



THE SYNERGY OF STUDENT CREATIVITY AND ARTIFICIAL INTELLIGENCE IN ENGLISH CREATIVE WRITING: AN ANALYSIS OF THE USE OF AI AS A WRITING ASSISTANT

Desi Hidayanti¹

¹Universitas PGRI Kalimantan
E-mail: desihidayanti@upk.ac.id

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Corresponding Author:

Desi Hidayanti

Email Corresponding :

desihidayanti@upk.ac.id

ABSTRACT

The use of artificial intelligence (AI) has increasingly penetrated the academic world, particularly among students. While AI offers various benefits, its growing use raises concerns about potential declines in creativity and critical thinking. This study aims to examine how students utilize AI in writing English short stories. A qualitative case study was conducted involving 13 students from the English Language Education Study Program at Universitas PGRI Kalimantan. The findings reveal that AI use in creative writing is unavoidable; however, students must still employ creativity and critical thinking to generate effective prompts and achieve desired outcomes. The study also shows that human-AI synergy occurs mainly in editing and technical support stages. Human creativity remains central to the writing process, while AI functions as a catalyst to enhance linguistic quality. Furthermore, the impact of AI is dualistic: it can improve students' confidence and self-expression, but it may also lead to dependency if not supported by appropriate pedagogical strategies.

Keywords: *Artificial Intelligence (AI), Creative Writing, Short Stories, Human-AI Synergy, Writing Assistant.*

1. INTRODUCTION

Artificial Intelligence (AI) has increasingly penetrated the academic sphere, particularly within higher education institutions. Although the use of AI among university students has raised concerns regarding the potential degradation of human cognitive abilities, its presence is ultimately unavoidable (Al Hosni, 2025; Ida Royani & Sihombing, 2024; Khalifa & Albadawy, 2024).

Empirical evidence indicates that students acknowledge the significant role of AI in facilitating the completion of various academic tasks. However, a study conducted by Zahra reveals that the use of AI in completing assignments may lead to student dependency, despite the fact that AI-generated outputs can

enhance the overall quality of students' work. In line with this perspective, Syahira (2023), as cited in Anggraini (2025), states that the majority of students feel assisted by AI usage; nevertheless, concerns regarding originality and the risk of plagiarism remain prominent. Therefore, a thoughtful and responsible approach to integrating AI into academic work is strongly recommended (Ozfidan et al., 2024; Amirjalili et al., 2024; El Maamri, 2025).

Given the widespread utilization of AI across various academic tasks, including writing activities, the researcher is interested in further examining how AI is used among students, particularly in the context of creative writing, such as short story

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composition (Dergaa et al., 2023; Aljuaid, 2024; Rahayu et al., 2024).

According to the Indonesian Dictionary (*Kamus Besar Bahasa Indonesia/KBBI*) online version, writing is defined as the act of expressing thoughts or feelings (such as composing texts, letters, and so forth) in written form. Writing, as a skill, is an essential competency for students enrolled in the English Education Study Program. Within higher education, students are expected to master both academic writing and creative writing skills. Academic writing refers to formal, structured, and scholarly forms of writing, which are required for producing internship reports, field study reports (such as community service programs, teaching practicum, or teaching assistance), academic papers, and final projects such as undergraduate theses or journal articles (Déri et al., 2022; Ningrum et al., 2023; Ahmed & Ahmed, 2022).

In addition, several courses within the English Education curriculum require students to develop creative writing skills. Creative writing differs significantly from academic writing tasks such as reports or research papers (Cronin et al., 2020; Jones & Flint, 2022; Fitria, 2024). It involves imagination, creativity, and the exploration of personal style in order to produce unique, engaging, and aesthetically rich texts. Creative writing outputs are often categorized as literary works (Dwirsyah, 2020; Hubert et al., 2025; Wu et al., 2025).

One of the most popular forms of creative writing in society is the short story. A short story, or *cerpen* (*cerita pendek*), refers to a brief narrative text,

typically consisting of fewer than 10,000 words, which focuses on a single character within a particular situation and aims to produce a dominant, unified impression.

