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Mathematics Learning Interest of Students Based on the Difference in the Implementation of Model of Thematic Learning and Character-Integrated Thematic Learning

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Abstract: The teaching and learning in Indonesian elementary schools focus both on students' concept mastery and character development. Teachers are encouraged to implement a learning model that integrates character values and yet promote learning interest. This study was aimed at investigating the mathematics learning interest of grade three elementary school students through the integration of thematic learning with character education, referred to as the character-integrated thematic learning model. Using a quasi-experimental pretest-posttest control group design, this study involved 70 students and employed a questionnaire to obtain data, which were analyzed using descriptive and inferential statistical techniques. Descriptively, the average scores of students' learning interest before and after the implementation of the character-integrated thematic learning model are respectively 117.54 and 140.69 with the gain index of 0.44 in the fair category. While score obtained for thematic learning model are 116.11 and 120.23 with the gain index of 0.07 in the low category. The results of the statistical inference analysis using the independent sample t-test were obtained t-count of $4.98 > t$ -table of 1,667. This indicates that there has been a significant increase in students' learning interest scores with the implementation of character-integrated thematic learning model. Thus, this learning model can be applied to pay attention to the development of student's character which has an impact on increasing student's learning interest.

Keywords: *Thematic learning model, character, mathematics' learning interest.*

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Introduction

One of the knowledge used in problem-solving skill is mathematical knowledge. Mathematics itself is closely related to the science of logic regarding shapes, arrangements, quantity, concepts related to each other so that with mathematical ability, people can solve daily life problems (Bahtiar et al., 2020; Suherman, 2014). Therefore, mathematics learning needs to be prepared as best as possible in order to achieve the maximum learning goals to prepare students who are independent, creative, critical and able to work together (Syamsuddin et al., 2020). In addition, students' daily life experiences also affect their creative and critical thinking skills so that habituation is needed as a way to help develop their critical and creative thinking habits (Spector, 2019, Thomas, 2011). Thus, students have the ability to think clearly and rationally in solving problems (Higgins, 2014) through interpretation as a result of cognitive constructs (Ennis, 2018; Hitchcock, 2018).

This has to be done since mathematics learning has such a complex problem in terms of methods, materials, media, and teaching materials needed and developed for being used in the mathematics learning process (Haking et al., 2020; Ma'rufi et al., 2020; Syamsuddin, 2020). Therefore, it takes planned efforts in implementing the learning model and skills of teachers in manipulating learning resources in order to conduct the learning process in the classroom (Dimiyati & Mudjiono, 2011; Syamsuddin, 2019). Hence, teachers must plan and implement a learning process that can accommodate the differences in characteristics of each student both in terms of the level of intelligence, experience and interest of students on a topic. It is important because this is a form of teacher support that can increase students' involvement in the classroom (Ilyas et al., 2020; Syamsuddin et al., 2020).

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The aforementioned effort above can be conducted if the teacher pays attention to aspects of the process, curriculum and techniques of the learning implementation in the classroom (Darling-Hammond, 2014). The teacher can combine these aspects in the learning process to provide a meaningful learning experience for students for example students can think critically (Hatcher, 2013). Where the curriculum aspect is one of the determinants of the quality of the nation's education (Nursalam, 2020; Sowell, 2005). The combined activities carried out by teachers are set in Permendikbud Republik Indonesia No. 22/2016 on Process Standards known as thematic learning. Integrated thematic learning is a basic concept in the implementation of the learning process in the 2013 curriculum at the elementary school level that has been implemented in Indonesia.

Thematic learning is defined as learning that uses themes to associate multiple subjects to provide meaningful experiences for students (Daryanto, 2014; Fogarty & Pete, 2009). In addition to this definition, there is also an explanation that states thematic learning is a way of learning that uses an integrated curriculum approach (Kadir & Asrohah, 2015). Thus, thematic learning has the opportunity in allowing students to express themselves according to the characteristics that students possessed, where in principle, this learning gives students the opportunity to find out from the themes presented in the learning process in the classroom that have an impact on mastery of the concept of the material or theme taught (Min et al., 2012; Wuryani et al., 2018).

