AI's Impact On Students' Oral Presentation Skills: Indonesian Lecturers' Pedagogical Responses

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Abstract
This study investigates lecturers' pedagogical responses to student challenges in processing information for oral presentation skills in the era of artificial intelligence. Employing a qualitative case study design with thematic analysis, the study involved eight lecturers and 62 students from three private universities in Cimahi, Indonesia. Data were collected through in-depth interviews and Focus Group Discussions (FGDs) and analysed using Braun and Clarke's six-phase thematic framework. The findings reveal that 1) all lecturer participants (100%) reported an erosion of students' oral communication skills, manifested in a gap between high-quality visual artifacts and weak verbal performance, deficits in spontaneous responses, and degradation of non-verbal communication, indicating the role of artificial intelligence as a cognitive crutch, 2) lecturers responded to these challenges by diversifying pedagogical strategies, particularly through explicit AI usage policies (100%), intensified oral validation via spontaneous question-and-answer sessions (87.5%), and process-oriented assessment (75%), and 3) student responses were ambivalent, with the majority (77.4%) perceiving the new assessment approaches as fairer and more transparent, while a minority (22.6%) expressed resistance related to performance anxiety. These findings suggest that the most effective response to AI-related challenges is not the prohibition of technology, but a pedagogical redesign that prioritizes process validation, human interaction, and assessment security to maintain rigorous academic standards in Indonesian higher education.

Keywords: artificial intelligence, cognitive crutch, Indonesian higher education, oral presentation skills, process-oriented assessment

Introduction

In the context of learning in higher education, the integration of deep learning (or known as *pembelajaran mendalam*) is currently a pedagogical priority for developing students' critical thinking and conceptual understanding in a sustainable manner (Santiani, 2025). Within the framework of the Kurikulum Merdeka, deep learning is defined as a learning process that places students as active subjects through learning experiences that are 1) mindful, in which students understand the objectives, processes, and relevance of learning to the scientific context and real life; 2) meaningful learning, where students build knowledge through concept linking, reflection, and authentic problem solving; and 3) joyful learning, which is learning that fosters intrinsic motivation, self-confidence, and positive emotional engagement. These pillars guide lecturers to adopt active, collaborative, and reflective learning approaches, such as project-based learning, problem-based learning, structured discussions, and performative assignments that require higher-order thinking. One of the learning modes relied upon by lecturers to facilitate student-centred learning is oral

presentations (Humaira et al., 2022; Mulyo et al., 2019). Through oral presentations, active learning can be facilitated because students not only reproduce knowledge but also construct, organise, and articulate ideas critically in front of an academic audience. This activity requires intensive intellectual engagement, including the ability to reason, synthesise information, and reflect on feedback (Zhu & Carless, 2018), thus aligning with the principles of deep learning emphasised in the Kurikulum Merdeka. Oral presentations are not only mechanisms for information delivery but also require students to demonstrate conceptual mastery, spontaneous reasoning, and communicative competence in real-time interaction. These multidimensional demands make oral presentation performance particularly sensitive to changes in students' preparation practices (Bridgstock & Tippett, 2019). However, mastery of these skills is influenced by many factors, ranging from psychological readiness to the quality of reference sources studied, which have now shifted dramatically from printed books to generative artificial intelligence (AI).

In Indonesia, internet penetration among Generation Z (aged 12–27) has reached a significant figure of 87.02% (*Asosiasi Penyelenggara Jasa Internet Indonesia* [APJII], 2024). This data indicates that accessibility to digital information has reached an almost universal level. Unfortunately, this ease of access has created a new paradox in the intellectual development of students. The era of artificial intelligence has changed the landscape of higher education and presented both opportunities and transformative challenges in pedagogical practices (Efendi et al., 2025). The rapid development of AI technology has changed the dynamics of academic presentations in the classroom. Initially, this method was intended to help students understand the material in depth and synthesise scientific findings. Now, the abundance of digital resources has caused students to experience information overload, which hinders the validation and synthesis process (Roetzel & Fehrenbacher, 2019). As a result, generative AI platforms (Large Language Models/LLMs in particular) have become a shortcut to producing presentation outputs instantly. The impact of this phenomenon is the creation of over-reliance or excessive dependence that is counterproductive to the development of authentic speaking skills. Speaking in class forums, which should ideally be a medium for practising critical thinking, has now been reduced to reading scripts generated by algorithms. This is in line with the findings of Cotton et al. (2024) that uncontrolled use of digital tools can reduce students' cognitive engagement. Findings by Kuswiyanti et al. (2023) also show a consistent pattern where students tend to seek instant solutions from generative sources without going through the necessary critical thinking process.

This challenge is even more crucial in Indonesian language education study programmes, where mastery of oral language skills is a core prophetic competency that must be mastered. Based on a preliminary study conducted by researchers (Primandhika et al., 2025), the phenomenon observed in the three sample campuses shows the following patterns: 1) language education students show excessive dependence on screens or written guides during presentations and 2) there are indications of a lack of internalisation of the material presented. Preliminary observations conducted in three private universities in Cimahi indicate noticeable shifts in students' oral presentation performance, particularly in their ability to elaborate beyond prepared slides and respond to spontaneous questioning.

In response to this challenge, academic literature proposes pedagogical adaptation strategies in the AI era, such as utilising AI as a research assistant and learning scaffolding (Chan & Hu, 2023). However, without clear pedagogical control or policy, this potential is difficult to realise. Although the literature provides a conceptual framework, there is still a knowledge gap regarding how these strategies are implemented in practice by lecturers in the field, particularly in the cultural context of Indonesian higher education. Therefore, this study aims to systematically investigate how lecturers in Indonesian higher education perceive and respond to the impact of generative

artificial intelligence on students' oral presentation skills. Specifically, this study seeks to (1) examine lecturers' perceptions of changes in students' oral communication performance, (2) identify the pedagogical strategies implemented to address AI-related challenges, and (3) explore students' responses toward these pedagogical adaptations. By doing so, this study contributes empirical evidence to ongoing debates on assessment security, cognitive offloading, and pedagogical redesign in the AI-driven era.

Literature Review

This literature review establishes the theoretical and empirical foundation for examining how generative artificial intelligence reshapes students' oral presentation practices and how lecturers respond pedagogically within Indonesian higher education. Rather than treating AI merely as a technological tool, this review positions it as a cognitive and pedagogical phenomenon that intersects with three interrelated domains: (1) the multidimensional construct of oral presentation skills, (2) cognitive offloading and generative AI in academic work, and (3) pedagogical and assessment transformation in AI-mediated classrooms.