In literature-based courses such as *Introduction to Educational Literature*, *Introduction to English Literature*, *English Literature*, *Borneo Traditional Literature*, and *Borneo Modern Literature* students are frequently required to produce literary works, including short stories, poems, and drama. These activities serve as a medium for students to express ideas, aspirations, and emotions. However, many students still encounter difficulties in performing such tasks, both in Indonesian and in English.

While writing in Indonesian the national and second language for most Indonesian students already presents certain challenges, composing texts in English poses an even greater level of difficulty. In writing short stories, students are not only required to convey ideas and emotions but also to employ a rich vocabulary and appropriate stylistic nuances in English (Oktaviani & Chan, 2023; Girsang et al., 2023; Ambat, 2021). Common challenges include limited vocabulary, difficulties in structuring coherent plots, and the inability to effectively connect ideas across paragraphs into a unified narrative.

As a result, many students turn to AI as a supportive tool, particularly in light of its rapid development and widespread availability across various digital platforms. As previously mentioned, concerns regarding human dependency on AI especially among students constitute an important issue

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that warrants further investigation. It is crucial to explore whether the use of AI affects students' creativity in writing short stories.

Therefore, this study aims to examine how students compose English short stories with the assistance of AI, in order to identify patterns of AI usage and to determine whether such utilization influences their creative writing processes.

2. THEORETICAL FRAMEWORK

The first theoretical foundation of this study draws on the concept of human AI collaboration in writing proposed by Hutson (2025). Hutson identifies four forms of collaboration: content generation, structural assistance, creative input, and analytical contribution. These dimensions illustrate how AI can function not merely as a tool, but as an active partner in the writing process.

The second framework is based on an experimental study on AI-assisted poetry writing conducted by MacGuire et al. (2024). The study found that creative self-efficacy defined as an individual's belief in their ability and knowledge to produce original and creative ideas, rooted in Bandura's theory increases when AI is utilized as a writing assistant. This suggests that AI can play a positive role in enhancing students' confidence in their creative capacities (Jaya et al., 2025; Jaya et al., 2019; Fadilah et al., 2023).

The third theoretical perspective employed in this study is the Double Diamond Design Model proposed by the Design Council. This model emphasizes the processes of divergence and convergence in creativity. Within this framework, AI is viewed as a tool that can facilitate idea exploration during the divergent phase and support refinement and improvement during the convergent phase, particularly in short

story writing (Zhang & Crosthwaite, 2025; Wei, 2023; Lin, 2025).

Problem Identification

There is a growing concern that students may gradually lose their creative thinking abilities and critical thinking skills by excessively relying on artificial intelligence. This overreliance may lead students to delegate the entirety of their creative writing tasks to AI, thereby fostering a state of dependency and diminishing their intellectual autonomy.

Research Questions

The research questions of this study are formulated as follows:

1. What types of AI tools are used by third-semester students of the English Education Study Program in creative writing (short stories)?
2. How do students utilize AI as a writing assistant in their creative writing processes?

Research Objectives

This study aims to explore and analyze:

1. The types of AI tools used by third-semester students of the English Education Study Program in creative writing (short stories);
2. The patterns of AI utilization as a writing assistant in their creative writing activities.

3. METHODS

3.1 Research Approach and Design

This study employs a descriptive qualitative approach with a multiple case study design. The use of a multiple case study is intended to comprehensively describe and analyze the patterns that emerge across the 13 student-produced short story documents. This design enables an in-depth exploration of

variations and commonalities in the use of AI in creative writing practices.

3.2 Research Site

The study was conducted at Universitas PGRI Kalimantan (UPK), located at Jl. Sultan Adam Komplek H. Iyus Blok A No.18 RT.23 RW.02, Sungai Jingah Village, North Banjarmasin District, Banjarmasin City, South Kalimantan Province, Indonesia.

3.3 Participants

The participants of this study consisted of 13 students from the English Education Study Program (PBI), Faculty of Social and Humanities (FSH), who had utilized AI in completing their creative writing assignments. The creative writing outputs analyzed in this study were English short stories accompanied by illustrations produced by the students, submitted as part of their coursework in Literature classes.

Students were given full autonomy in utilizing available resources, including AI tools and other supporting technologies, in the process of completing their writing tasks.

