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Email : editorijhess@gmail.com

Enhancing Learning Motivation and Thematic Learning Outcomes of Fifth-Grade Students through the Quantum Teaching Model

Haffit Mufarrid[1)], Yalvema Miaz[2)], Syafri Ahmad[3)] , Irsyad[4)]
[1,2,3,4)]Basic Education, Faculty of Science Education, Padang State University

*Corresponding Author
Email: haffit.mufarrid2@gmail.com[1], yalmiaz@gmail.com[2)],
syafriahmad@fip.unp.ac.id[3], irsyad1122@gmail.com[4]

Abstract

Based on a preliminary study conducted in class V of UPT SDN 04 Siparayo, it was observed that teachers were not optimizing the use of learning models, which resulted in a decrease in students' learning motivation and low learning outcomes. Teachers tended to still use conventional learning models. This study aims to determine the effect of using the Quantum Teaching model on students' motivation and learning outcomes. The steps of the Quantum Teaching model are: (1) grow, (2) experience, (3) name, (4) demonstrate, (5) repeat, and (6) celebrate. Students experience enjoyable learning and find it easier to understand the subject matter. This study is an experimental study with a quasi-experiment design in the form of a pretest-Post-test non-equivalent group design. Data were obtained from quantitative research results. The results showed that the level of learning motivation of students taught with the Quantum Teaching model was higher compared to students taught with conventional learning. Furthermore, for learning outcomes, students taught with Quantum Teaching model obtained higher average scores compared to students taught with conventional learning. To see the effect of the Quantum Teaching model on students' motivation and learning outcomes, a One-Way ANOVA test was conducted, which obtained a higher F-value compared to the F-table, is an F value of 4.098 is greater than the tables F value of 3.555 at a significance level of 0.05 This indicates that there is an influence of using the Quantum Teaching model on students' learning motivation and outcomes. The application of the Quantum Teaching model in learning has a positive impact on students' motivation and learning outcomes. When learning using the Quantum Teaching model, students are seen to be motivated to participate in learning and their learning outcomes also improve. Therefore, the use of the Quantum Teaching model has a significant effect on students' motivation and learning outcomes.

Keywords: Learning Motivation, Learning Outcomes, Quantum Teaching

INTRODUCTION

In the implementation of integrated thematic learning, both individual students and groups actively engage in exploring and discovering concepts and principles holistically, meaningfully, and in accordance with their competencies. These competencies encompass attitudes, knowledge, and skills. According to Syupriyanti (2019), the goal of integrated thematic learning is to provide students with an understanding of various subject matters and information, allowing them to recognize and comprehend them beyond the information provided.

Integrated thematic learning should align with the characteristics being taught. According to Rusman (Sherviyana & Mansurdin, 2020), the characteristics of integrated thematic learning are: (1) student-centered learning, (2) providing direct experiences to students, (3) less distinct separation between subjects, (4) presenting concepts from various subjects, (5) being flexible, (6) learning outcomes that develop based on students' interests and needs, and (7) utilizing principles of learning through play and enjoyment.

Based on observations conducted by the researcher in class V of UPT SDN 04 Siparayo, Tigo Nagari District, Pasaman, several issues were identified in integrated thematic learning, including: (1) teachers' limited implementation of learning models in integrated

thematic learning, (2) decreased motivation and interest in learning due to remote learning during the pandemic, (3) noticeable separation of subjects by teachers, (4) teacher-centered learning processes, (5) low student learning outcomes, (6) lack of supportive learning resources and facilities, and (7) insufficient collaboration between teachers and parents.

Considering these issues, it is evident that teachers dominate the classroom, resulting in students lacking confidence and the ability to think critically, creatively, innovatively, and systematically. This situation causes students to experience stress, fatigue, and boredom, ultimately leading to poor learning outcomes.

These issues can be addressed by employing various teaching models, such as the Quantum Teaching model. The Quantum Teaching model represents an innovative approach that transforms various interactions within and around the learning process. It offers a vibrant learning experience with all its nuances (Fitri, 2020), encompassing connections, interactions, and differences that maximize learning moments.

Implementing the Quantum Teaching model can stimulate students' motivation and improve their learning outcomes. Motivation is essentially a desire (want) that seeks fulfillment and arises when there is stimulation, either due to needs or interests in something (Yani, 2017). Motivation provides an extraordinary drive for individuals' behavior and guides their learning.

The characteristics of Quantum Teaching include active student involvement in learning activities, meaningful and constructivist learning, consolidation of mastery through repetition, enjoyable learning experiences, and recognition of students' achievements, leading to personal satisfaction in learning.