In addition to mastery of the concepts taught, teachers should also pay attention to the moral development of the students they teach as a form of character from the social aspect (Rahman et al., 2020; Wang & Holcombe, 2010). This is stated in article 3 of Law No. 20 of 2003 on the National Education System states that national education serves to develop the ability and shape the dignified character and civilization of the nation in order to educate the life of the nation, aiming to develop the potential of students to become believers and reign in God, noble, healthy, creatively capable, independent and become democratic and responsible citizens (Depdiknas, 2006). This indicates that the purpose of national education is not only to develop the intellectual aspect, but also to pay attention to the character, moral and social aspects of students (Lerdpornkulrat et al., 2018; Wuryani et al., 2018).

To carry out the mandate of the national educational objectives, the effort that a teacher can take is planning and implementing thematic learning that integrates character values (Min et al., 2012; Oktarina & Santoso, 2015). Character-integrated thematic learning is a learning that integrates character in mathematics learning for students. By this integration, it is expected to achieve two learning goals in one learning activity, namely achieving the goal of learning mathematics by shaping the character of the ethical child after following the learning process (Baehr, 2017; Nucci & Narváez, 2014; Pala, 2011).

Elementary school is the basis for character development at the formal education level, therefore an effective character education model is needed (Walker et al., 2015). Hence, the implementation of character education should be begun in elementary school where character education positively impacts student's behavior (Thompson, 2002). Character education in the school aims to shape a young generation that is ethical, responsible, and caring with others (Pala, 2011; Berkowitz et al., 2008). By forming a generation of good character, students will grow up as individuals who know good and bad things, love the good, and do good (Ryan & Bohlin, 1999; Yudhanto & Budhiarto, 2007).

For that reason, instrumental efforts must be created to improve the effectiveness of the learning process along with positive cultural and character development and can avoid conflict among fellow students in the classroom (Alfitri & Hambali, 2013). Thus, character integration in learning is one of the interventions planned to help individuals through dynamic interpersonal processes oriented towards prevention and development (Berkowitz et al., 2017). Through character-integrated learning, it is expected that students are able to independently improve and use their knowledge, study and internalize the values of character and noble morals so that they manifest in everyday behavior (Lickona, 1996).

Character-integrated thematic learning needs to be prepared as well as possible due to the role of teachers as determinants of the formation of students' traits (Rokhman et al., 2014). This includes exemplary behavior and the way teachers deliver materials, how teachers tolerate, increase student confidence and practice student cooperation skills during the learning process. It is from this teachers' attitude and example that can attract students' learning interest that can foster active participation of students through the integration of character values in learning process (Kurniasih et al., 2019).

A number of variations of teaching techniques performed by teachers when choosing thematic learning models tailored to the purpose of learning, teaching materials, and the needs of students in learning to attract students in mathematics learning (Syamsuddin et al., 2019; Nucci & Narvaez, 2014). This interest can make students more active in taking action or activities during the learning process. If reviewed from the psychological aspect, a person's learning interest appears in several symptoms, such as passion, desire, fondness and more curiosity (Watz, 2011). Integrating characters in thematic learning can raise students' curiosity that impact student learning outcomes (Hambali, 2015).

Thus, students will be enthusiastic in learning mathematics if there are stimuli that provoke students to possess curiosity about the material presented by the teacher in the classroom (Fathurrohman, 2012). Therefore, it takes an interesting mathematical learning environment by applying a character-integrated thematic learning model to attract

the interest of learning mathematics (Aisyah et al., 2020). However, the phenomenon in the field is often described that students tend to avoid mathematics subjects because it is considered the most difficult subject among other subjects so it becomes a burden for them (Rahman et al., 2020). This is the results of the absence of interest in learning students which has an impact on the low mathematics learning achievement of students.

