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The Impact of Guided Writing Strategies Based on Gen-AI and Multimedia on Creative Thinking Skills and Composition Creativity in Short Story Writing

R. Ika Mustika*, Teti Sobari and Wikanengsih
Department of Indonesian Language Education, IKIP Siliwangi, Bandung, Indonesia

Abstract. This study aims to investigate the effectiveness of guided individual and group strategies based on Gen AI on creative writing skills and the quality of students' composition creativity in the short stories they produce. The research method used in this study was a quasi-experiment involving 253 high school students. The instruments used were the Torrance Creative Thinking Test, the composition creativity scale, and focus group interviews. The results of the study showed that guided individual and group writing strategies based on Gen-AI and multimedia were able to improve creative thinking skills and composition creativity in short story writing. The increase in flexibility is seen in the use of language variations and the adjustment of short stories to the topic of short story composition. The rise in originality is seen from the way students think, which is difficult to predict, and can produce creative and innovative short stories. The increase in elaboration is marked by their ability to express ideas with the use of more complex and varied linguistics. Furthermore, the increase in sensitivity is seen in the ability of students to adjust short stories to more comprehensive short story themes. So, individual and group guided writing strategies based on Gen-AI and multimedia can improve creative thinking skills and composition creativity in short story writing. This study implies that the integration of guided writing, both individually and in groups, is not only able to improve the ability to write creative short stories but also able to increase motivation to write and think creatively.

Keywords: Guided writing; Gen-AI; Multimedia; creative writing; creative thinking; composition creativity

*Corresponding author: *R. Ika Mustika*; *mestikasaja@ikipsiliwangi.ac.id*

1. Introduction

Creative thinking skills are skills needed by students to be able to compete globally in the world of work. In addition, writing skills are also a very important skill in education because, through writing, students can express their ideas and become a means of communication. Writing skills are also believed to be a means for teachers to assess students' creative thinking skills (Black & Tomlinson, 2025; Carey et al., 2022). This creativity is not only possessed by talented students but can be possessed by all students through conditioning and development using the right and appropriate scaffolding.

In several countries, student creativity is a concern of the government, by implements a national creativity development program for every student without limitations (Healey, 2025; Leggett, 2024). The evaluation program for international students has recently developed a framework for assessing students' creative thinking skills in light of the importance of these abilities. This evaluation is meant to evaluate students' creative capacity in all spheres of writing, including visual expression, solving social problems, solving scientific problems, and non-scientific problems (Mikkilä, 2024; Polakova & Ivenz, 2024). This framework helps one to see that the basis for developing personal creative thinking ability is verbal expression and composition.

Two skills that are quite valuable and complement each other are creative thinking and writing ability. This happens because students with more intensive writing activity frequencies have better creative thinking skills (Regan et al., 2019; C. Y. Wang et al., 2019). Verbal expression in oral communication practices and compositions becomes a display of students' creative thinking. Producing imagination is one of the goals of learning to write literary works. The use of appropriate strategies or approaches can motivate students in teaching creative writing of literary works. This study intends to investigate, in the learning process, creative writing techniques grounded on scaffolding theory (Bender, 2024; Gilbert & Macleroy, 2021).

The majority of students have difficulty writing, especially in creative writing. Students' difficulties include generating original, creative ideas and developing their writing. Previous studies have found that students have difficulty generating ideas and developing them in the form of original writing (Punzi, 2021; Tarp et al., 2020). In addition, the findings of other studies have also found that teaching creative writing is often given external standards and limitations that prevent students from expressing themselves in writing (Xu et al., 2019).

Based on the findings of previous studies, there needs to be a revitalization of writing classes by teachers to improve creative thinking skills in creative writing. The integration of creative elements and scaffolding can improve students' creative thinking skills and positive writing attitudes (Jansen, 2024; Martin et al., 2021). Writing short story literary works is one of the practical and effective methods in increasing writing motivation and investigating students' creative writing imagination.

By the theory, the development of writing theory is defined by three stages: the stage model, the cognitive procedure model, and the social relationship model (Haubrock et al., 2024; Sanabria-Z et al., 2024). The construction and scaffolding theory, which emphasizes the interaction process of teachers, students, and other scaffolds in the writing process, shapes the social interaction model. So, based on this model, the framework for guided short story creative writing goes through three stages, namely individual, group, and individual writing, or can also be called individual and collaborative guided writing strategies.

