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Enhancing Creativity and Collaboration in Story Writing for Elementary School Students through Project-Based Learning based on Illustrated Stories

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Abstract: Enhancing Creativity and Collaboration in Story Writing for Elementary School Students through Project-Based Learning based on Illustrated Stories. Objective: This study aims to analyze the impact of project-based learning (PjBL) model on students' creativity and collaboration in writing short stories. **Methods:** Involving 58 fifth grade elementary school students, this study used a descriptive qualitative approach. Data collection techniques were designed to evaluate the impact of Project-Based Learning (PjBL) on creativity and collaboration. Story writing tests focused on students' ability to produce creative works, while observations were conducted to examine students' activities during the learning process. Interviews were aimed at exploring students' and teachers' perspectives on the implementation of PjBL. The use of these various techniques provided a comprehensive picture of the influence of PjBL on students' learning process. **Findings:** The results showed that the implementation of PjBL increased students' involvement in the learning process, fostered creativity through the exploration of ideas, and encouraged collaboration in groups. Students became more active in organizing storylines, creating unique characters, and exploring local cultural values. PjBL also provides opportunities for students to think critically, reflectively and take responsibility for their learning outcomes. **Conclusion:** It was found that the implementation of PjBL proved to be an effective learning model to improve students' creative and collaborative writing skills while creating meaningful learning experiences.

Keywords: project based learning, creativity, collaboration, story writing.

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◼ INTRODUCTION

21st century skills require learners to develop thinking, communication, collaboration, and creativity (4C) skills to build globally competitive learners (Sugiharti et al., 2024). Therefore, the ability to think critically and creatively, work collaboratively, and communicate effectively are key competencies that must be possessed by future educators in facing modern challenges (Akbulut & Hill, 2020). 21st century skills require learners to develop thinking,

communication, collaboration, and creativity (4C) skills to build globally competitive learners (Sugiharti et al., 2024). 21st century skills require individuals to adapt to the needs of the rapidly growing information age (Arican & Mutlu, 2023). Therefore, the ability to think critically and creatively, work collaboratively, and communicate effectively are key competencies that must be possessed by future educators in facing modern challenges (Akbulut & Hill, 2020), so that 21st century learning must be able to produce

competent human resources in various relevant skills (Handajani et al., 2018).

Student creativity is an important aspect that must be developed to optimally support learners' potential (Živkovi?, 2016). Critical thinking helps students make good decisions, improve communication, create creative ideas (Evens et al., 2013). One of the effective methods in learning to write not only supports the development of literacy skills, but also becomes a means for teachers to act as a companion or facilitator in encouraging the birth of students' creative ideas in writing stories.

Writing is one of the effective methods to support the development of students' creativity and literacy skills. However, conditions in the field show that teaching story writing is still often done through lecture methods or conventional approaches, so that some students find writing a challenging task, because students have difficulty in starting and generating creative ideas (Kuo et al., 2024).

Creative writing can be interpreted as an effort to create an imaginative world or a world that is different from the reality in everyday life (Vicol et al., 2024). In learning creative writing, students can create imaginative situations or show relevant relationships between various existing situations (Kuo et al., 2024). In addition, there are various learning methods and tools that can be effectively used to enhance creative story writing (Kaya, 2013) including: 1) utilizing poetry, 2) utilizing story genres, 3) incorporating music, 4) utilizing cartoon genres, and 5) using station techniques. Therefore, story writing is closely related to the world of fiction. However, works of fiction are not entirely imaginative or fantastic (Munir & Hendaryan, 2023).

From the observations made during the interview, several problems were found, namely: 1) students have difficulty in developing ideas for writing stories, 2) students have not been able to arrange the storyline coherently, and 3) language mastery is not good, less precise and less effective. One effective solution is based on using the *Project Based Learning* (PjBL) method to improve students' creativity in writing through project-based storytelling tasks in the form of picture stories. Students write stories by integrating various subjects, directing them to create stories that explore cultural values or local legends. The stories produced are then presented in the form of mini dramas or illustration works that can be integrated with technology.