By synthesizing these strands of scholarship, this section clarifies the conceptual relationships underpinning the study and highlights the empirical gap concerning how lecturers perceive skill erosion, implement adaptive strategies, and how students respond to these transformations in real classroom contexts.

Oral presentation skills

Oral presentation skills are widely recognized as a core academic competency in higher education, particularly within student-centered and performance-based learning environments. Presentations require students not only to transmit information but to construct arguments, synthesize multiple sources, and articulate ideas coherently before an academic audience. From a cognitive perspective, such tasks activate higher-order thinking processes, including analysis, evaluation, and synthesis, as outlined in Bloom's taxonomy (Bloom, 1956). In classroom contexts, presentation-based learning has been shown to strengthen dialogic knowledge construction and feedback literacy, as students must clarify and negotiate meaning during interaction (Kulsum et al., 2025). Similarly, Zare and Othman (2015) argue that structured oral activities enhance critical thinking by shifting students from passive recipients of information to active discussants.

Beyond cognitive demands, effective oral presentation also involves performative and communicative dimensions. Competent presenters must demonstrate verbal fluency, logical organization, and rhetorical coherence, while simultaneously managing non-verbal elements such as eye contact, posture, gesture, and vocal modulation (Maysarah et al., 2025). In Indonesian classroom settings, speaking development is closely tied to patterns of interaction and turn-taking, which shape students' confidence and responsiveness in academic discourse (Rahmawati and Mujianto, 2023). Research further indicates that structured presentation practice can improve learners' communicative competence and reduce speaking anxiety when supported by reflective scaffolding (Goh, 2017; Humaira et al., 2022). These multidimensional components explain why oral communication skills are consistently associated with graduate employability and professional readiness (Bridgstock and Tippett, 2019).

However, the pedagogical effectiveness of oral presentation depends fundamentally on students' internalization of knowledge. Deep engagement with content enables learners to respond spontaneously to questions, defend arguments, and adapt explanations in real time. When

presentations become overly script-dependent or surface-level reproductions, their cognitive value diminishes. Research on classroom discourse suggests that authentic speaking practice fosters metacognitive awareness and conceptual consolidation, whereas rote delivery limits deeper learning outcomes (Mulyo et al., 2019; Sari et al., 2025). Therefore, oral presentation skills must be understood as an integrated construct involving cognitive processing, communicative competence, and performative authenticity. This integrated perspective provides a necessary foundation for examining how emerging digital technologies may reshape academic speaking practices in contemporary higher education.

AI and cognitive offloading

The rapid expansion of generative artificial intelligence (AI), particularly large language models (LLMs), has fundamentally reshaped how students search for, process, and produce academic content. In higher education contexts, AI tools are increasingly used for idea generation, summarization, drafting, and even argument construction. While such technologies offer efficiency and accessibility, they also introduce new cognitive dynamics. Risko and Gilbert (2016) conceptualize this phenomenon as cognitive offloading, referring to the delegation of internal cognitive processes to external tools. In AI-mediated learning environments, this delegation may extend beyond memory support to higher-order functions such as synthesis and argument development. Recent discussions further describe this pattern as "cognitive atrophy," where overreliance on digital systems gradually weakens independent analytical engagement (Lodge et al., 2023).

Empirical studies suggest that the pedagogical impact of AI depends heavily on how it is positioned within learning tasks. When used as a scaffold to support reflection or idea exploration, AI can enhance metacognitive awareness and efficiency (Chan and Hu, 2023). However, when AI becomes a substitute rather than a support mechanism, students may experience what has been described as an "illusion of competence," where polished outputs mask shallow understanding. Cotton et al. (2024) note that reduced cognitive engagement often accompanies increased automation, particularly when learners rely on externally generated text without engaging in evaluative processing. Similarly, information overload in digital environments can impair decision-making and conceptual integration if not accompanied by critical filtering strategies (Roetzel and Fehrenbacher, 2019).

Within presentation-based learning, the implications of cognitive offloading become especially visible. Oral performance requires real-time reasoning, spontaneous responses, and conceptual flexibility, skills that cannot be outsourced to algorithmic systems during live academic interaction. When students rely heavily on AI-generated scripts during preparation, the disconnection between visual artifacts and verbal articulation may widen. Mollick and Mollick (2023) argue that AI should function as a cognitive partner that stimulates questioning and refinement rather than replacing the thinking process itself. Therefore, understanding AI through the lens of cognitive offloading provides a critical analytical framework for examining how generative systems may both support and undermine authentic oral academic performance.

Pedagogical response to AI-related challenges in higher education

The rapid integration of generative AI into academic tasks has compelled educators to reconsider instructional design and classroom assessment practices. Rather than positioning AI solely as a threat to academic integrity, emerging scholarship emphasizes the importance of

pedagogical adaptation. Educators are encouraged to shift from product-oriented evaluation toward process validation, dialogic interaction, and reflective accountability (Bearman and Luckin, 2020). In this view, the central question is not whether students use AI, but how learning environments can be structured to ensure that cognitive engagement remains authentic and assessable.

Recent discussions highlight the importance of explicit AI policies and digital ethics literacy within higher education. Mollick and Mollick (2023) argue that AI should be framed as a cognitive collaborator that supports ideation and revision rather than as a substitute for reasoning. Similarly, Chan and Hu (2023) report that students' perceptions of AI use become more constructive when educators provide clear boundaries and expectations. Without such guidance, ambiguity surrounding AI usage may encourage superficial compliance rather than meaningful learning engagement.

Pedagogical redesign in AI-mediated classrooms increasingly emphasizes oral validation, spontaneous questioning, and iterative drafting processes as mechanisms for ensuring conceptual internalization. Dawson (2020) notes that assessment security in digital environments requires moving beyond traditional plagiarism detection toward more authentic, interaction-based evaluation. In presentation-based courses, this may include limiting slide dependency, increase question-and-answer weightings, or require process documentation to trace idea development. These adaptive strategies reflect a broader shift from controlling technology use to restructuring learning tasks in ways that preserve cognitive accountability and human interaction in the age of artificial intelligence.

Assessment transformation

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Student responses

Changes in instructional and assessment design inevitably shape students' learning behaviours, perceptions, and emotional responses. When lecturers shift from product-oriented evaluation toward process validation and oral verification, students are required to adapt not only cognitively but also affectively. Research on assessment reform indicates that students' perceptions of fairness and clarity significantly influence their engagement and academic motivation (Pat-El et al., 2024). When assessment expectations are transparent and aligned with learning objectives, students are more likely to interpret increased rigor as supportive rather than punitive.