3.4 Data Collection

The data were obtained from document analysis of students' reports, which included their short stories and detailed descriptions of the writing process (Mauliddiyah, 2021; Susanto et al., 2023). In addition, unstructured interviews were conducted to validate the use of AI, particularly for participants who did not explicitly describe their use of AI within their written documents.

3.5 Data Analysis Procedures

The data analysis was conducted systematically through the following steps:

a. Data Extraction

This stage involved identifying key elements from the collected documents, including the author's name, short story title, AI tools used, and specific descriptions of how AI was utilized in the writing process.

b. Categorization of Synergy

Patterns

The use of AI was categorized into distinct patterns of human–AI synergy. Three primary patterns were identified:

- Pattern 1: AI as an editor
- Pattern 2: AI as an idea generator
- Pattern 3: AI as a visualization tool

c. Qualitative Analysis

A qualitative analysis was conducted to examine the descriptions of AI utilization in order to understand the depth and nature of human AI interaction in the creative writing process (Tisdell et al., 2025; Patton, 2020). This analysis aimed to reveal how AI contributes to or influences students' creativity and writing practices.

4. RESULTS AND DISCUSSION

4.1 Research Findings

The findings of this study reveal two main aspects: (1) the types of AI used by students, and (2) the patterns of

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AI utilization and its roles in the writing process. The detailed explanations are presented as follows:

1) Types of AI Used

Based on the analysis of AI usage, it was found that the majority of students relied on ChatGPT. This finding was

derived from both interviews and document analysis of students' reflective writing reports. The AI tools identified in this study include ChatGPT, Grammarly, MetaAI, and Midjourney, with ChatGPT being the most dominant and widely used tool among students.

Table 1. Types of AI Used by Students in Creative Writing

No	Author Name	Title of Work	AI Usage
1	Nabila	The Weaver Stars	MetaAI for idea generation
2	Saufia	Special in My Life	Grammarly for grammar checking
3	Hairu	The Forgotten Friends	ChatGPT for idea generation
4	Maulida	Sari's Light	ChatGPT and Grammarly
5	Nathan	Little Dream	ChatGPT for illustration and grammar
6	Erni	The Price of a Mistake	ChatGPT for translation and revision
7	Nurul Huda	The Meeting That Never Ends	ChatGPT for story development
8	Ade Okta	Lost Friends, Remaining Hope	ChatGPT for story development
9	Raihan	The Story of a Cake	ChatGPT for sentence structuring
10	Fikri	The Whispering Lantern	Midjourney for illustration
11	Mulyadi	The Journey to the Poetry Stage	ChatGPT for story development (interview data)
12	Ricko	Dyrroth the Prince	ChatGPT for grammar and structure
13	Ghina	The Tale of the Starry Night	ChatGPT for story development (interview data)

These tools were utilized for various purposes, such as idea generation, grammar checking, sentence structuring, translation, and illustration development. The dominance of ChatGPT indicates its versatility as an AI writing assistant capable of supporting multiple stages of the creative writing process.

2) Patterns of AI Synergy

Several patterns of synergy between students (as users) and AI (as tools) were identified in overcoming challenges in writing English short stories. These patterns include:

a. AI as an Editor and Language Enhancer

One of the most common challenges faced by students is limited English vocabulary. AI plays a significant role in addressing this issue

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by assisting with grammar correction, sentence restructuring, and translation. This represents the most frequently observed role of AI among participants.

Students utilized AI to ensure higher linguistic quality in their short stories. For instance, one student explicitly mentioned the use of “manual notebooks, note-taking applications, WPS, and ChatGPT” as writing tools. The student highlighted difficulties in manually translating text into English and selecting appropriate words. In this context, AI contributed to vocabulary enrichment by suggesting more precise lexical choices such as *responsibility*, *perseverance*, and *confession*.

b. AI as an Idea Generator

Although the initial story ideas often originated from students themselves either from personal experiences (as in the cases of Saufia and Erni) or external inspirations such as books (Fikri and Nathan) and social media exposur AI was frequently used to structure and expand these ideas.