In addition, another scaffold that can be used in creative writing is Gen-Ai technology, which can be a resource for creative writing training (Rahimi et al., 2024; Saritepeci & Yildiz Durak, 2024). This individual and collaborative guided writing strategy is based on scaffolding in the learning process and individual autonomy or responsibility. The current study contributes to theories, methods, and practices that contribute significantly to creative writing skills. This study contributes to the development of a framework for enhancing creative thinking through teaching writing. This study also seeks to develop students' creativity without being limited to certain groups of students.

This study is also equipped with qualitative data to reveal how short story writing works in stimulating students' creative thinking. This study also seeks to investigate the contribution of the developed framework to the guidance of learning practices in developing students' creativity. Several previous studies have revealed that creative writing skills can be improved through literary writing training. Previous studies have also revealed that creative writing can be improved with collaborative and individual learning methods by optimizing idea brainstorming sessions (Brosseuk, 2024; C. Wang, 2024).

In addition, creative writing skills can also be improved through various literary reading strategies. This study is different from previous studies because this study attempts to develop a framework that accommodates individual and collaborative strategies in creative writing. In addition, this study also integrates individual and collaborative writing strategies with Gen-AI technology. So, the novelty in this study is the development of a writing framework that focuses on the ability to write creative thinking and creative writing of short stories collaboratively and individually. In addition, there is an integration of Gen-AI technology in the framework. Based on this explanation, the researcher formulated several problems, namely as follows.

a) How is the impact of individual guided writing strategies and Gen-AI-based collaboration on creative thinking skills and compositional creativity in the short story literary works they create?
b) How is the framework for individual guided writing strategies and collaboration in creative writing of literary works?
c) How do students respond to the results of developing individual and collaborative writing strategies based on Gen-AI in creative writing?

2. Literature Review

2.1 Development of creative thinking skills through short story writing

The four iterative phases of writing skills include planning, composing, revising, and brainstorming (McLean et al., 2022). They are complex cognitive abilities. High-level thinking abilities like problem-solving techniques, critical thinking, and student creativity are all part of the process, in addition to language proficiency. Several components can improve the quality of short stories, including the presence of new ideas, organizing ideas, using rich and complex vocabulary, and being able to produce imagination for readers (Behrens et al., 2024; Kukkonen, 2024). The process of generating and organizing ideas reflects individual creativity. Composition in the form of various forms of writing is an expressive approach that can be used by students in communicating their imagination to others.

In the writing process, individuals use their divergent thinking skills in exploring new ideas and then think convergently to select appropriate ideas and develop these ideas in creative writing. Teaching creativity and teaching writing have similarities by focusing on the use of scaffolding and active participation to produce creative writing. Creative short stories can be created when the author's imagination, previous experience, language acquisition, and text are all combined (ten Peze et al., 2024; Weidmann, 2024). Teaching short story writing is one of the practical approaches in training language skills, self-regulation, and creative thinking. Writing is a learning activity that must be able to attract students' interest and creativity because it provides opportunities for students to express their ideas (Evmenova et al., 2024; Paz-Baruch et al., 2025).

However, the majority of students are less interested in teaching writing. This is reinforced by previous studies, which revealed that writing instructions designed by teachers were mostly able to improve the quality of writing rather than increase motivation in students (Muehlfeld et al., 2025; Zou et al., 2022). This happens because there are certain criteria or requirements in writing to get a high score. In addition, writing issues are often determined so that students' creative thinking cannot be expressed.

This type of learning environment discourages students from writing and limits their capacity for creative thought. In addition, the workload of teachers in providing time is an obstacle for teachers in developing creative writing. Based on these conditions, there is an urgency to change the conditions of traditional teaching practices. Revitalizing writing teaching is needed to increase motivation and provide opportunities for students to freely imagine. This requires a practical and effective teaching approach in writing classes.

Teachers are crucial in helping students develop their imagination, creative thinking abilities, and desire to write short stories (Kim et al., 2025; Liu et al., 2024). Some strategies in a writing learning environment that can improve creative thinking are introducing abilities, creating interactions, and collecting ideas before writing short stories. Short story writing is the most appropriate writing task to improve creative writing skills. Short story writing is also a task that can

integrate several strategies that can provide space for students to develop storylines, imagine, and be creative (Barton et al., 2024; Harris et al., 2023). Currently, teaching writing literary works, including short stories, has not received optimal attention in educational practices, so it needs to be explored in the current study. Short story writing assignments consist of standardized and non-standardized stories. Short stories with standards have been set in several aspects, including characters, events, and timelines (Murphy et al., 2024).