In AI-mediated classrooms, student responses are particularly complex. Some learners perceive generative AI as a legitimate academic support tool that enhances efficiency and idea exploration (Borger et al., 2023; Khalifa and Albadawy, 2024). Others experience uncertainty regarding acceptable boundaries of use, especially when institutional policies are unclear. Ambiguity in expectations may lead to strategic compliance rather than authentic engagement, as students attempt to navigate evolving norms surrounding AI integration. Wang et al. (2020) emphasize that explicit guidance on AI usage reduces confusion and promotes responsible learning practices.

Furthermore, when assessment increasingly emphasizes spontaneous oral defence and reduced script dependency, student anxiety may intensify, particularly among those with limited confidence in public speaking. Studies on speaking performance consistently show that anxiety and self-efficacy play significant roles in shaping oral achievement outcomes (Ma, 2022; Maysarah et al., 2025). However, structured scaffolding, iterative rehearsal opportunities, and dialogic feedback can mitigate anxiety and strengthen conceptual ownership. Thus, student responses to AI-related pedagogical transformations are not uniform; they are mediated by clarity of expectations, perceived fairness, prior digital habits, and individual confidence in oral performance contexts.

Methodology

Research design and approach of the study

This study employed a qualitative research design using a case study approach (Yin, 2018) to investigate lecturers' pedagogical responses to AI-related challenges in students' oral presentation performance. A qualitative case study was selected because the phenomenon under investigation is context-bound and cannot be meaningfully separated from the real instructional environments in which it occurs. Besides, this study also conceptualizes the case as a bounded system comprising presentation-based courses within selected private universities in Indonesia, where generative AI has become increasingly integrated into students' academic preparation practices. This approach enabled an in-depth exploration of participants' lived experiences, perceptions, and adaptive strategies within their natural teaching contexts.

Research site and participants

This study was conducted at three private universities located in Cimahi, West Java, Indonesia. These institutions were selected purposively because they offer presentation-based courses in which oral communication constitutes a significant component of assessment, and because lecturers reported increased student use of generative artificial intelligence tools in

academic preparation. Data were collected over a three-month period, from September to November 2025. This timeframe allowed sufficient observation of presentation cycles, mid-semester assessments, and follow-up discussions regarding pedagogical adjustments.

Participants were selected using purposive sampling to ensure that those involved had direct experience with oral presentation assessment in the AI-mediated learning context. A total of eight lecturers (n = 8) participated in this study. Inclusion criteria required that lecturers 1) Have at least five years of teaching experience in higher education 2) Teach courses involving graded oral presentations, speaking skills or general and academic communication 3) Have observed noticeable changes in students' preparation patterns since the rise of generative AI tools.

The eight lecturer participants consisted of five females and three males, ranging in age from 32 to 54 years. Their teaching experience varied between 6 and 18 years, with an average of 11.4 years, indicating substantial professional exposure to classroom assessment practices. In terms of academic rank, two participants held the position of Assistant Professor, four were Lecturers, and two were Senior Lecturers. Regarding disciplinary background, five lecturers were affiliated with Indonesian Language Education programs, while the remaining three represented non-language disciplines, namely Communication Studies, Management, and Islamic Education. This disciplinary variation was intentionally incorporated to capture potential differences between programs in which oral language proficiency constitutes a core academic competency and those in which presentations primarily function as general academic assessment tools rather than specialized linguistic training.

A total of sixty-two students (n = 62) participated in the Focus Group Discussions (FGDs). These participants were drawn from seven different classes taught by the interviewed lecturers. The student cohort consisted of 38 females and 24 males, ranging in age from 18 to 22 years. In terms of academic standing, 21 were first-year students, 24 were in their second year, and 17 were third-year students. Regarding disciplinary background, 41 students were enrolled in Indonesian Language Education programs, while 21 came from non-language programs. Students were selected based on their active enrolment in courses that required graded oral presentations during the data collection period, ensuring that all participants had direct experience with presentation-based assessment in the AI-mediated learning context.

Data collection

All interviews and FGDs were conducted in *Bahasa Indonesia,* as it is the primary instructional and communication language in the participating institutions. The use of *Bahasa Indonesia* ensured that participants could express their experiences and perceptions naturally without linguistic constraint. For reporting purposes, selected excerpts were translated into English by the first researcher. To minimise translation bias, translated excerpts were reviewed by the second researcher, and semantic equivalence was prioritised over literal translation to preserve contextual meaning. The primary data source consisted of semi-structured interviews designed to explore lecturers' experiences and pedagogical responses to AI-related changes in oral presentation practices.

The selection of lecturers with a minimum of five years of teaching experience enabled comparative reflection on instructional shifts from the pre-AI period to the current AI-mediated learning environment (Tisdell et al., 2025). The interview protocol was structured around four analytical dimensions: (1) the evolution of students' presentation skills over the past three to five years, (2) identification of communication challenges and the perceived influence of generative AI tools, (3) pedagogical adaptation strategies, including assessment redesign and AI ethics

discussions, and (4) evaluation of strategy effectiveness and institutional support needs. The interview framework is summarized in Table 1.

Table 1. *Interview guide framework*

Focus	Dimension Indicators	Key Questions
Skill Evolution	Shift in preparation patterns and performance quality (3-5 Year Temporal Comparison)	How do you compare the quality of students' presentations today with that of the era before the rise of AI (3-5 years ago)?
		What specific changes have you observed in the way students prepare their presentation materials?
Identifying Challenges	Specific Communication Barriers and the Influence of *Generative AI*	What specific challenges most frequently arise during student presentations (e.g., reliance on text, blanking out during Q and A)?
		To what extent do you see the influence of LLM tools (such as ChatGPT, Perplexity) in the material presented by students?
Pedagogical Strategies	Adaptation of assessment methods and Digital ethics approach	What tangible changes have you implemented in the assessment methods for oral presentations?
		How do you discuss the ethical boundaries of AI use with students in class?
Evaluation and Reflection	Effectiveness of strategies and Perceptions of student responses	How effective has the new strategy been in mitigating students' reliance on AI?
		What institutional support do you need to optimise teaching in this era?

To complement lecturer perspectives, Focus Group Discussions were conducted with students from the participating classes. The FGDs aimed to validate and triangulate findings by examining how students perceived the revised assessment strategies and AI usage boundaries implemented by their lecturers.

The FGD protocol was structured around three main thematic domains: (1) students' experiences in preparing AI-assisted presentations, including patterns of AI usage and perceived benefits or limitations; (2) perceptions of revised assessment strategies, particularly process-oriented evaluation and spontaneous questioning; and (3) emotional and motivational responses toward increased oral validation and reduced script dependency. Open-ended guiding questions were used to encourage interaction and peer reflection rather than individual reporting. Each session lasted between 20 and 45 minutes, was audio-recorded, and was accompanied by field notetaking with participants' consent.