Students described stages such as “deciding the main idea” and engaging in “brainstorming and research” to develop their narratives. AI was particularly useful in generating supporting ideas, including suggesting suitable titles. This indicates that AI helps students overcome initial creative blocks and supports idea development.

c. AI for Visual Asset Generation and Digital Tools

The use of tools such as Midjourney demonstrates the expansion of AI’s role beyond text-based assistance into multimedia support. Students used AI to generate illustrations accompanying their short stories by providing prompts that were converted into visual outputs.

However, it is important to distinguish between AI-based and non-AI digital tools. While most students relied on AI for visual generation, one student (Ade) created illustrations manually using digital drawing tools without AI assistance, demonstrating individual artistic skill.

d. AI as a Comprehensive Writing Toolkit

AI was often used in conjunction with other digital tools such as Grammarly and Google Translate to support nearly all stages of the writing process from initial idea generation to final revision. This reflects the integration of AI into a broader digital writing ecosystem.

Discussion

Three key issues emerge from this study: (1) the authenticity of ideas, (2) the synergy of the writing process, and (3) the transformation of the author’s role.

1) Authenticity of Ideas

The findings indicate that the core ideas of the short stories primarily originate from students’ personal experiences and interests. The “seed” of each story emerges from students’ own knowledge and memories, which AI cannot inherently possess.

The sources of originality can be categorized into two types:

a. Personal Experiences

Erni’s short story *The Price of a Mistake* reflects her personal experience of dealing with unexpected consequences and emotional acceptance. Similarly, Saufia’s *Special in My Life* narrates grief and acceptance following the loss of close family members. These emotional expressions represent authentic human experiences that cannot be replicated by AI.

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b. Popular Culture Influence

Some students, such as Okta and Nathan, drew inspiration from popular culture, particularly Japanese manga and anime. This influence is reflected in both narrative elements and visual styles.

2) Process Synergy

Interview data from Mulyadi provide clear evidence of *iterative prompting*, a process in which students repeatedly refine AI-generated outputs. Mulyadi acknowledged continuously adjusting prompts until the generated text aligned with his vision.

This demonstrates the presence of critical thinking, as students actively evaluate and revise AI outputs rather than passively accepting them. In this

context, Mulyadi assumes the role of an Editor-in-Chief, while AI functions as a writing assistant that must meet his standards.

3) Role Transformation

The findings suggest a shift in the role of the writer from a sole creator to a curator. In cases such as Erni and Saufia, the human author serves as the “soul source” of the narrative, providing emotional depth and authenticity.

Meanwhile, students like Mulyadi act as directors who guide and control the AI through instructions. This transformation reflects a collaborative model in which human creativity and AI capabilities complement each other.

Table 2. Mapping of AI Utilization and Student Roles in Creative Writing

No	Student Name	AI & Technology Tools	Purpose of Use	Student Role	Level of Synergy
1	Mulyadi	ChatGPT (Generative AI)	Refining and polishing, editing sentence structure, selecting appropriate diction, and improving grammar. Mulyadi applied iterative prompting until the output met his expectations.	The Curator / Editor-in-Chief: Mulyadi acted as the primary controller. He had a clear narrative vision, while AI functioned as a writing assistant required to revise outputs repeatedly until approved.	High (Active Collaboration)
2	General Students	Translation Apps & Basic Chatbots	Vocabulary and translation support, assisting in translating ideas from Indonesian into English and finding synonyms (vocabulary enrichment).	The Learner: Students used AI as a “living dictionary” or personal tutor to overcome language barriers, while maintaining ownership of story ideas.	Moderate (Functional Assistance)
3	Okta & Nathan	Search Engines (e.g., Google) & Digital Art Tools	Visual and contextual research, seeking references (anatomy, setting) to support manga/anime-style imagination.	The Visualizer / Adapter: Students adapted elements of popular (Japanese) culture into their narratives. Technology helped visualize ideas before writing.	Moderate (External Inspiration)
4	Erni Suharni	(Minimal AI Use for Ideas)	Focus on self-expression: story ideas derived purely from personal	The Soul Source: Demonstrates that emotional depth and	Low (Human Dominance)

			experiences/trauma (e.g., post-accident life experiences).	traumatic experiences rely minimally on AI. The author remains the sole source of originality.	
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5. CONCLUSION

The utilization of Artificial Intelligence (AI) as a writing assistant in English creative writing, particularly in short story composition, demonstrates a clear and emerging trend among students. Rather than relying on AI to generate complete creative content, students tend to employ it as a strategic support tool to address linguistic limitations such as grammar accuracy and translation and to enhance the efficiency of the creative process, including idea development and visual asset generation. This indicates that AI functions not as a replacement for human creativity, but as a facilitator that strengthens students' writing capabilities.