Through the Project Based Learning (PjBL) method, students not only produce creative work but also learn to evaluate their own and peers' work, as well as develop critical and reflective thinking skills. This method encourages creativity, collaboration and engaging delivery of ideas through constructive group work (Filippatou & Kaldi, 2010). The project-based learning (PjBL) model places students at the center of the learning process, encouraging them to investigate and solve real-world problems through relevant projects that relate directly to their daily lives (Afikah et al., 2023). Therefore, project-based learning can develop students' creativity in writing (Marcos et al., 2020).

Previous research on project-based learning models and their impact on students' writing creativity in elementary schools includes studies such as (Öztürk & Duran, 2024), which focused on students' creative writing, particularly in "imagination" and "form." However, aspects such as "originality," "different perspectives," "content," and "language" still need to be improved. These challenges are influenced by less varied teaching methods, the dominance of multiple-choice exercises, and limited time for creative writing. Furthermore, research conducted by (Çetin & Çetin, 2021) discussed the positive effects of the story wheel method on students' creative writing skills, story elements, and word count. Meanwhile, (Susana & Efendi, 2020) highlighted that project-based learning can

improve students' ability to read and write short stories.

Three previous studies have discussed project-based learning (PjBL) to enhance students' creativity in writing short stories and other creative works. However, the application of the PjBL model specifically to enhance students' creativity and collaboration in story writing is rarely explored. In the context of teaching story writing, the PjBL model provides opportunities for students to explore creative ideas and collaborate with peers, thus enabling them to produce original and meaningful literary works.

Although various studies have discussed the application of project-based learning (PjBL) model to improve students' creativity in writing, most of the previous studies focused on improving creativity in terms of writing form, such as the one conducted by (Öztürk & Duran, 2024). However, not many have examined other aspects such as different perspectives, content, and more in-depth language use. Therefore, by enhancing creativity and collaboration in story writing through picture story-based PjBL, to evaluate how this model contributes to students' skill development, especially in terms of creativity and better language use. This study aims to dig deeper into how PjBL can enrich short story writing skills, enhance students' creativity, as well as develop their social skills through collaboration and evaluation of work in groups. Thus, this study makes a new contribution by deepening the understanding of how the application of PjBL not only enhances individual creativity, but also strengthens cooperation which is very relevant in primary school learning.

■ METHOD
Participants

This study involved 58 fifth grade elementary school students as the sample population in this study. The research sample was selected using random sampling technique to ensure that each student has an equal chance to be selected, so that the research results can be more objective and free from bias.

Research Design and Procedures

This study used a descriptive qualitative design with data collection for 1 month through story writing tests, interviews and observations. The writing test assessed creativity and collaboration among students, observations were made recording students' activities during learning, and interviews were conducted exploring students' and teachers' views on the application of PjBL.

Instrument

In this study, the instrument used to measure students' short story writing skills included several important components to evaluate critical aspects of writing, such as creativity, structure, language use, and content. Testing the validity of the instrument in this study was carried out through expert validity with midwives of writing education and teaching asked to assess the suitability and completeness of the instrument in measuring story writing skills. The aim was to ensure that the instrument covered all relevant and appropriate aspects. In addition, continuous observation allows researchers to understand the development of students' writing skills more deeply. Combining various data collection methods can support each other and reduce bias, so that the instrument used can measure students' writing skills comprehensively.

Reliability testing of the short story writing test instrument was tested with two raters assessing student writing independently to test the consistency of the assessment results. Consistent results between raters indicate high reliability.

Data Analysis

According to (Creswell & Creswell, 2018) qualitative data analysis was collected during the research and analyzed thematically, narratively to

find patterns or meaning in the data. Data analysis in this study was conducted to provide an in-depth picture of the impact of the PjBL model on students' creativity and collaboration and language use in writing short stories. This analysis process involved three main types of data, namely story tests, interviews, and observations.