The advantages of Quantum Teaching lie in actively involving students in the learning process, creating meaningful and enjoyable learning experiences that motivate students to learn, and making subjects easily understandable to students. These interactions encompass effective learning elements that can influence students' success. The learning approach removes barriers to the learning process intentionally by using music or color in the surrounding environment, organizing appropriate teaching materials for effective instruction, and actively engaging students (Yani, 2017). According to DePorter (Dermawan, 2019), Quantum Teaching is based on the concept of "Bring their world into our world, and take our world to theirs."

The motivation to learn within each student significantly affects their learning outcomes. The learning process will unfold as expected when driven by students' desires and motivations. Students will become more skillful, confident, and courageous in expressing their opinions and developing new ideas without hesitation or fear of making mistakes.

This research is relevant to Rokhimah & Salamah (2015) titled "Efforts to Improve Students' Learning Motivation and Learning Outcomes Using the Quantum Teaching Learning Model in the Social Studies Subject of Fourth Grade Students at SD Negeri 1 Bayem Kutoarjo Purworejo, Academic Year 2015/2016, considering the Initial Abilities of Fourth Grade Students." The research findings indicate that learning motivation and learning outcomes were better when using the quantum teaching model compared to the conventional model.

RESEARCH METHODS

This study utilizes quantitative research. Quantitative research is a research method based on the philosophy of positivism (relying on empiricism), which is used to investigate a specific population or sample. The sampling technique is generally performed randomly. Data collection is conducted using objective research instruments, and data analysis is quantitative or statistical in nature, aiming to test predetermined hypotheses. (Sugiyono, 2018:14). The research design used in this study is an experimental research design.

Experimental research can be defined as a research method used to examine the influence of certain treatments on others in a controlled condition. In this study, a quasi-experimental design is used. In the quasi method, the researcher must provide treatment and observe the changes resulting from the given treatment. However, the samples used are not randomly selected, and the researcher cannot manipulate the subjects. In this research, there should be experimental and control groups determined by using random assignment.

The design in this study is a pretest-Post-test non-equivalent group design since the existing classes are not randomly assigned, and the compared groups are taken from the existing classes to examine the effect of a treatment on a variable. In this study, the treatment given to the experimental group is the implementation of the Quantum Teaching model on students' motivation and integrated thematic learning outcomes. Meanwhile, the control group receives conventional teaching. Pretests and Post-tests are administered to both groups using the same instrument.

The instruments that will be used to collect data in this research are questionnaires and test items. Questionnaires are used to determine students' learning motivation, while tests are used to measure students' learning outcomes.

Data collection through documentation is also conducted in this study, such as taking photos that depict the activities carried out by teachers and students, especially during the core activities of integrated thematic learning using the Quantum Teaching model and conventional teaching.

RESULT AND DISCUSSION

Description of Pretest and Post-Test Results For The Learning Motivation Questionnaire

The learning motivation in this study was assessed through the completion of a questionnaire in Theme 1 Subtheme 1 Lesson 3. The questionnaire was used to obtain data on students' learning motivation in both the experimental and control groups, including pretest and Post-test results. Description of pretest results for the learning motivation questionnaire includes measures such as mean, median, mode, standard deviation, variance, maximum value, and minimum value.

Table 1. Description of Data from Pretest Results of the Learning Motivation Questionnaire in the Experimental and Control Groups

Statistics	Experimental Group	Control Group
Statistics Sample Size	20	20
Mean	97,7	81,7
Median	96	82
Mode	103	81
Standar Deviation	9,27	10,21
Variance	86,01	104,22
Highest Score	115	107
Lowest Score	85	66

Based on the above statistical data, the pretest results in the experimental group yielded a mean value of 97.7, median value of 96, mode value of 103, standard deviation of 9.27, variance of 86.01, maximum value of 115, and minimum value of 85. On the other hand, the pretest results in the control group yielded a mean value of 81.7, median value of 82, mode

value of 81, standard deviation of 10.21, variance of 104.22, maximum value of 107, and minimum value of 66.

Description of Post-test results for the learning motivation questionnaire includes measures such as mean, median, mode, standard deviation, variance, maximum value, and minimum value.

