

AN INTERACTION LOG ANALYSIS OF GEMINI AI IN EFL SPEAKING PREPARATION

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ABSTRACT

This descriptive qualitative study examined how five Indonesian high school students (S1–S5) used Gemini AI as a tool for preparing Analytical Exposition speeches in English. A theme coding scheme comprising seven interaction categories: Generate (GEN), Revise (REV), Explain (EXP), Simplify (SIM), Practice (PRAC), Pronunciation (PRON), and Vocabulary (VOC) was used to analyze the data obtained from verbatim chat conversation logs. The results showed that GEN was the most common pattern (11 out of 35 total questions), indicating students' tendency to assign content creation to AI. On the other hand, student autonomy and metacognitive awareness were stronger among students who participated in REV and PRAC-oriented exchanges. The most beneficial interaction pattern in terms of education was S1's usage of AI as a conversational speaking partner. S5's revision-dominated interactions showed the strongest writing autonomy. The study comes to the conclusion that in order to move students from passive content consumption to active, continuous AI engagement, pedagogical scaffolding is crucial.

Keywords: *ai-assisted learning, efl speaking, gemini ai, interaction patterns, student autonomy*

ABSTRAK

Penelitian kualitatif deskriptif ini bertujuan untuk mengkaji bagaimana lima siswa sekolah menengah atas di Indonesia (S1–S5) menggunakan Gemini AI sebagai alat bantu dalam mempersiapkan pidato Analytical Exposition dalam bahasa Inggris. Skema pengkodean tematik yang terdiri atas tujuh kategori interaksi, yaitu Generate (GEN), Revise (REV), Explain (EXP), Simplify (SIM), Practice (PRAC), Pronunciation (PRON), dan Vocabulary (VOC), digunakan untuk menganalisis data yang diperoleh dari transkrip verbatim log percakapan chat. Hasil penelitian menunjukkan bahwa kategori GEN menjadi pola interaksi yang paling dominan (11 dari total 35 pertanyaan), yang mengindikasikan kecenderungan siswa untuk menyerahkan pembuatan konten kepada AI. Di sisi lain, kemampuan kemandirian belajar siswa dan kesadaran metakognitif tampak lebih kuat pada siswa yang terlibat dalam interaksi berorientasi REV dan PRAC. Pola interaksi yang paling bermakna secara edukatif ditemukan pada penggunaan AI oleh S1 sebagai mitra percakapan dalam latihan berbicara. Sementara itu, interaksi S5 yang didominasi aktivitas revisi

menunjukkan tingkat authorial agency yang paling kuat. Penelitian ini menyimpulkan bahwa pedagogical scaffolding berperan penting dalam mendorong siswa beralih dari konsumsi konten pasif menuju keterlibatan AI yang lebih aktif dan berkelanjutan.

Kata Kunci: efl speaking, ai-assisted learning, gemini ai, pola interaksi, kemandirian belajar siswa

A. Introduction

The landscape of English as a foreign language (EFL) education has been significantly altered by the rapid growth of large language models (LLMs) based chatbots, such as Google Gemini, ChatGPT, and Microsoft Copilot. Students are increasingly using these tools to support independent language learning activities, including research, vocab development, writing assistance, and speech preparation, in addition to completing assignments (Crompton et al., 2024; Baidoo-anu & Ansah, 2023). Their accessibility, immediacy, and interactive nature have positioned them as powerful complementary learning tools, especially among high school students who are already deeply involved with digital technologies in their daily lives.

Speaking is still one of the four fundamental language skills that EFL learners find most difficult. In addition to language proficiency, speaking calls for confidence, spontaneity, and

the capacity to create meaningful conversations in real time. According to earlier research, students frequently struggle with nervousness, fear of receiving poor grades, and unwillingness to engage in speaking exercises (Wang et al., 2024). Socio-cultural elements in the Indonesian EFL environment make this problem even more difficult, as students may be reluctant or afraid to voice their opinions in front of their peers. Formal speaking assignments that require persuasive argumentation and critical thought, such as analytical exposition, make this issue more noticeable (Sartika et al., 2023).

