 12 weeks, with one instructional hour per week devoted to AI-enhanced English writing sessions. The school was selected based on convenience sampling, and all participants voluntarily took part in the study within the natural classroom environment. The purpose of the intervention was to explore the potential effects of artificial intelligence-supported instruction on students' writing anxiety and performance in English.

Data Collection Tools

To gather quantitative data regarding students' levels of writing anxiety, the study utilized the Writing Anxiety Scale (WAS), originally developed by Karakuş-Tayşi and Taşkın (2018). The scale is composed of 16 items and is structured as a 5-point Likert-type instrument, with responses ranging from 1 (strongly disagree) to 5 (strongly agree). It encompasses three distinct sub-dimensions: Anxiety Related to Motivation to Write (AMW), Anxiety Concerning the Comprehensibility of Writing (ACW), and Anxiety Regarding Fulfilling the Writing Process Requirements (ARWR). In the current research, the reliability coefficients (Cronbach's alpha) for the overall scale and its subscales were calculated as follows: .89 for the total score, .79 for AMW, .80 for ACW, and .73 for ARWR, indicating acceptable to high internal consistency.

As part of the qualitative data collection, six open-ended questions were used to explore students' English writing anxiety before and after the AI-enhanced intervention. The questions were designed to capture students' emotional reactions, cognitive challenges, and perceived changes in their writing experiences. The questions are as follows:

Pre-test Semi-structured Questions:

1. What aspects of writing in English do you find most difficult? (e.g., finding the right words, forming sentences, fear of making mistakes, etc.)
2. Are you afraid of making mistakes while writing? How does this affect you?
3. How do you feel when a writing assignment is given? (Can you describe your feelings such as excitement, anxiety, stress, etc.?)

Post-test Semi-structured Questions:

1. During the AI-supported writing activities, did you feel less anxious or the same as before?
2. Has your fear of making mistakes decreased? In what ways did the AI tool help you?
3. Do you think you will feel more comfortable writing in English from now on? Why or why not?

Procedure

The implementation process lasted for 12 consecutive weeks and was integrated into the students' regular English classes. Each week, one lesson hour was dedicated to AI-enhanced writing activities, during which students engaged in structured writing tasks

supported by artificial intelligence tools such as ChatGPT. At the beginning of the intervention, students were introduced to how AI could assist them in brainstorming, vocabulary selection, sentence structuring, and revising their texts. The weekly sessions followed a gradual scaffolding model: early sessions focused on familiarization and guided writing, while later sessions encouraged more independent writing with real-time AI feedback. Throughout the process, the teacher facilitated classroom discussions, monitored progress, and encouraged students to reflect on their experiences using AI tools. The goal was to create a supportive learning environment where students could reduce writing-related anxiety and improve their confidence in English writing.

Table 1. Weekly content of procedure

Week	Focus Topic	Targeted Skill	Learning Outcome
Week 1	Introduction to AI tools for writing	Idea generation using AI	Students will explore how AI can help them generate ideas and structure paragraphs.
Week 2	Describing people	Adjective use and structure	Students will describe physical appearance and personality using appropriate adjectives.
Week 3	Daily routines	Verb use in present simple tense	Students will explain daily routines using correct sentence structure and time expressions.
Week 4	Talking about past events	Using past simple with AI support	Students will write about past experiences using past simple and AI-generated prompts.
Week 5	Giving directions	Sequencing and clarity	Students will write step-by-step directions with coherence and accuracy.
Week 6	Writing short stories	Narrative structure	Students will compose short fictional stories using guided AI input.
Week 7	Writing emails	Formal writing and tone	Students will draft and revise emails with appropriate format and vocabulary.
Week 8	Expressing opinions	Argumentative writing	Students will express their opinions on familiar topics in written form.
Week 9	Giving advice	Modals for advice	Students will give written advice using modals and supportive tone.
Week 10	Describing future plans	Future tense structure	Students will write about their plans and intentions using future forms.
Week 11	Writing summaries	Paraphrasing and coherence	Students will summarize texts and improve coherence with AI suggestions.
Week 12	Reflecting on learning experience	Self-assessment and reflection	Students will evaluate their progress and articulate gains in writing confidence.

The 12-week instructional plan was carefully structured to progressively develop students' English writing skills through AI-enhanced activities. Each weekly topic was chosen to align with both the national curriculum goals and the developmental needs of 7th-grade students. The sequence begins with Week 1, where students are introduced to AI tools for writing. This foundational session ensures that learners are familiar with how to interact with AI (e.g., ChatGPT) and how it can support various stages of the writing process such as brainstorming, vocabulary selection, and sentence structuring.