Table 2. Description of Data from Post-test Results of the Learning Motivation Questionnaire in the Experimental and Control Groups

Statistics	Experimental Group	Control Group
Statistics Sample Size	20	20
Mean	125,85	84,1
Median	124	83,5
Mode	122	90
Standar Deviation	9,86	9,24
Variance	97,19	85,36
Highest Score	144	108
Lowest Score	112	70

Based on the above statistical data, the Post-test results in the experimental group yielded a mean value of 125.85, median value of 124, mode value of 122, standard deviation of 9.86, variance of 97.19, maximum value of 144, and minimum value of 112. On the other hand, the Post-test results in the control group yielded a mean value of 84.1, median value of 83.5, mode value of 90, standard deviation of 9.24, variance of 85.36, maximum value of 108, and minimum value of 70.

Description of Pretest and Post-Test Results For The Learning Outcomes Assessment

The learning outcomes in this study were assessed through tests on the material in Theme 1 Subtheme 1 Lesson 3. The use of test items in this research aimed to gather data on students' learning outcomes in both the experimental and control groups, including pretest and Post-test results.

Description of pretest results for the learning outcomes includes measures such as mean, median, mode, standard deviation, variance, maximum value, and minimum value.

Table 3. Description of Data from Pretest Results of the Learning Outcomes Test in the Experimental and Control Groups

Statistics	Experimental Group	Control Group
Statistics Sample Size	20	20
Mean	55,6	58,2
Median	56	56
Mode	56	56
Standar Deviation	10,77	9,22
Variance	116,04	85,01
Highest Score	76	72
Lowest Score	40	44

Based on the above statistical data, the pretest results in the experimental group yielded a mean value of 55.6, median value of 56, mode value of 56, standard deviation of 10.77, variance of 116.04, maximum value of 76, and minimum value of 40. On the other hand, the pretest results in the control group yielded a mean value of 58.2, median value of 56, mode value of 56, standard deviation of 9.22, variance of 85.01, maximum value of 72, and minimum value of 44.

Description of Post-test results for the learning outcomes includes measures such as mean, median, mode, standard deviation, variance, maximum value, and minimum value.

Table 4. Description of Data from Post-test Results of the Learning Outcomes Test in the Experimental and Control Groups

Statistics	Experimental Group	Control Group
Statistics Sample Size	20	20
Mean	85,4	77,4
Median	86	76
Mode	88	76
Standar Deviation	4,68	6,36
Variance	21,94	40,46
Highest Score	92	88
Lowest Score	80	68

Based on the above statistical data, the Post-test results in the experimental group yielded a mean value of 85.4, median value of 86, mode value of 88, standard deviation of 4.68, variance of 21.94, maximum value of 92, and minimum value of 80. On the other hand, the Post-test results in the control group yielded a mean value of 77.4, median value of 76, mode value of 76, standard deviation of 6.36, variance of 40.46, maximum value of 88, and minimum value of 68.

The Influence of the Quantum Teaching Model on Students' Motivation and Learning Outcomes

After examining the differences in learning motivation and learning outcomes between the experimental and control groups, the researcher then investigated the influence of the Quantum Teaching model on students' motivation and learning outcomes. The data obtained from the treatment were analyzed using the One-Way ANOVA formula.

According to Judson, R. A. (2022) One-way ANOVA is a statistical technique used to compare the means of three or more different groups or treatments. This method attempts to determine whether there are significant differences among these groups

Table 5. Description of Data from F-Tables

Degree of Freedom 1	Degree of Freedom 2	F-Tables
2	18	3.555

from the F table data above obtained through the existing f table data, if DF 1 is 2 and DF 2 is 18, then the f table results obtained are 3,555.

Table 6. Description of Data from One-Way ANOVA Results of The Influence of the Quantum Teaching Model on Students' Motivation and Learning Outcomes

Source of Variance	Sum Square	Degree of Freedom	Mean Square	F-Value
Between Groups	16362,03	1	16362,025	4.098
Within Groups	2263,35	38	59,56184211	
Total	18625,38	39		

The result of the One-Way ANOVA test calculation yielded an F value of 4.098. It can be observed that the calculated F value of 4.098 is greater than the tables F value of 3.555 at a significance level of 0.05. Therefore, it can be concluded that the Quantum Teaching model has a significant influence on students' motivation and learning outcomes.

CONCLUSION

The Quantum Teaching model has an influence on students' motivation and learning outcomes. This is evidenced by the calculation results showing that the calculated F value of 4.098 is greater than the critical F value of 3.555 at a significance level of 0.05. The implementation of the Quantum Teaching model positively affected students' motivation and learning outcomes. Students were more motivated to actively engage in the learning process, leading to improved learning outcomes. Therefore, the utilization of the Quantum Teaching model has a significant effect on students' motivation and learning outcomes.

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