

Quantum Learning and Think Talk Write Models: A Comparative Study on Poetry Writing Skills of Fourth-Grade Elementary School Students

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Abstract: This study investigates the relative effectiveness of the Quantum Learning model and the Think Talk Write model in enhancing poetry writing skills among fourth-grade students in Tangerang City Elementary Schools. Employing a true experimental approach with a Nonequivalent Control Group Design, the research engaged 80 participants, comprising 41 students in the Quantum Learning group and 39 students in the Think Talk Write group. Data for this study were gathered through observation, interviews, documentation, and testing. Poetry writing skills were assessed using validated objective instruments administered as both pretests and posttests. The results revealed that students taught with the Quantum Learning model experienced greater improvement, with their average score rising from 67.70 to 78.95. In comparison, those instructed through the Think Talk Write model showed an increase from 63.42 to 70.56. Hypothesis testing indicated a significant difference ($t_{count} = 4.174 > t_{table} = 1.991$), confirming that the Quantum Learning model was more effective in enhancing students' poetry writing skills. These findings underscore the crucial role of selecting appropriate instructional models to foster creativity and strengthen literacy development in primary education.

Keywords: *Quantum Learning, Think Talk Write, Poetry Writing Skills.*

INTRODUCTION

Language plays a vital role in supporting the development of thinking skills, a perspective that aligns with the fundamental philosophy of Indonesian language learning (Isnaini et al., 2023) and student learning success. Therefore, language learning is expected to create opportunities for students to express their ideas and emotions while actively engaging in the learning process. One meaningful medium for such expression is through students' creative works, particularly poetry. In Indonesian language education, literary materials form an integral component, with poetry learning serving as one of the key elements (Stokes, 2025). The responsibility for teaching poetry in schools lies with Indonesian language teachers. They are expected to guide students in understanding the nature of poetry and in developing the ability to write it as a constructive medium for self-expression. In elementary schools, poetry learning is positioned as an essential part of literary education (Latifah et al., 2021) What is taught in elementary school, especially in writing poetry, is one of the aspects of skills that train students to develop their creativity and imagination which is expressed in the form of writing.

Preliminary observations of fourth-grade elementary students in Tangerang City revealed that their attitudes and responses toward writing activities—particularly poetry writing—were generally unfavorable during Indonesian language lessons. Students find learning to write poetry very tedious and difficult (Pears-Scown, 2024). Students' interest in learning to write poetry remains very low. While they enjoy listening to poetry, their enthusiasm declines when they are required to compose poems themselves (Wahyuni et al., 2025), the student finds it difficult to string together the words he will pour (Matthews et al., 2023). For many students, writing poetry feels both difficult and monotonous. This challenge is compounded by the limited motivation provided by teachers during Indonesian language lessons, particularly in poetry writing, as well as by classroom learning conditions that are often less conducive to fostering creativity.

One of the factors suspected to contribute to this issue is the limited variety of teaching methods employed in poetry writing lessons, which tend to rely on monotonous approaches (Walls & Johnston, 2023) so that they are unable to attract students' interest in writing poetry (Zausmer et al., 2024), and in the classroom teachers lack motivation so that students lack enthusiasm in learning. In addition, when learning to write poetry, students often lack sufficient stimulation to spark and develop their imagination.

The problems described above highlight the need for significant improvements in the process of teaching writing. One possible solution is the application of active learning methods that not only encourage students to participate actively in the learning process but also help foster the development of their thinking skills. The learning models offered are learning with *the Quantum Learning* model and *the Think Talk Write* model.

Type *Quantum Learning* are tips, instructions, strategies and the entire learning process that can sharpen understanding and memory, and make learning a fun and rewarding process (Selman et al., 2011). Thus, learning *Quantum Learning* It can be said to be a learning model that emphasizes providing meaningful benefits (Khalil et al., 2025) and also emphasizes on the level of enjoyment of the learner or student. The advantages of the Learning model *Quantum Learning* (Li et al., 2020) That is, quantum Learning is rooted in cognitive psychology, not quantum physics, even though it borrows a few terms and concepts from the field of quantum science.

