The influence of think pair share model and crossword puzzle to increase primary school students' mathematical learning interest

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Abstrak. The purpose of this research (1) Analyzing the influence of the Think Pair Share model on students' learning interest in Mathematics at SD 2 Ngembalrejo Bae Kudus (2) Analyzing the influence of the crossword puzzle media on students' learning interest in Mathematics at SD 4 Ngembalrejo Bae Kudus (3) Menganalisis Hasil Pengaruh model think pair share media crossword puzzle terhadap minat belajar siswa pada mata pelajaran Matematika at SD 5 Ngembalrejo Bae Kudus

This type of research is included in the type of field research, namely research in which researchers go directly to the field to obtain data or information directly by visiting respondents. The method used is a quantitative method of data analysis with statistics. In this study, the authors conducted a field study at elementary schools in the village of Ng rejo. The population in this study consisted of Grade 5 students in three elementary schools, namely SD 2 Ngembalrejo, SD 4 Ngembalrejo and SD 5 Ngembalrejo by using simple random sampling technique. In this analysis, the authors used statistical analysis, namely simple regression and correlation. The results showed that 1) Think Pair Share model on students' learning interest in Mathematics at SD 2 Ngembalrejo Bae Kudus in a good category, is 51 in the interval range 43 - 49. 2) crossword puzzle media on students' learning interest in Mathematics at SD 4 Ngembalrejo Bae Kudus in very good category, yairu 53 in the interval range 52 - 56. 3) There is a significant effect of the think pair share model and crossword puzzle media on students' interest in learning mathematics at SD 5 Ngambatrejo Bae Kudus, with a regression equation \( \hat{Y} = 69.253 + 0.49X \). The Think Pair Share method with crossword puzzle media has a positive and significant amounting to 0.068 which is included in the strong category and can contribute to students in developing student interest in learning by 0.462%.

1. Introduction
Quality learning can be seen from its success in the process of teaching and learning activities. This success is largely determined by how the teacher applies the learning model. The learning model is a conceptual framework that describes a systematic procedure for organizing learning experiences to achieve specific learning goals and serves as a guide for learning designers and teachers in planning teaching and learning activities so that learning objectives are achieved.

That is why choosing the right learning model will support the learning process that runs effectively and efficiently, and can achieve learning goals appropriately. This, the learning objectives to be achieved is the achievement of optimal student learning outcomes. As we know and experience for ourselves, Mathematics learning is generally dominated by the introduction of Mathematical formulas, symbols and symbols of Mathematical writing, as well as planting Mathematical concepts based solely on formulas without any real explanation.

One proof that mathematics can be a difficult and scary subject seen from the students' low Mathematics achievement. It is all because the nature of the teacher to deliver Mathematics lessons...
becomes less interesting and fun lessons. The lack of interaction between students and the application of current learning models is considered to be one of the factors causing the low student achievement because Mathematics is abstract and requires an understanding of real concepts.

Cooperative learning is learning in which students work in small groups to mutually help each other in learning material. Cooperative learning methods, more often than not, replace individual seating arrangements, individual learning styles, and individual encouragement. If organized properly, students in cooperative groups will learn from each other to ensure that everyone in the group has mastered the concepts that have been thought out. Each member of the group has the same responsibility for the success of the group.

One of the Think Pair Share strategies or thinking in pairs sharing is a type of cooperative learning designed to influence student interaction patterns [1]. In this Think Pair Share type cooperative learning, the teacher conveys the core material and competencies to be achieved, then, students are asked to think about the material / problems presented by the teacher. Then students are asked to pair up with their friends to express the results of their respective thoughts. After that, the teacher leads a small plenary discussion, each group presenting the results of the discussion. Starting from this activity the teacher directs the conversation to the subject matter. The teacher concludes.

Interest in learning has an important role in learning activities. If the learning material being studied does not match the student's interest, the student will not learn well, because there is no such attraction. Therefore, to overcome students who are less interested in learning, teachers should try to create certain conditions so that students always need and want to continue learning. In the sense of fostering student interest in learning, one of which is to develop variations in teaching. With these variations students can feel happy, get satisfaction with learning and easily understand the material that has been delivered by the teacher.

Learning interest can make students direct themselves to the assignment to be given, see the problems that will be given, choose and focus on the problems that must be solved. Students who have an interest in a particular subject tend to be interested in their attention and thus arise motivation to study it.