Short story writing test: test results were analyzed by categorizing assessments based on creativity, story structure, language use, and depth of content. Each aspect was given a score which

was then used to evaluate the development of students' writing skills.

Interviews: interviews were thematically analyzed to identify teachers' views on the implementation of the PjBL model, challenges faced, and perceived benefits.

Observation: Observation notes are analyzed to evaluate student interactions in groups, collaboration dynamics, as well as the implementation of the PjBL model in the learning context.

Table 1. Assessment aspects

Assessment Aspect	Description
Imagination	Students' ability to create new and unique ideas
Authenticity	Level of originality and innovation in student work
Unique point of view	A new approach or different perspective is featured in the story.
The content of the story	The suitability of the story to the theme, the richness of ideas, and the message conveyed. The suitability of the story to the theme, the richness of the ideas, and the message conveyed.
Use of language	Grammatical accuracy, word choice, and narrative power.
Writing structure	The regularity of the storyline, the organization of the paragraphs, and the appropriateness of the beginning, middle, and end of the story.

Table 2. Assessment score table

Assessment Aspect	Rating Scale	Score Description
Imagination	1-5	1: very less creative 2: less creative 3: moderately creative 4: Creative 5: very creative
Authenticity	1-5	1: Unoriginal 2: less original 3: Quite original 4: Original 5: Very original
Unique point of view	1-5	1: Point of view is not very unique 2: Less unique point of view 3: Fairly unique point of view 4: Unique point of view 5: Very unique point of view
The content of the story	1-5	1: no depth 2: poor content depth

			3: good depth of content
			4: good content depth
			5: Depth of content is very
Use of language		1-5	1: very poor language use
			2: poor use of language
			3: language use is good enough
			4: language use is quite good
			5: excellent use of language
Writing structure		1-5	1: highly structured
			2: less structured
			3: moderately structured
			4: structured
			5: highly structured

Table 3. Table of indicators of success of PjBL model implementation

Aspects Measured	Indicators of Success
Student Creativity	Students are able to produce original and imaginative stories with storylines, unique characters, and integrate local cultural values.
Cooperation	Students actively contribute to the group.
Active Engagement	Students showed great enthusiasm for learning and active participation in each stage of the project.
Problem Solving	Students are able to identify problems in writing stories and find solutions independently or through group discussions.
Teacher's Role	The teacher has successfully provided clear directions in creating a conducive learning environment
Project Results	Student short stories meet the criteria of imagination, originality, good structure, and integrating cultural or technological values.

Thus, these indicators can evaluate the effectiveness of the PjBL model in increasing student creativity, collaboration and engagement, while ensuring that the learning process produces meaningful and relevant outcomes.

■ **RESULT AND DISCUSSION**

The results showed that the application of the Project Based Learning (PjBL) model had a significant effect on increasing students' creativity and collaboration in writing short stories. Writing short stories combines literacy and creativity, thus supporting the development of students' imagination and communication skills. (Puspita, 2020) In a curriculum full of learning materials that must be learned, creative writing skills are often overlooked in lesson planning (Mulyani et al., n.d.). These skills are important because they help students think critically and creatively, solve problems (such as building a coherent plot), and improve their ability to express ideas and emotions through writing (Dimililer et al., 2020). In addition, writing short stories teaches students to see the world from different perspectives and explore new ideas, enriching their learning experience and preparing them to face future communication challenges. Research on students' creative writing skills uses a comprehensive frame of reference that includes six main aspects.

