

**STUDENTS' PERCEPTION TOWARDS THE USE OF GOOGLE GEMINI
AS A LEARNING MEDIA IN WRITING ACHIEVEMENT AT SMA
ADABIYAH PALEMBANG**

A Thesis by :

Evi Hasanah

Student's Number 2204410001

English Education Study Program



FACULTY OF TEACHER TRAINING AND EDUCATION

UNIVERSITY OF TRIDINANTI

2026

APPROVAL SHEET

**STUDENTS' PERCEPTION TOWARDS THE USE OF GOOGLE GEMINI
AS A LEARNING MEDIA IN WRITING ACHIEVEMENT AT SMA
ADABIYAH PALEMBANG.**

A Thesis by :

EVI HASANAH

2204410001

English Education Study Program

Faculty of Teacher Training and Education

Approved by

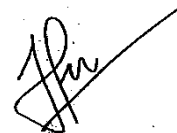
Advisor I



Dr. Hj. Gaya Tridinanti, M.Ed.

NIDN. 0219016201

Advisor II



Heru Setiawan, M.Pd.

NIDN. 0213079601

Certified by,

Dean of Faculty of Teacher Training and Education



Nyayu Lulu Nadya, M.Pd.

**STUDENTS' PERCEPTION TOWARDS THE USE OF GOOGLE GEMINI
AS A LEARNING MEDIA IN WRITING ACHIEVEMENT AT SMA
ADABIYAH PALEMBANG**

Name : Evi Hasanah

Students' Number : 2204410001

**This thesis was defined by the researcher is the Final Program Examination
and was approved by the examination committees on:**

Day : Monday

Date : July, 13th 2026

Examination Committee

Signature/Date

1. Chair Person : Dr. Hj. Gaya Tridinanti, M.Ed.



2. Member : Heru Setiawan, M.Pd.



3. Member : Yuyun Hendrety, M.Pd.



Palembang,

**Dean of Faculty of Teacher
Training and Education.**



Nyayu Lulu Nadya, M.Pd.

LETTER OF STATEMENT

Saya menyatakan dengan sebenar-benarnya bahwa seluruh data, informasi, interpretasi serta pernyataan dalam pembahasan dan kesimpulan yang disajikan dalam karya ilmiah ini, kecuali yang disebutkan sumbernya adalah merupakan hasil pengamatan, penelitian, pengelolaan, serta pemikiran saya dengan pengarahan dari pembimbing yang ditetapkan.

Apabila ternyata di dalam naskah skripsi ini dapat dibuktikan terdapat unsur-unsur jiplakan, saya bersedia skripsi ini digugurkan dan gelar akademik yang telah Saya peroleh (S-1) dibatalkan, serta diproses sesuai dengan peraturan perundang-undangan yang berlaku (UU) No. 20 Tahun 2003, Pasal 25 ayat 2 dan pasal 70.

Palembang, 21 July 2026

Mahasiswa



Evi Hasanah

2204410001

ABSTRACT

One type of artificial intelligence that is often used is Google Gemini; this tool is a generative AI technology designed to help users generate text based on provided input. In an educational context, Google Gemini serves as a learning assistant that provides additional explanations, helps in essay writing, and facilitates student class discussions. The use of Google Gemini in learning lies in its ability to enhance students' academic performance. This study aimed to determine the students' perception and the benefits towards the use of Google Gemini as a learning media in writing achievement at SMA Adabiyah Palembang. This study used a quantitative research design with a survey method. The data collection technique in this research used a questionnaire instrument in the data analysis technique used was percentage analysis. The population of this study was 185 students. By using the purposive sampling technique, the determination of the students' samples were 118 students. The results of this study indicated that students had a positive perception of using Google Gemini in their learning process. Students agreed that this AI tool significantly helped them understand course materials, improved learning efficiency, and was highly suitable for practicing their writing skills to make their topics clearer.

Keywords: *Students' Perception, Google Gemini, Learning Media, Writing Achievement.*

TABLE OF CONTENT

APPROVAL SHEET	i
RATIFICATION SHEET.	ii
DEDICATION	iii
LETTER OF STATEMENT	iv
ACKNOWLEDGEMENT	v
ABSTRACT	vii
TABLE OF CONTENT	viii
LIST OF TABLES	x
LIST OF FIGURES	xi
LIST OF APPENDICES	xii
CHAPTER 1	1
INTRODUCTION.....	1
1.1 Background of the Study.....	1
1.2 Problem of the Study.....	8
1.2.1 Limitation of the Study	8
1.2.2 Formulation of the Problem	8
1.3 Objectives of the Study	9
1.4 Significances of the Study.....	9
CHAPTER II	11
LITERATURE REVIEW	11
2.1 Concept of Perception	11
2.1.2 Stages of Perception.....	12
2.1.3 Concept of Students' Perception	14
2.2 Concept of Writing.....	15
2.2.1 Types of Writing.....	17
2.2.2 Writing Achievement	19
2.3 Concept of Learning Media	22
2.4 Function of Learning Media.....	23

