Kashihara, A. et al. (Eds.) (2024). Proceedings of the 32nd International Conference on Computers in Education. Asia-Pacific Society for Computers in Education

Integrating ChatGPT into Flipped Learning: Enhancing Students' Creative Writing Skills and Perception

Worapong KHUIBUT[a], Sasivimol PREMTHAISONG[b], & Pawat CHAIPIDECH[cd*]
[a]*Khon Kaen University Demonstration School MoDinDaeng Division, Khon Kaen University, Thailand*
[b]*Khon Kaen University Demonstration School International Division, Khon Kaen University, Thailand*
[c]*Faculty of Education, Khon Kaen University, Thailand*
[d]*Digital Education and Learning Engineering Association, Thailand*
*pawach@kku.ac.th

Abstract: The integration of artificial intelligence (AI) into educational methods is gaining traction within the evolving landscape of modern education. This study examined the impact of integrating AI into a flipped classroom model to enhance creative writing skills and student perception at the secondary school level. Ninety-eight grade 10 students were divided into three groups: a control group (CG) that received traditional instruction, an experimental group 1 (EG1) that utilized the flipped classroom model, and another experimental group 2 (EG2) that used an AI-enhanced flipped classroom incorporating ChatGPT. Data collection consisted of pre-test and post-test evaluations to evaluate the development of students' creative writing skills and their perceptions of the learning environment. The findings revealed that students in the AI-enhanced flipped classroom demonstrated significant improvements in creative writing skills compared to both the control group and the non-AI flipped classroom group. Additionally, students' perceptions of the learning experience were more positive in the AI-enhanced setting, suggesting that AI tools such as ChatGPT can significantly enhance creativity and engagement in the learning process. These results highlighted the potential of integrating AI into instructional strategies to foster creativity and enhance students' learning experiences.

Keywords: Artificial intelligence (AI), creative writing skills, flipped classroom, language learning, students’perception

1. Introduction

The development of writing skills is essential for students and cannot be neglected. Students must exercise and master these skills to the point where they can use them effectively and efficiently to contribute to positive learning outcomes (Chambers, 1997). However, when language learning becomes challenging, it often leads to boredom, which negatively impacts student engagement and learning outcomes, particularly in complex languages. (Liu, Li, & Fang, 2022). Therefore, it is crucial to implement engaging instructional strategies to combat these challenges.

One such strategy is the flipped classroom model, which reverses the traditional learning environment by delivering instructional content outside of class and engaging students in active learning during class time (Khosravi, Dastgoshadeh, & Jalilzadeh, 2023; Al-Zahrani, 2015). This model provides students with more opportunities to practice and refine their writing skills, especially in a challenging language context like Thai.

In recent years, the integration of Artificial Intelligence (AI) in learning environments has gained significant attention, particularly in enhancing creative writing skills and student perception within the flipped classroom model. The ability to improve the way students interact with content and achieve essential skills is promising when AI tools like ChatGPT are

implemented in educational environments. Research has demonstrated that AI platforms can improve students' narrative intelligence and writing self-efficacy, indicating that these tools can make a substantial contribution to their creative abilities (Pellas, 2023). Additionally, the integration of AI with long-standing educational models such as Synectics has shown substantial enhancements in creative writing, particularly among high school students. This suggests that AI-supported learning can effectively improve students' creative outputs (Khuibut, Premthaisong, & Chaipidech, 2024).

In addition to improving creative writing abilities, AI's impact on student perception in educational environments is important. Research suggests that students generally have a positive perception of AI tools in education, acknowledging their effectiveness in enhancing academic tasks and improving learning outcomes (Al-Raimi et al., 2024; Rodríguez-Paz et al., 2024). These perceptions are essential because they affect the way students interact with technology and the extent to which they can utilize these tools for learning. Research conducted in high school settings has demonstrated that open classroom models can have a substantial impact on student engagement and writing achievement, underscoring the significance of AI integration in this context (Florence & Kolski, 2021).

This research aims to investigate the potential of artificial intelligence (AI) to improve both student perception and creative writing abilities in flipped classrooms, particularly within the context of learning the Thai language.