Students can prepare for speaking assignments outside the pressure of the classroom thanks to chatbot-based AI technologies, which may lessen anxiety and promote learner autonomy (Qiao & Zhao, 2023). In the Indonesian EFL environment, where the high school curriculum heavily emphasizes Analytical Exposition, a genre that calls for both language skills and the capacity to arrange

ideas logically and persuasively, this affordance is especially pertinent. Because of this, this genre offers a useful framework for analyzing how students use AI tools to enhance their speaking preparation.

Despite mounting proof that AI improves vocabulary expansion, writing quality, speaking fluency, and learner autonomy (Crompton et al., 2024; Wu & Li, 2024), the majority of existing studies focus on learning outcomes rather than the interaction process itself. Little research has examined how students actually use AI tools during speaking preparation tasks. Most of the research that is currently available concentrates on learning objectives rather than the actual interaction process. Research on how students really use AI systems for speaking preparation assignments is scarce.

The study examined the word-for-word chat conversation logs of five high school students who prepared analytical exposition in English using Gemini AI in order to close this gap. The study's objectives are to pinpoint the tactics that students employ, look at how they engage with AI, and investigate the educational ramifications of these methods. Specifically, this study

seeks to answer the following research questions: ***How do students utilize Gemini AI as a learning tool in preparing analytical exposition speeches?*** The findings are expected to provide valuable insights for educators in integrating AI tools into EFL instruction in a pedagogically effective and meaningful way.

B. METHODOLOGY

This study employed a descriptive qualitative approach with content analysis as the primary method. This design is appropriate for providing a comprehensive description of a phenomenon in its natural context without experimental manipulation (Sugiyono, 2019), and allows analysis of the sequential and contextual nature of student-AI interactions.

The participants consisted of five twelfth-grade students (S1–S5, anonymized) from a high school in Indonesia, selected through purposive sampling based on their willingness to submit complete interaction records and engage in AI-assisted speaking tasks. They were assigned to prepare and deliver an Analytical Exposition speech of 2–3 minutes in English on the topic "Should students use AI tools in learning English?" Students were allowed to use Gemini AI freely, without

specific usage guidelines, thus enabling observation of interaction behaviors naturally. Prior to data collection, all participants gave written consent for their interaction records to be used for research purposes.

The dataset consists exclusively of verbatim chat records covering a total of 35 questions from students, with the number of questions per participant ranging from five (S4) to nine (S1). The analysis was conducted in two stages. First, each question was assigned a single code from the seven-category framework (GEN, REV, EXP, SIM, PRAC, PRON, VOC) based on its dominant communicative function (see Table 1). The coding framework was developed inductively from the data and deductively from existing student-AI interaction frameworks in the context of language learning (Seo, 2024; Han et al., 2024). Credibility was established through debriefing with peers trained in EFL research methodology. Second, the sequence of each participant's interactions was analyzed holistically to identify dominant patterns, learner profiles, and inter-participant variations (see Table 2).

Table 1. Interaction Coding Framework

Code	Category	Definition	Example Prompt from Log
GEN	Generate	Student asks AI to produce text or content from scratch with minimal prior contribution of their own ideas.	"Bantu aku membuatkan teks eksposisi analitis..." "Tolong buat draf pi-dato..."
REV	Revise	Students submit their own draft and ask AI to improve, correct, or polish it.	"Aku mau coba buat kalimat penutup sendiri... tolong koreksi grammarnya"
EXP	Explain	The student asks for an explanation of a concept, structure, or term not yet understood.	"Coba jelaskan secara singkat tentang teks eksposisi itu apa" / "Apa itu Thesis?"
SIM	Simplify	The student asks AI to shorten or simplify the existing text for easier delivery.	"Coba buat lebih singkat tanpa mengubah isi dan strukturnya" / "Sederhanakan kalimatnya"