2.5	Concept of Artificial Intelligence (AI).....	25
2.6	Google Gemini AI Platform in ELT	27
2.7	The Features of Google Gemini AI.....	28
2.8	Practical Procedures of Google Gemini AI.....	33
2.9	The Advantages of Google Gemini.....	36
2.10	The Disadvantages of Google Gemini	38
2.11	The Challenges of using Google Gemini	40
2.12	The Previous Related Studies on AI in Language Learning	41
CHAPTER III		45
RESEARCH METODOLOGY.....		45
3.1	Method of the Research	45
3.2	Research Procedures	46
3.3	Operational Definition	47
3.4	Population and Sample.....	48
3.4.1	Population	48
3.4.2	Sample.....	49
3.5	Technique for Collecting the data	50
3.5.1	The Questionnaire	50
3.5.2	Validity	52
3.5.3	Reliability.....	53
3.6	Techniques for Analyzing the Data	54
CHAPTER IV.....		57
RESEARCH FINDINGS AND INTERPRETATIONS		57
4.1	Research Findings	57
4.1.1	Students' Perception of Google Gemini.....	57
4.1.2	Benefits of Google Gemini	72
4.2	Interpretation.....	76
CHAPTER V		81
CONCLUSION AND SUGGESTION.....		81
5.1	Conclusion	81
5.2	Suggestion.....	82

LIST OF TABLES

Table 1 The Features of Google Gemini	29
Table 2 The Population of the Study	48
Table 3 The Sample of the Study	50
Table 4 The Likert Scale Calculation Rubric	52
Table 5 The Classification of Reliability.....	54
Table 6 The Reliability Result.....	54
Table 7 The Questionnaire Items Specifications.....	55
Table 8 The Category of Perception.....	56
Table 9 Aspect of Perceived Usefulness	57
Table 10 Aspect of Perceived Ease of Use.....	61
Table 11 Aspect of Attitude Towards Using.....	64
Table 12 Aspect of Behavioral Intention to Use	67
Table 13 The Result of the Aspect of using Google Gemini.....	70
Table 14 The Result of the Benefits using Google Gemini.....	72

LIST OF FIGURES

Figure 1 Google Gemini AI Logo	28
Figure 2 The main display of Google Gemini web browser	33
Figure 3 The column of Google Gemini.	34
Figure 4 The example of answer generated by Google Gemini.....	34
Figure 5. The another prompt in Google Gemini.....	35
Figure 6. The answers generated by Google Gemini	36
Figure 7. The another features Google Gemini.....	36
Figure 8 The Procedures of Survey Research	46
Figure 9. The Percentage Formula	56
Figure 10 Aspect of Perceived Usefulness.....	60
Figure 11 Aspect of Ease of Use	64
Figure 12 Aspect of Attitude Towards Using	67
Figure 13 Aspect of Behavioral Intention to Use.....	70
Figure 14 Aspect of using Google Gemini in General	72
Figure 15 Benefits of using Google Gemini	76

LIST OF APPENDICES

- Appendix A : The Validity Result of Try-Out in SPSS
- Appendix B : The Reability Result
- Appendix C : The Respondents of Questionnaire
- Appendix D : The Documentation of Data Collection
- Appendix E : The R-Table Form
- Appendix F : The Record of Questionnaire Result
- Appendix G : Surat Izin Penelitian Kesbangpol
- Appendix H : Surat Izin Penelitian Dinas Pendidikan
- Appendix I : Surat Balasan Izin Penelitian Dinas Kesbangpol
- Appendix J : Surat Balasan Izin Penelitian Dinas Pendidikan
- Appendix K : Surat Keterangan Penelitian SMA Adabiyah Palembang
- Appendix L : Bukti Revisi Ujian Skripsi
- Appendix M : SK Pembimbing
- Appendix N : SK Penguji
- Appendix O : Thesis Consultant Card

CHAPTER 1

INTRODUCTION

This chapter presents (1) background of the study, (2) limitation of the problem, (3) formulation of the problem, (4) objectives of the study, and (5) significances of the study.

1.1 Background of the Study

In the 21st century, everyone wants to know how to access an incredible ease and speed due to drastic technological advancements. With just a click of their fingers, users are able to find all the information they desire; all the world's information is right in the palm of their hands. It is up to humans to discern what is good and what is bad. As beings endowed with reason and thought, humans have to use technology wisely and as needed. Technology plays a crucially important role in life due to its helpfulness. Its development also significantly impacts the world of education, as technology allows for the access of information more quickly and easily (Ningrum et al., 2022).