2. Literature Review

2.1 Flipped Classroom with Language Learning

The flipped classroom model has been widely acknowledged for its ability to improve language learning by creating student-centered and interactive environments. Khosravi, Dastgoshadeh, and Jalilzadeh (2023) investigated the effects of metacognitive strategy-based instruction in a flipped classroom on the writing performance, self-efficacy, and anxiety of EFL learners. Their research indicated that the flipped classroom was effective in improving common language learning challenges, including low confidence and writing-related stress, by substantially enhancing students' self-efficacy and writing skills, as well as reducing stress.

Al-Zahrani (2015) investigated the impact of rotated classrooms on creative thinking in higher education and identified that this method enhanced students' creative abilities, particularly in the skills of fluency and flexibility. These findings underscore the potential of the flipped classroom to foster inventive thinking in language learning, a critical component of the language learning process.

Florence and Kolski (2021) designed action research in a high school writing course, which further substantiated the theory by demonstrating that the flipped classroom model improved student engagement and writing performance. The flipped classroom's capacity to promote engagement and enhanced writing outcomes was underscored by the increased word counts and more frequent attempts at dialogue that students showed in their writing assignments following the intervention.

Additionally, Junio and Bandala (2019) investigated the prospective benefits of flipped classroom instruction to improve academic writing. They discovered that students preferred this approach to conventional lectures, and they reported substantial improvement in their academic writing skills. This suggests that the flipped classroom is effective in improving writing proficiency in educational environments.

2.2 AI for Enhancing Creative Writing Skills

Artificial intelligence (AI) integration into flipped classrooms has the potential to significantly improve the development of creative writing skills. Artificial intelligence (AI) supports students' creative thinking by generating an extensive variety of ideas and providing personalized feedback. According to Pellas (2023), AI improves narrative intelligence and writing self-efficacy, thereby enabling students to take creative risks in their writing. Furthermore, the

ability of AI to facilitate scaffolding in the writing process by assisting students during the ideation, drafting, and revising phases further enhances the quality of their writing (Florence & Kolski, 2021). The development of technical skills is facilitated by this structured approach, which also fosters a more profound engagement with creative tasks.

Al-Raimi et al. (2024) found that the efficacy of AI tools for writing tasks is contingent upon the degree to which students are instructed to utilize them. Despite this, most students have positive perceptions of these instruments. Additionally, Junio and Bandala (2019) underscored that effective integration of AI tools into academic writing courses can result in substantial advancements in student engagement and writing quality. artificial intelligence (AI) addition to creative writing in flipped classrooms is, in general, indispensable, as it offers students the support they require to improve their technical and creative writing abilities.

2.3 Enhancing Perception and Writing Skills with AI

Perception is an essential element in the environment in which students interact with educational technologies, particularly in the context of writing. AI has demonstrated potential in improving both writing skills and perception, especially when it is incorporated into flipped classroom models. Rodriguez-Paz et al. (2024) discovered that students generally regarded AI tools in engineering education as beneficial and were receptive to incorporating new technologies into their learning processes. This underscores the significance of positive perceptions in the effective integration of AI into education.

Similarly, Ruiz-Jiménez, Martínez-Jiménez, and Licerán-Gutiérrez (2024) explored students' perceptions of learning outcomes in a flipped classroom environment enhanced by AI. The study's findings indicate that AI integration in flipped classrooms significantly improved students' learning outcomes by fostering better attitudes, competencies, and academic perceptions. This suggests that AI may assume a crucial role in enhancing both technical writing skills and students' overall learning experiences.

Huang, Mills, and Tiangco (2024) conducted an additional investigation into the effects of integrating Inquiry-Based Learning (IBL) with Technology-Enhanced Formative Assessment (TEFA) in a flipped EFL writing instruction model. They discovered that this integration considerably enhanced the quality of essay writing and positively impacted students' perceptions of the learning environment, underscoring the importance of AI-driven formative assessments for creating a more interactive and student-centered learning experience.

3. An Example of Creative Writing by Flipped Classroom integrated with generative AI.

This study integrated generative AI with the flipped classroom model to enhance creative writing skills. The flipped classroom approach divides learning into two phases: outside the classroom and inside the classroom. Technology tools introduced in this study.

(1) Edpuzzle: An interactive video platform that allows educators to create engaging video lessons by embedding questions and comments. It provides students with the opportunity to learn at their own pace and interact with content outside of class time.

(2) ChatGPT: A conversational AI tool that offers personalized feedback and suggestions to students on their creative writing. It assists students in refining their writing by acting as a virtual tutor.