According to the phenomenon above, efforts are tremendously needed to cultivate positive habits of students to keep their learning interests alive during the mathematics learning process. One of them is to implement a character-integrated thematic learning model so that students' positive habits such as appreciating differences, honesty, tolerance and cooperation are formed which resulting in students' interest in learning mathematics appears in learning. This can be conducted if the educator has a strong commitment to shape the character (Kamaruddin, 2012) even though the students who are in the classroom are quite heterogeneous. It can be addressed by exploring more local cultures relevant to learning so that learning becomes more active.

Based on these conditions, students will accept more information from a variety of sources and influence the cognitive development of students where students in elementary school are in an early age range where aspects of students' intelligence development grow and develop tremendously. On the basis of this thinking, the learning model for elementary schools is more suitable if using the character-integrated thematic learning model (Kadir & Asrohah, 2015). The character-integrated thematic learning model has a very good suitability to be applied in elementary school, because students with low ability in learning mathematics, will become interested to participate in learning. This is due to the materials or subject matter of mathematics combined with other subject matter integrated with character values such as cooperation, confidence and manner are priorities in the 2013 curriculum that has been implemented in Indonesia.

Methodology

Research Design

The type of research applied to this study was a quasi-experiment by selecting a pretest-posttest control group design where the class as a research sample was divided into two groups namely the control group and the experimental group (Fraenkel et al., 2012). The process of selection of experiment group and control group was conducted by being drawn using random sampling to determine who became the experiment group and the control group. The determination of the experiment and control group is based on the results of relatively similar (homogeneous) learning interests. This can be tracked by paying attention to the score of students' mathematics learning outcomes which tend to be the same and based on the results of interviews with homeroom teachers or mathematics teachers that students tend to have the same abilities and interests in following mathematics subjects. The treatment given in the experiment class was integrated thematic learning of character values while the given treatment in the control class was thematic learning without integrated character values. The design intended in this study presented as follows.

Table 1. The Pretest Posttest Control Group Design

Sample	Pretest	Treatment	Posttest
Experiment	O ₁	X	O ₂
Control	O ₃	Y	O ₄

O₁ = students' learning interest score before being given character-integrated thematic learning model

O₂ = students' learning interest score after being given character-integrated thematic learning model

O₃ = students' learning interest score before being given thematic learning model

O₄ = students' learning interest score after being given thematic learning model

X = character-integrated thematic learning model

Y = thematic learning model

Research Goal

The study aims to find out the difference in students' mathematics learning interest of grade III elementary school students in the district II of Pangkajene district in Pangkep regency, South Sulawesi, Indonesia by implementing the thematic learning model and character-integrated thematic learning model.

Sample and Data Collection

The sample involved in this study were 70 students consisting of 35 students as a control class and 35 students as an experimental class in grade III of SD Negeri Wilayah II in Pangkajene Sub-District, Pangkep District in the odd semester of the 2019/2020 academic year. The data collection technique used in this study was a non-test technique by using questionnaires to measure students' learning interests before applying the character-integrated thematic learning model. The questionnaire was validated before being used, to obtain a valid instrument. Validation was conducted using an expert judgment technique that asks for the expert view related to the instrument developed. The validators involved in this study were two primary education lecturers, namely lecturers who focus on the field of mathematics

education and the field of evaluation. In addition, two experienced primary school teachers who were competent as professional teachers were also involved in validating this research instrument.

The validated aspects related to the instrument developed were content, construct and language. Validation analysis of student learning interest questionnaire in a quantitative descriptive way by averaging the score of each of the validated components or aspects. The scoring guidelines are described in 4 categories as follows (Laurens & Ratumanan, 2011).

Table 2. Students' Mathematics Learning Interest Scoring Criteria

Category	Description	Score
B	Good	4
CB	Fair	3
KB	Weak	2
TB	Poor	1

Assessment of validation results uses achievement level scale conversion because in the assessment, it is required achievement standards (scores) and adjusted to the established categories (Laurens & Ratumanan, 2011). Here is the assessment qualification table.