According to Shakhman et al. (2020), technological changes, especially with the advent of the highly connect and advance digital era in the field of information and communication, rapidly support the growth and development of knowledge. The speed of knowledge transfer resulting from the latest information and communication technology developments demands that educational institutions become more responsive, creative, and innovative in handling this change.

Therefore, the educational sector requires a specific strategy to cope with rapid technological shifts and the evolution of the digital industry. This necessitates the integration of various elements in the learning process, namely technology, teaching methods (pedagogy), and subject matter (content). This concept of integration is known as Technological Pedagogical Content Knowledge (TPACK). In line with the importance of technology integration, TPACK serves as a useful framework for thinking about what knowledge teachers need to effectively integrate technology into their teaching and helps understand how they might develop this knowledge (Schmidt et al., 2009). Moreover, the use of TPACK as a framework for measuring teaching knowledge impacts the type of training and professional development experiences that are designed. In essence, TPACK is not just a theory; it serves as a roadmap that informs teachers what technology they have to master in the teaching process, and it acts as a standard for designing more effective teacher training programs.

Raja (2018) argues that students prefer using technology over manual books, which significantly impacts their learning outcomes. When students use modern technology tools, their learning and interaction improve. Students also find lessons more engaging and fuller of interesting tasks with the help of technology, which makes sharing knowledge easy, convenient, and effective. Essentially, minds work faster with modern technology, and this is especially true in education. Integrating technology into teaching significantly boosts the effectiveness and efficiency of learning (Coenders & Verhoef, 2019; Fathoni & Retnawati, 2021). It is crucial to

focus on how technology is used (Wiyanarti & Holilah, 2020), as this ultimately enhances the quality and meaningfulness of education.

One significant technological advancement frequently use in education is Artificial Intelligence (AI). It is a branch of computer science that uses machine capabilities to complete tasks and activities normally performed by humans. AI collects and processes various data it receives into useful information to complete assigned tasks (Diana, 2021). Although it is considered a powerful tool for facilitating new breakthroughs in learning design and technology development since its debut in the education sector (Holmes et al., 2019), AI in education simultaneously opens up new opportunities, potentials, and challenges for educational innovation, such as the shift toward personalized learning, the evolving role of instructors, and the development of complex educational systems (Baker et al., 2019).

According to Kotmungkun et al. (2024), artificial intelligence (AI), which is known through popular platforms such as ChatGPT, DeepSeek and Google Gemini, belongs to the Generative AI category based on Large Language Models (LLM). This technology works by processing and studying large-scale data patterns to understand and generate new information that resembles human thinking. ChatGPT, developed by OpenAI, is a pioneer in digital interaction due to its highly flexible capabilities in processing creative text, analyzing documents, and its multimodal features. ChatGPT's characteristics tend to be more general and versatile (all-rounder), making it highly effective for assisting with daily tasks ranging from drafting essays to developing strategic plans.

Meanwhile, there is also DeepSeek, which is popular and said to rival ChatGPT. However, DeepSeek's focus is on developing advanced AI solutions for businesses, such as data analytics. In short, DeepSeek excels at providing customized AI solutions for companies, while ChatGPT is a versatile and user-friendly AI for a variety of needs (DeepSeek AI, 2026).

One type of Artificial Intelligence that is often used is Google Gemini, which was launched on December 6, 2023, and is often compared to ChatGPT (Perera & Lankathilaka, 2023). This Google Gemini tool is a generative artificial intelligence technology designed to help users generate text based on provided input. Developed by Google, Google Gemini uses advanced language models to understand context and generate relevant responses. In recent years, Google Gemini has seen significant development, with improvements in its ability to understand and answer user questions more accurately (Raman et al., 2024). In an educational context, Google Gemini serves as a learning assistant that provides additional explanations, helps in essay writing, and facilitates student class discussions (Ananda, 2024; Baytak, 2024). The use of Google Gemini in learning lies in its ability to enhance students' academic performance.

The study using Google Gemini was widely investigated by Majidah, Rullyana, & Triandari (2025), which concluded that university students generally held a very positive perception of Google Gemini as an in-class learning assistant. In terms of utility, students found this tool highly beneficial for comprehending course materials, enhancing learning efficiency, and providing relevant information. Furthermore, Google Gemini was considered easy to operate due to its user-friendly

interface. This made the learning experience more enjoyable, fostering a strong intention among students to continue using and recommending the tool.