(3) Padlets: An online platform that functions as a collaborative digital board, where students can share their work, provide peer feedback, and engage in discussions. This platform fosters a community learning environment where students can learn from each other's perspectives.

The Flipped Classroom is a pedagogical approach that reverses traditional learning by delivering instructional content online before class, while in-class time focuses on activities like discussions, projects, and problem-solving. The process includes two main phases: out-of-class activities, where students watch videos or engage with learning materials at their own

pace, and in-class activities, where students participate in interactive tasks under teacher guidance. (Zou et al., 2020) This approach has been adapted in research to enhance creative writing and students' perceptions using the following methods.

During the out-of-class phase, students interact with educational sections on the Edpuzzle platform. This platform enables them to participate in preliminary exercises and respond to questions that help build foundational knowledge and contextual understanding prior to in-class activities. Additionally, students engage with interactive materials on "How to Prompt," which guide them on effectively interacting with AI tools such as ChatGPT. This preparatory step ensures that students are familiar with the techniques of prompting, enhancing their ability to communicate their needs and receive more relevant feedback from the AI during the in-class sessions.

In the in-class phase, students are assigned to compose creative free verse poems based on the instructor's designated themes. After completing their creative works, students use ChatGPT to receive personalized feedback and recommendations for enhancing the quality and depth of their writing. This interaction encourages students to explore innovative approaches, receive tailored guidance, and improve their creative writing performance. In addition to the AI feedback, teachers also provide direct feedback to students, offering guidance and critiques on grammar, word choice, and rhetorical style.

Following this, students share their refined creative verse compositions on Padlets, creating a collaborative environment where they can communicate ideas, provide peer feedback and develop a collective knowledge base. This approach not only enhances their creative writing skills but also deepens their understanding of how technology can be employed to augment the learning experience, as shown in Figure 1.

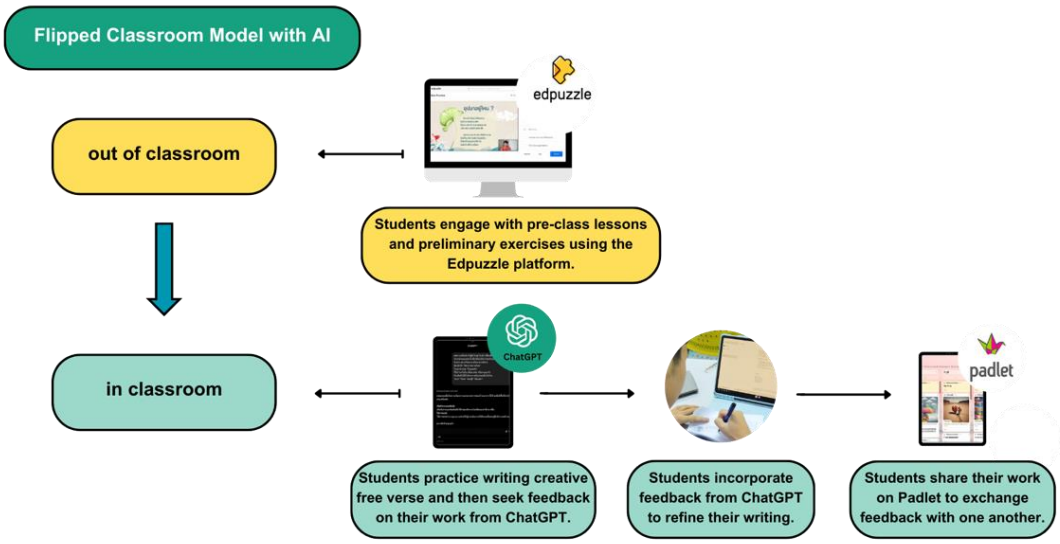

Figure 1. An example of creative writing by flipped classroom integrate with generative AI.

4. Methodology

4.1 Research design

The research investigation encompassed three distinct student categories with pre-test and post-test assessments: EG1, an experimental group 1 that utilized a flipped classroom; EG2, an experimental group 2 that also utilized a flipped classroom combined with generative AI and; CG, a control group, as shown in Figure 2.