Quantum Learning emphasizes quality, meaningful interactions rather than mere exchanges of information. It focuses on accelerating the learning process while ensuring a high level of success for students (Stavem, 2024). Quantum Learning emphasizes the naturalness and authenticity of the learning process, rather than artificial or superficial approaches. It places strong focus on both the meaning and quality of learning, offering a model that integrates the context and content of the material being studied (Li et al., 2020). Quantum Learning focuses on developing academic skills, life skills, and even physical or material achievements. It also recognizes values and beliefs as essential components of the learning process. At its core, Quantum Learning embraces diversity and freedom, rather than enforcing uniformity and rigid order (Sentís et al., 2012). Quantum learning integrates the totality of the body and mind in the learning process

In addition, another learning model offered in order to improve poetry writing skills is to use a learning model *Think Talk Write* (Prestika, 2023) to construct thoughts, reflect, and organize ideas, then test those ideas before students are expected to write. The flow of the *Think Talk Write* learning model begins with students engaging in personal reflection or inner dialogue, followed by discussing and sharing ideas with their peers, and finally expressing those ideas in writing. The advantages of the model *Think Talk Write* (Masruddin et al., 2021) namely Developing meaningful solutions in understanding teaching materials. By giving questions *open ended*, can develop students' critical thinking and creative thinking skills (Struthers & Jones, 2025). Through interaction and group discussions, students become more actively engaged in the learning process (Masruddin et al., 2021). Training students to think critically and communicate effectively with their peers, teachers, and even through self-reflection.

Based on the problems outlined above, the researcher became interested in examining the differences between the use of the Quantum Learning model and the Think Talk Write model in relation to students' poetry writing skills. For this reason, the study was given the title: "*The Difference between*

METHODOLOGY

This study employed a quasi-experimental method with a *Non-Equivalent Comparison Group Design*. Experimental research is designed to determine the effect of a specific treatment, and in this case, the design compared two experimental groups. Both groups were administered a pretest, followed by different treatments, and finally a posttest. The first experimental group was taught using the Quantum Learning model, while the second experimental group received instruction through the *Think Talk Write model*.

The purpose of this study is to examine the differences between the *Quantum Learning* model and the *Think Talk Write* model in developing poetry writing skills among fourth-grade elementary students in Tangerang City. Through this research, it is expected to identify which model is more effective in enhancing students’ ability to write poetry. The research framework can be seen on the page
Next

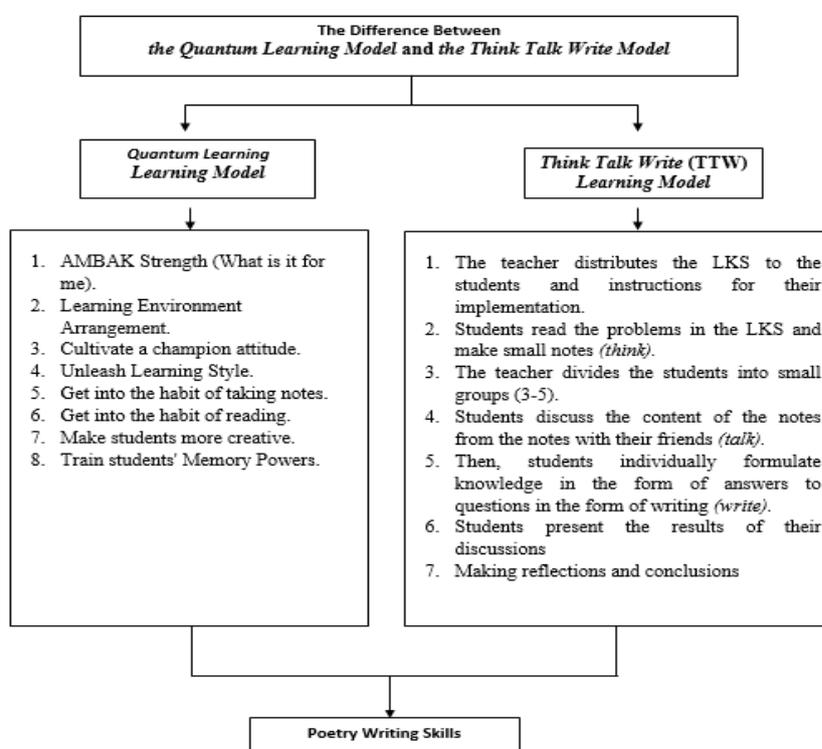


Figure 1. Research Design

This study was designed by comparing two experimental groups. Both groups first received a *pretest*, followed by different treatments, and finally a *posttest*. The first group was taught using the Quantum Learning model, while the second group received instruction through the Think Talk Write model. As for table formatting, it should follow the example in **Table 1**.