Data analysis

All interview and FGD recordings were transcribed verbatim prior to analysis. The data were analysed using Braun and Clarke's (2006) six-phase thematic analysis framework to systematically identify patterns across lecturer and student responses, following these phases:
1) Data familiarisation was conducted by repeatedly reading the transcripts while noting preliminary analytic impressions.

2) Initial codes were generated manually by identifying meaningful segments of text related to changes in presentation practices, AI usage patterns, pedagogical adaptations, and student responses. Coding was conducted line-by-line using NVivo's node system to ensure systematic categorization. Codes were applied consistently across lecturer and student datasets to enable cross-group comparison.

3) Codes were grouped into potential themes by examining conceptual similarities and relationships between categories.

4) Themes were reviewed by comparing them against the full dataset to ensure internal coherence and external distinction. Codes that overlapped conceptually were merged, and weak or redundant themes were eliminated.

5) Themes were defined and refined by clearly specifying their central organizing concepts. Each theme was then aligned with the study's research objectives to ensure analytical consistency.

6) In the final phase, thematic findings were reported using representative verbatim quotations from participants to illustrate interpretative claims.

The primary coding process was conducted by the first researcher. To enhance analytic rigor, a second researcher independently coded approximately 25% of the transcripts. Inter-coder discrepancies were discussed through iterative review sessions until consensus was reached. Rather than calculating statistical inter-rater reliability coefficients, consensus agreement was prioritized to maintain interpretative depth consistent with qualitative research standards.

Although this study is primarily qualitative, descriptive frequency counts were used to indicate the prevalence of themes across participants. After coding was finalized in NVivo, coded participant counts were exported into CSV format. These data were then processed using Python (Google Colab environment) to calculate simple descriptive statistics. Percentages were computed using the following formula:

$$\frac{Number\ of\ participants\ expressing\ a\ theme}{Total\ participants\ in\ the\ group} \times 100$$

Python was used solely for frequency tabulation and percentage calculation, not for inferential statistical testing. These descriptive values are presented to indicate distribution patterns rather than statistical generalisation.

Trustworthiness

To ensure trustworthiness, the study followed Guba and Lincoln's (1994) criteria. Credibility was strengthened through source triangulation between lecturer interviews and student FGDs, as well as member checking. Member checking was conducted with four lecturer participants and two student representatives who agreed to review preliminary thematic summaries. Rather than providing full transcripts, participants were presented with condensed thematic interpretations and representative excerpts. They were invited to confirm whether the interpretations accurately reflected their experiences. Minor clarifications were suggested regarding the framing of AI usage as a "substitution" versus a "support" tool, which led to refinement of theme definitions but did not substantially alter the overall findings. This process enhanced interpretive accuracy and reduced the risk of researcher bias. Transferability was supported through thick description of the research context. Dependability was addressed by maintaining an audit trail documenting coding decisions and theme development. Confirmability was ensured by reflexive memo writing throughout the analysis process.

Ethical considerations

Ethical considerations in this study were addressed through direct permission and informed consent procedures. Prior to data collection, the researcher obtained formal permission from the participating lecturers and institutional representatives at the selected universities. All lecturer and student participants were informed about the purpose of the study, the voluntary nature of their participation, and their right to withdraw at any time without academic consequences. Consent was obtained verbally before interviews and Focus Group Discussions were conducted.

To ensure confidentiality, lecturer participants were assigned codes (SD1–SD8) and student participants were coded (SM1–SM62). No institutional names or identifying information are disclosed in this manuscript. All audio recordings and transcripts were used solely for research purposes and stored securely by the researcher.

Findings

This section presents the findings in relation to the study's research objectives. The results illustrate lecturers' perceptions of changes in students' oral presentation performance, the pedagogical strategies implemented in response to AI-related challenges, and students' responses toward these instructional adaptations. The findings are organized according to the three research questions guiding this study. Within each research question, thematic categories are presented to illustrate patterns emerging from lecturer interviews and student FGDs.

Lecturers' perceptions of changes in students' oral communication performance

Erosion of oral communication skills and dependence on AI artefacts (KD), all participating lecturers consistently reported a significant shift in the quality of students' oral communication skills over the past 3-5 years, particularly since the rise of global access to generative artificial intelligence/large language models (LLM) platforms. This erosion phenomenon manifests itself in three main thematic codes: KD01 (Language Gap and Lack of Mastery of Material), KD02 (Difficulty Responding to Spontaneous Questions), and KD03 (Degradation of Non-Verbal Communication).

Table 2. *Matrix of AI dependency manifestations and skill erosion (KD)*

Problem Dimension	Observation Indicators	Data Quotes	Cognitive Impact Analysis
KD01: Language Gap	Disparity in quality (*sophisticated slides*) (formal language, complex structure) vs. stammering and informal speech	*"During presentations, their eyes never leave their notes or the screen. Presentations use scripts rather than delivery that resonates with the audience, and the framework is often generated directly by AI... The result is academic language that is lofty but stiff, not natural like the way students speak. So there is a language gap."* (SD-5) *"Many students present well-designed slides, but when presenting, they just read the slide content*	*Illusion of Competence* Students feel they master the material because of high-quality visual products, even though there is no internalisation of concepts (Risko and Gilbert, 2016)

		verbatim and seem to lack a deep understanding of the material." (SD-2)	
KD02: Deficit in Spontaneous Response	Inability to answer audience questions without looking at the screen; long pauses to search for answers online	*"When lecturers or peers ask spontaneous questions, some students seem to have difficulty answering because they do not fully understand the content they are presenting."* (SD-7) *"The use of overly scientific terminology and the need for students to delve deeper to understand takes time."* (SD-8)	Failure of *Higher Order Thinking Skills* (HOTS): Lack of deep understanding hinders the transfer of dialogic knowledge (Bloom, 1956)
KD03: Non-Verbal Degradation	Minimal eye contact, closed posture, fixated on the screen	*"Students often get confused and their answers are not directly on point."* (SD-5) *"Delivering the material to many people, because sometimes I feel... very nervous, and when I'm nervous, I immediately forget the material I understand."* (SM-21)	Presentations shift from audience dialogue to monologue readings (Ghufron and Rosyida, 2018)

Analysis of interview and FGD data presented in Table 2 indicates a consistent pattern of change in students' oral presentation performance. Lecturers observed a noticeable disparity between the sophistication of AI-assisted presentation slides and students' verbal articulation during delivery. While visual materials appeared well-structured and academically formal, students frequently relied on scripted reading and demonstrated limited ability to elaborate beyond slide content.

