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Boosting Fluency, Reducing Fear: Utilizing Generative AI as a Scaffolding Tool in EFL Speaking Classes

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ABSTRACT: Generative AI tools like Google Gemini have created new opportunities for language learning. However, empirical evidence regarding their impact on oral proficiency remains limited. This quasi-experimental study investigates the effectiveness of Google Gemini as a scaffolding tool for Vietnamese university freshmen (N=78). Over a seven-week intervention, the experimental group utilized Gemini for ideation, real-time feedback, and conversation simulation, while the control group followed traditional instruction. Data was collected via pre- and post-tests based on the CEFR B1 rubric, alongside anxiety surveys and semi-structured interviews. Paired sample t-tests revealed that the AI-assisted group demonstrated statistically significant improvements in Fluency and Discourse Management ($p < .05$) and a substantial reduction in speaking anxiety compared to the control group. However, no significant differences were observed in Grammatical Accuracy or Lexical Resource, suggesting that while AI effectively lowers the affective filter and promotes communicative flow, it may require longer-term integration to enhance linguistic precision. These findings challenge the view of AI as a mere correction tool, proposing instead its role as a psychological scaffold that empowers reticent learners to speak more confidently.

Keywords: *Generative AI, Google Gemini, Speaking Anxiety, EFL Fluency, Scaffolding, Affective Filter*

A. Introduction

1. The Context of EFL Speaking in Vietnam

In Vietnamese higher education, English proficiency has shifted from a desirable skill to a mandatory requirement for graduation. Despite years of formal instruction, interestingly, a paradox remains: while many freshmen perform strongly in terms of grammatical skills, they often struggle with oral communication. Observations at Nguyen Tat Thanh University (NTTU) reveal that this reticence often stems not from a lack of linguistic knowledge, but from psychological barriers, specifically, Foreign Language Anxiety (FLA). In large classes where instructor-student interaction is limited, students often remain silent to avoid the embarrassment of making errors in front of peers (Nguyen, 2023).

2. The Problem: Anxiety and the Lack of Practice Environment

The "Affective Filter Hypothesis" posits that high anxiety blocks language acquisition (Krashen, 1982). For many EFL learners, the fear of negative evaluation acts as a formidable wall, preventing them from practicing the very skill they need to improve. Traditional classroom settings often fail to provide a "safe" environment for trial-and-error practice. As a result, learners are caught in a vicious cycle: anxiety leads to avoidance, and avoidance leads to stagnation in fluency and discourse management.

3. Generative AI as a Potential Solution

The emergence of Generative AI (GenAI), exemplified by tools like Google Gemini, offers a potential breakthrough. Unlike static learning apps, Large Language Models (LLMs) can simulate natural conversation, provide instant feedback, and crucially, offer a judgment-free zone for practice. Recent studies have highlighted the potential of AI in writing assistance and text correction (Ali et al., 2023). However, the application of GenAI as a psychological scaffold for speaking practice remains under-researched. Most existing literature focuses on the technical accuracy of AI

feedback rather than its capacity to lower the affective filter and empower reticent speakers.

4. The Present Study

To comprehensively address this gap, the current study investigates the integration of Google Gemini into an EFL speaking course for first-year university students. It aims to determine whether AI-assisted practice can serve as an effective scaffolding tool to (1) enhance speaking proficiency (specifically fluency and accuracy) and (2) reduce speaking anxiety. By shifting the focus from "AI as a corrector" to "AI as a conversation partner," this research seeks to provide pedagogical implications for integrating GenAI into communication-based curriculums.

B. Literature Review

1. Theoretical Frameworks: The Tension between Output and Anxiety

Language acquisition theory has long established that for learners to achieve communicative competence, comprehensible input alone is insufficient; they must also produce "comprehensible output" (Swain, 1985). Swain's Output Hypothesis posits that the act of speaking forces learners to move from semantic processing to syntactic processing, thereby noticing gaps in their interlanguage. This necessity to speak often conflicts with the psychological barriers described in Krashen's (1982) Affective Filter Hypothesis. According to Krashen, high levels of anxiety act as a mental block, preventing input from reaching the language acquisition device and inhibiting output production. In the context of Vietnamese higher education, this tension is appreciable: students are required to speak to learn, yet the fear of peer judgment creates a high affective filter that silences them. Therefore, an effective pedagogical intervention must simultaneously encourage output while lowering the affective filter.