Not only that, the learning media here also plays an important role in the success of learning activities. Because the existence of media that is attractive and in accordance with the learning theme will facilitate the process of student learning activities. Various forms of play provide scope for students to develop their understanding of learning. One of the educational games that is often used as a learning medium is a puzzle game.

Puzzles and thinking games are part of the media that can support the teaching process of thinking and can make it something that can be seen and observed. Puzzles are entertaining games that can be observed by students, and have great urgency in developing imagination and innovative thinking in students. Because students are forced to communicate from the maximum use of their thinking power in order to adapt them. Because a puzzle is nothing but a question that requires thinking that cannot be answered correctly.

Based on the above problems, the writer wants to know the effect of implementing the Think Pair Share model and Crossword Puzzle media. The author chooses the Think Pair Share learning model and Crossword Puzzle media based on the consideration of this model which is assumed to have a good influence on student interest in learning. Therefore, the authors are interested in conducting a research entitled "The Influence of the Think Pair Share Model and Crossword Puzzle Media to increase Primary School Students' Mathematics Learning Interest".

2. Literature Review
2.1. Learning model
The word learning can be said to be taken from the word instruction which means a series of activities designed to allow the learning process to occur in students. In a definition, it is said that learning is the result of memory, cognition, and metacognition that affect understanding [2]. In teaching, there are five learning components, namely the interaction of students, educators, learning resources, and the learning environment. One form of learning is information processing, where our minds or brains act as input and store information in it. Thus, when learning a person needs to be involved in reflection and the use of memory to track what should be absorbed, what should be stored in his memory, and how he evaluates the information received.
2.2. Mathematics Learning in Primary Schools

Learning Mathematics [3] is a teaching and learning process built by the teacher to develop students' creative thinking which can improve students' thinking abilities, and can improve the ability to construct new knowledge as an effort to increase good mastery of mathematics material. Meanwhile, what is meant by the mathematics learning model is a conceptual framework for learning mathematics. Mathematics learning refers to students learning mathematics and teachers transforming Mathematics knowledge and facilitating learning activities. Mathematics learning models can include learning strategies, approaches, methods, and learning techniques.

In the Mathematics learning model itself cannot be separated from the learning objectives, the learning experience which is a key component of the curriculum and teaching system. The priority aspect of learning Mathematics for understanding Mathematics in a complex way is to start by placing knowledge (cognitive) abilities or skills which are one of the goals in the learning process followed by the prerequisite abilities, skills, or knowledge that they must master first so they can successfully learn skills or knowledge on it.

This learning objective will be maximized if learning runs effectively which involves all students being actively involved. The quality of learning can be from a process perspective and an outcome perspective. First, in terms of the process, learning is said to be successful and of quality if all or most of the students are involved both physically, mentally and socially in the learning process, besides showing a high enthusiasm for learning and self-confidence. Second, in terms of results, learning is said to be effective when there is a positive change in behavior, and the achievement of predetermined learning objectives. These changes occur from not knowing to knowing mathematical concepts, and being able to use them in everyday.

2.3. Think Pair Share Learning Model

This Think Pair Share learning model was introduced by Frank Lyman at the University of Maryland in 1981, which learning is designed to influence student interaction [4]. As the name suggests "Thinking" this learning model invites students to think. "Pair which means pairing" and "Share which means sharing" [2]. This Think pair Share learning model is one of the cooperative learning models, in which students are responsible for their learning and the teacher is only a facilitator. According to Agus Suprijono, cooperative learning is a broader concept covering all types of group work including forms that are more led by teachers or directed by teachers [5].

Trianto, explained that cooperative learning is learning that arises from the concept that students will find it easier to find and understand difficult concepts if they discuss each other with their friends [1]. Based on some of the definitions above, it can be concluded that, cooperative learning is a form of learning in which students learn to work together with other members in a heterogeneous manner. This cooperative learning. This cooperative learning emphasizes not only on task completion but also on mutually respectful interpersonal relationships.

In this Think Pair Share learning, it is hoped that an active learning will occur, where not only the teacher is the center of learning but all students who are following the learning so that it affects student interaction patterns.

2.4. Crossworld Puzzle Media

Media comes from Latin and is the plural form of the word "Medium" which literally means tool, intermediary, or introduction. In education are the tools and materials used in the teaching and learning process (Big Indonesian Dictionary). According to Ramayulis in his book "Islamic Education", media is a tool or means in education [6]. It can be concluded that the media is an intermediary tool used by teachers to students in the learning process.