Tabel 1. Design Penelitian Non-Equivalent Comparison Group Design

Group	Pretest	Treatment	Posttest
Experiment I	E1	X1	E3
Experiment II	E2	X2	E4

The study involved two experimental groups that received different treatments. Baseline data were obtained through pretests administered to Experimental Group I (E1) and Experimental Group II (E2), which measured students’ poetry writing abilities prior to the application of the learning models. Experimental Group I (X1) was

taught using the Quantum Learning model, while Experimental Group II (X2) received instruction through the Think Talk Write model. Following the treatments, both groups were given a posttest to assess improvements in their poetry writing skills. The posttest results of Experimental Group I (E3) reflected the outcomes of applying the Quantum Learning model, while the posttest results of Experimental Group II (E4) demonstrated the effectiveness of the Think Talk Write model.

RESULT AND DISCUSSION

Description data Pre-test Model *Quantum Learning* dan Model *Think Talk Write*

In the discussion of this study, the initial step before administering the treatments was to conduct normality and homogeneity tests on the pretest scores of Experimental Class I and Experimental Class II. The results confirmed that both classes had relatively equivalent abilities at the outset. Therefore, any differences in poetry writing skills observed after the treatments can be attributed to the specific instructional models applied—*Quantum Learning* in Experimental Class I and *Think Talk Write* in Experimental Class II.

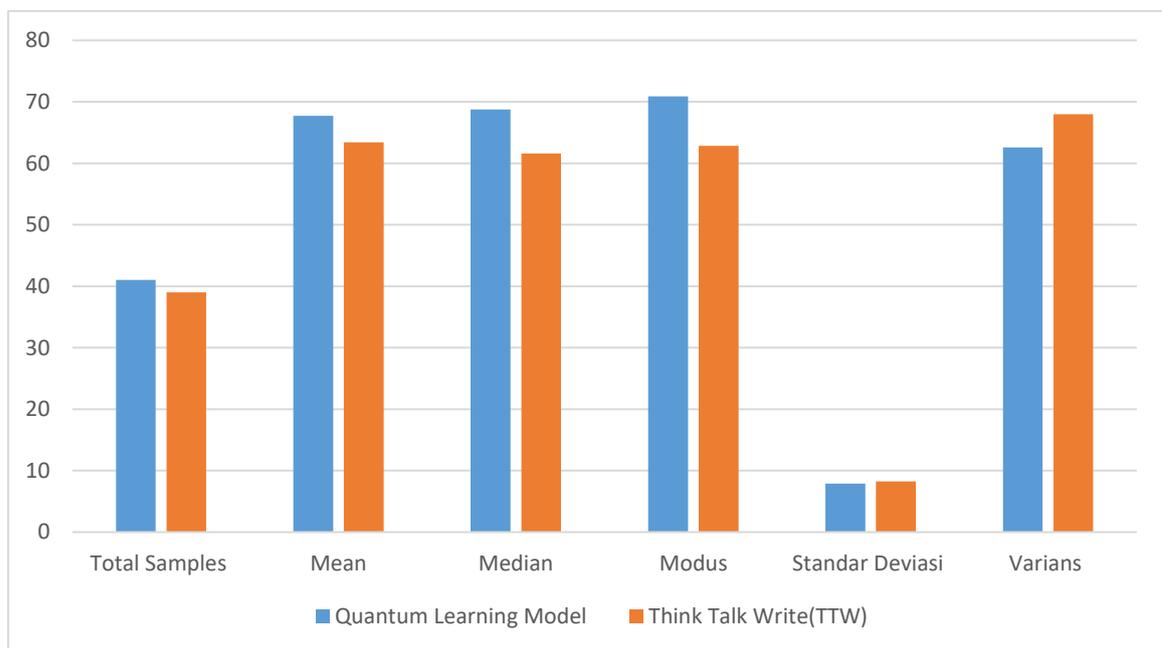


Figure 3. Comparison of Pre-test Experimental Class I and Experimental Class II

Figure 3 illustrates the descriptive statistics of the pretest scores for the two experimental groups. The Quantum Learning Model group (blue bar) consisted of 41 students, while the Think Talk Write (TTW) group (orange bar) included 39 students. The results indicate that the average pretest score of the Quantum Learning group was 67.31, which was slightly higher than the TTW group's average of 63.66. Both the median and the mode followed the same trend, with the Quantum Learning group consistently showing slightly higher values.

In terms of data distribution, both groups displayed similar values of standard deviation and variance. The Quantum Learning Model group recorded a standard deviation of 8.27 with a variance of 62.6, while the TTW group had a standard deviation of 8.35 and a variance of 67.97. Taken together, these descriptive statistics suggest that the pretest scores of the two groups were comparable, indicating that the students' initial abilities were relatively equivalent prior to the learning interventions.