Table 3. Qualifying Eligibility Level Based on Percentage

Level of Achievement	Qualification
3,6 - 4	Very Valid
3 - 3,5	Valid
2,1 - 2,9	Less Valid
1 - 2	Not Valid

Based on the results of other validators obtained recapitulation assessment as follows.

Table 4. Recapitulation of Validator Assessment Results

No.	Assessed Aspect	Validator			
		A	B	C	D
1	Content/Material	3	3	4	4
2	Language	3	3	3	4
3	Construct	3	3	4	3
Average		3	3	3,67	3,67
Average assessment of 4 validators		3,33			
Category		Valid			

By paying attention to the assessment results of validators, it can be concluded that the instrument of students' mathematics learning interest valid to be used. Furthermore, to ensure that the instrument developed was suitable to use in data collection, the instrument reliability test was carried out. In this study, the instrument reliability measurement technique used was the consistency reliability of the combined items which measured the consistency of the test items as a unit that described students' interest in learning mathematics. To find the reliability coefficient of the description test instrument, the researcher used the Alpha formula as follows.

$$\alpha = r_{11} = \left[\frac{n}{(n-1)} \right] \left[1 - \frac{\sum s_i^2}{s_t^2} \right] \quad (1)$$

Information:

$\alpha = r_{11}$: reliability coefficient

n : number of items

$\sum s_i^2$: Total variance of each item's score

The value of α or r obtained by using the Cronbach Alpha formula above has a reliability criterion with a high category if the coefficient $r > 0,80$, moderate if $0,40 \leq r \leq 0,80$ and low if $r < 0,40$ (Ratumanan & Laurens, 2011).

In this study, the instrument reliability criteria used to determine the reliable instrument were minimal in the medium category ($0,40 \leq r \leq 0,80$). If the reliability obtained is low, the instrument will be revised. Based on the instrument reliability criteria, the instrument of interest in learning mathematics for elementary school students has a degree of reliability in the medium category, namely 0.62.

The instrument of this research is questionnaires to measure students' interests in learning mathematics. The learning interest scale is designed based on the Likert scale model (Edmondson, 2005) which contains a number of statements stating the object to be revealed. To measure the students' interest in learning is provided five possible answers are: strongly agree = 5, agree = 4, undecided = 3, disagree = 2, and strongly disagree = 1. This questionnaire consists of 34 items that were developed based on indicators of learning interest. The score of learning interest obtained by students when filling in each item of the statement is then converted into the distribution of interest in learning categories on a scale of five, namely $141 < x \leq 170$ with the category of interest in learning very good, $114 < x \leq 141$ with good category, $87 < x \leq 114$ with sufficient category, $60 < x \leq 87$ with the poor category and $34 \leq x \leq 60$ with the very poor category where x is the score of students' interest in learning mathematics.

Analyzing of Data

The data obtained from the spread of the questionnaire was further analyzed quantitatively, namely by using descriptive and inference statistical techniques by using independent sample t-test to assess the proposed hypothesis that there is a difference in students' learning interests with character-integrated thematic learning. To see an increase in students' learning interest scores, the gain index formula is used as follows.

$$\text{gain} (d) = \frac{o_2 - o_1}{\text{maximum score} - o_1} \quad (2)$$

Description:

O_1 = score of pretest

O_2 = score of posttest

The result of the calculation of the gain index is further interpreted in the criteria of the gain index score as follows (Hake, 1999).

