The Effect of Project Based Learning on Creative Writing Skills in Elementary School Students: Multivariate Analysis of Variance on Themes, Diction, Imagination

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ABSTRACT

Problems of creative writing are found in the mastery of themes, diction, and imagination. The Project-based Learning model is proposed as an effective model to improve mastery of themes, diction, and imagination. This study aims to determine the effect of the PjBL model on the mastery of themes, diction, and imagination in fourth grade elementary school students. The research sample consisted of 150 randomly selected. The research location is in Surakarta City. This type of research is quasi-experimental with Posttest Only Control Group Design. Data was collected using a creative writing skills test including indicators of theme, diction, and imagination. Analysis of research data using the multivariate Analysis of Variance (MANOVA) test. Prerequisite tests are carried out by normality and homogeneity tests using the variant matrix test (Box's M). The hypothesis test applies the MANOVA test and is continued with the Post Hoc test. The results of the study concluded that: the PjBL model has a significant effect on creative writing skills in mastering aspects of themes, diction, and imagination both simultaneously and partially. This research recommends teachers apply the PjBL model in increasing student creativity, especially in producing products in the form of creative writing.

Keywords: *Project-Based Learning, Creative Writing Skills, Multivariate Analysis*

INTRODUCTION

Language skills is the main instrument in communication so that it allows students to interact with each other, share experiences, and increase their intellect towards an understanding. Therefore, teachers must be able to equip students with good language skills. Language skills, especially in elementary schools, are inseparable from the four skills, namely listening, speaking, reading and writing (Tursunovich, 2022; Sadikov, 2022; Misnawati et al., 2022; Rahmat et al., 2022). One aspect of language skills that is very important for students to have is writing skills (Baresh, 2022; Tanrikulu, 2022). Writing skills are the basic capital for students to develop thinking power. Writing skills play a very important role in supporting student productivity skills in other learning content, such as social sciences, natural sciences, and arts and culture.

In the current era of global competition in line with the higher level of complexity of modern life problems, the creativity of elementary school students is needed in

writing skills. Creative writing as an activity of pouring ideas, feelings and emotions into structured sentences (Mahmur et al., 2021; Anggraeni, 2017). Through creative writing, students will explore ideas until they can finally create ways to solve problems (Hidayat, 2021; Nu'man, 2020; Qur'ani, 2018). Creative writing plays an important role in the cognitive and creative development of students because during this process students will try to express their knowledge, experiences, and feelings through imagination and creativity so that the writing they read becomes meaningful (Wardiah, 2017). In addition to developing students' knowledge, creative writing also plays a role in maintaining students' mental health because the psychological burden experienced by a person can be expressed through his writing (Ninawati, 2019). Therefore, learning Indonesian should train students in writing skills.

Various models are proposed in learning Indonesian, one of which is through the application of an effective learning model to achieve competence from learning outcomes in the field of creative writing skills. The learning model is seen as a procedure for organizing the student learning system as a guideline for achieving the expected learning (Fauzia et al., 2022). Thus, learning creative writing skills is carried out by implementing steps that can encourage active, critical and creative students to develop their writing abilities. One of the innovative learning models that is suitable for learning creative writing skills for elementary school students is Project Based Learning (PjBL) (Zubaidi et al., 2023; Pentury et al., 2020; Ismuwardani et al., 2019; Setiawan & Herlambang, 2022). The PjBL model provides opportunities for students to gain new knowledge, understanding, and skills.

Basically this project-based learning aims to develop students' learning and language skills. Through the application of the PjBL model, students can think about creating a project or work creatively and be directly involved during the learning process (Chen et al., 2022; Yamin et al., 2020; Hanif et al., 2019). Furthermore, this PjBL model also has the advantage of accommodating students' learning interests in learning creative writing, because during the learning process students are given the freedom to plan, determine, and carry out projects and develop 21st century skills.

Investigative research regarding the influence of the PjBL model on creative writing skills is very necessary to know. Previous research has done this but has not been specifically reviewed either partially or simultaneously (Elfeky et al., 2022; Alotaibi, 2020; Soffiany & Purbani, 2020; Aghayani & Hajmohammadi, 2019). This research aims to determine the influence of the PjBL model on creative writing skills simultaneously reviewing themes, diction and imagination. These three reviews are the essence of creative writing that needs to be analyzed. In this way, the study of the three aspects can provide theoretical support for educators to emphasize aspects of creative writing for the success of creative writing learning for elementary school students (Oza, 2019).

Previous research revealed that the application of the PjBL model can improve students' creative writing skills. Analysis of the application of the PjBL model can effectively improve writing skills in elementary school students (Ismuwardani et al., 2019; Syarifah & Emiliasari, 2019; Setiawan & Herlambang, 2022; Other research was conducted by Nurhadiyati et al. (2021) on the effect of the project-based learning model on learning outcomes of elementary school students. The application of the PjBL model consistently improves poetry writing skills in elementary schools (Marlani & Prawiyogi, 2019). Thus, research has never been conducted on the effect of applying PjBL on creative writing skills in elementary schools, specifically on aspects of creative

writing. Therefore, this study specifically analyzes the impact of applying the PjBL model on aspects of creative writing ability, both partially and simultaneously.