Pre-test Hypothesis Test Experimental Class I and Experimental Class II

Before conducting hypothesis testing, the data were first examined to ensure that they met the requirements of normality (reasonably distributed data) and homogeneity (similar variances across

groups). After these assumptions were confirmed, a t-test was applied to compare the pretest scores of the two experimental groups. The results indicated no significant difference between the groups, suggesting that both had comparable initial abilities prior to the treatment. The detailed calculations are presented in Table 2

Table 2. Results of Pre-test Calculation of Test "t"

Group	(n)	Thitung	Table ($\alpha = 5\%$)	Information
Experiment I	41			
Experiment II	39	0,523	1,991	Reject H_1 and Accept H_0

The results of the t-test showed that the calculated value (0.523) was smaller than the critical value (1.991). This means the null hypothesis (H_0) is accepted, while the alternative hypothesis (H_1) is rejected. In other words, there was no statistically significant difference in the reading comprehension skills of fourth-grade students between experimental group I and experimental group II.

Description data Post-test Model *Quantum Learning* dan Model *Think Talk Write*

The normality test results revealed that the data from both experimental class 1 and experimental class 2 were normally distributed at the 5% significance level.

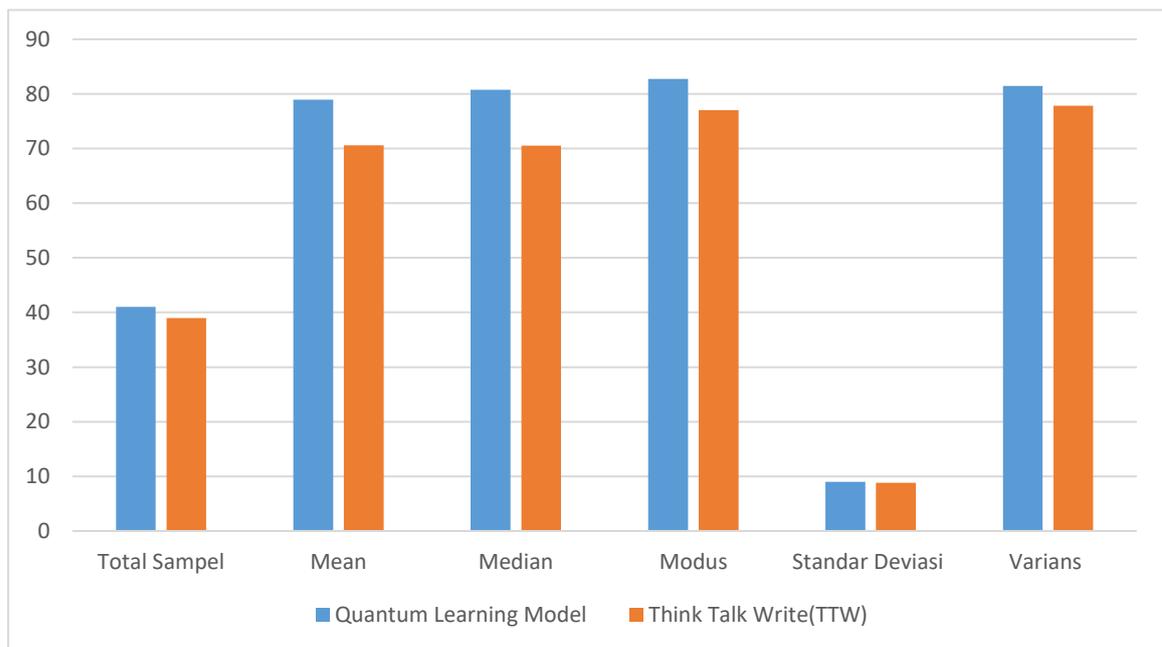


Figure 4. Comparison of Post-test Experimental Class I and Experimental Class II

Figure 4 presents the descriptive statistics of the post-test scores for the two experimental groups. The Quantum Learning group (blue bar) consisted of 41 students, while the Think Talk Write (TTW) group (orange bar) included 39 students. The results indicate that the average post-test score of the Quantum Learning group was 79.21, which was higher than the TTW group's average of 70.39. The same trend was observed in both the median and the mode, where the Quantum Learning group consistently achieved higher scores.

