# THE EFFECTIVENESS OF LEARNING TO WRITE EXPLANATION TEXT USING PROBLEM BASED LEARNING AND QUANTUM LEARNING MODELS FOR SIXTH GRADE STUDENTS BASED ON PERSONALITY TYPE

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**Abstract:**
This study aims to (1) determine the effectiveness of learning to write explanatory texts using problem-based learning models for grade sixth students based on personality type; (2) determine the effectiveness of learning to write explanatory texts using quantum learning models for grade sixth students based on personality type; (3) determine the interaction of the effectiveness of learning to write explanatory texts using problem-based learning and quantum learning models for grade sixth students based on personality type. The samples of this study were grade sixth students of SD Negeri Kemawi and SD Negeri Piyanggang 02 as experimental class I and grade sixth students of SD Negeri Keseneng and SD Negeri Mendongan as experimental class II. This research is a quantitative research of quasi-experiment type with pre test and post test group design. The results of this study are (1) The problem-based learning model is effective in learning to write explanatory texts for grade sixth students based on personality type. (2) Quantum learning model is effective in learning to write explanatory text for grade sixth students based on personality type. (3) There is an interaction between the effectiveness of learning to write explanatory text using problem-based learning and quantum learning models for grade sixth students based on personality type.
**Keywords**: *problem based learning, quantum learning, personality type*

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## 1. INTRODUCTION

Indonesia is currently in the process of changing its curriculum from the 2013 curriculum to the independent curriculum. The structure of the independent curriculum consists of intracurricular learning and projects to strengthen the youth profile of Pancasila (Permendikbud Number 57 of 2022). One of the subjects in the independent curriculum is Indonesian. According to the Decree of the Education Curriculum and Assessment Standards Board Number 008/KR/2022, Indonesian language learning is literacy learning for various purposes of communicating in the Indonesian socio-cultural context. Literacy is a very important ability that is used to work and learn throughout

life. Literacy skills are developed into listening, reading and viewing, writing, speaking, and presenting learning for various genre-based purposes related to language use in life.

Writing is the ability to convey ideas, responses, and feelings in written form fluently, accurately, responsibly, and/or convey feelings according to context. The components that can be developed in writing include the use of spelling, vocabulary, sentences, paragraphs, language structure, meaning, and metacognition in various types of texts. Writing skills are important things that must be mastered by learners. Writing is an active productive skill which is the actualization of other language skills such as listening and reading. By writing, learners are able to process the ideas and knowledge they receive. Writing is also one of the communication media that can be done in a planned manner so that the results are more structured, systematic, and easy to understand.

Writing is one of the skills in Indonesian language subjects in the independent curriculum. Writing skills are taught in each phase through learning outcomes developed according to the developmental characteristics of learners. One of the learning outcomes of phase B in the independent curriculum is that learners show interest in texts, are able to understand and convey ideas from informative texts, and are able to express ideas in group work and discussions, and present their opinions orally and in writing. Learners are able to improve their mastery of new vocabulary through various language and literary activities with diverse topics. There are various kinds of texts in learning to write, one of which is explanatory texts.

Mahajani (2021:899) suggests that an explanatory text is a text that explains the process of creating something scientifically, both natural and social phenomena that are patterned chronologically or causally. The structure of an explanatory text consists of a phenomenon, a series of events and ends with a conclusion. As with other types of writing skills, the skill of writing explanatory texts is an active productive skill, through writing activities students perform activities to produce a product. However, in practice, learning to write explanatory texts still encounters a number of obstacles.

Based on research conducted by Kharisma (2021), there are five aspects of difficulties in writing explanatory texts experienced by elementary school students. (1) The content aspect relates to difficulties in developing writing content that is in accordance with the topic. (2) The organizations aspect includes the ability to convey ideas and bring out the cause and effect relationships that character explanatory texts. (3) The vocabulary aspect relates to the low ability to master high-level vocabulary and the use of effective sentences. (4) Language aspects relate to

errors in the use of order, word functions, pronominal, and prepositions. And (5) mechanical aspects include writing rules, spelling mistakes, punctuation, and the use of capital letters.

The results of the researcher's observations and interviews of learning to write explanatory texts in grade SIXTH conducted in four elementary schools in the Siswa Mandira Cluster, Sumowono District, Semarang Regency show that students have difficulty in writing explanatory texts. This is due to the learners' lack of understanding of the material they will write about, so that their writing does not match the structure of the explanatory text which contains a causal relationship. The lack of learning experience possessed by learners makes them have limitations in developing the content of writing. In addition, students have not been able to show the causal relationship of the phenomenon described so that the results of the writing become less logical.