2.2 The use of individual and collaborative guided writing strategies based on Gen-AI

The systematic writing class design makes the framework for individual, and group guided writing strategies based on Gen-AI potentially improves creative writing skills for short stories. In the first stage, students develop their creative ideas using Gen-AI technology individually, in the group stage, students exchange information about ideas, evaluations, and constructive feedback from their peers, and the third stage is students externalize knowledge and ideas that have gone through the internalization process in the form of short stories (Ebrahimi & Ebadi, 2024; Wilson et al., 2024).

In the first phase, students are allowed to develop ideas using Gen-AI technology scaffolding and teacher guidance. Technology scaffolding is used in the early stages of creative writing learning as an opportunity for students to explore creative ideas from extensive resources (Black & Tomlinson, 2025; Hubert et al., 2024). Inspirational stimulation and writing guidance use learning sheets in designing character figures and plots in short stories. These learning sheets are widely used in writing learning that can develop students' ideas, through storytelling, writing, thinking, and sharing opinions.

The next phase is collaboration and discussion in groups. Ideas obtained from the results of identifying and accessing ideas using technology can be discussed to trigger new ideas. Brainstorming in this group is considered an effective method for generating new inspiration, developing ideas, and refining ideas. In the discussion session, several elements must be discussed, including the characters in the short story, the time of the event, the place, the events, the ending of the story, and the feelings of the main character. This mnemonic method with questions will help students in determining important elements of the story (Carey et al., 2022; Leggett, 2024).

The last phase is autonomy in completing their short stories independently. Students can use ideas that have been developed in the previous phase of idea exploration using Gen-AI, learning sheets, and brainstorming in groups. The use of appropriate scaffolding can improve creative writing skills and develop students' creative thinking abilities, which will contribute significantly to the quality of students' short stories.

3. Methodology

3.1 Design and participants

This study used a quasi-experiment to test individual, and group guided writing strategies based on Gen-AI in improving creative writing skills for short stories and their composition creativity. This study involved 253 high school students aged 17-19 years. All participants involved in this study had never had experience with individual and group guided writing strategy writing assignments based on Gen-AI. The selection of participants was carried out by considering research ethics. Students filled out an agreement to be involved in the study if they were interested and without coercion. In this study, pedagogical and instructional materials were designed by involving language teachers who were experienced in writing.

In the first stage, students were stimulated to generate ideas and interests in creative writing through various scaffolds, such as the use of Gen-AI, videos, and fictional films. Gen-AI was used to access various types of short stories with various themes and stories. The fictional films used as scaffolds were films with themes of animals, heroes, time travel, and the supernatural. After the first session is completed, students are allowed to write down the ideas they get in the learning sheet to help them develop abstract idea concepts into writing. The learning sheet filled in by students is a plan of important elements in the short story that will be used, such as character elements, plots, events, including several aspects of idioms, and sentence patterns. Next, students discuss in groups to enrich ideas or generate new inspiration for the story. In the last phase, students work independently again to develop notes of ideas in the learning sheet into a good short story. All intervention sessions were carried out for 15 weeks.

3.2 Procedure of Intervention: guided writing intervention design

In the first phase, students get some materials from various scaffolds through Gen-AI technology (creativity prompt and peer-review tool) and fictional films to generate creative ideas and write them in the learning sheet form. This learning sheet helps students design short story idea components that can still change flexibly. All students follow this guided writing carefully at each stage. Structured guidance from the teacher is part of the scaffolding that will facilitate students to focus and concentration on each instruction given. The teachers involved in this study are teachers with 10 years of experience in teaching writing. Researchers and teachers discuss the stages carried out so that teachers know in detail each stage of teaching creative writing. The guided writing procedure is presented in Table 1.

Table 1. Guided and integrated short story writing procedures with Gen-AI

Steps	Explained action	Time
1. Think	Brainstorm to get ideas	10 min
	The instructor gives the class five minutes to consider their writing ideas after introducing the writing task (learning sheet) and providing some examples through Gen-AI technology (creativity prompt)	
2. Tell	Share your ideas with classmates.	
	Working in groups of three, students take turns sharing their initial drafts of their writing on the learning sheet	20 min
3. Draw	Draw your ideas.	
	Before writing, students sketch. Students use the drawings to concretize their ideas during the process	20 min
4. Write	Write a short story about your idea	
	Students independently complete the learning sheet writing task (such as a short story or introductory picture) after getting ideas	35 min
5. Share	Share your work with classmates	
	Students are free to stand up from their seats and share their writing with their classmates. Students' creative thinking and imagination can be stimulated by reading about other people's writing drafts and getting comments from their peers through Gen-AI (peer-review tool).	15 min

The second phase is group discussion. Group discussion is conducted for 45 minutes to facilitate students in determining the story framework and important elements of the story. Activities in group discussion are presentations from the teacher, group discussion, and presentation of ideas. Group discussion discusses short story elements such as determining characters, location, time, events, and ending of the story, and how to determine these elements. Determination of these elements is facilitated by the teacher through several scaffolds, such as the use of Gen-AI technology (creativity prompt) and short fiction films.