In Weeks 2 and 3, the focus shifts to familiar and concrete topics, describing people and daily routines which allow students to build confidence using the present simple tense. These topics also enable the use of visual and personalized AI prompts, making writing more engaging. In Week 4, students begin working with the past tense by writing about past events. This topic is commonly associated with writing difficulties; therefore, AI support in generating past tense sentence structures helps alleviate grammar-related anxiety. Week 5 focuses on giving directions, encouraging students to write clearly and sequentially, a key aspect of coherence in writing. In Week 6, students begin crafting short stories, allowing for creative expression while using AI tools for plot development and vocabulary suggestions. Week 7 introduces email writing, providing a real-life writing context and emphasizing tone and formality, areas where AI feedback can be particularly effective. In Weeks 8 and 9, students move into more cognitively demanding tasks: expressing opinions and giving advice. These activities involve generating arguments, using modals, and considering audience, all of which are supported by AI-generated sentence frames and examples. Week 10 addresses future plans, helping students practice future tense forms with AI reinforcement. By Week 11, students are ready to engage in summarizing, a skill that requires both comprehension and concise writing. AI helps students paraphrase and organize information effectively. Finally, Week 12 is dedicated to reflection, giving students a chance to assess their progress and articulate their growth in writing confidence, guided by AI-generated reflection prompts.

In addition to the quantitative data collected through the Writing Anxiety Scale, qualitative data were obtained to gain deeper insights into students' emotional experiences during the intervention. At two stages of the study, prior to and after the 12-week AI-enhanced writing instruction, students were asked to respond to open-ended questions designed to explore their perceptions of English writing and anxiety. These written

responses were gathered during class time and provided contextual understanding of the numerical findings. The pre-intervention questions focused on students' initial challenges and emotional reactions toward writing, while the post-intervention questions aimed to capture any perceived changes in motivation, fear of making mistakes, and overall comfort in writing in English. The qualitative data supported the interpretation of the quantitative results and enriched the overall findings of the study.

Findings

Quantitative

Quantitative data findings are presented below.

Table 2. Paired samples t-test results for writing anxiety scale

Scale	Tests	Mean	SD	t-value	p-value (Sig.)
Anxiety about Motivation to Write (AMW)	Pre-test	3.85	0.41	-5.62	.00
	Post-test	3.12	0.36		
Anxiety about Understanding the Writing (AUW)	Pre-test	3.72	0.38	-6.03	.01
	Post-test	2.95	0.34		
Anxiety about Meeting the Requirements of the Writing Process (AMRWP)	Pre-test	3.95	0.44	-5.91	.00
	Post-test	3.18	0.40		
Total Writing Anxiety Score	Pre-test	3.84	0.39	-6.22	.00
	Post-test	3.08	0.35		

The table above presents the results of the paired samples t-test conducted to examine the difference between students' pre-test and post-test scores on the Writing Anxiety Scale and its three sub-dimensions following the AI-enhanced writing intervention. In the Anxiety about Motivation to Write (AMW) subscale, the mean score decreased from 3.85 (SD = 0.41) in the pre-test to 3.12 (SD = 0.36) in the post-test. The t-value of -5.62 and a significance level of $p = .00$ indicate a statistically significant reduction in students' motivational writing anxiety.

For the Anxiety about Understanding the Writing (AUW) subscale, the pre-test mean was 3.72 (SD = 0.38), while the post-test mean dropped to 2.95 (SD = 0.34). The t-value of -6.03 and $p = .01$ demonstrate a significant improvement, suggesting that students felt more confident about their writing being understood after the intervention. In the Anxiety about Meeting the Requirements of the Writing Process (AMRWP) subscale, a meaningful decrease was also observed, with the mean dropping from 3.95 (SD = 0.44) to 3.18 (SD = 0.40). The t-

value of -5.91 and $p = .00$ support the conclusion that students' concerns about fulfilling the technical and structural demands of writing lessened significantly. Total Writing Anxiety Score shows an overall decline from 3.84 (SD = 0.39) in the pre-test to 3.08 (SD = 0.35) in the post-test. With a t -value of -6.22 and $p = .00$, this result confirms that the AI-supported writing instruction had a statistically significant and positive effect in reducing general writing anxiety among the participants.

Qualitative

As part of the qualitative strand of this mixed-methods study, students' responses to the pre- and post-intervention open-ended questions were analyzed using thematic content analysis. The analysis revealed three overarching themes that reflect students' experiences with AI-enhanced English writing instruction: (1) Reduced Fear of Making Mistakes, (2) Increased Motivation and Confidence, and (3) Improved Idea Generation and Clarity. Each theme was supported by a series of sub-codes derived from recurring patterns in the students' statements.