The language gap (KD01) was reflected in hesitant speech, dependence on notes or screens, and difficulty explaining complex terminology in students' own words. Several lecturers noted that students often reproduced formal language without fully demonstrating conceptual mastery during live presentation.

In relation to spontaneous response (KD02), students showed difficulty answering unanticipated questions during discussion sessions. Lecturers reported extended pauses, reliance on slides for clarification, and reduced flexibility in responding to follow-up inquiries. These patterns suggest challenges in sustaining real-time academic dialogue.

Regarding non-verbal communication (KD03), lecturers described minimal eye contact, rigid posture, and visible nervousness during presentations. Students also acknowledged experiencing anxiety that affected their fluency and clarity. Overall, the findings illustrate a shift in presentation dynamics, where structured visual preparation appears stronger than live verbal engagement.

The phenomenon of AI as a cognitive crutch in oral performance (AK), all lecturer participants described artificial intelligence as functioning not merely as a supportive tool, but as what they perceived to be a cognitive crutch that weakens students' independent thinking processes. According to the lecturers, this dependency occurs not only at the stage of synthesizing information, but from the earliest stages of searching for and selecting academic sources. In many cases, AI was described as becoming both the starting point and the endpoint of students' knowledge acquisition. This theme is categorized into three interrelated codes: AK01 (Substitution of the Thinking Process), AK02 (Disconnection between Material and Understanding), and AK03 (Student Perspective: Fallback Option).

Several lecturers emphasized that students increasingly replace initial analytical effort with immediate AI consultation. As stated by SD-4: *"Some students, when looking for answers, immediately rely on this rather than thinking first."* Similarly, SD-8 stressed the perceived misconception surrounding

AI use: *emphasises the normative position: "This is a misconception; AI should be a support tool, not a substitute for thinking."* SD-3 further elaborated on the dual nature of AI use:"*Processes that used to take a long time are now more efficient... However, there is a downside: some students become less critical and passive, merely copying results from AI without conducting in-depth analysis.*"

Lecturers also highlighted concerns regarding students' diminishing depth of conceptual processing. SD-7 noted: "*There is a possibility that students will no longer process information independently, thereby reducing their critical thinking skills. Presentations also risk appearing to merely read the generated results without deep understanding.*" This pattern aligns with earlier observations in the KD theme, where students demonstrated difficulty elaborating beyond AI-generated content during live presentations. Data from student FGDs further illustrate how AI is positioned in their preparation practices. Some students described AI as a secondary step after initial searching efforts: *"First, I try to find the material... if I can't find it, I turn to Gemini AI, asking Gemini to apply it along with the source."* (SM-06); Others acknowledged using AI to simplify complex information: "I usually use AI when I don't understand... to simplify the words." (SM-23). At the same time, some students expressed awareness of appropriate boundaries: "*AI should be used as a learning tool, not to replace thinking skills.*" (SM-24). Across lecturer and student accounts, AI appears to function simultaneously as a facilitator of efficiency and a fallback mechanism when comprehension becomes challenging. These findings indicate a shift in how students initiate, process, and finalize academic preparation for oral presentations.

Pedagogical strategies implemented to address AI-related challenges

Diversification of pedagogical strategies as an adaptive response by lecturers (SP), in response to the identified changes in students' oral presentation performance, lecturers reported implementing various adaptive pedagogical strategies. These strategies were introduced to reduce overreliance on AI-generated materials and to strengthen students' conceptual understanding and oral articulation. The findings reveal four primary strategic patterns, summarized in Table 3.

Table 3. *Typology of lecturers' pedagogical adaptation strategies*

Code	Strategy Category	Frequency	Implementation	Rationalisation
SP01	Process-Oriented Assessment	75	Initial draft assessment (SD-7); Rubric transparency (SD-4)	Monitoring the evolution of students' ideas, reducing instant plagiarism (Dawson, 2020)
SP02	Spontaneous Oral Validation	87.5	Increased weighting of question-and-answer sessions; 3-slide limit (SD-5)	Testing the originality of thoughts that are difficult to detect by AI (Bearman and Luckin, 2020)
SP03	Explicit AI Policy	100	*Self-editing* (SD-1); Open ethics discussion (SD-3)	AI only as *an ideation tool* or idea generator, build critical AI literacy (Mollick and Mollick, 2023)

| SP04 | Improving Practices | Speaking | 62.5 | Text-free practice; More frequent simulations | *Retrieval practice* strengthens long-term memory (Roediger III and Karpicke, 2006) |
| SP05 | Multimodal learning | | 37. | Quizizz (Year 2); Video analysis (Year 1) | Superior human social-emotional intelligence (Bridgstock and Tippett, 2019) |

Analysis of interview data indicates that lecturers no longer rely solely on final presentation performance as the primary basis for assessment. Instead, several participants reported shifting toward process-oriented evaluation by requiring early submission of outlines, annotated drafts, or preparatory notes before the final presentation. Lecturers also introduced oral validation techniques to assess students' real-time understanding. This included follow-up questioning, spontaneous clarification requests, and requiring students to restate key arguments without referring to slides. These adjustments were described as necessary to ensure that students genuinely comprehend the material presented.

Another recurring strategy involved explicitly addressing AI usage in classroom discussions. Rather than prohibiting AI tools, lecturers reported setting boundaries and clarifying expectations regarding responsible use. Students were reminded that AI-generated content should be reviewed, adapted, and understood before being presented.

Finally, lecturers described increasing emphasis on live speaking practice. Some participants encouraged rehearsal sessions, reduced dependence on written scripts, and created interactive presentation formats to promote dialogue rather than monologue delivery. Overall, the findings suggest that lecturers are actively diversifying instructional and assessment approaches to adapt to AI-mediated learning environments. These strategies reflect practical adjustments aimed at restoring balance between digital assistance and independent oral performance.

Students' responses toward pedagogical adaptations

Students' ambivalence towards pedagogical transformation (AM), the findings indicate that students demonstrated mixed reactions toward the pedagogical adjustments implemented by lecturers. While some students perceived the new strategies as beneficial for strengthening understanding and presentation skills, others experienced increased pressure and uncertainty regarding assessment expectations. This ambivalence emerged across Focus Group Discussion data and is summarized in Table 4.

