



The Effectiveness of Thematic Learning Through the Application of the Logan Avenue Problem Solving – Heuristic (LAPS - Heuristic) Model for SDN 331 Borongtellu Students

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Abstrak. Penelitian ini merupakan jenis penelitian pra eksperimen dengan populasi seluruh siswa SDN 331 Borongtellu. Sampel dalam penelitian ini adalah siswa kelas V SDN 331 Borongtellu. Instrumen yang digunakan dalam penelitian ini adalah tes hasil belajar tematik, lembar observasi dan angket. Data dianalisis dengan menggunakan teknik analisis deskriptif dan analisis inferensial. Berdasarkan analisis menunjukkan bahwa hasil belajar tematik siswa tuntas secara individual, tuntas secara klasikal dan terdapat peningkatan hasil belajar dengan nilai gain lebih dari 0,29, aktivitas siswa mencapai kriteria aktif, respon siswa terhadap Logan Avenue Problem Solving-Heuristic (LAPS-Heuristik) positif dengan kemampuan guru mengelola pembelajaran dengan sangat baik. Dengan demikian, dapat dikatakan bahwa model pembelajaran Logan Avenue Problem Solving-Heuristic (LAPS-Heuristic) efektif diterapkan dalam pembelajaran tematik pada siswa SDN 331 Borongtellu.

Abstract. This research is a type of pre-experimental research with a population of all students at SDN 331 Borongtellu. The sample in this study were fifth grade students at SDN 331 Borongtellu. The instruments used in this research are thematic learning outcomes tests, observation sheets and questionnaires. Data were analyzed using descriptive analysis techniques and inferential analysis. Based on the analysis shows that the students' thematic learning outcomes are completed individually, classically completed and there is an increase in learning outcomes with a gain value of more than 0.29, student activities reach the active criteria, student responses to the Logan Avenue Problem Solving-Heuristic (LAPS-Heuristic) positive with the ability of teachers to manage learning very well. Thus, it can be said that the Logan Avenue Problem Solving-Heuristic (LAPS-Heuristic) learning model is effectively applied in thematic learning to the students of SDN 331 Borongtellu.



Pendahuluan

Learning activities in elementary school for each subject are carried out separately for upper grades (IV-VI), while for lower grades (I-III) thematic learning is applied. According to BSNP (Widyaningrum, 2017) the determination of the thematic approach in learning in SD/MI is due to the development of students in the lower grades of Elementary School, generally at a developmental level who still see everything as a whole (holistic) and are only able to understand the relationship between concepts simply. Therefore, the learning process still depends on concrete objects and experiences experienced directly. According to Hidayah (2015) Learning carried out with separate subjects will cause less development of children to think holistically and make it difficult for students to relate concepts to their real life everyday. As a result, students do not understand the benefits of the material they learn for real life, so the strategy to provide comprehensive knowledge uses thematic learning. Meanwhile, according to Ananda & Fadhilaturrahmi (2018), in accordance with the principle of development that children's physical development cannot be separated from their mental, social, and emotional development, because psychological development will affect children to adjust their development abilities.

According to Kristiantari (2015), the development to achieve experience in students will be integrated with the experiences experienced in everyday life, life, and the environment with the natural surroundings. According to Piaget (Nafi et al., 2016) children aged SD/MI are still at the stage of concrete operational thinking. Because still using thinking concrete operational.

For concrete operations, children must need tools to develop their learning. At the stage of thinking with concrete operations, the application of an integrated (thematic) learning approach is considered appropriate

and appropriate as a model for student learning in SD/MI, especially in the early grades. In thematic learning, several kinds of intelligence can be developed holistically, where the thematic model not only emphasizes the cognitive domain, but also includes the affective, psychomotor and social domains. According to several learning experts, the thematic (integrated) model is considered to be in accordance with the developmental characteristics of SD/MI children.

But basically, most students still have difficulty in understanding the lesson if it is not supported by an effective learning model. The low absorption of students can be easily seen when students are studying in class (Novitasari & Shodikin, 2020). According to Azwardi & Sugiarni (2019), many students are not only unable to understand the concept of the material being taught, but also lack the attractiveness or motivation of student learning. The fact is in elementary schools that there are still many students who are not able to follow learning well. This is probably due to: 1) The majority of students are less motivated which can cause students to be less creative; 2) Learning is still teacher-centered so that students are less involved in the learning process; 3) the majority of students are still unable to solve problems related to problems or story questions.