The constraints of learning to write also come from the teacher. Based on the results of observations and interviews, it is known that teachers have not been able to apply the right learning model in learning to write. Learning is generally carried out with conventional learning models with the dominance of the lecture method. Teachers have not facilitated students to build knowledge about what to write. Concrete media to build learners' knowledge is rarely used. The classroom as a place of learning has not been specifically conditioned to create comfortable conditions that support the learning process.

The use of appropriate learning models can create active and fun classroom conditions so as to facilitate students to gain learning experiences as writing materials. One of the learning models that can provide this learning experience is the problem-based learning model. Problem based learning is one of the learning models with constructivist approach. Through this learning model, learning activities are students centered so as to make them active in learning. The problem-based learning model begins by presenting a problem. Through this problem, learners practice critical thinking to find solutions to the problems presented (Halimah, 2019: 897). Problem-based learning facilitates learners to explore experiences authentically and construct their knowledge so that they are able to integrate the context of learning at school with real life scientifically. Learners do not just listen, record, and memorize material delivered by the teacher but are expected to be able to think, search, process data, and communicate in learning activities (Firmansyah et al., 2017). Problem-based learning provides real learning experiences to students and will last long so that it is expected to support writing skills.

Another model that teachers can use is quantum learning. Quantum learning is a learning model that provides positive attitudes, motivation, lifelong learning skills, confidence, and success

in learning (De Porter, 2013: 13). Quantum Learning provides tips, hints, strategies, and the whole process that can save time, sharpen understanding and memory so as to make learning a fun and rewarding process. Quantum Learning facilitates comfortable and enjoyable learning activities (Minangae & Bone, 2022). The pleasant atmosphere is expected to give enthusiasm to students in participating in learning so that the material learned is easier to understand. Lasting knowledge also has a positive impact on writing skills.

In addition to the learning model, another thing that affects writing skills is the personality type of students. The personality referred to in this study is a characteristic that exists in an individual that distinguishes the behavior between one individual and another. According to Hippocrates (in Litteur, 2020:7) there are four personality types: sanguinis, melancholic, choleric, and phlegmatic. The sanguinis personality type is characterized by being spontaneous, lively and jovial. While learners with the melancholic personality type are thoughtful, loyal and diligent. Adventurous, persuasive, and confident are traits possessed by learners with the choleric type. Meanwhile, the phlegmatis personality type is characterized by being friendly, patient, and content.

Based on the description above, it is necessary to conduct research by applying problem-based learning and quantum learning models to the writing skills of grade sixth students based on personality type. The author sets the hypothesis 1) The problem-based learning model is effective in learning to write explanatory texts of elementary school students, (2) the quantum learning model is effective in learning to write explanatory texts of elementary school students, (3) there is an interaction of the effectiveness of learning to write explanatory texts using problem-based learning and quantum learning models based on the personality type of elementary school students.

## 2. METHODE

The method used in this research is quantitative research of quasi-experiment type with pre test and post test group design. This research design consists of two groups consisting of a learning group to write explanatory texts treated with the Problem Based Learning model which is hereinafter referred to as experimental group I and a learning group to write explanatory texts treated with the quantum learning model called experimental group II. The samples of this study were SD Negeri Kemawi and Piyanggang 02 as the experimental class I which was given writing lessons using the problem-based learning model and SD Negeri Keseneng and Mendongan as the experimental class II which was given writing lessons using the quantum learning model.

The data collection technique used in this research is a test technique in the form of an explanatory text writing skill test which will be assessed using a rubric and a non-test in the form of a questionnaire to find out the personality type of students. The analysis technique begins with analyzing  whether the experimental groups I and II have the same ability. The results of the analysis showed that the two groups had the same ability. Hypothesis testing is done with paired sample t test and anava test.

## 3.　RESULT AND DISCUSSION

The results of this study include (1) the effectiveness of learning to write explanatory texts with problem-based learning models based on students' personality types, (2) the effectiveness of learning to write explanatory texts with quantum learning models based on personality types, and (3) the interaction of problem-based learning and quantum learning models in learning to write explanatory texts based on personality types.