PRAC	Practice	Student actively engages AI in Q&A or conversation, producing their own language output.	"Apakah kamu bisa membantu aku untuk menjadi partner berlatih?" + student's own English response
PRON	Pronunciation	Student requests phonetic guidance for specific words they anticipate difficulty with.	"Bantuin aku buat identifikasi kata-kata yang mungkin sulit diucapin kaya 'retention', 'democratize'"
VOC	Vocabulary	Student requests synonyms, word variations, or lexical enrichment to avoid repetition.	"Terlalu sering ngegun- ain kata 'use' sama 'tool'. Bisa kasih beberapa persamaan kata?"

Table 2. Student Interaction Sequences and Dominant Codes

Student	Interaction Sequence	Total Prompts	Dominant Code(s)
S1	GEN → GEN → SIM → EXP → PRAC → PRAC → REV → VOC → PRON	9	GEN, PRAC
S2	EXP → GEN → EXP → GEN → GEN →	7	GEN, EXP

	REV → SIM		
S3	GEN → EXP → GEN → GEN → GEN → REV → SIM → PRON	8	GEN
S4	GEN → SIM → EXP → EXP → EXP	5	EXP
S5	GEN → REV → REV → SIM → REV → PRON	6	REV

C.RESULTS AND DISCUSSION

Generate (GEN): AI as the Primary Author

The Generate (GEN) category refers to cases where students ask Gemini AI to generate text, arguments, or speeches completely from scratch. This appears as an initial interaction strategy for four of the five participants (S1, S2, S3, and S4), with S3 showing the highest concentration, using GEN four times consecutively out of a total of eight interactions. This pattern reflects what is described by Kasneci et al. (2023) as the first-generation trend among novice AI users: due to limited confidence in producing formal academic English, students tend to rely on AI to generate complete

content rather than using it as a support for their own language production.

A closer analysis of the S3 interaction log illustrates this trend. After receiving the initial set of arguments from Gemini, S3 was asked: *"Tolong bantu saya membuat tesis dan outline Analytical Exposition Text"*, followed by *"Tolong buat beberapa argumen yang mendukung penggunaan AI"*, and subsequently *"Bantu saya membuat draf pidato"*. It appears that AI primarily serves as a content creator rather than a learning support tool, as seen by the series of recurrent requests that are generated based on prior AI outputs rather than students' own ideas.

This finding is consistent with Han et al. (2024), who identified full generation as the dominant pattern in student-AI interactions in the context of EFL writing. However, the current data also show significant variation. For example, S2 initiated the interaction not with GEN but with EXP *"Gemini bantuin aku dong ... bantu aku kasih 3 argumen kuat"*, which represents a hybrid function that combines annotation and content creation. The subsequent switches between EXP and GEN in S2's interaction sequence

indicate that content creation is accompanied by conceptual engagement rather than entirely replacing it.

From a pedagogical perspective, this difference is very important. As proposed by Osawa (2025), exposure to model texts can serve as an effective scaffold when learners interact with them analytically. Therefore, the main issue is whether GEN is used to support understanding or merely to bypass the learning process.

Concern about the predominance of GEN interactions among participants have been extensively examined in the literature on AI-assisted learning. Students may lose out on chances to improve their language and cognitive abilities if they are given AI-generated content without critical analysis (Seo, 2024). These findings suggest that instructional design should include tasks that require students to analyze, evaluate, and revise AI-generated content, rather than simply reproduce it, to encourage deeper learning.

Revise (REV): Student Autonomy and Self-Initiated Improvement

Instead of requesting AI-generated content, students in the Revise (REV) category submitted their own language production for AI critique. It

was particularly noticeable in S5's sequence, where it made three appearances and, following the initial GEN prompt, formed the dominant manner of engagement. The student's connection with AI changed qualitatively as a result of S5's REV interactions, as S5 positioned themselves as the primary author and Gemini as a responding editorial assistant rather than Gemini as the primary author.