Table 5. Index Gain Interpretation Criteria

"d" Gain	Interpretation
$d > 0,7$	High
$0,3 \leq d \leq 0,7$	Fair
$d < 0,3$	Low

Before being analyzed, the data obtained are first tested for normality and homogeneity test. The normality test is carried out on the scores of interest in learning for each group of students with the aim of knowing whether the sample used comes from a normally distributed population or not. All calculations are performed using computer assistance with the Statistical Product and Service Solutions (SPSS) 21.0 program with the One-Sample Kolmogorov-Smirnov test. The data is normally distributed if the $p - \text{value} > \alpha = 0.05$. Meanwhile, the homogeneity test was used to determine whether several data variants of students' interest in learning mathematics were the same or not. The test used was the homogeneity test with Levene's statistic. The data is homogeneous if the $p - \text{value} > \alpha = 0.05$.

The following shows the results of the normality test and the homogeneity test of the mathematics learning interest score data that has been obtained respectively in Table 6 and Table 7.

Table 6. Data Normality Test Results

One-Sample Kolmogorov-Smirnov Learning Interest	Experiment Class	Control Class
N	35	35
Kolmogorov-Smirnov Z	0,181	0,177
Asymp. Sig. (2-tailed)	0,2	0,2

In the experiment class, $p\text{-value} > \alpha$ of $0.200 > \alpha$ was obtained (significance level = 0.05). Thus, it can be concluded that the sample data obtained in the experiment class was in normal category. While the results of the value analysis in the control class show a $p\text{-value} > \alpha$ of $0.200 > \alpha$. This indicates that the control class sample data is in the normal category.

Table 7. Data Homogeneity Test Results

Class	Levene's Statistic	df1	df2	Sig.
Experiment Class	0,855	1	34	0,361
Control Class	0,757	1	34	0,391

In the table above shows that for the experiment class the value of $p\text{-value} = 0.361 > 0.05$, then both variants are the same. While the control class obtained the value $p\text{-value} = 0.391 > 0.05$ then both variances are equal or homogeneous. Therefore the probability value (significance) $> \alpha$ can then be concluded that the two variances are the same (variance of the experiment group and the control group are the same).

Results

This research aims to find out the difference in students' mathematics learning interests between students who are given character-integrated thematic learning and students who are taught with thematic learning. To achieve this goal, non-test method was used by using questionnaire to find out the increase of students' learning interest scores after the implementation of character-integrated thematic learning and thematic learning model. Therefore, the provision of a questionnaire of mathematics learning interest was given twice that was before and after the implementation of character-integrated thematic learning and thematic learning model. The data obtained is then descriptively analyzed and presented as follows.

Table 8. Students' Mathematics Learning Interest Score

Data	Students' Mathematics Learning Interest Score			
	Experiment Class		Control Class	
	Pretest	Posttest	Pretest	Posttest
Range	16,00	31,00	22,00	26,00
Maximum score	126,00	151,00	125,00	135,00
Minimum score	110,00	120,00	103,00	109,00
Mean	117,54	140,69	116,11	120,23
Standard Deviation	3,91	6,11	5,66	6,26
Variance	15,26	37,37	32,05	39,18

From the above data, it can be pointed out that there is an increase in the average score points of interest in learning mathematics in both the experiment class and the control class. However, to identify whether the increase increased significantly which could represent an increase in the average score of interest in learning mathematics in general, the gain index calculation was conducted. By applying the gain index formula, the previous gain obtained the gain index value for the experiment class of 0.44 and is in the moderate category. As for the control class, the gain index score of 0.07 is in the low category. This indicates that the increase in mathematics learning interest scores occurred significantly in the experiment class while the control class did not increase significantly.

Furthermore, to support the previous statement that there is an average difference in mathematics learning interest before and after the character-integrated thematic learning model, inference statistical analysis was conducted. The results of inference statistical analysis were intended to answer the research hypothesis that has been formulated in the *analyzing of data* section. Before performing the statistical analysis inference, an assumption test or prerequisite analysis was initially conducted to know the feasibility of using t-test towards the results of the study. The type of a t-test used in the data analysis of this study is the independent sample t-test.