Presentation of ideas is done briefly to explain the results of determining the framework of the story elements. Each student gets a turn to present their ideas so that other students can come up with other creative ideas. The third phase is the development of short story elements into a short story by each student independently. In this final stage, students are allowed to complete the task of making their short stories individually.

3.3 Research instrument

3.3.1 Evaluation of the level of creativity in short stories

The Torrance Test of Creative Thinking (TTCT), developed by Wu (1998), is used to evaluate students' creative thinking abilities in the short stories that they write. This creative test includes several indicators, including elaboration, which measures the quantity of new ideas, originality, which measures the novelty of ideas, and fluency, which measures the variety of ideas. This creativity evaluation test includes two types of tests, namely figurative tests and verbal tests. The figural test asks students to create a visual design for the short story's storyline. The figurative test of the short story plot assesses four dimensions of creativity,

fluency, flexibility, originality, and elaboration, with the results of the dimension reliability test (α Cronbach) being fluency 0.96, flexibility 0.94, originality 0.86, and elaboration 0.91. The verbal test asks students to write down some vocabulary in the literary works they have read and write down their meanings. The verbal test assesses three dimensions with reliability values for each dimension, namely fluency 0.99, flexibility 0.95, and originality 0.91.

3.3.2 Measurement of composition creativity in short stories

The composition creativity scale (CCS) developed by Tsai (2016) is used to evaluate students' composition creativity in short stories. Fluency, flexibility, originality, elaboration, and sensitivity are the five indicators on this scale. Tsai's (2016) compositional creativity served as the foundation for the development of the rubric. The length of the coherence of the short story is the fluency indicator.

Flexibility is the short story's use of a variety of words and viewpoints. The term "originality" describes how novel the short story's concept is. The quantity and diversity of vocabulary and idioms used in the short story are referred to as elaboration. The sensitivity indicator refers to knowledge of the story idea and accuracy in developing the short story. The assessment was carried out by two language teachers.

To ensure that everyone understood how to evaluate the various aspects of composition creativity, the researcher and the assessor talked about the assessment rubric. The results of the r2 pretest phase were 0.738 ($p < 0.05$), and the r2 post-test was 0.815 ($p < 0.05$), according to the Spearman's Rank correlation coefficient analysis between assessors. From these values, it can be concluded that the two assessors have a consistent agreement.

3.3.3 Focus group interviews

Interviews were conducted by focusing on the three groups to investigate the impact of the story writing intervention with various methods on students' creative thinking skills. Students were asked to participate. Each student representative from the three groups participated in the interview to investigate students' thoughts and attitudes towards the guided writing intervention individually and in groups. Interviews were conducted to explore students' perspectives and experiences. Group interviews were chosen because they provide opportunities for students to be more courageous and confident in sharing their experiences and thoughts.

In addition, this group interview was also able to create open and collaborative discussions between students. Some of the questions asked included "How is the current experience of learning to write short stories different from before?", "Are there any obstacles during the process of writing short stories?" "Is the intervention able to improve creative thinking skills in creating creative short stories?", "Does writing short stories provide opportunities for you to express creative ideas?"

3.4 Data analysis

Before the analysis was carried out, all data sets were ensured to be complete. The collected data were transcribed and analyzed using SPSS. The data analysis used was descriptive statistics, by calculating the average and all standard data of all variables. The t-test was conducted on paired samples to investigate significant differences between the two pretest and post-test phases on both variables of creative thinking level and composition creativity in short stories. Next, qualitative data analysis was conducted using thematic analysis based on important topics from the results of group interviews. Quantitative and qualitative data analysis were conducted separately and then combined for interpretation. The results of triangulation data complement each other to produce data from various perspectives.