According to Hudojo (Adiarta, I G. M., 2016) stated problem solving ability is a very essential thing in thematic learning, with the reasons: (1) students become skilled at selecting relevant information, then analyzing it and finally examining the results; (2) intellectual satisfaction will arise from within; (3) the intellectual potential of students increases; and (4) students learn how to make discoveries by going through the process of making discoveries.

Based on the facts above, an effective learning is needed to be able to improve students' problem solving abilities. One way that is taken is learning through LAPS - Heuristics. LAPS - Heuristics is a learning model that guides students in solving problems by asking what the problem is, is there an alternative solution, is it useful, what is the solution, and how should it be done. Syntax in this learning model is problem understanding, plan, solution, and checking (Ananda & Fadhilaturrahmi, 2018). According to Arivina & Prabowo (2017) Learning LAPS - Heuristics is expected to provide convenience

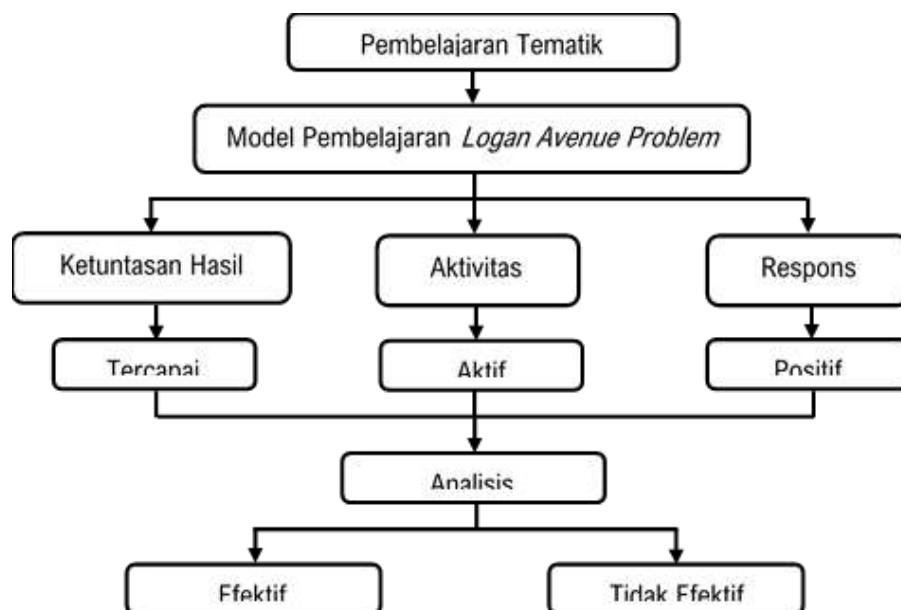
for students in solving a problem, so it is hoped that students' problem-solving abilities will be better.

Based on the description above, there has been no previous research that has conducted research by applying the Logan Avenue Problem Solving - Heuristic (LAPS - Heuristic) model to elementary school students, so the authors are motivated to research with the research title "Effectiveness of Thematic Learning Through Application of the Logan Avenue Problem Solving - Heuristic Model. (LAPS - Heuristics) at SDN 331 Borongtellu Students".

Method

This research is a type of pre-experimental research that only involves one class as an experimental class which is carried out without a comparison group (Firdaus, 2019). The population in this study were all students of SDN 331 Borongtellu. The sample in this study is class V SDN 331 Borongtellu. The instruments used in this study were: 1) Thematic learning outcomes test, 2) Student activity observation sheets, 3) Student response questionnaires, 4) Observation sheets.

The ways of collecting data in this study are: 1) using student learning outcomes test sheets, 2) student activity observation sheets, 3) student response questionnaires, and 4) observation sheets (Ma'rup & Firdaus, 2020). All data that has been collected were analyzed using descriptive analysis techniques and inferential analysis. The analysis technique is used to determine student learning outcomes, student activities, student responses and learning implementation.



Gambar 1. Skema penelitian

Results and Discussion

A. Learning Results

Student Learning Outcomes after Application of the Logan Avenue Problem Solving Learning Model-Heuristics (LAPS-

Heuristics

Table 1. Statistics of Thematic Learning Outcomes Scores After the Model is Applied LAPS-Heuristic learning

Table 1. Descriptive Statistics of Thematic Learning Outcomes Model LAPS-Heuristics learning

Statistic	Statistical Value
Research subject	26,00
Ideal score	100,00
Highest score	100,00
Lowest score	64,00
Score range	36,00
Average score	81,19
Standard deviation	9,47

In table 1. above it can be seen that the average score of student learning outcomes of SDN 331 Borongtellu students after the learning process is carried out by applying the Logan Avenue Problem Solving-Heuristic (LAPS-Heuristic) learning model is 81.19 from the ideal score of 100.00 which achievable by students, with a standard deviation of 9.47.