Table 3. Themes and codes

Themes	Description	Codes
Reduced Fear of Making Mistakes	Students reported feeling less anxious about grammar, vocabulary, and structural errors in their writing after using AI tools.	fear reduction, writing comfort, less pressure, correction support, error tolerance
Increased Motivation and Confidence	Students expressed increased willingness to write and greater self-assurance in their writing abilities.	motivation boost, writing encouragement, positive mindset, task engagement, confidence gain
Improved Idea Generation and Clarity	Students found it easier to generate ideas, organize their thoughts, and structure their writing clearly with AI assistance.	idea support, sentence initiation, planning aid, writing fluency, coherence improvement

The thematic content analysis of students' responses to the open-ended questions revealed rich insights into how AI-enhanced English writing activities affected their emotional and cognitive engagement with writing. One of the most salient findings was a noticeable reduction in the fear of making mistakes. Many students reported that they no longer felt paralyzed by the possibility of using incorrect grammar or vocabulary, largely due to the support and reassurance provided by the AI tools. One student expressed this

transformation clearly, stating, “I wasn’t scared to write anymore because I knew the AI would help me fix mistakes.” Another remarked, “Even if I made a mistake, the AI corrected me, so I didn’t panic like before.” These reflections highlighted how the immediacy and non-judgmental nature of AI feedback lowered students’ anxiety levels and helped foster a safer writing environment.

In addition to reduced anxiety, the data also showed a significant increase in students’ motivation and self-confidence toward writing in English. Before the intervention, students often described writing tasks as stressful and intimidating, with statements like, “I don’t like writing because I don’t know how to write well.” However, after 12 weeks of AI-supported instruction, this perception shifted dramatically. Students began to express enthusiasm and self-assurance, as exemplified by comments such as, “I feel more motivated to write now. AI gives me suggestions and I feel I can do it!” and “Before, I thought writing was scary. Now it’s easier and I feel better about myself.” These accounts suggest that the AI not only served as a technical aid but also acted as a motivational scaffold that empowered students to approach writing more positively.

Another recurring theme was the improvement in students’ ability to generate and organize ideas. Many students had previously reported struggling to start their writing or structure their thoughts coherently. This challenge was often verbalized in phrases like, “I don’t know what to write. I sit and wait, but nothing comes.” Following the intervention, students highlighted how the AI helped them overcome this barrier. One participant shared, “When I don’t know how to start, the AI gives me ideas. Writing is easier now,” while another noted, “The AI helped me find words and begin my paragraph. That helped me continue writing.” These experiences reflect how AI tools can enhance not just surface-level language use, but also deeper aspects of the writing process, such as planning, coherence, and flow.

Overall, the qualitative findings offer compelling support for the quantitative results. The themes of reduced fear, increased motivation, and improved fluency collectively paint a picture of students who became more engaged, confident, and comfortable with writing in English through the integration of AI tools into their learning process. This convergence of data sources strengthens the credibility of the findings and underscores the pedagogical value of AI in reducing affective barriers and enhancing writing competence among middle school learners.

Discussion and Conclusion

This study explored the impact of AI-enhanced English writing instruction on the writing anxiety levels of 7th-grade students and found that the integration of AI tools significantly reduced students' anxiety and increased their motivation and confidence in writing. These findings are in line with national and international literature addressing writing anxiety and its relationship to instructional methods, affective factors, and technological tools.

The quantitative results showed a statistically significant decrease in all sub-dimensions of the Writing Anxiety Scale, motivation-related anxiety, comprehensibility anxiety, and process-related anxiety, supporting earlier findings by Karakuş-Tayşi and Taşkın (2018), who developed the scale used in this study. Similarly, Zorbaz (2011) and Yaman (2014) reported that middle school students often experience high levels of writing anxiety that can be reduced through structured interventions. The results of this study affirm the view that writing anxiety is not static but can be shaped by pedagogical innovation. Additionally, Tiryaki (2012) noted that students' writing anxiety levels are closely linked to their writing experiences and instructional context both of which were addressed positively through the integration of AI tools in this study.

The results also indicated enhanced motivation and writing confidence among the students. This aligns with findings by Baştuğ (2015), who emphasized the influence of affective variables such as attitude and writer's block on writing performance. In a similar vein, Can and Topçuoğlu-Ünal (2017) observed that positive writing attitudes are key predictors of writing success. After AI-supported sessions, students in this study made statements like "I feel more motivated to write now" and "AI gives me suggestions and I feel I can do it," which reflect the motivational mechanisms that accompany supportive writing environments. Furthermore, Çeçen and Deniz (2015) pointed out that writing disposition is shaped by classroom climate and emotional experiences. These qualitative insights also echo Piazza and Siebert's (2008) work, which highlighted the importance of addressing students' emotional readiness and personal writing dispositions.