Crossword Puzzle (crossword puzzle) is one of the learning methods developed from the active learning strategy. Melvin explained the meaning of the Crossword Puzzle method with a game where we have to fill in empty spaces (in the form of white boxes) with letters that form a word based on the instructions given. Directions can be divided into horizontal and descending categories depending on the position of the words that must be filled in [7]. Puzzle is a construction game through the activity of installing or matching certain boxes or buildings so that they eventually form a certain pattern. In line with Rokhmat's opinion, a puzzle is a game of assembling messy pieces of a picture into a complete
picture. Meanwhile, Sdenan in Soedjatmiko states that puzzles and games are to motivate oneself in a real way and are a strong attraction.

Based on the above opinion, it can be concluded that a puzzle is a game consisting of pieces of pictures, boxes, letters or numbers arranged as in a game which eventually forms a certain pattern so that students become motivated to solve it in a way, precise and fast. So, it can be concluded that the Crossword Puzzle method is an active learning method that involves all students to think using puzzles. The use of media in learning activities is very necessary because it is to facilitate the learning process so that it can achieve optimal results. Without a clear method, the learning process will not be directed so that the learning objectives that have been set are difficult to achieve optimally, in other words, learning is very useful for both teachers and students. For teachers, methods can be used as guidelines and references for systematic action in implementing learning. For students (the use of instructional media) can simplify the learning process, because each learning method is designed to facilitate student learning.

2.5. Student Learning Interest

Interest is the tendency of students to be relatively sedentary to themselves which is usually accompanied by feelings of pleasure. According to Berhard, "interest" does not arise or appears suddenly, but rather arises as a result of participation, experience, and habits during study or work. Interest can also be the cause of activities and the cause of participation in activities [8]. In other words, interest is a sense of preference and a sense of belonging to a thing or activity, without anyone asking [9].

Meanwhile, the definition of learning is an activity that causes a change in behavior that is relatively constant and that change is carried out through a deliberate activity or effort. So, what is meant by interest in learning is the psychological aspect of a person who places himself in several ways, such as: passion, desire, a feeling of liking to change behavior through various activities that include seeking knowledge and experience, in other words, interest in learning is attention, a feeling of liking a person's connection (students) to learning is shown through enthusiasm, participation in learning [9].

2.6. Relationship Between Variables

2.6.1. The Effect of Think Pair Share Model and Crossworld Puzzle Media on Students' Learning Interest in Mathematics Subjects

The Think Pair Share type of cooperative learning model provides a place for students to carry out learning activities in flexible groups. According to Arrends, Think Pair Share Learning is an effective way to vary the atmosphere of class discussion patterns with the assumption that all discussions require arrangements to control the class as a whole, and the procedures in the Think Pair Share pattern can give students more time to think to respond and help each other [1]. So this learning, the teacher estimates that only completes a short presentation or students read the assignment, or a situation that becomes a question mark.

In terms of group work, it is possible to create competition and solidarity between groups. The solidarity that emerged gave rise to a group characteristic. The success of the group depends on the cooperation of group members in understanding the material to produce certain results. Groups can lead to activities, interactions, competitions or cooperation within groups or between groups, thereby fostering motivation for the group.

From the above understanding, it can be concluded that the learning model with interest in learning has a very close relationship, and cannot be separated. In other words, that the use of a good learning model will result in good interest in learning. Because the use of a good learning model can only be done by professional teachers. The teacher is someone who is closely related to interest in learning. The quality of teachers in the classroom can affect how students learn and how interest is able to be developed in the classroom. Teachers who are unable to provide motivation to students and a monotonous learning atmosphere will have an impact on students' low learning interest. Therefore, the learning model applied by the teacher should be able to realize student work. So that the application of the right model with various kinds of indicators can increase student interest which will affect the achievement of learning outcomes.
2.7. Research Hypothesis
The research hypothesis is a temporary answer to the formulation of the research problem, where the formulation of the research problem has been stated in the form of a question sentence. It is said temporarily because the answers given are only based on relevant theories, not based on empirical facts obtained through data collection. So the hypothesis can also be stated as an answer to the formulation of the research problem, not an empirical answer to the data.

Thus the hypothesis is a provisional assumption which will later be tested or proven to be true through data analysis. The hypothesis of this study is stated as follows.