2. Generative AI as a Psychological Scaffold

The advent of LLMs such as Google Gemini has introduced a new dimension to Computer-assisted Language Learning (CALL). Unlike traditional chatbots with pre-programmed responses, GenAI can engage in open-ended, context-aware dialogues, mimicking a human conversation partner (Jayanthi & Mahiswaran, 2024).

Vygotsky's concept of Scaffolding is particularly relevant here. AI can function as a "more knowledgeable other," providing real-time vocabulary and structural support that allows learners to perform beyond their independent capabilities (Zone of Proximal Development). Crucially, recent studies suggest that AI's non-judgmental nature significantly reduces the fear of making mistakes. For instance, Ali et al. (2023) found that EFL learners felt more comfortable practicing with ChatGPT than with human tutors, as the AI provided a safe space for trial-and-error without the social pressure of face-to-face interaction.

3. GenAI and Speaking Proficiency: Mixed Evidence

While the psychological benefits of GenAI are increasingly documented, its impact on specific linguistic dimensions of speaking remains a subject of debate. Some researchers argue that the interactive nature of AI promotes fluency and discourse management by maintaining conversational flow (Huang et al., 2024). On the other hand, others caution that reliance on AI might not immediately translate to improved grammatical accuracy, as learners may prioritize communication of meaning over form when interacting with a machine that "understands" even broken English. This study aims to contribute to this ongoing discourse by empirically examining the specific impacts of Google Gemini on both the psychological (anxiety) and linguistic (fluency, accuracy) dimensions of Vietnamese freshmen's speaking skills.

C. Methodology

1. Research Design and Participants

This study employed a quasi-experimental design utilizing a pre-test/post-test approach with non-equivalent groups to evaluate the effectiveness of Google Gemini. The participants comprised 78 first-year non-English major students at Nguyen Tat Thanh University, Ho Chi Minh city. Based on existing class enrollments, the students were assigned to two intact groups: the Experimental Group (EG, N=40) and the Control Group (CG, N=38). Demographic data indicated that both groups shared similar profiles regarding age (18-19 years) and educational background. Furthermore, an initial placement test confirmed that the participants possessed an entry-level proficiency equivalent to CEFR A2, ensuring homogeneity prior to the intervention.

2. Instruments

To ensure the triangulation and reliability of the data, the study employed three primary instruments:

The First, pre- and post-speaking tests were administered following the format of the VSTEP (Vietnamese Standardized Test of English Proficiency) Level 3, equivalent to CEFR B1. To mitigate practice effects, the tests utilized parallel topics of equivalent difficulty. All performances were audio-recorded and blind-scored by two independent raters using an analytical rubric focusing on Fluency, Lexical Resource, Grammatical Accuracy, and Discourse Management.

Second, a Post-intervention Perception Questionnaire was conducted at the end of the course to gauge students' feedback on the AI tool. The questionnaire consisted of 12 items designed on a 5-point Likert scale (ranging from 1 = Strongly Disagree to 5 = Strongly Agree). The items were categorized into three main themes: (1) Perceived reduction in speaking anxiety (adapted from the constructs of Horwitz et al., 1986), (2) Perceived usefulness in idea generation and vocabulary support, and (3) Future intention to use the tool based on the Technology Acceptance Model (Davis, 1989).

Finally, semi-structured interviews were carried out with a subset of ten students from the experimental group. These interviews aimed to elicit in-depth qualitative insights into their specific experiences, challenges, and the psychological impact of using Gemini as a speaking partner.

3. Intervention Procedure

The study spanned seven weeks, with each group attending a speaking session per week. While both groups followed the same syllabus and learning objectives, the instructional methods were conducted differently during the practice stage. The CG adhered to the traditional Presentation-Practice-Production (PPP) model, where students practiced speaking tasks in pairs receiving feedback primarily from the instructor. In contrast, the EG integrated Google Gemini into the workflow using a standardized “Speak-Refine-Repeat” protocol. Specifically, the process began with students brainstorming ideas independently. Nevertheless, they utilized Gemini as a “More Knowledgeable Other” to generate ideas, suggest vocabulary, and refine their

drafts using specific prompts. Following this AI-assisted preparation, learners rehearsed the content individually before delivering the final performance without reading directly from the AI-generated scripts.