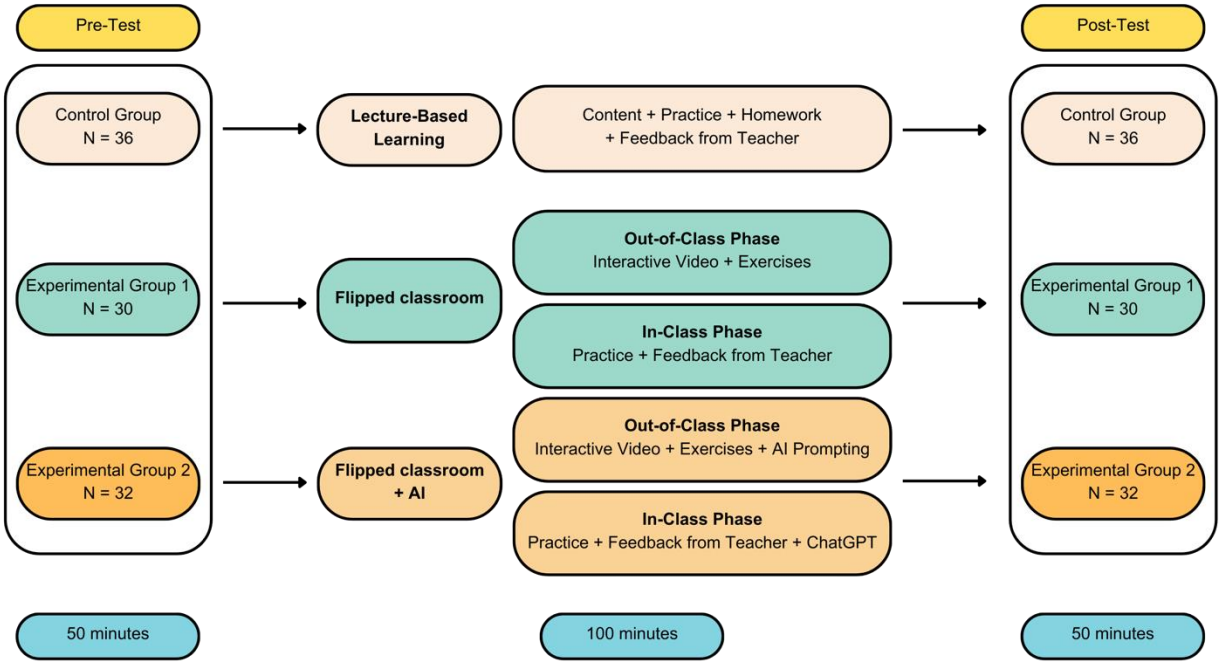

Figure 2. The research design of this study.

CG was instructed using traditional lecture-based methods. Students attended in-class sessions where they received direct instruction on course content, completed practice exercises, and were assigned homework. Teachers provided feedback during in-class sessions to help students improve their work.

EG1 followed the flipped classroom model. During the out-of-class phase, students engaged with pre-recorded instructional videos on the Edpuzzle platform, which included interactive exercises designed to reinforce writing skills. In the in-class phase, students participated in writing practice activities and received personalized feedback from the teacher, focusing on enhancing their writing abilities.

EG2 also employed the flipped classroom model but integrated generative AI for additional guidance. In the out-of-class phase, students studied instructional videos on the Edpuzzle platform, participated in interactive writing exercises, and practiced prompting techniques to effectively interact with ChatGPT. During in-class sessions, students engaged in writing activities and received feedback from both ChatGPT and the teacher. The combined feedback helped students refine their work through insights from AI and direct instruction.

4.2 Participants

This study explores methods for fostering creative writing by instructing students in the crafting of creative free verses. The participants, who were studying in grade 10, were divided into three groups for the investigation. A control group (CG) of 36 students engaged in the learning process using traditional lectures. The experimental group 1 (EG1) consisted of 32 students, and the experimental group 2 (EG2) included 30 students who utilized a generative AI-driven flipped classroom format, seeking guidance from ChatGPT for the development of creative writing. All three groups of students were selected from a cohort of grade 10 students at a medium-sized school. The readiness and capacity to utilize technology, as well as their fundamental learning abilities, were comparable among all three groups. According to the results of the pre-test, students in each group demonstrated similar baseline skills. This experiment consisted of a total of four learning sessions. Ethical approval for this research was granted by the Human Research Ethics Committee of Khon Kaen University under the reference number HE673285.