Table 4. *Distribution of student responses to assessment transformation*

Response Category	Percentage (%)	Description of Perception (Quote)	Pedagogical Implications
Positive Appreciation (*Accepted*)	77	*"This method is fairer, as each student is assessed based on their effort and understanding, not just their speaking ability or final results."* (SM-24) *"Students will be more focused in organising their materials and more meticulous from the start."* (SM-29)	Enhancing intrinsic motivation

| Resistance (*Resisted*) | 22.6 | *"It is very unfair for those of us who do the work and get the same grade, when they did not do the work or just used our names." (SM-35)* *"If I get nervous, the material I understand suddenly escapes me."* (S-12) | Emotional scaffolding; Psychological safety (Schoppe-Sullivan et al., 2016) |

The data in Table 4 indicate that students' responses toward the revised pedagogical strategies were predominantly positive, with 77% expressing acceptance of the new assessment approach. Students in this category perceived the method as fairer because evaluation was based on demonstrated understanding and individual effort rather than solely on final performance outcomes. Several participants noted that the revised approach encouraged more structured preparation and greater attentiveness from the initial stages of task development.

However, 22.6% of students expressed resistance toward the changes. Concerns centered on perceived fairness in group dynamics and the pressure associated with spontaneous questioning. Some students felt disadvantaged when grading criteria appeared to expose unequal contribution among peers. Others described experiencing nervousness that interfered with their ability to articulate material they had previously understood.

Overall, the findings reveal a dual pattern of reception. While the majority of students acknowledged the benefits of process-oriented and verification-based assessment, a smaller proportion reported emotional and performance-related challenges in adapting to the new expectations.

Discussion

The findings of this study respond directly to the three research objectives by revealing (1) lecturers' perceptions of erosion in students' oral communication performance, (2) the diversification of pedagogical strategies implemented in response to AI-related challenges, and (3) students' ambivalent reactions toward assessment transformation.

Erosion of Oral Communication Skills

The first finding demonstrates that lecturers consistently perceive a decline in students' oral presentation performance, particularly in the widening gap between high-quality visual artefacts and weakened verbal articulation, reduced spontaneity, and diminished non-verbal engagement. This pattern reflects what Risko and Gilbert (2016) describe as the illusion of competence, where externally polished outputs may conceal shallow conceptual internalisation. In contrast to earlier Indonesian studies emphasizing dialogic speaking practice, turn-taking, and material internalisation (Humaira et al., 2022; Rahmawati and Mujianto, 2023), the present findings suggest a shift toward script-dependent delivery shaped by AI-assisted preparation.

The deficit in spontaneous response aligns with Bloom's taxonomy, which positions analysis and evaluation as higher-order cognitive functions required for answering unanticipated questions. Lecturers' observations of hesitation and screen dependence suggest weakened activation of these processes. Similarly, Cotton et al. (2024) argue that reduced cognitive engagement often accompanies increased automation. The decline in non-verbal communication further contrasts with Maysarah et al. (2025), who emphasize that fluency, eye contact, and performative confidence

are integral to effective speaking. Collectively, these comparisons indicate that AI integration may alter not only preparation practices but also the embodied dimensions of academic discourse.

AI as a cognitive crutch

The second finding deepens this analysis by revealing lecturers' perception of AI as functioning as a cognitive crutch. Rather than serving solely as a scaffold, AI is described as replacing students' independent reasoning from the earliest stages of knowledge construction. This aligns with Risko and Gilbert's (2016) broader framework of cognitive offloading and with Lodge et al. (2023) notion of cognitive atrophy resulting from sustained external dependency.

However, while Chan and Hu (2023) emphasize AI's potential as a constructive learning assistant, the present findings suggest that such benefits are contingent on pedagogical regulation. Roetzel and Fehrenbacher (2019) warn that information overload can reduce decision-making quality when learners bypass critical filtering mechanisms, a pattern reflected in lecturers' concerns about passive reproduction of AI-generated content. Unlike studies focusing primarily on written production (Mollick and Mollick, 2023), this study highlights oral presentation as a context in which outsourced cognition becomes immediately visible during real-time interaction.

Diversification of pedagogical strategies

In response to these challenges, lecturers implemented diversified pedagogical strategies, including process-oriented assessment, spontaneous oral validation, explicit AI policies, reinforcement of speaking practice, and multimodal learning. This aligns with Bearman and Luckin's (2020) argument that assessment in AI-mediated environments must shift from product evaluation toward process validation. The implementation of explicit AI policies by all participants resonates with Geroimenko's (2025) recommendation that AI should be framed as a cognitive collaborator rather than a substitute for reasoning. Chan and Hu (2023) further demonstrate that students' perceptions of AI become more constructive when boundaries are clearly articulated. Meanwhile, the reinforcement of retrieval-based speaking practice reflects Buchin and Mulligan (2023) evidence that retrieval strengthens long-term memory consolidation. The inclusion of multimodal strategies supports Bridgstock and Tippett's (2019) assertion that human social-emotional intelligence remains a distinct professional competency.

Compared to literature that frames AI as primarily a threat to academic integrity Efendi et al. (2025), the present findings suggest a more adaptive stance. Rather than prohibiting AI use, lecturers redesign assessment structures to preserve cognitive accountability. This contributes empirical evidence to debates on pedagogical redesign in Indonesian higher education, where structured oral validation appears to function as a practical mechanism for maintaining academic rigor.

Students' ambivalence toward pedagogical transformation

The fourth finding reveals that 77.4% of students accepted the revised assessment strategies, while 22.6% expressed resistance. This pattern reflects Waang (2023) argument that perceptions of fairness and transparency strongly influence engagement. Positive responses indicate that process-oriented assessment can enhance intrinsic motivation, consistent with Baines et al. (2025).

However, resistance related to performative anxiety highlights the affective dimension of assessment transformation. Ma (2022) and Maysarah et al. (2025) note that speaking performance is closely tied to confidence and anxiety management. The findings also align with Susanti et al.

(2021) and Doosti and Ahmadi Safa (2021), who emphasize that clarity of assessment criteria reduces perceptions of unfairness. Thus, pedagogical transformation in AI-mediated classrooms must integrate emotional scaffolding and psychological safety alongside cognitive rigor.

Compared with studies suggesting that resistance stems primarily from low digital literacy Khairallah et al. (2020), this study indicates that resistance may instead arise from the transition between product-oriented and process-oriented assessment cultures. In this sense, the findings contribute a culturally contextualized perspective on how Indonesian students negotiate evolving assessment norms.