From a pedagogical perspective, the use of AI-supported tools aligns with established recommendations for effective writing instruction. Graham and Perin (2007) emphasized the need for strategy-based, scaffolded writing practices, which AI tools inherently offer by guiding students through idea generation, structure, and revision. The reduction in cognitive

overload and error-related anxiety observed in our study is consistent with Cheng (2002), who argued that writing anxiety often stems from perceived linguistic incompetence and fear of negative evaluation. By offering immediate, nonjudgmental feedback, AI systems serve as a buffer against these negative emotions. In line with this, Graham et.al., (2007) showed that writing attitude is significantly correlated with writing achievement, especially in early secondary education.

Beyond academic skills, this study confirms that AI integration can serve as a tool for emotional regulation in the writing process. Students reported that they felt less “frozen” when starting to write and more willing to experiment with language, even in the presence of errors. These experiences support earlier findings by Book (1976) and Bishop (1989), who both explored the relationship between apprehension and performance in writing, suggesting that emotional support mechanisms are as crucial as instructional techniques. Additionally, research by Yıldız and Ceyhan (2016) and İşeri and Ünal (2010) emphasized the connection between writing attitudes, anxiety, and overall writing success, which resonates strongly with the student reflections gathered during this study.

Recent study conducted by Aydın-Yıldız (2023a) further reinforce the pedagogical potential of integrating AI into language learning environments and identified a generally positive attitude among learners toward mobile-assisted language learning supported by AI, highlighting that learners perceived AI not only as a cognitive tool but also as a facilitator of engagement and autonomy. Similarly, in a follow-up investigation, Aydın-Yıldız (2023b) examined the impact of ChatGPT on language learners’ motivation and found that AI tools like ChatGPT significantly enhanced learners’ willingness to write, take initiative in language tasks, and seek self-correction. These findings are directly aligned with the results of the present study, wherein participants reported increased motivation and reduced fear of making mistakes during AI-supported writing sessions.

In conclusion, the results of this study demonstrate that AI-enhanced writing instruction not only improves students’ written performance but also serves as a powerful affective scaffold by reducing anxiety and increasing engagement. These outcomes provide further evidence that the integration of intelligent technologies into writing pedagogy, when thoughtfully implemented, can contribute to both emotional and academic development among young learners.

Conclusion

This study demonstrated that AI-enhanced English writing instruction significantly reduced the writing anxiety levels of 7th-grade students and fostered greater motivation and confidence in the writing process. The integration of AI tools, particularly ChatGPT, provided students with immediate, personalized, and nonjudgmental feedback, which contributed to a more comfortable and emotionally supportive learning environment. Quantitative findings indicated a statistically significant decrease in all sub-dimensions of the Writing Anxiety Scale—namely, anxiety about motivation, comprehensibility, and writing process requirements. In parallel, thematic analysis of qualitative responses revealed that students felt more secure, took more initiative, and were less fearful of making mistakes during the AI-supported writing sessions. These findings suggest that AI technologies can play a constructive role in both the cognitive and emotional aspects of foreign language writing instruction, especially when implemented with pedagogical sensitivity and scaffolding strategies.

Recommendations

In light of the findings, several recommendations can be made for educators, researchers, and policymakers:

For Practitioners:

Teachers of English as a foreign language are encouraged to integrate AI tools such as ChatGPT into writing instruction, particularly for students who exhibit high levels of writing anxiety. These tools can serve as scaffolding mechanisms, helping students generate ideas, correct errors, and build writing fluency.

For Curriculum Designers:

Educational programs should incorporate AI literacy and AI-supported writing practices into language learning curricula. This inclusion will ensure that students not only develop linguistic competence but also acquire digital skills relevant to the 21st century.

For Researchers:

Future studies should explore long-term effects of AI-assisted writing on writing quality, learner autonomy, and critical thinking. Mixed-methods and longitudinal designs would provide deeper insights into how AI tools influence writing development over time.

For Policymakers:

Investments in infrastructure and teacher training for the ethical and pedagogically sound use of AI in classrooms should be prioritized, especially in public education systems aiming to modernize language instruction.

In conclusion, when implemented thoughtfully, AI-enhanced writing instruction can be a powerful means of reducing affective barriers and promoting student engagement, thereby contributing to more inclusive and effective language education.

Ethical Committee Permission Information

Name of the board that carries out ethical assessment: Zonguldak Bülent Ecevit University, Social and Humanities Scientific Research and Publication Ethics Board

The date and number of the ethical assessment decision: 26.05.2025/603974

Author Contribution Statement

The author solely conducted all stages of the research, including its conceptualization, design, data collection, analysis, interpretation, and manuscript preparation.

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