The scores achieved by students spread from the lowest score of 64.00 to the highest score of 100.00 with a score range of 36.00. If the students' thematic learning outcomes are grouped into 5 categories, the distribution of frequencies and percentages is obtained as follows:

Table 2. Frequency Distribution of Thematic Learning Outcomes Model LAPS-Heuristics learning

No.	Scor	Category	Frequency	Percentage (%)
1.	0 - 49	Very low	0	0
2.	50 - 69	Low	1	4
3.	70 - 79	Medium	12	46
4.	80 - 89	High	8	31
5.	90 - 100	Very high	5	19
Amount			26	100

In table 2. above shows that of the 26 students of SDN 331 Borongtellu, no students (0%) scored in the very low category so that information was obtained that in this posttest students were no longer in the very low category as in the pretest. Furthermore, students who get scores in the low category are 1 student (4%). Then the students who scored in the medium category were 12 students (46%) so that it can be seen that the dominant students were in the medium category and students who scored in the high category were 8 students (31%). Furthermore, the table also shows that students who are in the very high category are

much better than the pretest, it can be seen that students who get very high scores on the pretest are 5 students (19%). If the average score of student learning outcomes of 81.19 is converted into 5 categories, then the average score of thematic learning outcomes of students at SDN 331 Borongtellu after being taught through the application of the Logan Avenue Problem Solving-Heuristic (LAPS-Heuristic) learning model is generally at medium category. Then to see the percentage of students' complete thematic learning after the Logan Avenue Problem Solving-Heuristic (LAPS-Heuristic) learning model is applied, it can be seen in table 3. below:

Table 3. Complete Description of Student Thematic Learning Outcomes After Application of Logan Avenue Problem Solving-Heuristic Learning Model

Mastery level	Complete category	Frequency	Percentage (%)
$0 \leq x < 70$	Not complete	1	4
$70 \leq x \leq 100$	Complete	25	96
Jumlah		26	100

From Table 3 above, it can be seen that there are 1 student (4%), while the students who have individual completeness criteria are 25 students (96%). If it is associated with indicators of student learning outcomes, it can be concluded that student learning outcomes of SDN 331 Borongtellu students after applying the Logan Avenue Problem Solving-Heuristic (LAPS-Heuristic) learning model have met the classical student learning outcomes mastery indicator, namely 80%.

Normalized Gain or Improved Student Thematic Learning Outcomes After Application of Logan Avenue Problem Solving-Heuristic (LAPS-Heuristic) Learning Model

Table 4. Description of Improving Student Thematic Learning Outcomes After Application of Logan Avenue Problem Solving-Heuristic Learning Model

Normalized Gain Coefficient	Classification	Frequency	Percentage (%)
$0,0 \leq g < 0,3$	Low	0	0
$0,3 \leq g < 0,7$	Medium	17	65
$0,7 \leq g \leq 1$	High	9	35
Amount		26	100

Based on table 4. above, it can be seen that there are 9 students or 35% whose gain value is at $0,7 \leq g \leq 1$ which means that the increase in learning outcomes is in the high category and 17 students or 65% whose gain value is at $0,3 \leq g < 0,7$ which means the increase in learning outcomes is in the medium category. From table 4.7 it can also be seen that there are no students whose gain value is at $0,0 \leq g < 0,3$ or the increase in learning outcomes is in the low category. If the students' average normalized gain of 0,64 is converted into the 3 categories above, then the students' average normalized gain is $0,3 \leq g < 0,7$. This means that the increase in thematic learning outcome of students at SDN 331 Borongtellu after applying the LAPS-Heuristic

The students' pretest and posttest data were then calculated using the normalized gain formula. The aim is to find out how much improvement in student learning outcomes of SDN 331 Borongtellu students after the Logan Avenue Problem Solving-Heuristic (LAPS-Heuristic) learning model is applied to thematic learning. The results of data processing that have been carried out show that the results of the normalized gain or the average normalized gain of students after being taught through the application of the Logan Avenue Problem Solving-Heuristic (LAPS-Heuristic) learning model is 0,64.

learning model is generally in the medium category.

B. Student Activities

The results of observing student activities in thematic learning through the application of the LAPS-Heuristic learning model on students at SDN 331 Borongtellu indicate that they have met the active criteria because they are in accordance with student activity indicators that student activities are said to be effective if at least 75% of students are actively involved in the learning process . Anggrianto, et al (2016). Meanwhile, the results of the analysis of student activity observation data showed that the average percentage of student activity frequency with

LAPS-Heuristics learning was 82% of student activity which increased every meeting. It can be concluded that students have actively participated in the Thematic learning process through the application of the LAPS-Heuristic learning model.