Based on the results in the table above, the application of the Project-Based Learning (PjBL) model is proven effective in improving creativity,

Table 4. Table of research results based on indicators

Aspects Measured	Results	Information
Student Creativity	The majority of students succeeded in creating original stories with coherent storylines, unique characters, and incorporating elements of local cultural values.	Creativity is measured through students' ability to explore story ideas, organize plots, and create characters.
Cooperation	All students actively contributed to the group discussions, allowing each group to successfully complete their short stories through effective collaboration.	Collaboration is measured through group members' involvement in sharing ideas, providing feedback, and completing the project collectively.
Active Engagement	Project-based learning (PjBL) can increase students' enthusiasm and active participation during the learning process.	Active engagement is measured through observations of student behavior, such as enthusiasm during discussions, willingness to ask questions, and dedication when completing tasks.
Problem Solving	Most students were able to identify difficulties in writing stories and overcome obstacles through effective group discussions and task delegation.	Problem solving is measured based on students' ability to overcome obstacles such as difficulties in developing ideas and building a coherent storyline.
Teacher's Role	Teachers successfully create a learning environment that fosters creativity and collaboration, while providing clear guidance to help students complete their projects effectively.	The success of the teacher's role is measured by the students' response to the teacher's guidance and the classroom atmosphere that supports creativity and collaboration.
Project Results	Students' work shows high creativity with a well-structured storyline and successfully integrates local cultural or technological values.	The success of the project outcomes was measured by the quality of the stories produced by the students, as well as how well they were able to utilize creativity and the value of collaboration.

activity and collaboration. This model also provides a relevant and meaningful learning experience. This can be seen more clearly through the following diagram, which shows the comparison between the levels of creativity, activity and collaboration before and after the application of the Project-Based Learning (PjBL) model.
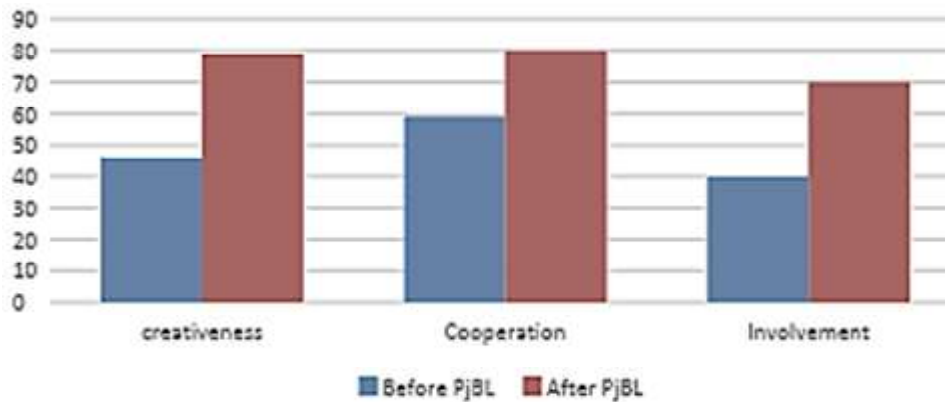
Figure 1: Chart diagram of creativity, cooperation, and engagement levels

From the data presented in the graph above, it can be seen the comparison between the scores of creativity, collaboration, and student involvement before and after the application of the Project-Based Learning (PjBL) model. This graph shows a significant increase in the aspects of creativity, collaboration, and student engagement in short story writing after the application of PjBL.

Based on the results of statistical analysis using paired t-test, there is a significant difference between the scores of creativity, collaboration,

Table 5. Table of scores before and after the use of PjBL

Aspects	Before PjBL (%)	After PjBL (%)
Creativity	45	85
Collaboration	50	80
Student engagement	40	75

and student engagement before and after the implementation of the Project-Based Learning (PjBL) model. The following table illustrates the scores before and after the implementation of PjBL for each aspect studied: creativity, collaboration, and student engagement. The creativity score increased from 45% before PjBL to 85% after PjBL, showing an increase of 40%. The collaboration score also significantly increased from 50% to 80%, with a change of 30%. In addition, the student engagement score increased from 40% to 75%, with a change of 35%.