METHOD

This research is a type of quantitative research with quasi-experimental methods. The research design used the Posttest Only Control Group Design. In this design there is an experimental group and a control group. The experimental class applied the Project-based Learning model treatment model, while the control class applied the learning model that is usually applied in everyday life in the form of assignments. After learning, the final assessment (posttest) of creative writing was carried out in the experimental group and the control group. The research sample was fourth grade elementary school students in Surakarta City with a total of 150 students. The sample was selected by cluster random sampling method taken from Laweyan District, Surakarta City. The data collection technique uses a test of creative writing skills. The test instrument developed includes 3 indicators of creative writing skills consisting of themes, diction, and imagination.

Researchers conducted data analysis with analysis prerequisite tests consisting of normality tests and homogeneity tests. The normality test uses Kolmogorov Smirnov and the homogeneity test uses the covariance matrix seen from the results of the Box test. Hypothesis testing uses multivariate analysis of variance (MANOVA) to measure the effect of the PjBL model on several dependent variables at once (Ntumi, 2021). In this study analyzed variables consisting of themes, diction, and imagination simultaneously. Data analysis in this study used the SPSS analysis tool.

RESULT AND DISCUSSION

The experimental group in this study applied the Project-based Learning model in learning Indonesian. The implementation of the PjBL model is carried out by preparing important questions related to a topic, compiling project plans, making schedules, monitoring the implementation of project-based learning, testing and providing an assessment of projects made, and evaluating project-based learning (Educational Technology Division-Ministry of Education Malaysia, 2006). The PjBL model implementation activities are presented in Table 1.

Table 1. Application of the PjBL Model in Creative Writing Learning

Tahapan	Aktivitas Guru	Aktivitas Siswa
Fundamental question	The teacher invites students to discuss poetry and writes poetry based on their imagination	Students ask basic questions about the concept of creative writing and the stages of writing poetry based on imagination
Develop a project plan	The teacher makes sure students are divided into groups and know the procedure for writing poetry	Students discuss in preparing a plan for making a poetry writing project. There is a division of themes in writing poetry.
Make schedule	The teacher arranges a schedule for making a project and divides it into the stages of creative	Students agree on a schedule and pay attention to project deadlines

	writing activities in the form of poetry	
Monitor the implementation of PjBL	The teacher monitors student participation and involvement as well as observes the poetry writing process	Students create projects and ensure their implementation is on schedule. Students also record the progress of the poetry text they made.
Assess projects created by students	The teacher discussed the project completion process and assessed the poems that had been made by students.	Students discuss and propose products in the form of poetry scripts based on creative writing
Evaluating PjBL implementation	The teacher evaluates and provides suggestions regarding projects that have been carried out by students.	Students present the results of the project and receive feedback from the teacher.

Meanwhile, students in the control class apply the conventional learning model that is usually applied by teachers in class through assignments. At the beginning of learning, the teacher gave material about writing poetry. Students are then given the task of writing poetry and collected. Thus, in general, learning in the control class begins with orientation, presentation of material, assignments, and assessments. At the end of the lesson, all students in both the experimental and control classes were assessed for poetry creative writing. The results of the assessment show the difference in scores in the two groups presented in Table 2.

Table 2. Description of Creative Writing Skills on Themes, Diction, and Imagination

Aspect	Group	Mean	Min	Max
Theme	Experiment	84,04	75,00	94,00
	Control	79,87	70,00	90,00
Diction	Experiment	82,09	72,00	94,00
	Control	74,45	65,00	85,00
Imagination	Experiment	81,22	69,00	94,00
	Control	69,35	60,00	80,00

Based on table 2 it is known that there are differences in creative writing skills scores on Theme, Diction, and Imagination between the experimental group and the control group. The mean in the experimental group is relatively higher than the control group in all aspects of the assessment. Nonetheless, it is necessary to carry out a multivariate analysis to determine the simultaneous and partial impacts of the PjBL model on poetry writing skills in the aspects of theme, diction, and imagination. The prerequisite analysis test was carried out by concluding that the data were normally distributed (indicated by the acquisition of Sig. = 0.183 > 0.05) and came from a population with homogeneous variants (indicated by the acquisition of Box's M = 0.724 > 0.05) so it was concluded that the covariance matrix of the dependent variable was the same (homogeneous).

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Testing or statistical analysis of the MANOVA test is carried out with the help of SPSS software, namely through the Wilks' Lambda, Pillai, Lawley-Hotelling, and Roy's Largest Root tests. The four statistical calculations of the MANOVA test produce the same conclusions as the results of the MANOVA test analysis are presented as follows.