Particularly instructive is the unique character of S5's REV interactions. The student created a unique conclusion, "If we use AI responsibly, we not just learn English faster but we learn it better," and forwarded it to Gemini along with the following request: "*Tolong koreksi grammar nya supaya lebih tepat secara akademis tapi tetap kedengeran natural gitu*". This conversation illustrates the effective use of REV: a high-achieving student comes up with an idea on their own, expresses it in their own words (with the kind of grammatical errors that are natural and common among learners of English as a second language), and then uses AI as a targeted corrective resource, rather than as a substitute that replaces their own thinking. As Crompton et al., (2024) argue, this kind of student autonomy,

maintaining the student as the primary producer while using AI as a responsive editor, is the most educationally productive form of AI-assisted language learning.

S1 participated in REV as well, but in a more self-evaluative register and later in the interaction sequence. S1 independently discovered a style flaw after obtaining and streamlining the AI-generated speech: the text "*terlalu sering ngegunain kata 'use' sama 'tool'*" and sought vocabulary alternatives. This meta-awareness of lexical repetition, recognizing a stylistic problem independently before seeking AI assistance, is a sophisticated self-editing skill that suggests S1 had genuinely read and critically evaluated the text they had received. Seo (2024) identifies this kind of student-initiated self-evaluation as characteristic of high-quality revision-oriented AI interaction and distinguishes it from lower-quality REV, where students merely copy AI suggestions without deliberation.

Importantly, REV interactions position students as active evaluators of language rather than passive recipients of AI-generated output. The cognitive work involved in deciding what

to revise, formulating the revision request precisely, and then evaluating whether the AI's suggestion improves the text constitutes genuine metalinguistic processing that supports long-term language acquisition (Kessler, 2023). These findings suggest that instructional designs encouraging students to draft first and use AI second, rather than generating via AI from the outset, may yield considerably richer learning experiences.

Explain (EXP): Conceptual Grounding and Its Limits

Interactions where students sought conceptual explanation rather than content production were recorded in the Explain (EXP) category. EXP predominated in S4's five-prompt sequence, while S2 likewise demonstrated a strong EXP inclination, alternating between content creation and conceptual probing. The genre structure *"apa itu Analytical Exposition?"*, the role of thesis statements within the genre, and the internal logic of arguments pre-sent in AI-generated texts were just a few of the conceptual areas covered by EXP encounters.

The EXP-dominant pattern observed in S4 is particularly noteworthy. After receiving an AI-generated speech (GEN) and requesting a

shorter version (SIM), S4 asked a series of structural questions about grammar correctness, the definition of key terms, and speaking technique. The closing exchanges in S4's log, *"What are the tips for speaking/giving a speech in English fluently and still paying attention to pronunciation?"* and *"Apakah ada ide lain, sehingga ketika saya berbicara/berpidato sesuai dengan teks yang Anda berikan, itu akan tepat 3 menit?"* suggest a learner who was approaching the task as primarily a performance challenge to be managed technically, rather than a language learning opportunity. The focus on timing and tips, while practically relevant, bypassed the deeper linguistic engagement that speaking preparation might offer.

This finding raises concerns consistent with previous studies by Baidoo Anu and Owusu Ansah (2023): students may feel satisfied with receiving explanations and procedural guidance from AI without testing that understanding through productive language use. In the context of Analytical Exposition speech preparation, a student who understands the genre's structure conceptually but has not practiced producing or revising their own language is unlikely to develop

the flexible, embodied competence needed for confident oral performance. Kessler (2023) makes a similar point in discussing metacognitive regulation: awareness of one's learning process is valuable only when it is connected to active engagement with the target language.

A more productive EXP pattern was evident in S3, who asked Gemini to explain both the genre and the meaning of the AI-generated text: *"Coba jelaskan secara singkat tentang teks eksposisi itu apa dan isi dari teks di atas tentang apa supaya aku paham"*. This reflexive move using EXP to interrogate the content of a previously generated text reflects a metacognitive awareness of the difference between having text and understanding it. However, S3's subsequent return to GEN rather than to REV or PRAC suggests that this awareness did not fully translate into more autonomous language production.