- The influence of the Think Pair Share model learning to increase students’ interest in learning in mathematics learning activities at SD 2 Ngembalrejo in the good category.
- The effect of learning with crossword puzzle media to increase student interest in learning mathematics at SD 4 Ngembalrejo in good category.
- The effect of learning outcomes using the Think Pair Share Model and the Crossword Puzzle Model to increase the interest in learning mathematics at SD 5 Ngembalrejo in the good category.

3. Research Methods
3.1. Type of Research
This research includes field research. In this approach, research is carried out in natural situations but is preceded by some kind of intervention (intervention) on the part of the researcher. The intervention is intended so that the phenomena desired by the researcher can be immediately seen and observed [10]. In this study, researchers conducted a direct field study at SD 2 Ngembalrejo, SD 4 Ngembalrejo, SD 5 Ngembalrejo Kudus, namely to obtain concrete data on the effect of learning outcomes in the Think Pair Share model and crossword puzzle to increase students’ interest in learning in Mathematics.

3.2. Research Approach
The type of approach in this research is a quantitative approach to data analysis that uses statistics, it can be interpreted as a research method based on the philosophy of positivism, used to study a specific population or sample, sample collection techniques are generally carried out randomly, data collection and using research instruments, analysis quantitative / statistical data with the aim of testing the predetermined hypothesis [11]. In this study, there are two variables, namely the Think Pair Share learning model with crossword puzzle as the independent variable and interest in learning as the dependent variable.

3.3. Population and Sample

3.3.1. Population. Population is a group of people, animals, plants or objects that have certain characteristics to be studied. The population will be the area for generalizing the conclusions of the research results [12]. So the population is not just people, but also objects and other things. Population is also not just the number that is in the object or subject being studied, but includes all the characteristics or properties possessed by the subject or object to be studied. As for the population in this study were students from class V SD in the village of Ngunggungrejo.

3.3.2. Sample. A sample is a sample or part of the population. Researchers may take only as a population to be studied although the conclusions of the research results will apply to all populations. The method of sampling is a very important part of research, especially if the researcher wants the results of his research to apply to all the characteristics found in the population where these conclusions will apply [11]. The sampling technique, the researcher used simple random sampling technique, that is, the sampling of population members was done randomly without showing the existing strata in the population. The basic characteristic of simple random sampling is that all members of the population have the same opportunity to be members of the sample. Therefore, the rights of each subject are the same, so the researcher is independent from the feeling of wanting to privilege one or more subjects to be sampled. To calculate the sample size required in the study, researchers used the determination of the number of samples from a particular population developed from Isaac and Michael, for an error rate of 5%. Determination of the number of samples from a certain population with a level of error the researcher took a sample with a significant 5%. That way the researchers took grade V students from SD 2 Ngembalrejo, SD 4 Ngembalrejo, SD 5 Ngembalrejo.

3.4. Arrangement of Research Variables

The research variable is a characteristic found in individuals or objects that indicate differences (variations) in the values or conditions they have [12]. According to Sugiyono, research variables are an attribute or nature of the value of people, objects or activities that have certain variations that are determined by researchers to be studied and conclusions drawn. In the study, there is an independent variable or independent variable and one dependent variable or dependent variable, namely:

- **Independent Variable.** In this research, what is measured is the Think Pair Share (TPS) learning model and the Crossword Puzzle which is given the symbols X1 and X2.
- **Dependent Variable or Bound Variable.** In this study, what is measured is the interest in learning which is given the symbol Y [11]

3.5. Data collection techniques

To obtain the data needed in this study, several data collection techniques can be taken as follows:

3.5.1. Observation. Research conducted by observing objects, either directly or indirectly, usually uses a technique called observation. Observation is a systematic observation and recording technique of the phenomena being investigated. Observations are made to determine information data from symptoms or phenomena (events or events) in a systematic manner and based on the formulated objectives of the investigation [13]. So it can be concluded that the observation method is an activity in collecting data based on what researchers have seen in the research location.

Researchers in making observations at SD 2 Ngembalrejo, SD 4 Ngembalrejo, SD 5 Ngembalrejo used participant observation because the researchers were part of the group under study. Observations made by researchers in the field were by observing or recording important things that happened in the...
field, namely in class V SD 2 Ngembalrejo, SD 4 Ngembalrejo, SD 5 Ngembalrejo during the mathematics lesson. In addition, the researcher also made observations on the variables related to the study, namely the influence of the Think Pair Share (TPS) model and the Crossword Puzzle media to increase interest in learning.