Once the analysis prerequisites are conducted, then hypothesis statistics testing conducted by using the independent sample t-test. Previously, homogeneity tests have been conducted and it has been concluded that both variants were homogeneous. The independent sample t-test for the experiment class was conducted with the implementation of character-integrated thematic learning model and control classes by implementing the thematic learning model. The analysis for this data pair, using independent t-test sample or different sample because these data were from two samples namely mathematics learning interest data from the experiment class and control class where posttest was given in the form of filling the interest questionnaire after the treatment. The results of the t-test analysis of the data are described as follows.

Table 9. The Analysis Result of the Independent Sample T-Test

	Mean	Standard Deviation		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Learning interest for the control class	120,23	6,26	Equal variances assumed	4.98	68	.000	20.46	1.478
Learning interest for the experiment class	140,69	6,11						

The data analysis showed that the t-value obtained was 4.98 at a rate of the significance of 0.0000, if compared with the t-table value of 1,667, resulting in a t-calculate value \geq t-table. Additionally, the significance value is $0.000 \leq$ value 0.05. This indicates that there are differences in students' mathematics learning interests that were treated with the

application of character-integrated thematic learning model with thematic learning model. Thus, it can be suggested that there is an influence on the application of character-integrated thematic learning model towards the interest in learning mathematics of grade III elementary school students in District II of Pangkajene Pangkep Regency.

Discussion

The implementation of the character-integrated thematic learning model can increase students' interest in learning mathematics because in the learning process teachers constantly integrated examples of good character when delivering materials and giving assignments in the classroom. An example of the character in question is the cooperation done by the group of students to solve the given math problem. Besides that, giving a friend the opportunity to express an opinion when there is a solution that he/she disagrees with his/her friends' solution. In addition, the honest attitude is shown by training students to check the results of the completion of either their own worksheet or a friends' worksheet without reducing or increasing the score of it so that all students are satisfied and responsible for the assignment.

This is done based on the main principles of good character which are respect, honesty, truth, fairness, and responsibility (Skaggs & Bodenhorn, 2006). By giving the activities that illustrate the main principles of these characters' education, the students' interest in learning mathematics is also increasing and these habituations will further optimize the ethical behavior of students. This is in accordance with the findings of Tannir and Al-Hroub (2013) which states that character education always encourages students to learn, be strong, and prepare future leaders who have ethical behavior.

Hence, by this habituation, the behavior of students who interfere with each other, dishonesty and other problematic behaviors is diminished. Similarly, Katilmis et al. (2011) and Parkeret et al. (2010) said that the goal of presenting character values to students was to lower problematic behavior and increase academic involvement in schools. This indicates that integrating character values in learning can increase students' learning interests. Therefore, it takes a school environment that can shape the positive character of students so that it can form a well-behaved generation (Romanowski, 2005; Gallien & Jackson, 2006). This statement is in accordance with the findings of Aisyah (2014) which states that character education is important to be applied in the learning process so that character education is formed in the perspective of academic culture in schools.

This will happen if teachers integrate character education into learning according to learning needs and objectives so it will effectively influence student behavior such as honesty, responsibility, cooperation and tolerance (Agung, 2011). This is supported by the findings of Darsono et al. (2018) that character education can be seen when students take risks that are contrary to decisions or answers previously disclosed in the form of responsibility. Thus, teachers must always pay attention to the development of student's character which has an impact on increasing student's learning interest. This is consistent with the findings of Zurqoni et al. (2019) states that character education is important to be implemented in the classroom because this is one way to increase student involvement in the learning process.

Thus, it takes the involvement and strong commitment of a teacher in the learning process to create a good character of students that impacts on the increasing of students' learning interest (Bergmark, 2008). With a strong commitment, all the obstacles that hinder the character coaching of students can be overcome so that students' learning interests increase. This statement is in line with the findings of Buchori and Setyawati (2015) that character education is strived for in all dimensions of the school so that it helps in optimal character formation. Therefore, schools as a platform to practice good habits for students under the guidance of teachers should properly give opportunities to students so that students do not feel compelled to possess or act with ethical behavior (Milliren & Messer, 2009). The same thing was stated by Wukich (2016) that infrastructure such as schools will form a good community network because of the interaction or good communication between individuals with character to work together. Thus, through school, a superior generation with good character can be created.