Similar to a previous study by Imran & Almusharraf (2024), Google Gemini has the potential to become a useful tool in the field of education due to its broad capabilities in generating beneficial content for researchers, educators, or digital content creators. This tool also helps in finding diverse responses and seeking solutions for future learning innovations. Within the scope of these diverse applications, one area where Google Gemini shows immense potential is in supporting language development, particularly writing. Writing skills are very important in language proficiency, and their value increases rapidly because English is the primary tool worldwide for disseminating global knowledge. Therefore, if someone wants to improve their overall language performance, their focus must be on improving writing skills. For a piece of writing produced by an English language learner to be considered successful, it has to be cohesive, logical, clearly structured, and interesting to read (Marlina et al., 2014).

The reason why the researcher chooses Google Gemini is because it does not just fix grammar, but it also works like a friendly learning partner for students. Google Gemini is very good at giving quick feedback, suggesting new words, and helping students arrange their ideas in a clear and logical way. Furthermore, since Gemini is integrated with the Google ecosystem which is already highly familiar to students, this tool is much more accessible. Through this two-way conversation, Google Gemini helps students overcome their fear of writing and makes them more independent in improving their English writing skills.

Harmer (2007) states that writing skills are considered one of the most important components in English language learning because they allow students to express their thoughts and feelings in a written form. Unlike speaking, writing requires a higher level of correctness, where students have to focus on grammar, vocabulary, and punctuation at the same time. Furthermore, mastering writing is often seen as a complex process because it is not just about translating words, but it also involves how students organize their ideas into a logical and clear structure (Richard & Renandya, 2002). Therefore, improving writing skills is highly necessary for students to achieve better overall language proficiency and communicate effectively in a global context.

According to Ramadhanti et al. (2024), writing is divided into two complementary roles. First, writing is a skill that requires the use of strategies (such as planning, evaluating, and revising texts). Second, writing is a means to expand and deepen students' knowledge. Writing achievement is a very important factor, whereby students are able to understand sentence structure, grammar, and the purpose of writing.

Based on the interview conducted by the researcher with English teachers at SMA Adabiyah Palembang who taught at the tenth and eleventh grades, they stated that they had integrated artificial intelligence (AI) based technology, but not extensively. Because they had limited time in the classroom to try new platforms and lack formal training on how to implement AI specifically for teaching writing skills. Therefore, this study aims to determine the students' perception toward the use of Google Gemini as a learning media in writing achievement. To explore this,

the researcher adapts the studies conducted by Majidah, Rullyana, & Triandari (2025) and Putra & Antony (2025).

Theoretically, by focusing on the students' perspective, this study provides an understanding of how students interact with multimodal AI models and how these interactions affect their cognitive processes in writing achievement. This study shows how AI tools such as Google Gemini help students' writing processes by investigating their perceptions based on their experiences. This is very important to ensure that AI does not just complete tasks for students but truly aids their learning process.

Several researchers have widely investigated the use of Google Gemini in education. For instance, Kartika (2024) found that the use of Google Gemini significantly improved students' writing proficiency in a higher education setting. In terms of utility, students who received AI-powered feedback from Google Gemini made substantially greater gains in grammar accuracy, vocabulary, text coherence, and overall task achievement compared to those who received traditional instruction. Additionally, Ananda (2024) explored students' experiences using Gemini as a writing assistant and revealed that although students faced a dilemma in switching from their old AI tools, Gemini shows great potential for future writing activities.

Complementing these findings, Imran and Almusharraf (2024) emphasized that Google Gemini serves as a highly capable multimodal AI tool that offers significant benefits for personalized learning, interactive material generation, and real-time feedback. However, they also highlighted that educators and

policymakers must still address its technical limitations in interpreting complex visual tasks and manage critical ethical challenges regarding its integration.

Based on the explanation above, the researcher was interested in conducting the study entitled “Students’ Perception Towards the Use of Google Gemini as a Learning Media in Writing Achievement at SMA Adabiyah Palembang” due to the vital importance for high school students to begin utilizing AI in today’s digital era. Google Gemini offers rapid assistance in responding to students' learning needs. By exploring students' perceptions, the researcher aims to determine whether this AI truly creates a more effective learning environment. Furthermore, being personally familiar with this technology, the researcher is committed to achieving high-quality results that contribute to future innovations in the field of education.

1.2 Problem of the Study

1.2.1 Limitation of the Study

The scope of this study was limited to dealing with students’ perceptions towards the use of Google Gemini as a learning media in writing achievement at SMA Adabiyah Palembang.

1.2.2 Formulation of the Problems

Based on the explanation above, the researcher formulated the research questions on the problems of the study as follows:

1. What were students’ perceptions on using Google Gemini as a learning media in writing achievement at SMA Adabiyah Palembang?