The paired t-test results for each aspect showed a p value smaller than 0.05, indicating a significant difference between the scores before and after the application of PjBL. For creativity, the t-statistic obtained is -12.12 with a p value of

0.0067, which means that the changes that occur in the creativity score are significant. Likewise, for collaboration, the t-statistic was -10.45 with a p value of 0.0082, and for student engagement, the t-statistic was -9.75 with a p value of 0.0091. All these results indicate that the implementation of PjBL significantly improved students' creativity, collaboration, and engagement in learning.

Overall, these results show that PjBL has a significant positive impact on improving these aspects. The increase in students' creativity, collaboration, and engagement reflects that PjBL successfully stimulates students to more actively participate, think creatively, and work together in a collaborative learning environment to complete a short story writing project, with each member contributing ideas and feedback. Therefore, PjBL can be considered as an effective

approach in improving the quality of students' learning and skills, as well as preparing them to face challenges in the 21st century. Based on the results of interviews with students, it shows that most students feel more motivated to write after engaging in projects that provide freedom of expression. They also recognized that working in groups helped enrich creative ideas due to in-depth discussions. Meanwhile, teachers stated that PjBL gave students the space to be more responsible for their own learning outcomes and encouraged them to make creative decisions in writing short stories.

Through the application of project-based learning (PjBL), learning provides various benefits, one of which is the improvement of cognitive abilities, such as critical thinking skills, the application of PjBL is able to encourage students to think creatively, collaborate effectively, and increase learning effectiveness, especially in the process of writing short stories (Movahedzadeh et al., 2012). PjBL also offers challenges that motivate students in training them to think critically (Capraro et al., 2013), solve problems, and foster creativity. As a student-centered mode, PjBL provides a meaningful learning experience (Afriana et al., 2016). In addition, PjBl can help improve students' critical thinking skills. However, to achieve more optimal effectiveness, this approach needs to be combined with other learning methods (Fadilah & Alberida, 2023).

Although it provides many benefits, PjBL also has challenges, one of which is the limited time that is often an obstacle in the learning process (Guo et al., 2020). Nevertheless, the application of PjBL has been proven to increase students' cognitive learning outcomes (Baran et al., 2010) and encourage collaboration between students. Overall, the application of the PjBL model in learning to write stories is proven to be effective in increasing students' creativity and collaboration. This model provides opportunities for students to be actively involved in the learning process, encourages them to think critically, and develop creative ideas in a collaborative environment.

■ CONCLUSION

Based on research conducted at SDN Margoyasan, the implementation of the Project-Based Learning (PjBL) model has a significant impact on improving students' creativity and collaboration in writing short stories. This model allows students to develop a variety of important skills, such as critical thinking, problem solving and creativity, through active and collaborative learning experiences. Short story writing skills involving the integration of literacy and creativity aspects proved more effective when students were given the freedom to explore and collaborate in groups. PjBL puts students at the center of the learning process, making them more responsible for their learning process and outcomes. For example, a short story writing project not only involves creative thinking skills in creating characters and storylines but also fosters teamwork skills through group discussions and peer feedback. Learning with PjBL effectively improves writing skills through collaboration and feedback (Arochman et al., 2024). This is in line with Al-Rawahi & Al-Mekhlafi (2015) who stated that project-based learning expands knowledge, creates a safe learning environment, enriches students' vocabulary, and encourages the exchange of ideas in writing.

From the teacher's perspective, PjBL provides an opportunity to act as a facilitator supporting students throughout the learning process. The teacher helps to overcome challenges faced by students, provides clear guidance, and creates an environment that encourages innovation and exploration. However, the main challenges in implementing PjBL include time constraints and the need for more intensive preparation.

Project-based learning requires more time as it involves in-depth exploration and collaboration. This can be stressful for both students and teachers, as they need to ensure the project is completed on time without sacrificing a deep understanding of the material. Through projects, students are trained to think systematically to organize ideas into coherent writing (Arochman et al., 2024). Thus, despite the challenges, PjBL has proven to be effective in increasing students' engagement, motivation, and critical and creative thinking skills in writing short stories, while opening up opportunities for further research on its impact on writing skills, especially in the context of short story writing.

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