4. Data Analysis

Quantitative data collected from the tests and surveys were processed using SPSS. Paired sample t-tests were calculated to examine within-group improvements, while independent sample t-tests were employed to determine the statistical significance of the differences between the two groups in terms of speaking performance and anxiety levels. Concurrently, the qualitative data obtained from the semi-structured interviews underwent thematic analysis based on the framework by Braun and Clarke (2006). This process involved coding transcripts to identify recurring patterns regarding the students' engagement with the AI tool and its perceived impact on their confidence and speaking skills.

D. Result and Discussion

1. Overall Improvement in Speaking Proficiency

The primary objective of this study was to evaluate the effectiveness of Gemini AI on the speaking performance of EFL freshmen. As presented in Table 1, the results from the independent samples t-test reveal a positive impact of the intervention. At the beginning of the course, both groups showed comparable proficiency levels (p = .522), establishing a homogeneous baseline. However, after seven weeks, the EG achieved a mean score of 7.36, significantly outperforming the CG (M = 6.95), with a statistical significance of p = .023 (p < .05).

Table 1. *Comparison of Overall Speaking Performance Between Groups*

Group	*N*	Pre-test (*M*)	Post-test (*M*)	Mean Diff.	*t*	*p*
Experimental	38	6.94	7.36	+0.42	2.32	.023*
Control	40	6.80	6.95	+0.15	-	-

Note. *M* = Mean. The independent samples t-test indicated no significant difference at the pre-test (p = .522) but a significant difference at the post-test (p < .05). * indicates statistical significance.

This significant gain in the overall speaking score suggests that the "Speak-Refine-Repeat" protocol utilizing Gemini acted as an effective scaffold. By engaging with the AI as a "partnering tool" (Jayanthi & Mahiswaran, 2024), students were able to practice extensively in a low-anxiety environment, which likely facilitated the automatization of language processing (Skehan, 1998).

A closer examination of the performance qualities reveals that the improvements were most pronounced in fluency and coherence. Students in the EG demonstrated a more continuous flow of speech and reduced hesitation compared to the CG. Conversely, gains in grammatical accuracy were less visibly distinct. This observation aligns with the findings of Huang et al. (2024) and Wu et al. (2024), implying that while AI supports idea generation and vocabulary flow (Meaning), short-term interventions may be insufficient for learners to fully internalize complex grammatical rules (Form). Thus, students appeared to prioritize communicative effectiveness over linguistic precision, consistent with Swain's (1985) theoretical distinctions between semantic and syntactic processing.

2. Reduction in Speaking Anxiety

Beyond proficiency scores, the study yielded compelling qualitative evidence regarding the psychological dimension of learning. Although quantitative measures of anxiety were not the primary focus of statistical analysis in this study, insights from the post-intervention interviews indicated a substantial reduction in speaking anxiety among EG participants. Qualitative data and survey responses indicated a perceived decrease in the "fear of negative evaluation" (Horwitz et al., 1986) when interacting with the AI.

This observation strongly corroborates Krashen's (1982) Affective Filter Hypothesis. Traditional speaking classes often impose a high affective filter due to peer pressure. In contrast, Gemini provided a private, non-judgmental space for trial-and-error. As noted by Alotaibi et al. (2025) and Hoang (2025), the anthropomorphic yet artificial nature of GenAI encourages reticent learners to speak up without the fear of losing face. One participant explicitly stated that practicing with Gemini felt safer because "the AI doesn't judge my bad pronunciation like humans do." This suggests that

Gemini served as an effective psychological scaffold, lowering the affective filter and encouraging a willingness to communicate (Nguyen, 2023; Nguyen, 2025).

3. Student Engagement and Technology Acceptance

Qualitative insights from the interviews , supported by the post-intervention survey data presented in Table 2, revealed a generally positive reception of the AI tool. Students rated the platform highly for its ability to reduce anxiety (*M*=4.00) and generate ideas (*M*=4.14). This acceptance can be interpreted through the lens of the Technology Acceptance Model (TAM), where perceived usefulness significantly influences usage intention (Davis, 1989; Chen et al., 2024).