2. What were the benefits of Google Gemini as a learning media in writing achievement at SMA Adabiyah Palembang?

1.3 Objectives of the Study

Regarding the problems of the study, the objectives of the study, were:

1. To describe the students' perceptions on using Google Gemini as a learning media in writing achievement at SMA Adabiyah Palembang.
2. To identify the benefits of Google Gemini as a learning media in writing achievement at SMA Adabiyah Palembang.

1.4 Significances of the Study

The researcher expects that this study will be able to contribute to:

1. Students

This study is expected to be beneficial for students in gaining a deeper understanding of their own experiences and interactions with Google Gemini. It allows them to reflect on their perceptions, feelings, and thoughts when they utilize Google Gemini as a learning media for English language learning. This self-awareness is intended to help them optimize their learning strategies and make the most of the AI's capabilities.

2. Teachers

This study can greatly assist teachers in understanding their students' perceptions and the underlying reasons for using Google Gemini during English language learning. By grasping these insights, teachers are able to better integrate Google Gemini into their teaching methodologies and

leverage its benefits as a powerful technological learning media to enhance English language acquisition. It provides valuable information on how this AI can effectively support and enrich the learning process.

3. Other Researchers

The findings of this study are also expected to contribute significantly to other researchers. For those who plan to conduct further research in related fields, particularly concerning the role of AI in education or the impact of Google Gemini on language learning, this study's results can serve as a strong reference point, which helps to strengthen their own research frameworks and conclusions.

REFERENCES

- Adeshola, I., & Adepoju, A. P. (2023). The opportunities and challenges of ChatGPT in education. *International Journal of Research and Innovation in Applied Science (IJRIAS)*, 8(3), 198-203. <https://doi.org/10.51584/IJRIAS.2023.8318>
- Allen, I. E., & Seaman, C. A. (2007). Likert scales and data analyses. *Quality progress*, 40(7), 64-65.
- Ananda, D. R. (2024). Students' perception on AI technology: Gemini as a writing assistant tool. *Linguistics and ELT Journal*, 12(1), 46-54.
- Anders, B. A. (2023). Is using ChatGPT cheating, plagiarism, or an innovative study tool? *Journal of Online Learning Research and Practice*, 11(1), 1-15. <https://doi.org/10.1525/jolrp.2023.11.1.1>
- Andewi, W., & Hastomo, T. (2022). Digital literacy in English language teaching: Challenges and opportunities. *Journal of English Language Studies*, 7(1), 45-56. jurnal.untirta.ac.id/index.php/JELS/article/view/14352
- Avsheniuk, N., et al. (2025). The impact of AI on student creativity and critical thinking skills. *International Journal of Learning and Development*, 12(1), 45–60.
- Azmi, U., & Fithriani, R. (2025). Integrating generative AI in English language teaching: Opportunities and hurdles. *Journal of English Language Studies*, 10(1), 45–58.
- Azwar, S. (2016). *Konstruksi instrumen psikologi*. Yogyakarta: Pustaka Pelajar.
- Baker, T., Smith, L., & Anissa, N. (2019). Educ-AI-tion rebooted? Exploring the future of artificial intelligence in schools and colleges.
- Baskara, F.R. (2025). ChatGPT and Google Gemini in EFL Education: A Qualitative Exploration of Pedagogical Efficacy among Indonesian Sophomores, *JOLLT Journal of Languages and Language Teaching*, 13(1), 436-447. <https://doi.org/10.33394/jollt.v13i1.9926>
- Baytak, A. (2024). The content analysis of the lesson plans created by ChatGPT and Google Gemini. *Research in Social Sciences and Technology*, 9(1), 329–350. <https://doi.org/10.46303/ressat.2024.19>

- Carol, S., Fletcher, J., & Johnston, P. (2001). *The 6+1 traits of writing: The complete guide for grades 3 and up*. New York: Scholastic Professional Books.
- Coenders, F., & Verhoef, N. (2019). Lesson study: Professional Development (PD) for beginning and experienced teachers. *Professional Development in Education* 45 (2)217–230. <https://doi.org/10.1080/19415257.2018.1430050>
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education* (6th ed.). London: Routledge.
- Cosenza, G. (2013). *Business Research Methods*.
- Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Pearson Education.
- Creswell, J. W. (2014). *Research design: qualitative, quantitative, and mixed methods approach* (4th ed.). Thousand Oaks: SAGE Publications.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approach* (5th ed.). SAGE Publications.
- Dabbagh, N., & Bannan-Ritland, B. (2005). *Online learning: Concepts, strategies, and applications*. Merrill/Prentice Hall.
- Dana P. Turner, M. S. P. H., & Ph. D. (2020). Sampling methods in research design. *The Journal of Head and Face Pain* 60 (1), 8–12.
- DeepSeek AI (2026). <https://deepseek.net/id>
- Diana, N. (2021). Digital transformation in higher education: Challenges and opportunities. *Journal of Educational Technology*, 12(2), 45–58.
- Eric B. Shiraev, *Cross Cultural Psychology: Critical Thinking and Contemporary Applications*, trans. Triwibowo, (Jakarta: Prenadamedia Group, 2016), p.130