4. Result

4.1 Students' creativity in short stories

The level of creativity tested using the Torrance Test of Creative Thinking was analyzed using the t-test. The results of the analysis are divided into two dimensions, namely the level of verbal creativity in the use of literary language in writing short stories and figural creativity in designing the outline of the short story written. The results of the creative test analysis of the verbal creativity dimension are presented in Table 2. Based on the results of the analysis, the scores of each creativity dimension in the pretest and post-test phases, namely the fluency dimension score (Pretest: M = 9.10, SD = 6.12; Post-test: M = 25.32, SD = 11.81) (t = ÅÅ 8.35, p = 0.000***), flexibility (Pre: M = 6.23, SD = 3.21; Post: M = 10.30, SD = 3.84) (t = ÅÅ 8.50, p = 0.000***), and originality (Pretest: M = 13.62, SD = 6.60; Post-test: M = 26.46, SD = 16.52) (t = ÅÅ 8.17, p = 0.000***).

Based on the results of the analysis, it can be found that all dimensions of creativity in the verbal creativity subtest showed a significant increase.Based on the results of the paired sample t-test, overall verbal subdimension creativity showed a significant increase with the verbal pretest score being (M = 26.72, SD = 14.83), and the post-test score being (M = 60.25, SD = 30.24) (t = - 8.45, p = 0.000***). These results prove that students experienced a significant increase in their overall Verbal creativity.

Furthermore, the analysis of creativity on the figurative subdimension of the short story plot is presented in Table 3. Based on the results of the analysis, each subdimension of the figural test, the pretest and post-test fluency scores were (Pretest: M = 10.08, SD = 6.32; Post-test: M = 17.56, SD = 7.34) (t = ÅÅ 8.82, p =.000***), flexibility scores (Pretest: M = 7.80, SD = 3.80; Post-test: M = 9.82, SD = 4.50) (t = ÅÅ 4.57, p =.001**), originality scores (Pretest: M = 8.52, SD = 5.90; Post-test: M = 14.12, SD = 8.42) (t = ÅÅ 6.10, p =.000***), and elaboration scores (Pretest: M =3.84, SD =2.95; Post-test: M =3.12, SD =2.45) (t =1.50, p =0.168).

Based on the results of the analysis, students showed a significant increase in creativity in the figural plot subdimension of short stories based on the results of the creativity test. Overall, the level of student creativity in the figural plot subdimension of short stories experienced a significant increase with a pretest

score (M = 28.23, SD = 14.73), and the post-test increased to (M = 45.72, SD = 20.42) (t = 9.45, p = 0.000***). From the results of the analysis, several dimensions of figurative creativity increased significantly, namely fluency, flexibility, and originality. The elaboration dimension showed a slight decrease but still reached a fairly significant level.

Table 2 Paired sample t-test of the verbal dimension creativity test of literary vocabulary of short stories in the pretest and post-test phases

		Pretest		Post-test					
	N	M	SD	M	SD	t	df	p	ES
Fluency	253	9.10	6.12	25.32	11.81	-8.34	252	.000***	1.92
Flexibility	253	6.23	3.21	10.30	3.84	-8.50	252	.000***	1.72
Originality	253	13.62	6.60	26.46	16.52	-8.17	252	.000***	1.21
Total	253	26.72	14.82	60.25	30.24	-8.45	252	.000***	1.52

*p<.05 **p<.01 ***p<.001

Table 3 Paired t-test of creativity test of figural dimension of short story elements in the pretest and post-test phases.

		Pretest		Post-test					
	N	M	SD	M	SD	t	df	p	ES
Fluency	253	10.08	5.32	17.56	7.34	-8.82	252	.000***	1.42
Flexibility	253	7.80	3.82	9.82	4.50	-4.57	252	.000***	.73
Originality	253	8.52	5.90	14.12	8.42	-6.10	252	.000***	.92
Elaboration	253	3.84	2.95	3.12	2.45	1.50	252	.168	-.42
Total	253	28.23	14.73	45.72	20.42	-9.45	252	.000***	.88

*p<.05 **p<.01 ***p<.001

4.2 Composition creativity

Short story composition creativity was tested using a paired sample t-test, assessed using a short story composition creativity scale. The results of the overall short story composition creativity analysis are presented in Table 4. Based on the results of the analysis, student creativity experienced a significant increase from the pretest to post-test phase, with a pretest score (M = 20.75, SD = 4.24) to post-test (M = 25.72, SD = 5.24), t (26) = 5.92, p = 0.000 ***. Furthermore, each dimension of composition creativity also showed a significant increase with its respective scores as follows. The fluency dimension score showed an increase from pretest to post-test (Pretest: M = 4.92, SD = 0.97; Post-test: M = 5.73, SD = 0.97; t = 5.82, p = 0.000 ***), changes can be seen from students' short story writing ability becoming more fluent and able to produce longer and more coherent short stories.