Simplify (SIM): Linguistic Calibration for Oral Delivery

The Simplify (SIM) category refers to instances in which students asked Gemini AI to shorten or simplify existing texts that appeared in four of the five participants' logs (S1, S2, S3,

and S4). Notably, SIM consistently followed one or more GEN interactions, indicating a patterned sequence of AI use. This pattern suggests that students recognized a gap between the complexity of AI-generated language and their own speaking abilities. Through simplification, they attempted to adjust the text to align with their linguistic competence and speaking needs.

S3's interaction provides a clear illustration. After generating a full speech draft, the student requested: *"sederhanakan kalimat-kalimat dalam pidato ini agar lebih mudah dipahami dan diucapkan oleh pelajar bahasa Inggris"*. This request reflects an explicit orientation toward oral delivery, as the student considered not only comprehension but also ease of articulation. Such attention to performative aspects supports Fathi et al.'s (2024) observation that learners preparing for speaking tasks engage with AI differently compared to those focusing on written production, with greater emphasis on clarity and speakability.

Although simplification may appear to be a passive strategy, it also reflects a degree of learner agency. By requesting simpler language, students demonstrate awareness of their own

linguistic limits and make deliberate adjustments to ensure that the output remains within their control. This distinguishes them from learners who adopt complex AI-generated text without modification. As Crompton et al., (2024) note, one of the key affordances of AI in language learning is its ability to adapt linguistic complexity to learner needs. The SIM interactions observed in this study illustrate how students actively utilize this affordance to bridge the gap between AI-generated content and their own communicative competence.

Practice (PRAC): AI as a Conversational Speaking Partner

The Practice (PRAC) category involved students engaging with AI in real-time conversational exchanges, producing their own language output rather than simply requesting text, which was observed exclusively in S1's interaction log. This student explicitly invited Gemini to serve as a practice partner: "*Oke, apakah kamu bisa membantu aku untuk menjadi partner berlatih?*". When Gemini accepted and posed a challenging question, "You mentioned that AI can reduce language anxiety. But don't you think that speaking with a robot is very

different from speaking with a real person?" S1 produced an original English response: "I think speaking with AI is different from speaking with a real person. However, AI can still help students practice without feeling nervous. It gives them a chance to improve their confidence. So, even though it is different, AI is still useful for learning."

This exchange represents the most sophisticated form of AI interaction documented in the dataset. S1 was not merely receiving language from the AI; instead, the student actively produced language in response to the AI's prompts. The response, while linguistically simple, reflects genuine communicative intent: S1 acknowledged the challenge in the question, conceded a valid point, and then reasserted their original argument, a pragmatic structure characteristic of effective spoken argumentation. Gemini's follow-up feedback, "That is a very solid answer!" and elaboration served to further scaffold S1's performance awareness.

This pattern of use closely approximates what Wang et al. (2024) identify as the most valuable AI affordance for EFL speaking development: a low-stakes conversational environment in which learners can take

linguistic risks without the social threat of negative evaluation. By engaging in genuine conversational exchange rather than passive text reception, S1 was doing exactly what Qiao and Zhao (2023) found to be characteristic of high-achieving students in AI-assisted speaking contexts: using the AI to generate comprehensible input and compel comprehensible output in an iterative loop.

The absence of PRAC interactions in the other four students' logs is a significant finding in itself. It suggests that the majority of students conceptualize AI primarily as a text-generation resource rather than as a conversational partner for speaking practice, a conceptual limitation that is likely to reduce the learning benefit they derive from AI tools. Ballıdağ & Selami Aydın (2025) found similar patterns, noting that EFL learners at the secondary level typically require explicit modeling and task scaffolding before they will engage AI in interactive speaking practice rather than passive content consumption. The implication for pedagogy is clear: teachers who wish students to use AI for speaking practice must explicitly design tasks that require conversational interaction, not merely content generation.