3.5.2. **Questionnaire.** A questionnaire or a list of questions is a data collection tool. Questionnaire is a data collection technique by submitting or sending a list of questions to be filled in by respondents. Through a questionnaire, researchers will obtain data that is expected to be related to the variables in this study, namely regarding the influence of the Think Pair Share and Crossword Puzzle learning model on student learning interest. This questionnaire was given to respondents, namely fifth grade students at SD 2 Ngembalrejo, SD 4 Ngembalrejo, SD 5 Ngembalrejo.

3.6. **Research Instruments**

Research instrument is a very important component in carrying out a study in an effort to obtain data. Several instruments can be used to measure and collect data and collect empirical data as the value of the variables studied. Therefore, the research instrument must be in accordance with the variables studied. In addition to the data obtained from the results of observations and documentation related to the discussion of curricula in Mathematics, researchers also used a questionnaire to find and find out the truth and validity of data about "the influence of the Think Pair Share model and Crossword Puzzle media to increase the learning interest of elementary school students."

The questionnaire distributed to these respondents contains questions related to the problems in this Mathematical curriculum. Questionnaires are used to obtain quantitative data from the independent variables (X1), (X2) and the dependent variable (Y). The measurement scale used in this questionnaire is the Likert scale. The questionnaire for each question has 4 answer options as follows:

The favorable alternatives are as follows:
- For alternative answer 4 means always
- For alternative answer 3 means often
- For alternative answer 2 means sometimes
- For alternative answer 1 means never

The unfavorable alternatives are as follows:
- For alternative answer 1 means always
- For alternative answer 2 means often
- For alternative answer 3 means sometimes
- For alternative answer 4 means never

3.7. **Instrument Testing Results**

3.7.1. **Validate content.** Validation is a measure that shows the validity of an instrument. While the validity test is a test to prove that the measuring instrument used to obtain data or measure the data is valid. Valid means that the instrument can be used to measure what is being researched [11]. It can be concluded, the validity test is a measuring tool in determining whether a research instrument is valid or not.

The focus of the validity test that the researchers used in this study was the content validity. Content validity is the level at which a test measures the scope of the intended content, which starts from the existing items. Technically, testing the validity of the content can be assisted by using an instrument grid. In the lattice of the instrument there are variables under study, indicators as benchmarks and item numbers for questions or statements that have been described from the indicators. With this instrument grid, validity testing can be done easily and systematically [11].

Then, to determine the accuracy of the content validity of the items, the accuracy of more than one expert assessment was assessed. These assessors provide an assessment of each test item, namely the extent to which the items are representative. The assessment is carried out by giving a score of 1 (very irrelevant) to 5 (very relevant). Furthermore, the calculation of the content validity is carried out with the aiken formula as follows:
\[ v = \frac{\sum a}{n(c - Io)} \]

Keterangan:
- \( S \): \( r - Io \Rightarrow s \): the difference between the score determined by the rater (\( r \)) and the lowest score
- \( V \): Item validity index
- \( n \): The number of raters
- \( c \): The highest number of validity assessments
- \( Io \): The lowest number of validity assessments
- \( r \): A number given by a rater appraiser

Then to interpret the value of the content validity obtained from the above calculations, validity clarifiers are used as shown in the following criteria:
- \( 0.80 < V \leq 1.00 \): Very High
- \( 0.60 < V \leq 0.80 \): High
- \( 0.40 < V \leq 0.60 \): enough
- \( 0.20 < V \leq 0.40 \): Low
- \( 0.00 < V \leq 0.20 \): Very Low

Then to test the validity of the instrument items further, it was consulted with SD 2 Ngembalrejo, SD 4 Ngembalrejo, SD 5 Ngembalrejo, namely three teachers who are experts in the field of mathematics learning and one mathematics teacher. Furthermore, it was tested and analyzed by item analysis. Item analysis is done by calculating the correlation between the instrument item score and the total score, or by looking for the difference in the score of each item. Giving opinions can be done by responding to the suitability of the items written according to the indicators of each variable with the scoring criteria for statements (5) = highly relevant, (4) = relevant, (3) = quite relevant, (2) = irrelevant, and (1) = very irrelevant. The item analysis used by the researcher was to use the items approved by the three raters and the authors considered that they represented the research variables, maintained the items suggested by the raters, and dropped items that were not approved by the three raters, with the following research:

Based on the assessment for variables X1 and X2, namely "Think Pair Share learning model and crossword puzzle media" by the three raters, the results obtained are from 16 questions, there are 6 questions that are categorized as "very high", 3 questions are in the category "high", and 7 questions in the "enough" category. In the sufficient research category, it still maintains the question to take the data by providing justification on several statements according to the advice of the rater.