The synergy between student creativity and AI is reflected in a collaborative model in which students remain the primary source of creativity, contributing core ideas, emotional depth, narrative plots, and personal experiences. These elements represent the authentic and human-centered aspects of creative writing that AI cannot inherently replicate. At the same time, AI operates as both a linguistic co-pilot and a technical co-creator, assisting students in articulating their ideas in grammatically accurate and stylistically appropriate English. Additionally, AI supports the enhancement of creative outputs through features such as vocabulary enrichment, structural refinement, and even visual representation.

This collaborative dynamic highlights a complementary relationship,

where human creativity and AI capabilities work together to produce more polished, expressive, and effective creative writing. Rather than diminishing students' originality, the integration of AI, when used appropriately, can amplify their ability to communicate ideas and bring their creative visions to life in a second language.

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7. REFERENCES

- Ahmed, A., & Ahmed, M. (2022). Academic writing: Types, elements, and strategies. *IJLHE: International Journal of Language, Humanities, and Education*, 5(2), 60–70. <https://doi.org/10.52217/ijlhe.v5i2.989>
- Al Hosni, J. (2025). Preserving authorial voice in academic texts in the age of generative AI: A thematic literature review. *Arab World English Journal*, 16(3), 244–258. <https://doi.org/10.24093/awej/vol16no3.14>
- Aljuaid, H. (2024). The impact of artificial intelligence tools on academic writing instruction in higher education: A systematic review. *Arab World English Journal (AWEJ), Special Issue on ChatGPT*, 26–55. <https://doi.org/10.24093/awej/ChatGPT.2>
- Ambat, F., et al. (2021). Hyponymy found in

- Kate Chopin's selected short stories. *Journal of Language and Literature*, 10(1), 42–55.
- Amirjalili, F., Neysani, M., & Nikbakht, A. (2024). Exploring the boundaries of authorship: A comparative analysis of AI-generated text and human academic writing in English literature. *Frontiers in Education*, 9, 1–11. <https://doi.org/10.3389/feduc.2024.1347421>
- Anggraini, D. (2025). The impact of artificial intelligence on student learning behavior in higher education. *Journal of Educational Technology Studies*, 12(1), 45–58.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. W. H. Freeman and Company.
- Cronin, M., Hubbard, V., Jr., T. A. C., & Frost, P. (2020). Creative writing as a therapeutic method for achieving self-satisfaction. *Clinics in Dermatology*, 38(5), 512–515. <https://doi.org/10.1016/j.clindermatol.2020.05.004>
- Dergaa, I., Chamari, K., Zmijewski, P., & Saad, H. B. (2023). From human writing to artificial intelligence-generated text: Examining the prospects and potential threats of ChatGPT in academic writing. *Biology of Sport*, 40(2), 615–622. <https://doi.org/10.5114/biolsport.2023.125623>
- Déri, C. E., Tremblay-Wragg, É., & Mathieu-C., S. (2022). Academic writing groups in higher education: History and state of play. *International Journal of Higher Education*, 11(1), 85–99.
- Dwirsyah, A. R. (2020). Improvement of short story writing with synectic models and creative productive materials. *Budapest International Research and Critics in Linguistics and Education (BirLE) Journal*, 3(3), 1980–1994. <https://doi.org/10.33258/birci.v3i3.1126>
- El Maamri, O. (2025). Towards the modelling of a writing process integrating generative AI to develop argumentative skills. *XLinguae*, 18(1), 133–143. <https://doi.org/10.18355/XL.2025.18.01.10>
- Fadilah, I. A., Jaya, A., & Uzer, Y. (2023). Visual representation and comprehension: The exploration of multimodal text. *Esteem Journal of English Education Study Programme*, 6(1), 125–130. <https://doi.org/10.31851/esteem.v6i1.10226>
- Fitria, T. N. (2024). Creative writing skills in English: Developing students' potential and creativity. *EBONY: Journal of English Language Teaching, Linguistics, and Literature*, 4(1), 1–17. <https://doi.org/10.37304/ebony.v4i1.10908>
- Girsang, M., et al. (2023). Intrinsic elements in digital short stories “The Oval Portrait” by Edgar Allan Poe. *Journal of Language*, 5(1), 241–247. <https://doi.org/10.30743/jol.v5i1.6737>
- Hubert, C., Bonnardel, N., & Frey, A. (2025). Effects of daily creative writing practice on cognitive development. *Thinking Skills and Creativity*, 58, 101881. <https://doi.org/10.1016/j.tsc.2025.101881>
- Ida Royani, & Sihombing, M. R. (2024). ChatGPT in the academic writing classroom. *Esteem Journal of English Education Study Programme*, 7(2), 630–638. <https://doi.org/10.31851/esteem.v7i2.15615>
- Jaya, A., Hartono, R., Wahyuni, S., & Yulianto, H. J. (2025). Effects of project-based learning strategies on student performance and confidence. *Retos*, 66, 349–360. <https://doi.org/10.47197/retos.v66.110067>
- Jaya, A., Hermansyah, & Rosmiyati, E. (2019). Redefining project-based learning in English class. *Esteem Journal*, 2. <https://doi.org/10.31851/esteem.v2i2.2423>
- Jones, S., & Flint, A. (2022). Digital platforms and the democratization of creative writing. *Journal of New Literacies*, 15(2), 45–60.
- Khalifa, M., & Albadawy, M. (2024). Using artificial intelligence in academic writing and research. *Computer*