**Table 1. Pretest and Posttest Results of Explanatory Text Writing Skills Using Problem Based Learning and Quantum Learning Models**

| Models | Average Pretest | Average Posttest |
|---|---|---|
| Problem Based Learning | 48,26 | 79,43 |
| Quantum Learning | 66,18 | 83,72 |

**Table 2. Paired Sample t Test Results of Problem-Based Learning Model**

**Paired Samples Test**

| | | Paired Differences | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 95% Confidence Interval of the Difference | | | | |
| | | Mean | Std. Desixthation | Std. Error Mean | Lower | Upper | t | df | Sig. (2-tailed) |
| Pair 1 | PBL_PRE - PBL_POST | -31.17073 | 13.79837 | 2.15494 | -35.52604 | -26.815 | -14.465 | 40 | .000 |

Based on the results of the pretest and posttest skills in writing explanatory texts of experimental group I, the average value of the pretest using the problem-based learning model was 48.26 while the posttest value of students using the problem-based learning model was 79.43. There

was an increase in learning outcomes of 31.17. Based on the above explanation, it can be concluded that the problem-based learning model is effective in learning to write explanatory texts for grade SIXTH students. This is proven by tcount = -14.46 smaller than ttable which is -2.021 and sig. (2-tailed) 0.00 <0.05, then Ho is rejected.

**Table 3. Paired Sample t Test Results of Quantum Learning Model**

**Paired Samples Test**

| | | Paired Differences | | | | | | | |
| | | | | | 95% Confidence Interval of the Difference | | | | |
| | | Mean | Std. Desixthation | Std. Error Mean | Lower | Upper | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|---|---|---|
| Pair 1 | QL_PRE - QL_POST | -17.54545 | 13.19586 | 2.29710 | -22.22450 | -12.86641 | -7.638 | 32 | .000 |

Based on the results of the pretest and posttest skills in writing explanatory texts in experimental group II, the average value of the pretest using the quantum learning model was 66.18 while the posttest value of students using the quantum learning model was 83.72. There was an increase in learning outcomes of 17.54. Based on the above explanation, it can be concluded that the quantum learning model is effective in learning to write explanatory texts for grade SIXTH students. This is esixthdenced by tcount = 7.63 smaller than ttable which is -2.037 and sig. (2-tailed) 0.00 <0.05, then Ho is rejected.

**Table 4. Descriptive Results of Explanatory Text Writing Skills with Problem Based Learning and Quantum Learning Models based on personality type**

<div align="center">Descriptive Statistics</div>

Dependent Variable: LearninToWrite

| Personality_Type | Learning Models | Mean | Std. Desixthation | N |
|---|---|---|---|---|
| SANGUINIS | PBL | 73.5714 | 10.02086 | 14 |
| | QL | 79.7857 | 8.84202 | 14 |
| | Total | 76.6786 | 9.79816 | 28 |
| KOLERIS | PBL | 71.2000 | 18.86001 | 5 |
| | QL | 85.5000 | 13.43503 | 2 |
| | Total | 75.2857 | 17.77371 | 7 |
| MELANKOLIS | PBL | 98.0000 | 2.73861 | 10 |
| | QL | 89.5000 | 10.01388 | 5 |
| | Total | 92.3333 | 9.15475 | 15 |
| PLEGMATIS | PBL | 82.0833 | 12.03373 | 12 |
| | QL | 81.3333 | 7.66733 | 12 |
| | Total | 81.7083 | 9.87522 | 24 |
| Total | PBL | 79.4390 | 12.40373 | 41 |
| | QL | 83.7273 | 11.31170 | 33 |
| | Total | 81.3514 | 12.04152 | 74 |

Based on table 4, it can be seen that of the 74 samples can be broken down into eight parts, namely, (1) the average value of students with sanguinis personality using problem-based learning model is 73.57. (2) The average value of students with sanguinis personality using the quantum learning model is 79.78. (3) The average value of students with choleric personality using problem based learning model is 71.20. (4) The average value of students with choleric personality using quantum learning model is 85.50. (5) The average value of students with melancholic personality using problem based learning model is 98.00. (6) The average score of students with melancholic personality using the quantum learning model is 89.50. (7) The average score of students with pleghmatic personality using the problem-based learning model is 82.08. (8) The average score of students with pleghmatis personality using the quantum learning model is 81.33.

Based on the explanation above, it can be seen that the writing skills of students with sanguinis personality treated with quantum learning model are better with an average score of 79.78 than sanguinis students treated with problem-based learning model with an average score of 73.57. The writing skills of students with choleric personality treated with quantum learning model were

better with an average score of 85.50 than students with choleric personality treated with problem-based learning model with an average score of 71.20. Meanwhile, the writing skills of students with melancholic personality treated with problem-based learning model were better with an average score of 98.00 than students with melancholic personality treated with quantum learning model of 89.50. The skills of writing explanatory texts of students with plehmatis personality with problem-based learning models are better with an average score of 82.08 than students with pleghmatis personality treated with quantum learning models with an average score of 81.33.