Then based on the assessment for variable Y, namely "interest in learning" by the three rater, the results obtained are from 20 questions, there are 4 questions that are classified as "very high" category, 11 questions are in the "high" category, and 5 questions belong to the "category" enough". In the sufficient category the researcher maintains the question to take the data by providing justification for several statements according to the advice of the rater.

| Item Number | Criteria |
|-------------|----------|
| 1, 2, 6, 9, 10, 14 | Very High |
| 8, 11, 13 | High |
| 3, 4, 5, 7, 12, 15, 16 | enough |
| - | Low |
| - | Very Low |

| Item Number | Criteria |
|-------------|----------|
| 1, 2, 3, 5 | Very High |
| 4, 7, 8, 10, 13, 14, 15, 17, 18, 19, 20 | High |
| 6, 9, 11, 12, 16 | enough |
3.7.2. **Reliability.** Reliability test is a tool for measuring a questionnaire which is an indicator of a variable or construct. A questionnaire is said to be reliable, if a person's answer to reality is consistent or stable over time [12].

Reliability measurement can be done by:
- Repeated Measure or re-measurement. According to Suharsimi Arikunto, re-measurement can be called a retest method (test retest method). The retest method is used by people to avoid the arrangement of two test series. In using the testing technique or method only has one series of tests, but is tried twice.
- One Shot or one-time measurement. Measurements are taken only once and then the results are compared with other statements or measure the correlation between answers to questions.

As for the reliability test, the SPSS program can be used using the Cronbach Alpha statistical test. The criteria are that the instrument is carried out with the Cronbach Alpha statistical test (> 0.60). On the other hand, if Cronbach Alpha is found to have a smaller coefficient (<0.60), it is said to be unreliable [10]. So, to test the reliability can use the Cronbach Alpha statistical test, to determine whether the questionnaire is reliable or not.

Based on the results of the questionnaire obtained after the reliability test was carried out using the Cronbach Alpha formula, the results for the Think Pair Share learning model variable with crossword puzzle 0.367 > 0.60, and the reliability test results for learning interest were 0.130 > 0.60, so it can be concluded that the instrument of the two variables is reliable. (The results of this reliability test using SPSS 23.0)

3.8. **Classical Assumption Test**

3.8.1. **Normality Test.** The normality test aims to determine whether the distribution of data follows or is close to normal [10]. To test whether the data distribution is normal or not by looking at the test of normality. The data normality testing criteria:
- If the significance number > 0.05 then the data is normally distributed, or
- If the significance value <0.05 then the data is not normally distributed.

3.8.2. **Linearity Test.** Data linearity test is a condition in which the relationship between the dependent variable and the independent variable is linear (straight line) within the range of certain independent variables. In this case the writer uses the data linearity test using a scatter plot (penear diagram) as used to detect outer data, by adding an additional regression line. Because the scatter plot only uses the relationship of two variables. If there are more than two data sets, then data testing is carried out in pairs for every two data. The criteria are as follows:
- If the graph points to the top right, then the data is included in the linear category.
- If the graph does not point to the top right, then the data is included in the non-linear category.

3.9. **Technical Data Analysis**

After the data needed in the research has been collected, the next step is to analyze the data using statistical data analysis techniques through the following stages:

3.9.1. **Preliminary Analysis.** Data obtained through questionnaires that have been distributed to a number of respondents containing respondents' answers to a number of question items, then given an alternative scoring. The criteria for scoring the respondents' answers are as follows:
- For answer A is given a score of 4
- For answer B is given a score of 3
- For answer C, give a score of 2
- For answer D is given a score of 1
3.10. **Hypothesis Testing**

Hypothesis test analysis is the stage of proving the truth of the hypothesis that the researcher proposes. In this study, the authors used data on the types of hypotheses to be analyzed further, which included:

3.10.1. **Descriptive Hypothesis Test.** Descriptive hypothesis testing analysis includes hypothesis testing analysis of the Think Pair Share learning model with crossword puzzle (X) media and interest in learning (Y). The formula used to test the descriptive hypothesis is the formula:[11]

\[ t = \frac{X - \mu_0}{\frac{S}{\sqrt{n}}} \]

Keterangan :
- \( T \): The calculated t value, hereinafter referred to as t count
- \( X \): Average
- \( \mu_0 \): Hypothesized value
- \( S \): Standard deviation
- \( N \): Number of sample members

3.10.2. **Associative Hypothesis Test.** Hypothesis test analysis is the stage of proving the truth of the hypothesis that the author proposes. Testing this associative hypothesis using a simple regression analysis formula. The steps for creating a regression equation are as follows:

- Regression
- Correlation (product moment correlation)

3.11. **Advanced Analysis**

This analysis is a further management of hypothesis testing. In this case a further interpretation is made of the results obtained by consulting the value of the debt obtained at a table price with a significant level of 5% with the possibility of:

3.11.1. **Descriptive hypothesis significance test.** The significance test of the descriptive hypothesis test of the Think Pair Share learning model (X1) and crossword puzzle (X2) and interest in learning (Y) with descriptive tcount with ttable. With the following criteria:

- If \( t \text{count} \geq t\text{table} \), or if \( t \text{count} \leq \text{ttable} \) then \( H_0 \) cannot be rejected or \( H_a \) is rejected, or
- If \( t \text{count} > \text{ttable} \), or \( t \text{count} < \text{ttable} \), then \( H_0 \) cannot be rejected or \( H_0 \) is rejected.

3.11.2. **Associative hypothesis significance test (simple regression).** The significance test of this associative hypothesis is to test the effect of the Think Pair Share (X1) and Crossword Puzzle (X2) learning model to increase students' interest in learning (Y). By looking for the value of Fcount with Ftable. The formula for Fcount to find the level of significance of simple regression is as follows:

\[ F_{\text{reg}} = \frac{R^2(N - m - 1)}{m(1 - R^2)} \]

Information:
- \( F_{\text{reg}} \) = regression line price
- \( R^2 \) = coefficient of determination
- \( N \) = number of samples
- \( m \) = number of predictors [10]

The test criteria are as follows:

- If \( F \text{count} > F\text{table} \), then \( H_0 \) is rejected or \( H_a \) cannot be rejected, or
- If \( F \text{count} < F\text{table} \), then \( H_0 \) cannot be rejected or \( H_a \) is rejected.
In addition to the Freg test, which is used to measure the significant effect of the Think Pair Share learning model with crossword puzzle media on students’ learning interest, another method used is the constant and coefficient test. Whatever the formula is as follows:

How to calculate the parameter a (constant), using the formula:

\[
S_a^1 = \frac{1}{n-2} \left( \frac{\sum y^2 - 6 \sum xy(\sum x)^2}{n \sum x^2} \right)
\]

Information:
\[
a = \sum a
\]
\[
A_0 = 0
\]

How to calculate the b parameter (coefficient), using the formula:

\[
S_b = \sqrt{S_a^2}
\]
\[
t = \frac{b - B_0}{\sqrt{\frac{S^2 y/x}{\sum \gamma^2}}}
\]

Information:
\[
b = \sum b
\]
\[
B_0 = 0
\]
\[
S^2 y/x = \frac{1}{n-2} \left( \sum y^2 - k \sum xy \right)
\]

3.11.3. Associative hypothesis significance test (simple correlation). The significance test of this hypothesis is by comparing the associative hypothesis test value with the t-table. The tcount formula for finding the level of significance of simple correlation is as follows:

\[
t = \frac{r \sqrt{n - 2}}{\sqrt{1 - r^2}}
\]

The test criteria are as follows:
- If \( t_{\text{count}} > t_{\text{table}} \), then \( H_0 \) is rejected or \( H_a \) cannot be rejected, or
- If \( t_{\text{count}} < t_{\text{table}} \), then \( H_0 \) cannot be rejected or \( H_a \) is rejected