4.3 Research Instruments

The study utilized various assessment instruments to evaluate different aspects of creative writing and perceptions of language learning facilitated by technology. The primary instrument, the "Creative Writing Test," included three open-ended tasks designed to measure students' creative writing abilities. The tasks were: (1) writing about "My Ideal School," (2) exploring "Gender Diversity," and (3) composing a creative free verse based on a provided image, topics distinct from the in-class exercises. These tasks aimed to assess creative writing skills using the criteria established by Morris & Sharplin (2013), which include: (1) language usage and stylistic choices; (2) comprehension of social and cultural contexts; and (3) the development of word meanings and creativity. The assessment consisted of 25 items, each designed to comprehensively evaluate the various elements of creative writing.

In addition, the study included "the Language Learning Perception Questionnaire" which was initially devised by Peng et al. (2009). Twenty-one items are distributed across two dimensions in this questionnaire: (1) Learning Experiences and (2) Overall Impressions, which are intended to evaluate attitudes toward technology-supported learning environments. The questionnaire has been translated into Thai.

4.4 Student's ChatGPT Prompting.

This research facilitated the study of writing guidelines and basic techniques for working with ChatGPT from the comfort of students' homes. Through the Flipped Classroom learning format combined with the Edpuzzle platform, students engage in fundamental writing and question-answering exercises. During class, students are assigned topics to write about and can submit their work to ChatGPT for feedback. In online sessions, students are encouraged to initiate a conversation with ChatGPT promptly to seek guidance on enhancing their creative writing. The following are the guidelines: (1) assign a role to ChatGPT, (2) communicate your requirements, and (3) establish boundaries, such as "You are a famous author; I would appreciate it if you could evaluate my writing and provide me with suggestions on how to enhance my creative writing." Each student employs a unique prompting approach to achieve the desired responses, as shown in Figure 3.

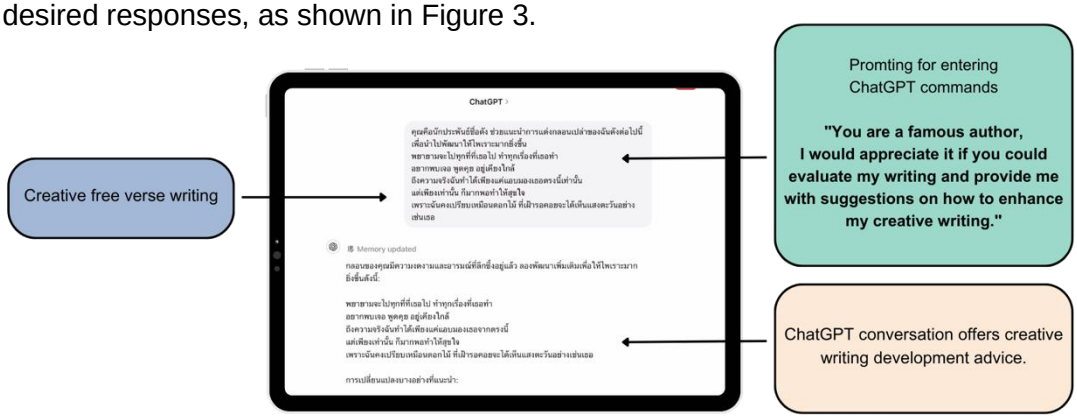

Figure 3. ChatGPT-assisted collaborative activities for enhancing creative writing.

4.5 Data Collection

Students were given 10 minutes to complete a questionnaire regarding their perception. They were then given another 40 minutes to complete a pre-test on creative writing. Upon completing the pre-learning data collection, both groups of students participated in a structured learning intervention designed to improve their ability to write creative free verses. This intervention incorporated the Flipped Classroom model with various educational technologies, focusing primarily on ChatGPT. During the intervention, the teacher instructed students on how to use ChatGPT and compose inventive blank verses. After the intervention, students were given a post-test questionnaire and examination, as shown in Figure 4.

Figure 4. The activity of creative writing by flipped classroom with generative AI.

5. Result and Discussion

5.1 Creative Writing Skill

A one-way analysis of variance (ANCOVA) was implemented to evaluate the influence of various instructional methodologies on students' creative writing ability. The post-test creative writing scores of three groups: control group (CG), experimental group 1 (EG1), and experimental group 2 (EG2) were compared in this analysis. The mean differences among the three categories were revealed by the descriptive statistics. CG ($\bar{X}$ = 14.53, S.D. = 3.791), EG1 ($\bar{X}$ = 17.38, S.D. = 2.803), and EG2 ($\bar{X}$ = 19.53, S.D. = 2.649) were the mean scores for creative writing, as indicated in Table 1.