Student response

The results of the student response data analysis obtained after conducting this study showed a positive response. Of the 8 questions, students who are happy with learning Logan Avenue Problem Solving-Heuristics (LAPS-HEURISTICS) have the highest percentage, namely 100%. Then students who are happy if they are called by the teacher to be representatives of each group and are happy to give conclusions about learning have the lowest percentage of 77%. In general, the overall average percentage of student responses is 89%. This is classified as a positive response as the standard that has been determined is $\geq 80\%$.

Based on the discussion that has been described, it can be concluded that the students' thematic learning outcomes are complete individually, classically completed and there is an increase in learning outcomes where the gain value is more than 0,29, student activities reach active criteria, student responses to the Logan Avenue Problem Solving-Heuristic (LAPS-Heuristic) learning model heuristic) positive with the ability of teachers to manage learning very well. So that the aspects of the effectiveness indicators in this study are met, the learning is said to be effective. Thus, it can be concluded that the Logan Avenue Problem Solving-Heuristic (LAPS-Heuristic) learning model is effectively applied in thematic learning to the students of SDN 331 Borongtellu.

The results of inferential analysis show that the pretest and posttest data have met the normality test which is a prerequisite test before testing the hypothesis. The pretest and posttest data were normally distributed because the $p > \alpha = 0,05$. Because the data were normally distributed, it met the criteria for

using the t-test to test the research hypothesis.

In testing the hypothesis for individual completeness with the t one sample test on the right, it has been obtained that in the pretest $t \text{ count} < t \text{ table} = -8,379 < 1,71$ which means H_0 is accepted and H_1 is rejected so that individual mastery has not been achieved. However, the posttest has been achieved, it is shown that $t \text{ count} > t \text{abel} = 6,083 > 1,71$ which means H_0 is rejected and H_1 is accepted. Mastery of student learning before being taught through the application of the classical Logan Avenue Problem Solving-Heuristic (LAPS-Heuristik) learning model (LAPS-Heuristik) classically $> 79,9\%$ by using the proportion test obtained the value of $Z \text{count} < Z \text{table} = -8,769 < 1,645$ which means that student learning outcomes with the application of the model Learning Logan Avenue Problem Solving-Heuristics (LAPS-Heuristics) has not been completed classically. However, after being taught through the application of the Logan Avenue Problem Solving-Heuristic (LAPS-Heuristic) learning model, it has been completed classically, this can be seen from the proportion test which shows $Z \text{itung} > Z \text{tabel} = 2,090 > 1,645$.

Furthermore, in the normalized gain test which aims to find out how much the increase in student learning outcomes after being treated using the t-test one sample test has been obtained $t \text{ count} = 12,725$ more than $t \text{ tabel} = 1,71$ which means H_0 is rejected and H_1 is accepted, which means that "there was an increase in thematic learning outcomes after going through the application of the Logan Avenue Problem Solving-Heuristic (LAPS-Heuristic) learning model in the Thematic learning of SDN 331 Borongtellu students where the gain value was more than 0,29.

Then for student activities, the value of $Z \text{count} > Z \text{table}$ is $1,689 > 1,645$. Meanwhile, student responses also obtained results with a value of $Z \text{count} > Z \text{table}$ that is $2,00 > 1,645$. Thus, student activities and student responses have met the effective criteria.

From the results of the descriptive and inferential analysis obtained, it turns out to be quite supportive of the theory that has been put forward in the theoretical study. Thus, it

can be concluded that "the Logan Avenue Problem Solving-Heuristic (LAPS-Heuristic) learning model effectively applied in Thematic learning to students of SDN 331 Borongtellu.

Conclusion

The conclusion in this study is that the Logan Avenue Problem Solving - Heuristic (LAPS - Heuristic) model is effectively applied to thematic learning at SDN 331 Borongtellu. Based on the results of the analysis showed that the students' thematic learning outcomes were completed individually, classically completed and there was an increase in learning outcomes with a gain value of more than 0.29, student activities reached the active

criteria, student responses to the LAPS-Heuristic learning model were positive with the teacher's ability to manage learning very well. good. So that the aspects of the effectiveness indicators in this study are met, the learning is said to be effective. Thus, the Logan Avenue Problem Solving-Heuristic learning model is effectively applied in Thematic learning to the students of SDN 331 Borongtellu.

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