- Esra, & Ernidawati. (2012). An analysis of students' difficulties in writing narrative text at grade X of SMAN 4 Padang. *English Language Teaching (ELT)*, 1(1), 1-13.
- Fathoni, A., & Retnawati, H. (2021). Challenges and strategies of postgraduate students in online learning during the Covid-19 pandemic. *Jurnal Prima Edukasia*, 9(2), 233–247. <https://doi.org/10.21831/jpe.v9i2.37393>
- Febriyanti, A. L., Harsiati, T., & Dermawan, T. (2017). Pengembangan instrumen asesmen menulis kreatif cerita fantasi untuk siswa kelas VII SMP. *Jurnal Pendidikan: Teori, Penelitian, dan Pengembangan* 2(10), 1399–1408. <http://journal.um.ac.id/index.php/jptpp/article/view/10105>
- Firdaus, M., et al. (2024). Cognitive skill deterioration in AI-integrated classrooms. *Indonesian Journal of Education*, 15(3), 200–215.
- Fitria, T. N. (2022). Non-EFL students' ability in writing simple sentences of descriptive paragraphs. *JETAL: Journal of English Teaching & Applied Linguistic* 4(1), 1–9. <https://doi.org/10.36655/jetal.v4i1.762>
- Fitria, T. N. (2025). Plagiarism and ethical issues in using Gemini AI for academic writing. *Journal of English Language Teaching*, 11(2), 55–70.
- Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroanyanwu, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the National Academy of Sciences*, 111(23), 8410–8415.
- Habi, M. L., (2024). The role of AI chatbots in enhancing students' writing skills: A contemporary perspective.
- Harmer, J. (2007). *The practice of English language teaching* (4th ed.). Harlow: Pearson Longman.
- Hartati, S., et al. (2025). The decline of independent thinking in the era of Artificial Intelligence. *Journal of Educational Sciences*, 19(1), 77–92.
- Hastomo, T., Marcellino, R., & Syafryadin. (2024). The impact of artificial intelligence (AI) on English language learning: A systematic review. *Journal of English Education and Teaching (JEET)*, 8(1), 15-28. <https://doi.org/10.33369/jeet.8.1.15-28>

- Holmes, W., Bialik, M., & Fadel, C. (2019). Artificial intelligence in education promises and implications for teaching and learning. Center for Curriculum Redesign.
- Imran, M., & Almusharraf, N. (2024). Google Gemini as a next generation AI educational tool: a review of emerging educational technology. *Smart Learning Environments*, 11(1), 22. <https://doi.org/10.1186/s40561-024-00310-z>
- Jie, C., & Kamrozzaman, A. (2024). AI and the erosion of cognitive skills: A study of EFL students. *Asian Journal of English Language Studies*, 6(2), 110–125.
- Kalluri, K., & Kokala, A. (2024). Performance Benchmarking of Generative AI Models: Chatgpt-4 Vs. Google Gemini AI. *International Research Journal of Modernization in Engineering Technology and Science*, 6(11). <https://doi.org/10.56726/IRJMETS64283>
- Kanne, T. S. (2000). *The Oxford Essential Guide to Writing*. Berkley Books.
- Kartika, S. (2024). Enhancing Writing Proficiency through AI-Powered Feedback: A Quasi-Experimental Study Using Google Gemini. *LinguaEducare: Journal of English and Linguistic Studies*, 1(2), 83-96. <https://doi.org/10.37550/tdmu.EJS/2024.03.586>
- Kelley, T. (2023). *Data Analysis Techniques: Tools and Applications for Decision Making*. Data Insights Press.
- Kheidher, S. (2012). The effect of using writing folders on students' writing achievement. Biskra, Algeria: University of Biskra.
- Kotmungkun, S., Chompurach, W., & Thaksanan, P. (2024). OpenAI ChatGPT vs Google Gemini: A study of AI chatbots' writing quality evaluation and plagiarism checking. *English Language Teaching Educational Journal*, 7(2), 90-108.
- Kuntarto, E. (2017). Keefektifan model pembelajaran daring dalam perkuliahan Bahasa Indonesia di perguruan tinggi. *Jurnal Pendidikan Bahasa dan Sastra Indonesia* 3 (1), 53–65.