Table 1. *ANCOVA Results for the Creative Writing Skill*

Source	Sum of Squares	df	Mean Square	F	η^2	Sig.
Between Groups	417.051	2	208.525	20.854	0.377	.000*
Within Groups	949.939	95	9.999			
Total	1366.990	97				

** p < .01*

A significant effect of the instructional method on creative writing skills is indicated by the ANCOVA results, with F(2, 95) = 20.854, p <.001. The Partial Eta Squared value of 0.377 indicates that the differences in instructional methods can account for approximately 37.7% of the variance in creative writing scores. This suggests that the type of instruction (traditional, flipped classroom, or AI-enhanced flipped classroom) had a significant impact on students' creative writing performance, as indicated by the large effect size.

Post hoc comparisons were conducted to investigate the specific group differences, as the aggregate effect was significant. The Bonferroni correction was employed. The mean creative writing score for the control group (CG) was significantly lower than that of the Experimental Group 1 (EG1) (Mean Difference = -2.847, p =.001) and experimental group 2 (EG2) (Mean Difference = -5.006, p <.001), as indicated by post-hoc tests. Furthermore, as indicated in Table 2, the EG2, which incorporated AI into the flipped classroom model, substantially outperformed the EG1 (Mean Difference = -2.158, p =.026).

Table 2. *Post Hoc Comparisons for the Creative Writing Skill*

Comparison	Mean Difference (I-J)	Std. Error	95% Confidence Interval	Sig.
CG – EG1	-2.847	.768	-4.72, -.97	.001*
CG – EG2	-5.006	.782	-6.91, -3.10	.000*
EG1 – EG2	-2.158	.804	-4.12, -.20	.026*

**p < .05*

Pairwise comparisons were implemented to further verify the distinctions between the groups. The post hoc analysis' findings were further substantiated by the pairwise comparisons, which demonstrated substantial disparities between CG and both experimental

groups (EG1 and EG2). In particular, the CG group's creative writing scores were markedly lower than those of both the EG1 group (Mean Difference = -2.853, p <.001) and the EG2 group (Mean Difference = -4.987, p <.001). Moreover, the EG2 group demonstrated superior performance compared to the EG1 group, as evidenced by a significant mean difference of -2.134 (p =.007). This highlights the supplementary advantage of AI integration in the flipped classroom model, as shown in Table 3.

Table 3. *Pairwise Comparisons for the Creative Writing Skill*

Comparison	Mean Difference (I-J)	Std. Error	95% Confidence Interval	Sig.
CG – EG1	-2.853	.656	-4.452, -1.254	.000*
CG – EG2	-4.987	.668	-6.614, -3.359	.000*
EG1 – EG2	-2.134	.686	-3.806, -.461	.007*

*p < .05

The findings of this investigation definitely indicate that the flipped classroom model, particularly when implemented in conjunction with artificial intelligence, significantly enhances students' creative writing skills when compared to conventional instruction. These findings are consistent with the findings of previous research, including that of Khosravi, Dastgoshadeh, and Jalilzadeh (2023), who discovered that flipped classroom instruction improved writing performance and decreased writing anxiety by implementing metacognitive strategies. The flipped classroom model was found to be effective in improving creative thinking abilities, particularly in fluency and flexibility, as emphasized by Al-Zahrani (2015). This is in line with the substantial improvements that were observed in the current study when AI was incorporated into the flipped classroom model.

5.2 Perception

Student perceptions regarding the instructional methods they encountered are summarized in the subsequent section. The perception analysis is divided into two dimensions: Overall Impression and Learning Experience. To identify specific differences between the groups, the analysis was conducted using Multivariate Analysis of Variance (MANCOVA) followed by Pairwise Comparisons. The Control Group (CG), Experimental Group 1 (EG1), and Experimental Group 2 (EG2) were the groups that were compared, as shown in Table 4.