Table 3. Output Multivariate Analysis of Variance (MANOVA)

Effect	Test	Sig.
PjBL Model	Pillai's Trace	0,000
	Wilks' Lambda	0,000
	Hotelling's Trace	0,000
	Roy's Largest Root	0,000

The results of the MANOVA analysis in Table 3 show that the acquisition of sig. scores on the four test results show 0.000 <0.05 so it can be concluded that there is a significant influence of the PjBL model on creative writing skills in all aspects (themes, diction, and imagination) simultaneously. The partial effect analysis is presented in the Post Hoc test after MANOVA presented in Table 4.

Table 4. Post Hoc Test Analysis Results

Dependent Variable	Test	Sig.
Theme	Bonferroni	0,000
Diction	Bonferroni	0,000
Imagination	Bonferroni	0,000

Based on the data on the results of the Post Hoc test analysis using the Bonferroni test, it shows that Sig. = 0.000 <0.05 indicates a significant difference between the experimental group and the control group. On the diction aspect of creative writing skills obtained by Sig. = 0.000 <0.05 indicates a significant difference between the experimental group and the control group. Furthermore, on creative writing skills, the imagination aspect was obtained by Sig. = 0.000 <0.05 indicates a significant difference between the experimental group and the control group. Thus it can be concluded that partially, the application of the PjBL model has a significant effect on the mastery of themes, diction, and imagination.

DISCUSSION

The results of this study found that the application of the PjBL model significantly influences creative writing skills in mastering themes, diction, and imagination, both simultaneously and partially. The results of this study are in accordance with the findings of researchers who reported that the application of the PjBL model can effectively improve creative writing skills in elementary school students (Wahyuningaih, 2022; Revelle et al., 2020; Ismuwardani et al., 2019; Marlani & Prawiyogi, 2019). In addition, the application of a well-planned PjBL model by the teacher can improve poetry writing skills. The findings of this study indicate that it is necessary for teachers in elementary schools to choose the PjBL model as a way to improve students' creative writing skills in elementary schools.

Although this research has supported creative writing learning as previous research, there are differences as a novelty. Previous research applying PjBL in creative

writing did not specifically emphasize writing skills in elementary school students. Research is still general that the PjBL model has played a role in supporting student creativity and learning outcomes (Cahyani, 2021; Ummah et al., 2019; Sudianto et al., 2019; Gunawan et al., 2019). In contrast to this research, this research specifically emphasizes students' activities in learning to produce creative writing which is included in the content of Indonesian language learning in elementary school.

Besides that, this research is different from previous studies in the application of the PjBL model in language learning. Many previous studies have applied the PjBL model as a useful application for student language learning outcomes (Malyuga, & Petrosyan, 2022; Sirisrimangkorn, 2021; Nanni, 2020; Bakar et al., 2019). However, many have not specifically studied the influence of the PjBL model both partially and simultaneously (Walsh & Dalton, 2022; Yimwilai, 2020; Nurjannah, 2020; Guo et al., 2020). Therefore, this research raises a different theme by emphasizing a special partial and simultaneous study of the PjBL model on elementary students' creative writing skills from the skills of mastering themes, diction and imagination. The three aspects of the study in the MANOVA analysis in this research provide an illustration that both simultaneously and partially, the PjBL model influences elementary school students' mastery of creative writing skills in mastery of themes, diction and imagination.

This research has implications for creating an active classroom situation. Students actively collaborate in expressing expressions, ideas and imagination in producing creative writing. The stages of the PjBL model provide opportunities for students to stimulate other students in divergent thinking so that they can produce ideas for writing themes that are different from one another (Pan et al., 2023; Wu & Wu, 2020). Different themes produce different creative script constructions supported by word choices (diction) that support the expression of students' imaginations. This method can be applied in language learning, especially writing in elementary schools.

The results of this study recommend teachers to apply the PjBL model in increasing student creativity, especially in producing products in the form of creative writing. However, there are limitations to the study, namely the number of samples that are not large enough to be generalized to one city. Therefore, future researchers can increase the number of samples. In addition, this research is limited to the study of three aspects of mastery of writing skills, consisting of mastery of themes, diction, and imagination.

CONCLUSION

The application of the PjBL model in learning Indonesian in elementary school resulted in findings which could be concluded that the PjBL model had a significant effect on creative writing skills in mastering aspects of theme, diction, and imagination simultaneously. In addition, the Post Hoc analysis concluded that the PjBL model had a significant effect on creative writing skills in mastering the aspects of theme, diction, and imagination partially.

AUTHOR CONTRIBUTION STATEMENT

The author of this article is the sole author. The author carried out data analysis using SPSS software. The author describes the results and discussion in the manuscript and translates the manuscript into English. The author has also adapted the manuscript to the journal template.

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