Pronunciation (PRON): Phonological Readiness for Performance

Pronunciation (PRON) interactions appeared in three students' logs (S1, S3, and S5), consistently as one of the final interactions in each sequence. This positioning is meaningful: PRON interactions emerged after the primary content of the speech had been established, suggesting that students were thinking forward toward the performance itself rather than backward toward the composition process. In all three cases, students requested phonetic guidance for academic vocabulary they anticipated difficulty with during oral delivery.

S1's PRON request was characteristically the most specific and analytically motivated. After self-identifying lexical repetition in the VOC interaction, S1 then asked Gemini for pronunciation guidance on words including retention, democratize, acquisition, and environment. S3 and S5 made a joint PRON request for the same set of words retention, democratize, reliance, responsibly, utilize, leverage, and acquisition suggesting these terms had been identified as phonological challenges through self-monitoring during rehearsal preparation.

This student-initiated phonological awareness is pedagogically significant. In large EFL classrooms, individualized pronunciation coaching is rarely available, and students often avoid using vocabulary they cannot confidently pronounce rather than seeking guidance. The PRON interactions in this study show students actively filling that gap using AI, use case that Kazu & Kuvvetli (2023) specifically investigate, finding that AI-supported pronunciation modeling significantly benefits students preparing for formal oral production. Crompton et al., (2024) similarly identify speech-to-text and phonetic guidance as among the most underutilized but high-potential affordances of AI in EFL speaking instruction.

Vocabulary (VOC): Metacognitive Lexical Self-Monitoring

The Vocabulary (VOC) category appeared only once across all five logs in S1's eighth interaction, but the quality of that interaction is worth detailed examination. After receiving simplified speech content and engaging in conversational practice, S1 independently identified a stylistic problem: *"pas aku baca ulang, pidatonya. Ternyata terlalu sering ngegunain kata 'use' sama 'tool'"* This observation was

entirely self-generated Gemini had not flagged the issue and prompted a targeted request for synonyms and register-differentiated alternatives.

The response from Gemini provided a richly contextual vocabulary lesson: distinguishing formal alternatives (utilize, leverage, employ, implement) from more accessible options, and explaining the pragmatic and register differences between them, for example, noting that leverage is particularly effective in technology contexts, while engage with is better suited for describing chatbot interaction. S1's follow-up prompt requested application of these new terms to specific sentences, completing what amounts to a complete applied vocabulary development cycle: identification of a lexical problem, targeted input, and production practice.

This interaction exemplifies the type of metacognitive, self-initiated vocabulary development that Kessler (2023) associates with the most durable lexical acquisition. The key distinction from passive vocabulary reception, such as consulting a dictionary, is that S1 identified the problem through critical rereading, formulated a specific and contextually grounded request, and evaluated the AI's suggestions in

terms of their fit with the speech's register and topic. This kind of active vocabulary engagement is qualitatively different from merely receiving a word list, and reflects a level of linguistic awareness that surpasses what is typically observed in secondary-level EFL learners.

D. Conclusion

This study investigated how Indonesian high school students utilized Gemini AI during the preparation of Analytical Exposition speeches in English. The findings revealed that Generate (GEN) was the most dominant interaction pattern, indicating that students primarily used as a content-generation tool.

However, students who engaged in revision, conversational practice, pronunciation support, and vocabulary development demonstrated stronger learner agency and more active linguistic engagement. Notably, only one student used AI as a conversational speaking partner, suggesting that most students still perceive AI mainly as a tool for generating text rather than supporting interactive speaking practice. The study highlights that the educational value of AI depends largely on

how students interact with it. Therefore, teachers should provide pedagogical guidance that encourages students to critically revise AI-generated content, practice speaking interactively, and engage more actively in the learning process. This study was limited by the small number of participants and reliance on interaction logs without speaking performance assessment. Future research involving larger participant groups and mixed-method approaches may provide deeper understanding of the long-term impact of AI-assisted speaking preparation in EFL contexts.

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