**Table 5. Anova 2x2 Result**

**Tests of Between-Subjects Effects**

Dependent Variable: LearningToWrite

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 3487.696[a] | 7 | 498.242 | 4.633 | .000 |
| Intercept | 333622.324 | 1 | 333622.324 | 3102.515 | .000 |
| TIPE_KEPRIBADIAN | 2706.159 | 3 | 902.053 | 8.389 | .000 |
| MODEL_PEMBELAJARAN | 676.515 | 1 | 676.515 | 6.291 | .015 |
| TIPE_KEPRIBADIAN * MODEL_PEMBELAJARAN | 279.526 | 3 | 93.175 | .866 | .046 |
| Error | 7097.169 | 66 | 107.533 | | |
| Total | 500320.000 | 74 | | | |
| Corrected Total | 10584.865 | 73 | | | |

a. R Squared = .329 (Adjusted R Squared = .258)

Based on the results of the 2x2 Anova test, it shows that: (1) There is a difference in the average student learning outcomes in the skill of writing explanatory texts in terms of learning models. This can be seen from the sig value. 0.015 <0.05 then Ho is rejected; (2) There is an average difference in students' learning outcomes in writing explanatory skills in terms of personality. This can be seen from the sig value. 0 < 0.05 then Ho is rejected; (3) There is an interaction between learning model and personality type on the skill of writing explanatory text. This can be seen from the sig. 0.046 < 0.05 then Ho is rejected.

## 4.  CONCLUTION

Based on the results of the research and discussion that has been stated, it can be concluded. The problem-based learning model is effective in learning to write explanatory texts for grade SIXTH students with an increase of 31.17 from the pretest average of 48.26 to 79.43. This is evidenced  by tcount = -14.46 smaller than ttable which is -2.021 and sig. (2-tailed) 0.00 <0.05 which means there is a significant difference in the pretest and posttest learning outcomes of experimental group I using the problem-based learning model.

The quantum learning model is effective in learning to write explanatory text for grade sixth students with an increase of 17.54 from the pretest average of 66.18 to 83.72. This is evidenced by tcount = -7.63 smaller than ttable which is -2.037 and sig. (2-tailed) 0.00 <0.05, which means there is a significant difference in the pretest and posttest learning outcomes of the experimental group II using the quantum learning model.

There is an interaction between learning model and personality type on the skill of writing explanatory text. The writing skills of students with sanguinis and choleric personality treated with quantum learning model were better with an average score of 79.78 and 85.50 respectively than students with sanguinis and choleric personality treated with problem-based learning model with an average score of 73.57 and 71.20 respectively. Meanwhile, the writing skills of students with melancholic and pleghmatic personalities who were treated with the problem-based learning model were better with an average score of 98.00 and 82.08 respectively than students with sanguinis and plegmatis personalities with an average score of 89.50 and 81.33 respectively.

**REFERENCE**

DePotter, Bobbi, and Mike Hernaki. 2003. Quantum Learning: Making Learning Comfortable and Fun. Bandung: Khaifa.

Halimah, M., Solfarina, & Langitasari, I. (2019). Journal of the Teaching Profession. Journal of Teaching Profession, 5(1), 15-22.

Firmansyah, A., Kosim, K., & Ayub, S. (2017). The Effect of Problem-Based Learning Model with Experiment Method on Light Material on Physics Learning Outcomes of Class SIXTHII Students of SMPN 2 Gunungsari in the 2014/2015 Academic Year. Journal of Physics and Technology Education, 1(3), 155. https://doi.org/10.29303/jpft.v1i3.252.

Kharisma, A., Hartati, T., Damaianti, V. S., & Solehuddin, M. (2021). Difficulties of 10-11 Years Old Children in writing Factual Variety of Explanation. Basicedu Journal, 5(2), 895-902. https://doi.org/10.31004/basicedu.v5i2.851.

Littauer, Florence. 2020. Personality Plus. Tangerang: Karisma Inti Ilmu.

Mahajani, T., Suhendra, & Nurlihayati, N. (2021). Analysis of the Use of Grammatical Cohesion in Explanation Texts of Students in Grade SIXTHII of SMP Negeri 5 Bogor. Journal of Primary School Teacher Education and Teaching (JPPGuseda), 04(02), 97-102. http://journal.unpak.ac.id/index.php/jppguseda.

Minangae, S., & Bone, K. (2022). JIKAP PGSD: Scientific Journal of Educational Sciences The Effectiveness of the Quantum Learning Approach on Improsixthng Social Studies Learning Outcomes of Fourth Grade Students of SD Negeri 223. 106-111.