Table 4. *MANCOVA result Students' Perceptions toward Technology-Supported Learning*

Dimension	Group	N	Mean	S.D.	η^2	Sig.
Learning Experience	CG	36	27.61	4.265	0.430	<.001*
	EG1	32	32.53	4.072		
	EG2	30	35.60	3.125		
Overall Impression	CG	36	45.61	7.983	0.275	<.001*
	EG1	32	52.84	7.149		
	EG2	30	55.70	5.766		

*p < .05

The MANCOVA results suggested that there were significant differences between the three groups in terms of both the Learning Experience and the Overall Impression scores. The Partial Eta Squared values indicate that the instructional method had a significant impact on students' Learning Experience (η^2= 0.430) and a moderate influence on Overall Impression (η^2= 0.275). These results are in accordance with the research conducted by Khuibut, Premthaisong, and Chaipidech (2024), which indicated that the integration of AI into the Synectics model had a beneficial effect on students' perceptions of technology-supported learning environments. Pairwise comparisons were implemented to further investigate the distinctions between groups. Table 5 illustrates the findings.

Table 5. *Pairwise Comparisons: Students' Perceptions across Different Instructional Methods*

Dependent Variable	Group Comparison	Mean Difference (I-J)	Std. Error	95% Confidence Interval	Sig.
Learning Experience	CG – EG1	-4.920	0.944	-7.220, -2.620	<.001*
	CG – EG2	-7.989	0.960	-10.329, -5.648	<.001*
	EG1 – EG2	-3.069	0.987	-5.475, -0.663	0.007*
Overall Impression	CG – EG1	-7.233	1.723	-11.432, -3.033	<.001*
	CG – EG2	-10.089	1.753	-14.362, -5.816	<.001*
	EG1 – EG2	-2.856	1.802	-7.249, 1.537	0.349

*p < .05

The pairwise comparisons indicated that the control group (CG) and both experimental groups (EG1 and EG2) showed substantial differences in terms of both learning experience and overall Impression. Specifically, students in EG2, which implemented the flipped classroom model with AI integration, reported significantly higher scores in both dimensions than those in CG. Additionally, the learning experience comparison between EG1 and EG2 demonstrated a substantial disparity, suggesting that the integration of AI has the potential to improve students' perceptions. These findings are consistent with Rodriguez-Paz et al. (2024), who underscored the advantageous impact of AI tools on the learning experiences of students, particularly in engineering education. Students perceived AI as beneficial for the digital transformation of education.

However, the comparison of Overall Impression between EG1 and EG2 did not show a statistically significant difference. This suggests that the integration of AI in the flipped classroom model considerably improved the learning experience of students; however, it may not have substantially altered their overall impressions when contrasted with the non-AI flipped classroom design. The equivalent Overall Impression scores between EG1 and EG2 may indicate that both instructional methods were perceived as effective in establishing a positive learning environment, and the additional impact of AI was insufficient to produce a significant difference in this particular aspect. This result is in accordance with the findings of Florence and Kolski (2021), who discovered that the flipped classroom model significantly increased students' engagement and satisfaction. This suggests that the base model already offered a highly positive experience that was not significantly enhanced by the addition of AI tools.

Furthermore, this finding is consistent with Junio and Bandala (2019), who also found that students in a flipped classroom exhibited robustly positive perceptions of their learning environment, regardless of the addition of supplementary technological interventions. This consistency in Overall Impression between EG1 and EG2 may indicate that the flipped classroom model alone is sufficient to cultivate a generally positive impression among students, despite the fact that AI can improve certain aspects of the learning experience.

6. Conclusion

This study aimed to explore the integration of Artificial Intelligence (AI) into flipped classroom models to enhance both creative writing skills and student perceptions in a secondary education context. The results indicate that the AI-enhanced flipped classroom model significantly outperforms both traditional instruction and the non-AI flipped classroom model in the development of students' creative writing abilities. Specifically, the results indicate that students in the AI-enhanced group (EG2) demonstrated the greatest improvement in creative writing skills, with a substantial effect size. This suggests that the integration of AI tools such as ChatGPT can be a powerful pedagogical strategy. Additionally, the study examined the impact of these instructional methods on students' perceptions of their learning environment. Students in the AI-enhanced flipped classroom reported significantly more positive learning experiences and overall impressions than those in the control group and the non-AI flipped

classroom group. These results indicate that the integration of AI not only enhances technical writing abilities but also positively impacts students' perceptions of their learning process.