Furthermore, the flexibility score showed a significant increase with a score (Pretest: M = 4.73, SD = 0.73; Post-test: M = 5.62, SD = 0.92; t = 5.63, p = 0.000 ***). From the flexibility dimension, students were able to develop variations in language use and the ability to adjust to the topic of short story composition.
Furthermore, the originality dimension score shows a score (Pretest: M = 4.74, SD = 0.63; Post: M = 5.73, SD = 0.98; t = 6.42, p = 0.000 ***). The increase in originality is quite significant when seen from the way students think, which is difficult to predict and can produce creative and innovative short stories. The elaboration dimension score shows a score (Pretest: M = 4.52, SD = 0.70; Post-test: M = 5.27,

SD = 0.90; t = 5.62, p = 0.000 ***). The elaboration dimension also shows a significant increase, which is marked by their ability to express ideas with more complex and varied linguistic use. Furthermore, the sensitivity dimension score showed an increase with a score (Pretest: M = 4.83, SD = 0.72; Post-test: M = 5.83, SD = 0.87; t = 5.62, p = 0.000 ***). This increase in the sensitivity dimension can be seen in students' ability to adjust short stories to more comprehensive short story themes. From this explanation, it can be concluded that the subdimensions of the short story composition creativity scale as a whole increased significantly after students received guided writing interventions based on Gen-AI and Multimedia individually and in groups. So, this guided writing strategy based on Gen-AI and multimedia is effective in improving students' short story writing creativity.

Table 4 Paired sample t-test of the composition creativity scale in the pretest and post-test phases

		Pretest		Post-test					
	N	M	SD	M	SD	t	df	p	ES
Fluency	253	4.92	.92	5.84	.97	-5.73	252	.000***	.92
Flexibility	253	4.73	.73	5.62	.92	-5.63	252	.000***	.99
Originality	253	4.74	.63	5.73	.98	-6.42	252	.000***	1.20
Elaboration	253	4.52	.70	5.27	.90	-5.62	252	.000***	1.12
Sensitivity	253	4.83	.72	5.83	.87	-5.62	252	.000***	.99
Total	253	20.75	4.24	25.672	5.24	-5.82	225	.000***	1.12

4.3 Guided writing features based on Gen-AI and multimedia that contribute to creative thinking skills

Based on quantitative results, the overall level of creativity and the creativity of students' short story compositions showed a significant increase after receiving intervention. Furthermore, qualitative analysis was conducted to reveal the features of the guided writing framework that contributed to students' creative thinking skills. Thematic analysis was conducted on the guided writing features of various Gen-AI and multimedia. The analysis's findings demonstrated that the guided writing features of different Gen-AI and multimedia greatly enhanced students' capacity for creative thought.

These features included giving them more time and space to experiment with Gen-AI and multimedia, giving them the chance to share ideas with peers, helping them visualize abstract concepts or characters and the connections between each short story plot, and allowing them to create individual student portfolios to showcase their accomplishments and show appreciation. The opportunity to incubate with a learning environment such as Gen-AI and multimedia stimulates students to get unique, creative, and limitless ideas. Students enjoy the free-thinking process so that they are more optimal in expressing their internal imagination in writing.

Some quotes from focus group interviews that describe the first feature, including

> *"Gen-AI technology that provides references for short story content ideas and the screening of short fiction films from multimedia can facilitate students to get creative and unlimited ideas during the incubation period".*

> *"The short story learning form sheet also helps me in determining the framework and plot of the short story to be developed. In addition, the learning form also does not limit the expression of ideas, so I can express the ideas I get during the incubation period".*
>
> *"This guided writing strategy makes me find new ideas in making short stories. Previously, I never got short story ideas like superhero stories, but after participating in learning activities, I became interested in developing short stories with that theme. I also got the opportunity to visualize the characters and plot of the story that I will develop".*

The second feature of the Gen-AI and multimedia-based guided writing strategy is that it can provide opportunities for students to exchange ideas with their peers, so that it can trigger motivation and interest and encourage them to come up with new ideas from various perspectives. One student stated that one of his works shared on an online media platform received positive feedback from his peers. The activity of exchanging ideas and reading other people's works will get new ideas or new compositions in developing their short stories, so that it can improve students' creative thinking skills. Some quotes from interviews that describe the second feature are as follows.