Theoretically, this study extends the concept of cognitive offloading (Grinschgl et al., 2021; Risko and Gilbert, 2016) beyond experimental cognitive psychology and written production into live oral academic performance contexts, integrates AI-in-education discourse (Lin and Chen, 2024; Wu et al., 2025) with speaking pedagogy literature (Kulsum et al., 2025) to demonstrate how generative AI reshapes not only cognitive processing but also performative authenticity, and provides empirical grounding for assessment security theory (Bearman and Luckin, 2020; Dawson, 2020) within Indonesian higher education by showing that structured oral validation can preserve cognitive accountability without prohibiting AI use. Nevertheless, the findings are derived from qualitative perceptions of eight lecturers and 62 students within three private universities in Cimahi, which limits generalizability, and rely on self-reported experiences rather than direct measurement of speaking proficiency or cognitive performance. Future research employing mixed-method or longitudinal designs could examine measurable changes in spontaneous reasoning, higher-order thinking activation, and anxiety levels, while cross-institutional comparisons may determine whether the identified patterns reflect localized dynamics or broader systemic transformations in Indonesian higher education.

Conclusion and Recommendations

This study set out to (1) examine lecturers' perceptions of changes in students' oral communication performance, (2) identify the pedagogical strategies implemented to address AI-related challenges, and (3) explore students' responses toward these pedagogical adaptations. First, in relation to lecturers' perceptions, the findings confirm a consistent erosion of students' oral presentation performance in the AI-mediated learning environment. This erosion is manifested in the widening gap between visually sophisticated presentation artefacts and weakened verbal articulation, difficulty responding to spontaneous questions, and diminished non-verbal engagement. Lecturers perceive that generative AI has shifted students' preparation practices in ways that reduce independent cognitive processing and affect real-time academic interaction.

Second, regarding pedagogical strategies, the findings demonstrate that lecturers do not respond by prohibiting AI use, but by redesigning assessment practices. Process-oriented assessment, spontaneous oral validation, explicit AI usage policies, reinforcement of speaking practice, and multimodal learning strategies emerge as adaptive mechanisms aimed at preserving cognitive accountability and academic integrity in the digital era.

Third, in terms of student responses, the study reveals an ambivalent pattern. While the majority of students perceive process-based assessment as fairer and more transparent, a minority experience resistance related to performative anxiety and increased cognitive demands. These responses indicate that pedagogical transformation in the AI era requires not only structural redesign but also affective consideration.

Overall, this study concludes that the challenge posed by generative AI to oral presentation skills is fundamentally pedagogical rather than technological. Sustainable solutions lie in

assessment redesign that prioritizes process validation, dialogic interaction, and authentic speaking practice within Indonesian higher education.

Based on the findings, several practical and scholarly implications emerge. First, lecturers in higher education should strengthen process-oriented and interaction-based assessment practices to ensure that AI functions as a cognitive support tool rather than a substitute for reasoning. Clear rubrics, structured oral validation, and transparent AI policies are essential to maintaining assessment security while supporting meaningful learning.

Second, institutional support is crucial. Universities should provide professional development focused on AI literacy, assessment redesign, and strategies for managing speaking anxiety in oral performance contexts. Without systemic reinforcement, the pedagogical burden may fall disproportionately on individual lecturers.

Third, psychological scaffolding should accompany assessment transformation. Transition phases, rehearsal opportunities, and explicit communication of expectations can reduce resistance and promote a sense of fairness and academic security among students.

From a research perspective, future studies should employ mixed-method or longitudinal designs to measure the cognitive and affective impact of AI-assisted preparation on oral performance. Cross-institutional and cross-regional comparisons would further clarify whether the patterns identified in this study reflect localized practices or broader systemic shifts in Indonesian higher education.

Disclosure statement

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References

Asosiasi Penyelenggara Jasa Internet Indonesia. (07 February 2024). *APJII Jumlah Pengguna Internet Indonesia Tembus 221 Juta Orang (APJII: The Number of Indonesian Internet Users Exceeds 221 Million People.).* Asosiasi Penyelenggara Jasa Internet Indonesia (Indonesian Internet Service Providers Association). https://apjii.or.id/berita/d/apjii-jumlah-pengguna-internet-indonesia-tembus-221-juta-orang.

Baines, S., Otermans, P. C. J., & Barbosa Bouças, S. (2025). Students' views on their Academic skills development: how can we further enhance students' development during their degree and beyond? *European Journal of Education*, *60*(4), e70342.

Bearman, M., & Luckin, R. (2020). Preparing university assessment for a world with AI: Tasks for human intelligence. In *Re-imagining university assessment in a digital world* (pp. 49–63). Springer.

Bloom, B. S. (1956). Taxonomy of. *Educational Objectives*, *250*.

Borger, J. G., Ng, A. P., Anderton, H., Ashdown, G. W., Auld, M., Blewitt, M. E., Brown, D. V, Call, M. J., Collins, P., & Freytag, S. (2023). Artificial intelligence takes center stage: exploring the capabilities and implications of ChatGPT and other AI‑assisted technologies in scientific research and education. *Immunology and Cell Biology*, *101*(10), 923–935.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101.

Bridgstock, R., & Tippett, N. (2019). A connected approach to learning in higher education. In *Higher education and the future of graduate employability* (pp. 1–20). Edward Elgar Publishing.

Buchin, Z. L., & Mulligan, N. W. (2023). Retrieval-based learning and prior knowledge. *Journal of Educational Psychology*, *115*(1), 22.

Chan, C. K. Y., & Hu, W. (2023). Students' voices on generative AI: Perceptions, benefits, and challenges in higher education. *International Journal of Educational Technology in Higher Education*, *20*(1), 43.

Cotton, K., Sandry, J., & Ricker, T. J. (2024). The effects of mind-wandering, cognitive load, and task engagement on working memory performance in remote online experiments. *Experimental Psychology*.

Dawson, P. (2020). *Defending assessment security in a digital world: Preventing e-cheating and supporting academic integrity in higher education*. Routledge.

Doosti, M., & Ahmadi Safa, M. (2021). Fairness in oral language assessment: Training raters and considering examinees' expectations. *International Journal of Language Testing*, *11*(2), 64–90.

Efendi, Z., Hanim, M. A. F., & Santoso, A. (2025). Kecerdasan buatan (AI) dalam pendidikan: tinjauan literatur sistematis tentang peluang, masalah etika, dan implikasi pedagogis. *Jurnal Pendidikan, Kebudayaan Dan Keislaman*, *4*(3), 134–152. https://doi.org/10.24260/jpkk.v4i3.5052

Geroimenko, V. (2025). Enhancing AI's cognitive abilities: optimising AI's reasoning, creativity, and knowledge application. In *Beyond and After Prompt Engineering: The Future of AI Communication* (pp. 259–288). Springer.

Goh, C. C. M. (2017). Research into practice: Scaffolding learning processes to improve speaking performance. *Language Teaching*, *50*(2), 247–260.

Grinschgl, S., Papenmeier, F., & Meyerhoff, H. S. (2021). Consequences of cognitive offloading: Boosting performance but diminishing memory. *Quarterly Journal of Experimental Psychology*, *74*(9), 1477–1496.