In terms of data distribution, both groups showed relatively similar standard deviations and variances. The Quantum Learning group had a standard deviation of 9.14 with a variance of 80.69, while the TTW group recorded a standard deviation of 8.91 and a variance of 77.59. Taken together,

these descriptive statistics suggest that the post-test scores of students in the Quantum Learning group were consistently higher than those in the Think Talk Write group..

Hypothesis Test Post-test Experimental Class I and Experimental Class II

Table 3. Calculation Results of the Post-test Test "t"

Group	(n)	Thitung	Table ($\alpha = 5\%$)	Information
Experiment I	41			Reject H1 and
Experiment II	39	4,174	1,991	Accept H0

The results of the t-test show that the calculated value (4.174) is greater than the critical value (1.991). This means the alternative hypothesis (H_1) is accepted, while the null hypothesis (H_0) is rejected. In other words, there is a statistically significant difference in the poetry writing skills of fourth-grade students taught using the Quantum Learning model compared to those taught with the Think Talk Write model.

This study demonstrates that the use of Quantum Learning and Think Talk Write (TTW) models leads to significantly different learning outcomes at the elementary school level. In particular, students taught through the Quantum Learning model achieved an average score of 78.95 in poetry writing skills, which was notably higher than the 70.56 average score of students taught with the TTW model.

These findings suggest that the Quantum Learning model is more effective in enhancing students' poetry writing skills. Its advantages can be linked to several key aspects, particularly its capacity to boost learning motivation and to deepen students' understanding of the main ideas within a text.

The findings of this study are consistent with earlier research that highlights the effectiveness of Quantum Learning. DePorter and Hernacki (2001), for instance, emphasize that this model combines motivation, emotion, and cognition, which together enrich the learning process. Similarly, Rahmawati (2018) reported that student-centered, hands-on learning experiences—central to the Quantum Learning approach—lead to notable improvements in creative writing skills. In line with these studies, the present research provides further empirical evidence supporting the view that Quantum Learning is particularly effective in enhancing poetry writing skills among elementary school students.

The hypothesis testing results showed a t value of 4.174, which exceeded the critical t value of 1.991 at the 5% significance level. This indicates that the null hypothesis (H_0) is rejected, while the alternative hypothesis (H_a) is accepted. In other words, the research hypothesis stating that there is a significant difference in students' poetry writing skills between those taught using the Quantum Learning model and those taught with the Think Talk Write (TTW) model is supported.

Overall, the study concludes that the Quantum Learning model is more effective than the Think Talk Write model in enhancing the poetry writing skills of fourth-grade students. Although previous research by (Fitrianto et al., 2023) suggests that the TTW model can also improve student achievement, our research findings are in line with the study's findings. (Rawlinson-Mills & Binney, 2025) which confirms that Quantum Learning makes a more significant contribution to the achievement of student learning outcomes. These findings offer further empirical support for the effectiveness of the Quantum Learning model, even while acknowledging that both approaches have their own strengths and limitations.

The application of the Quantum Learning model has been shown to increase students' enthusiasm for writing poetry while also fostering a more enjoyable and engaging learning environment. This is in line with the research of Tomura et al. (Tomura et al., 2025), which suggests that this model can support students' poetry writing skills by developing thinking skills. In addition, these findings are also strengthened by (Rawlinson-Mills & Binney, 2025), which found that the Quantum Learning model contributed to the improvement of writing skills in general. Therefore, the results of the data analysis provide strong empirical evidence that there are significant differences in the poetry writing skills of students taught using the Quantum Learning model compared to those taught with the Think Talk Write model.

CONCLUSION

Based on the research findings and data analysis, it can be concluded that the use of the *Quantum Learning* model produces a significant impact on students' poetry writing skills across different ability levels—high, medium, and low. The post-test results further indicate that students in the Quantum Learning class (experimental class I) achieved higher average scores than those taught with the *Think Talk Write* model (experimental class II). The average pre-test score in experimental class 1 was 67.70, while experimental class 2 achieved 63.42. Following the implementation of their respective learning models, the post-test average in experimental class 1 increased to 78.95, whereas experimental class 2 reached 70.56. Statistical analysis at a 5% significance level indicates that students taught through the Quantum Learning model experienced greater improvement in poetry writing skills compared to those taught using the *Think Talk Write* model. These findings affirm that the *Quantum Learning model* is more effective in enhancing the poetry writing abilities of elementary school students.

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Authorship Contribution Statement

Nur Latifah: Conceptualization, design analysis.

Ana Nurhasanah: Editing/reviewing

Imas Mastoah : Data analysis / interpretation,

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