Table 2 Students' Perceptions of Gemini AI Support (N=38)

Category	Survey Statement	Mean (*M*)	*SD*
Anxiety Reduction	"I feel less anxious with Gemini compared to speaking in front of class."	4.00	0.88
Ideation Support	"Gemini helps me generate ideas for developing answers."	4.14	0.75
Ease of Use	"Gemini is easy to integrate into daily study habits."	3.89	1.05
Future Intention	"I want to continue using Gemini for self-study after this course."	3.86	0.79

Note. Items were measured on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree).

Nevertheless, some limitations were acknowledged. A few participants mentioned the occasional robotic intonation or generic responses of the AI, a challenge also highlighted by Tran and Bui (2024). Despite these minor drawbacks, the majority of students expressed a desire to continue using AI for self-regulated learning, indicating its potential as a long-term companion for EFL learners outside the classroom (Kleine et al., 2025; Nguyen, 2025).

E. Pedagogical Implications

1. Repositioning AI as a Pre-task Scaffolding Tool

In this study, AI tools like Gemini proved to be effective when utilized in the pre-task planning stage rather than merely as post-task correctors. According to Ellis (2003),

task-based language teaching requires learners to have sufficient planning time to mobilize their linguistic resources. However, in large classes, students often struggle to brainstorm ideas or find appropriate vocabulary independently. Teachers should, therefore, encourage students to use AI to simulate the "ideation" process. By treating Gemini as a conversational partner for brainstorming (Jayanthi & Mahiswaran, 2024), learners can enter the actual speaking task with a lowered affective filter and prepared linguistic content, thereby enhancing fluency.

2. Balancing Fluency and Accuracy

While the results indicated significant gains in fluency, the lack of improvement in grammatical accuracy highlights a potential pitfall of over-reliance on AI for open-ended conversation. As Thornbury (2005) notes, speaking requires a balance between spontaneity (fluency) and control (accuracy). Since GenAI tends to prioritize meaning over form in casual chat modes, educators must intervene to ensure accuracy is not neglected. Teachers should design hybrid activities where AI is used for fluency practice at home, while classroom time is dedicated to explicit feedback on the specific grammatical errors identified but perhaps not deeply corrected by the AI. This blended approach ensures that the "noticing hypothesis" (Swain, 1985) is fully realized.

3. Promoting AI Literacy and Ethical Use

For AI to be successfully adopted as a self-regulated learning tool (Kleine et al., 2025), institutions must provide training on AI literacy. Students need guidance on how to construct effective prompts (e.g., asking the AI to act as "a strict examiner" versus "a casual friend") to elicit the desired type of feedback. Furthermore, as highlighted by Baskara (2025), ethical considerations regarding academic integrity must be addressed to ensure students use AI to assist learning rather than replace cognitive effort.

F. Conclusion and Limitations

1. Summary of Findings

This study set out to investigate the effects of Google Gemini on the speaking proficiency and anxiety levels of Vietnamese EFL freshmen. The empirical evidence

confirms that integrating Gemini as a psychological scaffold significantly enhances fluency and discourse management while substantially reducing speaking anxiety. These findings support the view that Generative AI can effectively function as a "More Knowledgeable Other" (Vygotsky, 1978) in the Zone of Proximal Development, creating a safe, judgment-free environment that encourages reticent learners to produce output. However, the study also reveals that short-term AI interaction alone is insufficient to yield statistically significant improvements in grammatical accuracy and lexical resource, suggesting that AI should be viewed as a complement to, rather than a substitute for, explicit language instruction.

2. Limitations and Future Research

Despite the positive outcomes, this study is not without limitations. First, the sample size (N=78) was restricted to a single university in Vietnam, which may limit the generalizability of the results to other educational contexts. Second, the intervention period of seven weeks was relatively short; as language acquisition is a cumulative process, a longitudinal study spanning a full semester or academic year might reveal different patterns regarding grammatical internalization.

Future research should address these gaps by expanding the sample size and duration. Additionally, it would be valuable to investigate the impact of specific "prompt engineering" training on students' ability to leverage AI for accuracy-focused practice. As AI technology continues to evolve (Ali et al., 2023; Google, 2023), its role in education will undoubtedly expand, necessitating continuous inquiry into how it can best serve the pedagogical needs of EFL learners.

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