> *"I can develop ideas after receiving a brainstorming session. Initially, my idea was not interesting enough to be developed into a short story, but after I exchanged ideas and saw the story outline of other friends, I got a new idea that was more interesting, creative, and innovative".*
>
> *"The group discussion session was the most interesting session because there were so many short story ideas that came from my friends, and I had never thought of them before. After going through this session, I was able to think faster because I got diverse and creative ideas".*
>
> *"In my opinion, group discussions and brainstorming helped me determine the story framework and pour it into the learning form sheet. This session also gave me the opportunity to discuss the material or ideas that I would develop and ask for other friends' opinions".*

Another feature that contributed significantly to the guided writing strategy based on Gen-AI and multimedia, individually and in groups, was the visualization of ideas, characters, and short story plots that were still abstract. This feature contributed to increasing students' creative imagination abilities. On the short story learning sheet form, students were allowed to draw and describe it. The images presented could be in the form of object maps and so on to help students write down their imaginations in more detail. This finding proves that story visualization can improve students' creative thinking abilities.

Some interview quotes that describe the third feature are as follows

> *"I like this short story writing learning because it helps me describe the ideas in my mind concretely. In addition, this visualization of story ideas helps me determine the composition of the short story that I will develop. I am better able to write down all the components of the short story that I imagine".*

> *"When I watch cartoon stories on TV, I think the story is less interesting and boring. After I got this short story writing lesson, I thought about the changes in the storyline that I imagined from the results of filling out the short story learning form". I imagine that this will make the story more interesting if there is a change in the storyline.*

Based on the observation results from this group discussion activity, several students had difficulty filling out the learning form as material for developing the story. However, after going through a group discussion session, students were able to find their solutions to the problem by exploring ideas from friends, Gen-AI, and the internet. Quantitative and qualitative data show that individual and group guided writing based on Gen-AI and multimedia is able to improve students' creative writing skills and creative composition of short stories.

5. Discussion

This study investigates the impact of individual, and group guided writing based on Gen-AI and multimedia on creative thinking skills and composition creativity in short stories. The research findings show that guided writing based on Gen-AI and multimedia can improve students' creative thinking skills in the dimensions of fluency, flexibility, and originality. This finding is in line with previous findings that found that creative writing teaching practices can improve students' creative thinking, especially in the aspect of students' imagination (Martin et al., 2021; Punzi, 2021). Guided writing strategies based on Gen-AI and multimedia also contribute to students' composition creativity in every dimension of fluency, flexibility, originality, elaboration, and sensitivity.

This finding is reinforced by previous findings that show that the Substitute, Combine, Adapt, Modify teaching technique can improve creative writing skills and story prediction skills (Brosseuk, 2024; Saritepeci & Yildiz Durak, 2024). From several of these findings, this proves that the social constructivism approach in individual and group guided writing strategies based on Gen-AI and multimedia can stimulate students' creative thinking skills in writing. This happens because group discussion sessions, by sharing creative ideas, can refine ideas, generate new ideas, and add ideas for developing short stories (Behrens et al., 2024; Kim et al., 2025).

The assistance of Gen-Ai technology and fictional film multimedia during the incubation period inspires students as a basis for determining the framework of short stories. This technology triggers students' imagination and creative thinking because it provides short story resources of various types of stories, so that it inspires students to express their ideas in developing stories. This finding is in line with the findings of previous studies that found the use of multimedia technology in teaching literature can improve students' creative imagination skills in producing other literary works (Barton et al., 2024; Murphy et al., 2024).

In addition, the use of Gen-Ai scaffolding and fictional film multimedia can enrich vocabulary and stimulate the imagination of short story frameworks. This is evidenced by the increase in verbal and figural sub-dimension creativity. This finding also follows the theory of learning scaffolding; the use of appropriate

scaffolding theory in the learning process, both technological scaffolding and other media scaffolding, will be more optimal in improving student competence (Daker et al., 2023; Fang et al., 2024). Through this scaffolding, students feel that their imagination and creative thinking are unlimited and feel free to express their creative ideas. This Gen-AI and multimedia-based guided writing design has proven effective in improving students' creative thinking skills in developing short stories. In detail, this improvement is seen in the varied ideas generated (fluency), being able to consider diverse perspectives (flexibility), and being able to develop new creative ideas (originality). However, there is a dimension of elaboration that has not reached a significant level of improvement. This is due to the limited time for elaborating the story.

However, based on the figural creativity test, several elements of the short story, such as plot, characters, characters, and places, were able to significantly improve elaboration skills, which were seen in the ability to use idiomatic sentences and varied literary vocabulary in the short stories they wrote. This finding is in line with previous studies, which revealed that guided writing assisted by technological scaffolding can improve students' creativity, but limited time affects students' elaboration skills (Black & Tomlinson, 2025; Hubert et al., 2024). The next finding is that the design of individual and group guided writing stages based on Gen-AI and multimedia was also able to improve composition creativity in each dimension of fluency, flexibility, originality, elaboration, and sensitivity.