4. Research Results and Discussion

Based on the analysis that researchers have done, the discussion is as follows:
- The Think Pair Share method is a form of cooperative learning that emphasizes the participation and activities of students to find their own lesson material (information) to be learned through available materials, for example from textbooks. Among the student learning methods created, Think Pair Share is one of the methods that is democratic in nature because students become active in learning and practice independence in learning. The application of the Think Pair Share method at SD 2 Ngembalrejo Bae Kudus was included in the good category, namely 51 in the range of 43 - 49 intervals.
- Media Crossword Puzzle is a game consisting of pieces of pictures, boxes, letters or numbers arranged as in a game which eventually forms a certain pattern so that students become motivated to solve it correctly and quickly. Among the student media that are created, Crossword Puzzle is an active learning method that involves all students to think using puzzles. The application of the crossword puzzle media at SD 4 Ngembalrejo Bae Kudus was included in the very good category, which was 53 in the 50 - 56 interval range.
- Learning Interest is the intelligence to understand others and process through their mutual interaction. The salient characteristics of this interest are empathy, understanding and awareness of the goals and intentions of others. Students with well-developed learning interests will really enjoy
group and collaborative learning activities. They also really like activities that require them to observe pictures of types of work, interact with teachers, establish class rules, determine and divide assignments and responsibilities and participate in games that involve adjusting to a conflict. The learning interest of students in SD 5 Ngembalrejo Bae Kudus is in the high category, amounting to 70 in the interval range 61 - 69. An investigative-cooperative method of learning in the classroom is obtained from the premise that both the social and intellectual dominance of the learning process in schools involves the values it supports. Think Pair Share cannot be implemented in an educational environment that does not support interpersonal dialogue in the classroom. Communication and cooperative interactions among classmates achieve best results when carried out in small groups, where exchanges between classmates and cooperative attitudes are sustained. The social aspects of the group, its intellectual exchanges, and the intent of the subjects associated with it can serve as important sources of that purpose for students' efforts to learn.

5. Conclusions

Based on the results of the research entitled "The Effect of the Link Pair Share and Crossword Puzzle Methods on the Learning Interest of Class V Students in Elementary School Mathematics" conducted by the researcher, it can be concluded that several things are as follows:

- The application of the Think Pair Share method in the MATHEMATICS subject at SD 2 Ngembalrejo Bae Kudus was included in the good category. This can be seen in the calculations carried out, the average value obtained is 51 in the range 43 - 49 which is categorized as good.
- Class V students' learning interest in MATHEMATICS subjects at SD 2, 4, and 5 Ngembalrejo Bae Kudus are included in the high category. This can be seen in the calculations carried out, the average value obtained is 70 in the interval range 61 - 69 which is categorized as high.
- The Think Pair Share method has a significant effect on student interest in learning at SD 2 Ngunggungrejo Bae Kudus, with the regression equation \( \hat{Y} = 69.253 + 0.49X \), meaning that if the Think Pair Share technique is improved, the student's intelligence will increase. The existence of the Think Pair Share method with crossword puzzle media has a positive and significant enough relationship of 0.68 which is included in the strong category and can contribute to students developing interest in student learning by 0.462\% this means that the influence between the Think Pair Share method in increase students' interest in learning in MATHEMATICS subjects at SD 5 Ngunggungrejo Bae Kudus for the 2017/2018 academic year of 0.462\%, while the remaining 100\% - 0.462\% = 0.995\% which is the influence of other variables that have not been studied by the authors.

6. Suggestions

Based on the facts and existing theories, researchers can improve suggestions that might be useful for the progress of educators, namely:

- Mathematics Teachers are expected to be able to apply the right method according to the maximum learning objectives to be achieved. As the influence of the Think Pair Share method, if applied properly it will increase student interest in learning. Mathematics teachers should also pay attention to appropriate material and in accordance with the characteristics of this method.
- Media Crossword Puzzle is a game consisting of pieces of pictures, boxes, letters or numbers arranged as in a game which eventually forms a certain pattern so that students become motivated to solve it correctly and quickly. Among the student media that are created, Crossword Puzzle is an active learning method that involves all students to think using puzzles. The application of the
crossword puzzle media in SD 4, 5 Ngunggungrejo Bae Kudus was included in the very good category, namely 53 in the interval range 50 - 56.

- For students: all the methods applied by the Mathematics teacher will have different effects on students’ interest in learning. Therefore, students should be able to get used to being active in learning, interacting with fellow friends and teachers, and getting used to speaking and listening effectively. These activities can increase student interest in learning.
- For all parties: to increase interest in learning in students, there is a need for cooperation between the school and the parents of students, and good cooperation is meant so that parents take care of their children in socializing well with people around them, both in the family environment, schools and communities.

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