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- Methods and Programs in Biomedicine Update*, 5, 100145. <https://doi.org/10.1016/j.cmpbup.2024.100145>
- Lin, Z. (2025). Techniques for supercharging academic writing with generative AI. *Nature Biomedical Engineering*, 9(1), 426–431. <https://doi.org/10.1038/s41551-024-01185-8>
- Mauliddiyah, N. L. (2021). *Metode pengumpulan data dan instrumen penelitian*. <https://doi.org/10.31219/osf.io/svu73>
- Ningrum, R. W., Hamamah, H., Sahiruddin, S., & Rohmah, Z. (2023). Academic writing difficulties for Indonesian students. *Journal of English Education and Applied Linguistics*, 12(1), 5271. <https://doi.org/10.24127/pj.v12i1.5271>
- Oktaviani, R., & Chan, S. M. (2023). Development of short story writing through problem-based learning. *Aksis: Jurnal Pendidikan Bahasa dan Sastra Indonesia*, 7(2), 161–172. <https://doi.org/10.21009/aksis.070205>
- Ozfidan, B., El-Dakhs, D. A. S., & Alsalam, L. A. (2024). The use of AI tools in English academic writing. *Contemporary Educational Technology*, 16(4), ep527. <https://doi.org/10.30935/cedtech/15013>
- Patton, M. Q. (2020). *Qualitative research & evaluation methods: Integrating theory and practice*. Sage Publications.
- Rahayu, W., Weda, S., Muliati, & De Vega, N. (2024). Artificial intelligence in writing instruction. *XLinguae*, 17(1), 234–244. <https://doi.org/10.18355/XL.2024.17.01.16>
- Susanto, D., Risnita, & Jailani, M. S. (2023). Techniques for validating research data. *Jurnal QOSIM*, 1(1), 53–61. <https://doi.org/10.61104/jq.v1i1.60>
- Tisdell, E. J., Merriam, S. B., & Struckey-Peyrot, H. L. (2025). *Qualitative research: A guide to design and implementation*. John Wiley & Sons.
- Wei, L. (2023). Artificial intelligence in language instruction. *Frontiers in Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1261955>
- Wu, E. L., et al. (2025). Improving students' creativity through creative diary. *Thinking Skills and Creativity*, 57, 101820. <https://doi.org/10.1016/j.tsc.2025.101820>
- Zahra, A. (2022). The influence of AI tools on student dependency. *International Journal of Educational Innovation*, 10(3), 210–222.
- Zhang, M., & Crosthwaite, P. (2025). Differences in academic essays produced by AI and humans. *IRAL*, 1–28. <https://doi.org/10.1515/iral-2024-0196>