- Lawton, G. (2024). Google Gemini updates: What's new in the AI ecosystem. TechTarget: Enterprise AI. Retrieved from <https://www.techtarget.com/enterpriseai>.
- Lo, C. K. (2023). What is the role of ChatGPT in education? A systematic review of early policy responses and recommendations. *University of Hong Kong*. <https://doi.org/10.3390/su15043100>
- Majidah., Rullyana, G., & Triandari, R. (2025). Google Gemini as a Learning Assistant: Exploring Student Perceptions. *Jurnal PAJAR (Pendidikan dan Pengajaran)*, 9(2), 163-172. DOI: <http://dx.doi.org/10.33578/pjr.v9i2.10008>
- Marlina, R., & Giri, R. (2014). The pedagogy of English as an international language: Perspectives from scholars, teachers, and students (Vol. 1). Springer.
- Marpaung, S. (2024). Technical problems and training needs in AI-based language learning. *Journal of English Education*, 12(1), 88–102.
- Marzuki, (2023). Integrating AI tools for grammar and vocabulary enhancement in EFL classrooms.
- Mbakwe, A. B., Lourentzou, I., Celi, L. A., Vickery, J. R., & Miller, J. P. (2023). ChatGPT: The work of AI in academia. *Journal of Academic Writing*.
- Mulyanah, E. Y., Hidayat, S., & Yuhana, Y. (2024). Enhancing the Academic Writing Process Using Artificial Intelligence: A Bibliometric. Humanities & Language: *International Journal of Linguistics, Humanities, and Education*, 1(5), 299-307. <https://doi.org/10.32734/djd9kz89>
- Mulyani, S. (2016). *Pendidikan anak usia dini*. PT Remaja Rosdakarya.
- Narayan, R. (2024). The role of generative AI in enhancing student writing achievement. *International Journal of Educational Technology*.
- Nasution, R., et al. (2025). The impact of instant information on students' critical thinking. *Journal of Applied Linguistics*, 18(2), 140–155.
- Ningrum, W. S., Herwin, H., & Dahalan, S. C. (2022). How elementary school teachers integrate technology in social studies learning during the

- covid-19 pandemic? *Jurnal Pendidikan Progresif* 12(1), 1–16.
<https://doi.org/10.23960/jpp.v12.i1.202201>
- Noprianto, E. (2017). Student's descriptive text writing in SFL perspectives. *IJELTAL (Indonesian Journal of English Language Teaching and Applied Linguistics)*, 2(1), 65–81.
- Oktarina, R. (2024). Exploring students' perceptions of using Google Gemini in English classrooms. *Journal of English Language Learning*.
- Pardiyono. (2007). Fungsi sosial teks naratif. *Jurnal Linguistik Pendidikan* 5(2), 65–78.
- Pazzaglia, F., Stafford, R. E., & Roddenberry, C. T. (2016). *Basic Mathematics for College Students with Early Integers* (5th ed.). Cengage Learning.
- Perera, P. (2023). Preparing to revolutionize education with the multi-model GenAI tool Google Gemini? A journey towards effective policy making. *Journal of Advances in Education and Philosophy*, 7(8), 246–253.
<https://doi.org/10.36348/jaep.2023.v07i08.001>
- Pratiwi, D., & Yunus, M. (2024). The ease of AI and student laziness in critical thinking tasks. *English Education Journal*, 16(2), 95–109.
- Putra, H. E., & Antony, R. (2025). Students' attitudes toward Artificial Intelligence in the English classroom. *Indonesian Journal of English Education*, 12(1), 89–104.
- Qur'ani, H. B. (2018). Pembelajaran menulis kreatif dengan menggunakan model sinektik berbasis lingkungan sosial di SMA Islam Kota Batu. *Lembaran Ilmu Kependidikan* 47(2), 51–56.
<https://doi.org/10.15294/lik.v47i2.16922>
- Rahayu, E. (2016). Peningkatan kemampuan menulis kreatif siswa melalui strategi rekayasa teks. *BAHAS* 27(4). <https://doi.org/10.24114/bhs.v27i4.5706>
- Rahman, S. A., Sa'ad, S., & Ismail, I. (2018). Enhancing reading comprehension with game-based learning platforms: An experimental study. *Asian EFL Journal*, 20(5), 87–103.