In summary, this investigation effectively accomplished its objectives by showing the effectiveness of AI integration in flipped classroom models in improving both student perceptions and creative writing abilities. The integration of AI tools in educational practices, particularly within innovative instructional frameworks such as the flipped classroom, is strongly supported by these results.

Acknowledgements

This work extends its gratitude to the research team for collaborative efforts in research development. Additionally, thank you to Khon Kaen University for their supportive contribution.

References

Al-Raimi, M., Mudhsh, B. A., Al-Yafaei, Y., & Al-Maashani, S. (2024). Utilizing artificial intelligence tools for improving writing skills: Exploring Omani EFL learners' perspectives. *Forum for Linguistic Studies*, *6*(2), 1177. https://doi.org/10.59400/fls.v6i2.1177

Al-Zahrani, A. M. (2015). From passive to active: The impact of the flipped classroom through social learning platforms on higher education students' creative thinking. *British Journal of Educational Technology*, *46*(6), 1133–1148. https://doi.org/10.1111/bjet.12353

Chambers, F. (1997). What do we mean by fluency?. *System, 25*(4), 535-544. https://doi.org/10.1016/S0346-251X(97)00046-8

Florence, E. A., & Kolski, T. (2021). Investigating the flipped classroom model in a high school writing course: Action research to impact student writing achievement and engagement. *TechTrends, 65*(10), 1042–1052. https://doi.org/10.1007/s11528-021-00662-0

Huang, H.-W., Mills, D. J., & Anthony, J. (2024). Inquiry-based learning and technology- enhanced formative assessment in flipped efl writing instruction: Student Performance and Perceptions. *Sage Open, 14*(2). https://doi.org/10.1177/21582440241236663

Junio, D. A., & Bandala, A. A. (2019). *Innovating Academic Writing through Flipped Classroom Instruction*. https://doi.org/10.1109/hnicem48295.2019.9072859

Khosravi, R., Dastgoshadeh, A., & Jalilzadeh, K. (2023). Writing metacognitive strategy-based instruction through flipped classroom: an investigation of writing performance, anxiety, and self-efficacy. *Smart Learning Environments*, 10, 48. https://doi.org/10.1186/s40561-023-00264-8

Khuibut, W., Premthaisong, S., & Chaipidech, P. (2024). Integrating ChatGPT into synectics model to improve high school students' creative writing skills. In J. L. Shin et al. (Eds.), *Proceedings of the 31st International Conference on Computers in Education: Asia-Pacific Society for Computers in Education* (Vol. 2, pp. 44-51). Matsue, Shimane, Japan.

McLaughlin, J. E., et al. (2014). The impact of flipped classrooms on learning outcomes. *Educational Researcher, 43*(2).

Morris, G., & Sharplin, E. (2013). The assessment of creative writing in senior secondary english: a colloquy concerning criteria. *English in Education, 47*(1), 49–65. https://doi.org/10.1111/eie.12004.

Pellas, N. (2023). The effects of generative AI platforms on undergraduates' narrative intelligence and writing self-efficacy. *Educational Sciences, 13*, 1155. https://doi.org/10.3390/educsci13111155

Peng, H., Chuang, P.-Y., Hwang, G.-J., Chu, H.-C., Wu, T.-T., & Huang, S.-X. (2009). Ubiquitous performance-support system as mindtool: a case study of instructional decision making and learning assistant. *Educational Technology & Society, 12*(1), 107–120.

Rodriguez-Paz, M. X., González-Mendivil, J. A., Zamora-Hernández, I., & Sayeg-Sánchez, G. (2024). Students' perceptions on the use of artificial intelligence tools in engineering education for the digital transformation, *Proceedings of the 2024 IEEE Global Engineering Education Conference (EDUCON)* (pp. 1-7). https://doi.org/10.1109/EDUCON60312.2024.10578326

Ruiz-Jiménez, M. C., Martínez-Jiménez, R., & Licerán-Gutiérrez, A. (2024). Students' perceptions of their learning outcomes in a flipped classroom environment. *Education Tech Research Dev, 72*, 1205–1223. https://doi.org/10.1007/s11423-023-10289-y

Zou, D., Luo, S., Xie, H., & Hwang, G.-J. (2020). A systematic review of research on flipped language classrooms: Theoretical foundations learning activities, tools, research topics and findings. Computer Assisted Language Learning, 1–27. https://doi.org/10.1080/09588221.2020.1839502