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. *Handbook of Qualitative Research*, *2*(163–194), 105.

Humaira, H. W., Syihabuddin, Damaianti, V. S., & Sumiyadi. (2022). Peran pengajaran bahasa berbasis drama dalam meningkatkan kemampuan presentasi peserta didik. *Diglosia: Jurnal Kajian Bahasa, Sastra, Dan Pengajarannya*, *5*(4), 873–882. https://doi.org/10.30872/diglosia.v5i4.537

Hutson, J. (2025). Scaffolded Integration: Aligning AI Literacy with Authentic Assessment through a Revised Taxonomy in Education. *FAR Journal of Education and Sociology*, *2*(1).

Khairallah, M., Fleonova, O., & Nicolas, M. O. (2020). Understanding students' resistance to autonomous learning in an L2 English language course at a university in Lebanon. *European Journal of Education (EJED)*, *3*(1), 20–38.

Khalifa, M., & Albadawy, M. (2024). Using artificial intelligence in academic writing and research: An essential productivity tool. *Computer Methods and Programs in Biomedicine Update*, *5*, 100145.

Kulsum, U., Mulyati, Y., & Sastromiharjo, A. (2025). Transforming Academic Presentation Pedagogy through the Implementation of Experiential Learning in Higher Education. *Proceeding of International Conference on Digital, Social, and Science*, *2*(01), 962–984.

Kuswiyanti, T. S., Hidantikarnillah, V., Rosfiani, O., & Adiyan, F. (2023). Using artificial intelligence (AI) to improve students' speaking skills in higher education. *Proceedings of the English Education International Conference (EEIC, 3). Https://Jurnal. Usk. Ac. Id/EEIC/Article/View/41081.*

Lin, H., & Chen, Q. (2024). Artificial intelligence (AI)-integrated educational applications and college students' creativity and academic emotions: students and teachers' perceptions and attitudes. *BMC Psychology*, *12*(1), 487.

Lodge, J., Howard, S., Bearman, M. L., & Dawson, P. (2023). *Assessment reform for the age of artificial intelligence.*

Ma, Y. (2022). The triarchy of L2 learners' emotion, cognition, and language performance: Anxiety, self-efficacy, and speaking skill in lights of the emerging theories in SLA. *Frontiers in Psychology*, *13*, 1002492.

Maysarah, S., Yuniawati, S., & Ainurrohmah, A. (2025). Kekuatan diam dan ucapan: menyatukan komunikasi verbal dan nonverbal dalam kehidupan sehari-hari. *Jurnal Intelek Insan Cendikia*, *2*(6), 10757–10767.

Mollick, E. R., & Mollick, L. (2023). Using AI to implement effective teaching strategies in classrooms: Five strategies, including prompts. *The Wharton School Research Paper.*

Mulyo, S., Ilyas, M., & Ridhani, A. (2019). Pembelajaran keterampilan berbicara dengan metode field trip pada peserta didik kelas IX SMP Samarinda. *Diglosia: Jurnal Kajian Bahasa, Sastra, Dan Pengajarannya*, *2*(2), 115–126.

Pat-El, R. J., de Hoog, N., Segers, M., & Vedder, P. (2024). Exploring the impact of student perceptions of Assessment for Learning on intrinsic motivation. *Studies in Educational Evaluation*, *83*, 101420.

Primandhika, R. B., Hikmat, A., Safii, I., & Yani, A. S. (2025). The impact of learning technology on cognitive abilities: exploring digital media preferences of Indonesian language education students. *KEMBARA: Jurnal Keilmuan Bahasa, Sastra, Dan Pengajarannya*, *9*(1), 1–10. https://doi.org/10.22219/kembara.v5i1.6376

Rahmawati, S. A. A., & Mujianto, G. (2023). Realisasi pertukaran giliran bicara dalam pembelajaran tematik kelas IV pendekatan student centered approach. *Diglosia: Jurnal Kajian Bahasa, Sastra, Dan Pengajarannya*, *6*(1), 247–264. https://doi.org/10.30872/diglosia.v6i1.637

Risko, E. F., & Gilbert, S. J. (2016). Cognitive offloading. *Trends in Cognitive Sciences*, *20*(9), 676–688.

Roediger III, H. L., & Karpicke, J. D. (2006). Test-enhanced learning: Taking memory tests improves long-term retention. *Psychological Science*, *17*(3), 249–255.

Roetzel, P. G., & Fehrenbacher, D. D. (2019). On the role of information overload in information systems (IS) success: Empirical evidence from decision support systems. *International Conference on Information Systems 2019: ICIS 2019.*

Santiani, S. (2025). Analisis literatur: pendekatan pembelajaran deep learning dalam pendidikan. *Jurnal Ilmiah Nusantara*, *2*(3), 50–57.

Sari, P. R., Sinaga, J. B., & Ashari, E. (2025). Developing University Students' Speaking Skill through Metacognitive Strategies. *Lectura: Jurnal Pendidikan*, *16*(1), 144–153.

Susanti, S., Hartati, T., & Nuryani, P. (2021). Penerapan metode role playing untuk meningkatkan keterampilan berbicara siswa sekolah dasar. *Jurnal Pendidikan Guru Sekolah Dasar*, *6*(1), 1–12.

Tisdell, E. J., Merriam, S. B., & Stuckey-Peyrot, H. L. (2025). *Qualitative research: A guide to design and implementation*. John Wiley & Sons.

Waang, G. P. (2023). Maximizing the potential of multimedia in Indonesia: enhancing engagement, eccessibility, and learning outcomes. *Journal of Appropriate Technology*, *9*(3), 235–245.

Wang, Y., Xiong, M., & Olya, H. (2020). Toward an understanding of responsible artificial intelligence practices. *Proceedings of the 53rd Hawaii International Conference on System Sciences*, 4962–4971.

Wu, T.-T., Hapsari, I. P., & Huang, Y.-M. (2025). Effects of incorporating AI chatbots into think–pair–share activities on EFL speaking anxiety, language enjoyment, and speaking performance. *Computer Assisted Language Learning*, 1–39.

Yin, R. K. (2018). *Case study research and applications* (Vol. 6). Sage Thousand Oaks, CA.

Zare, P., & Othman, M. (2015). Students' perceptions toward using classroom debate to develop critical thinking and oral communication ability. *Asian Social Science*, *11*(9), 158.

Zhu, Q., & Carless, D. (2018). Dialogue within peer feedback processes: Clarification and negotiation of meaning. *Higher Education Research & Development*, *37*(4), 883–897.