- Raja, R., & Nagasubramani, P. C. (2018). Impact of modern technology in education. *Journal of Applied and Advanced Research* 3(33–35).
<https://dx.doi.org/10.21839/jaar.2018.v3S1.165>
- Ramadhanti, A., Putri, S., & Hartono, B. (2024). Tantangan integrasi teknologi digital dalam kurikulum merdeka. *Jurnal Inovasi Pendidikan*, 5(1), 12–25.
- Raman, R., Nair, V., Dinesh, S., & Acharyulu, R. (2024). Comparative analysis of ChatGPT and Bard in digital governance: Accuracy, adaptability, and readability insights. *Digital Government: Research and Practice*.
- Rane, N., Choudhary, S., & Rane, J. (2024). Gemini or ChatGPT? Capability, performance, and selection of cutting-edge generative artificial intelligence (AI) in business management. *Studies in Economics and Business Relations*, 6(1), 40-50.
<https://doi.org/10.48185/sebr.v5i1.1051>
- Rawas, S. (2023). The impact of artificial intelligence on the quality of education and pedagogical integrity.
- Richards, J. C., & Renandya, W. A. (Eds.). (2002). *Methodology in language teaching: An anthology of current practice*. Cambridge: Cambridge University Press.
- Rudolph, J., Tan, S., & Tan, S. (2023). War of the chatbots: Bard, Bing and ChatGPT. *Journal of Applied Learning and Teaching*, 6(1), 1-10.
<https://doi.org/10.37074/jalt.2023.6.1.1>
- Sanjaya, W. (2010). *Perencanaan dan desain sistem pembelajaran*. Jakarta: Kencana Prenada Media Group.
- Schmidt, D. A., Baran, E., Thompson, A. D., Mishra, P., Koehler, M. J., & Shin, T. S. (2009). Technological Pedagogical Content Knowledge (TPACK): The Development and Validation of an Assessment Instrument for Preservice Teachers Denise, 42(2), 123–149.
<https://doi.org/10.1007/978-1-60761-303-9>.
- Shakhman, L. M., Al Omari, O., Arulappan, J., & Wynaden, D. (2020). Interprofessional education and collaboration: Strategies for implementation. *Oman Medical Journal*, 35(4), e155.
<https://doi.org/10.5001/omj.2020.83>

- Sharon, E., Smaldino, S. E., Lowther, D. L., & Russell, J. D. (2012). *Instructional technology and media for learning* (10th ed.). Boston: Allyn & Bacon.
- Slamet. (2024). Artificial intelligence in language education: A study on error identification tools.
- Slameto. (2010). *Belajar dan faktor-faktor yang mempengaruhinya*. Rineka Cipta.
- Smaldino, S. E., Lowther, D. L., & Russell, J. D. (2008). *Instructional technology and media for learning* (9th ed.). Upper Saddle River, NJ: Pearson/Merrill Prentice Hall.
- Srimularahmah, A., & Marwil, A. N. (2021). Kemampuan menulis kreatif puisi siswa kelas XI SMA Negeri 24 Watampone. *JISIP (Jurnal Ilmu Sosial Dan Pendidikan)* 5(3). <https://doi.org/10.58258/jisip.v5i3.2177>
- Sugeng, B. (2010). *Understanding English grammar: A course book for undergraduate students*. Yogyakarta, Indonesia: Yogyakarta State University Press.
- Team, G., Anil, R., Borgeaud, S., Wu, Y., Alayrac, J. B., Yu, J., et al. (2023). Gemini: A family of highly capable multimodal models.
- Turnando, et al. (2025). Digital infrastructure readiness for AI integration in schools. *Journal of Education and Practice*, 16(4), 112–126.
- Ur, P. (1991). *A course in language teaching*. Cambridge University Press.
- Utami, S., et al. (2024). Technical challenges and adaptive learning strategies in Indonesian AI classrooms. *Asian Journal of Education and E-Learning*, 12(3), 45–58.
- Wahyuni, S., et al. (2024). The importance of teacher training in maximizing AI potential. *Journal of Teacher Education*, 21(2), 300–315.
- Wiyanarti, E., & Holilah, M. (2020). The innovation of online-based social studies lesson plan models to face the industrial revolution 4.0. *Proceedings of the International Conference on Social Studies, Globalisation and Technology (ICSSGT 2019)*. <https://doi.org/10.2991/assehr.k.200803.003>

- Wulyani, A. N. (2024). The effectiveness of AI-driven tools in identifying writing errors for EFL learners.
- Yarmi, G. (2014). Meningkatkan kemampuan menulis kreatif siswa melalui pendekatan Whole Language dengan teknik menulis jurnal. *Perspektif Ilmu Pendidikan*, 28(1), 8–16. <https://doi.org/10.21009/PIP.281.2>
- Yulistiani, (2020). Anxiety in EFL writing: Causes and its impact on students' performance.
- Zalyana. (2014). *Psikologi pembelajaran bahasa Arab*. Pekanbaru, Indonesia: Cahaya Firdaus.
- Zijlmans, J., Maras, A., & Popma, A. (2019). The use of innovative technology in educational and psychological testing. *Frontiers in Psychology*, 10, 1–12.
- Zulkarmain. (2021). *Metodologi penelitian pendidikan bahasa*. Palembang: Rafah Press.