The fluency aspect is seen from the students' ability to write short stories more fluently and produce longer and more coherent short stories. Increased flexibility is seen in the ability to use a variety of languages and the ability to adjust to the topic of short story composition. Increased originality is seen in the way students think, which is difficult to predict, and can produce creative and innovative short stories. Increased elaboration is marked by their ability to express ideas with the use of more complex and varied linguistics (Mikkilä, 2024).

Furthermore, increased sensitivity is seen in students' ability to adjust short stories to more comprehensive short story themes. The results of this study are by the findings of previous studies, which show that guided creative writing interventions assisted by technology can improve students' ability to write short story literary works (Healey, 2025; McKnight & Yunkaporta, 2024). This increase is seen from all elements of the short story, starting from the use of language, characters, figures, complexity of the plot, and events.

The second finding is that several characteristics of Gen-AI and multimedia-based individual and group guided writing strategies play a significant role. These characteristics include giving students more time and space to experiment with Gen-AI and multimedia, giving them the chance to share ideas with colleagues, helping them visualize abstract concepts or characters and the relationships between each short story plot, and helping them create individual student portfolios to show their accomplishments and appreciation. The first feature of the guided writing strategy based on Gen-AI and multimedia is providing space for incubation so that students can get ideas and express them freely. This is in

accordance with the creative theory that providing free space can improve students' creative thinking (Anani et al., 2025; C. Y. Wang et al., 2019). In addition, providing this free space also provides opportunities for students to increase student autonomy and independence. The next feature is group discussions that provide opportunities for students to exchange ideas and thoughts. This session can contribute to students' creative thinking skills because this group discussion scaffold can provide positive feedback to students, so that it can enrich students' creative ideas. This finding is in line with the theory that student creativity can be enhanced through social and material exchanges with interdependent contexts and the internalization process of critical scaffolding of peer feedback (Ebrahimi & Ebadi, 2024; Wilson et al., 2024).

Another feature of the Gen-AI and multimedia-based guided writing strategy is the visualization of ideas from short story elements. Drawing elements from short stories, such as characters, story locations, events, plots, and so on, helps students to improve their creative imagination. This result supports the premise that combining verbal and visual writing helps foster students' writing ideas and foster their capacity for creative thought (McLean et al., 2022; C. Wang, 2024).

6. Conclusion

The framework of guided writing strategies, individually and in groups, based on Gen-AI and multimedia, can improve creative thinking skills and creativity in writing short story composition. The process of creating guided writing using the steps of thinking, telling, describing, writing, and sharing can help students become more creative thinkers (fluency, flexibility, originality, elaboration) and writers of short stories (fluency, flexibility, originality, elaboration, sensitivity).

The increase in students' creative thinking skills and composition creativity is seen in flexibility, namely the ability to use a variety of languages and the ability to adjust to the topic of short story composition. The increase in originality is seen from the way students think, which is difficult to predict and can produce creative and innovative short stories. The rise in elaboration is marked by their ability to express ideas with the use of more complex and varied linguistics. Furthermore, the increase in sensitivity is seen in students' ability to adjust short stories to more comprehensive short story themes.

Offering more time and space to develop using Gen-AI and multimedia, giving colleagues the chance to share ideas, practicing visualizing abstract concepts or characters and the connections between each short story plot, and building individual student portfolios to show appreciation and accomplishment are some features that greatly enhance creative thinking abilities and the creativity of short story composition.

7. Implication And Recommendation

This study implies that the integration of guided writing, both individually and in groups, is not only able to improve creative short story writing skills but also to increase motivation to write and think creatively. Well-designed guided writing stages can improve the quality of short story elements that contribute to

learning theory, methods, and practices. In addition, the integration of the use of Gen-AI and multimedia is needed in curriculum design for effective learning implementation. This study has several limitations, including the absence of a control group as a comparison, samples that still focus on one level of school, have not considered other high-level thinking skills, have not considered measurements on other language skills that contribute to writing, such as reading skills, and focus on verbal creative evaluation.

Based on these limitations, the researcher recommends several suggestions for future research, including the need for a control group as a comparison, involving samples from various levels, the need for investigations into other high-level thinking skills, not just creative thinking, the need for measurement of reading skills, and the need for non-verbal evaluation of student creativity, for example visualization of short story elements. Additionally, future longitudinal or comparative research (e.g., Gen-AI vs. traditional writing support) is needed to obtain more comprehensive data.

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