It takes careful planning and implementation of learning from a teacher so that the actions of plans and practices related to character education in learning can be implemented properly where students are instructed and guided in one form of prescribed treatment (Pike, 2010). In order to increase the students' interest and learning achievements, this character education is taught and learned through proper pedagogy (Cooley, 2008). The purpose of character education practices used in schools as stated earlier so that students have a manner (O'Sullivan, 2004), so that students are accustomed to this character which then can create and adapt the behavior of students in order to become good citizens in the future (Hoge, 2002). This is in accordance with the research of Oktarina and Santoso (2015) which states that character development and education that need to be developed are attitudes and behavior of students. Therefore, if students have a good character then students will also have good concepts about good things, embrace the good and do well (Katilmis et al., 2011).

Therefore, students will be wiser when faced with a problem both related to their learning in the classroom and related to their daily life (Marshall et al., 2011; Agustan et al., 2017). Thus, the students always need guidance from teachers for the development of character education so that students who always have good behavior will give an impact on the increase of students' learning interest to follow the whole series of learning processes in the classroom.

Conclusion

From the results of the study, it is found that the implementation of the character-integrated thematic learning model can increase students' interest in learning mathematics. In contrast to the application of thematic learning model, interest in learning mathematics has not increased. Thus, it can be argued that students' interest in learning mathematics using a character-integrated thematic learning model is better than non-integrated character. The results of this study give us insight that mathematics learning using the implementation of a character-integrated thematic model has an influence on students' learning interests while shaping student characters such as cooperation, honesty, confidence and good manners. It requires good cooperation from every stakeholder to shape a good character of students so that students can apply it in daily life in both family, school and community environments. Teachers as the main mentors of students in the classroom must be creative in training these characters of course with the right methods, approaches and strategic pedagogies during the learning process. By these character shaped during the learning process, students will be interested in the learning materials given by the teachers since the habitation create the learning activities become more directed and not only result in the increase of students' learning interest but also the students' characters are also shaped in a positive way. Consequently, it will create a well-behaved and excellent generation and wise in making a decision for the complex situation they face.

Suggestions

Learning mathematics using a character-integrated thematic learning model has an influence on students' interest in learning mathematics as well as forming students' character such as cooperation, self-confidence and courtesy. Therefore, this learning model can be used as an alternative in choosing a learning model in mathematics learning that does not only assess the cognitive aspects but also the character aspects need attention. Thus, students not only master mathematical concepts but students also have commendable behavior both in the school and in the family or society environment. The findings of this study illustrate how integrated character-integrated thematic learning contributes to the interest in learning mathematics for students in elementary schools. This research can be developed by considering other aspects. For example, choose a qualitative research design by describing the teacher's ability to integrate the value of the character in learning mathematics from the aspect of gender, years of service or level of education. In addition, this research can also be developed by developing a character-integrated thematic learning model based on numeracy literacy to improve student mathematics learning outcomes. If viewed from the aspect of the social environment, this research can be developed by conducting research through involving parents of the students to foster student's character with integrated thematic learning based on parent mentoring at home so that not only the teacher is responsible for the character of the student but their parents also take part in conformation of the student's character.

Limitations

Even though it has met the valid and reliable aspects of the instrument developed, the validation process of the instrument does not involve validators from linguists working in world languages for primary education. Therefore, an instrument is needed that uses language and sentence structure or statements that are familiar to students considering that the sample in this study are elementary school students so that the language displayed on the instrument does not cause multiple interpretations in filling out the questionnaire for students. In addition, the implementation of character-integrated thematic learning still encountered problems where the steps are not implemented completely. This is due to the inadequate learning facilities at school, so this research was carried out by maximizing the existing facilities in the school.

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