

THE USE OF SNAKES AND LADDERS MATH TO THE DEVELOPMENT OF MULTIPLE INTELLEGENCES IN ELEMENTARY SCHOOL MATHEMATICS SUMMATION MATERIALS

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Abstract: *Each student has a different level of intelligence, as a result their learning needs are also not aligned. Children have multiple intelligences so a strategy is needed to accommodate the intelligence possessed by children. This research was conducted at SD Islam Tepadu Permata Cendekia, Simalungun Regency, to be precise in third grade students. The aim is to see the effectiveness of the Multiple Intelligences Learning Strategy with the help of Snakes and Ladders Math media on addition material in Mathematics. The implementation of this research is in the form of quasi-experimental research with One group pretest posttest design. Data collection is done by applying tests as well as observations. The results of the study showed that there was an increase in the average score of students before and after being given treatment, namely (40 < 91). So that it can improve children's mathematical logical intelligence and verbal intelligence through tests. In addition, the physical and interpersonal intelligence of students is also seen when the traditional game media is applied. So it can be concluded that the application of Media Snakes and Ladders is effective in developing Multiple Intelligences in class III SDIT Permata Cendekia, Simalungun Regency.*

Keyword: *Media Snakes and Ladders Math, Multiple Intelligences, Elementary School*

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INTRODUCTION

Developing Multiple Intellegences in children requires appropriate media. Education is a medium that plays a very important role in developing children's intelligence. (Masduki and Kurniasih, 2017). Children born into the world have differences between each other. Everyone is born into this family in a state of different genes from one another. In addition to differences in environmental genes, it greatly affects the development of children, both from the family environment, the influence of the community where they are located, school, life experiences obtained, and other environments. The combination of these factors is what will shape a person into a human being who has a basic character. (Chatib, 2015)

The obstacles that occur in the world of Indonesian Education make logic and language skills the only aspects that are assessed to produce quality graduates. Even though this is a big mistake, so the perception must be revised. In fact, intelligence is not only measured from two aspects, namely logic and language, but must also be seen from several aspects. As explained by Howard Gardner's theory that there are 8 intelligences contained in humans, namely mathematical logical intelligence, Verbal Linguistics, Visual-Spacing, Rhythmic Music, Physical-Kinesthetic, Interpersonal, Intrapersonal, and Naturalist. ("A Hamlahindong Journal," n.d.)

The presence of a new concept regarding multiple intellegences in aspects of psychological science and Education based on several rational reasons and empirical reality that states that a person's success in terms of IQ with the category of genius or in other words someone who is classified as having a genius IQ, turns out to have failures in the social world. Therefore, the concept of multiple intellegences emerged that not only emphasized intellectual intelligence but designed intelligence as something broader, so that it did not will ignore other

intelligences such as emotional, spirit and social intelligence. (Abidin, 2017)

Multiple intellegences or compound intelligences are basically the development of IQ, EQ, and SQ. (Sunartini, 2013) Intelligence, According to the paradigm of *multiple intellegences* must include three main components, namely first, problems in real life must be solved, secondly can solve problems with new problems, thirdly must be able to produce something new work so that it gets appreciation from others. (Sunartini, 2013)

The intelligence contained in the nervous system works relatively autonomously. So that every intelligence contained in the nervous system works partially, but when removing there is filtering of the eight intelligences so that the information is more dominant. In fact, each individual has a different level of intelligence. What affects the difference is due to several factors, such as congenital factors from birth or birth, factors of the surrounding environment, factors of physical and psychic maturity and factors of freedom. So that in measuring intelligence in children, they are not only guided by one particular factor, but must look at all aspects. (Sunartini, 2013) But in essence the child has multiple intelligences contained in him, but each child will have one or more more more intelligences that are more prominent. So it is imperative that in the practice of learning in schools teachers have data on intelligence that stands out in children. (Fathani, 2016)

Multiple Intellegences provide a broad view of the perception of intelligent children. Not only focusing on one prominent intelligence, but also paying attention to the behavior and tendencies of the child. By applying the *Multiple Intellegences* free education system, they can provide a new learning experience so that they can find and provoke the development of the sensitivity contained in them. It is also justified by Gardner that intelligence is determined by two things, namely the experience that proceeds as well

as the experience that drops. So it is natural how valuable a good experience is in order to be impressed in the child's mind and very concerning when the child has a bad experience to the point of hurting the child's feelings. Thus, Education based on *Multiple Intelligences* will help children to develop the intelligence possessed in their nervous system which will produce amazing things.

Compound Intelligence is known as the *discovering ability* method, meaning a person's ability to discover. The method believes that all individuals have different intelligence tendencies. This intelligence can be seen from the tendency of the child. The concept of *Multiple Intelligences* focuses on the uniqueness seen in children and is able to find other uniqueness. So the concept emphasizes that every child is born not stupid because each child has at least one intelligence. If these advantages can be seen from the beginning, it can be seen that the potential is found in the child. For this reason, teacher competence is needed to awaken the intelligence possessed by the child. (Shaikhu, 2020)

One of the competencies of teachers used in carrying out their duties is the use of learning media. Because the learning media is a component of the teaching and learning unit. The use of learning media is very important to be applied by educators in order to facilitate the running of the learning process and the realization of planned learning goals.

But in reality, many educators still use conventional methods so they have not been able to develop learning media. In addition, the way teachers teach has also not undergone innovation so that there are still many who apply monotonous methods so that the selection of teacher methods in teaching greatly affects learning outcomes and the development of other intelligences contained in children. (Badriah, Dwi, and Santana, 2021)

Achievements seen in students indicate the high or low performance of the teacher. Based on *data from the Education*

for all (EFA) Global Monitoring Report 2011 submitted by UNESCO, it shows that the level of education in Indonesia is ranked 69th out of 127 countries surveyed or decreased by four levels when compared to the results of previous surveys which occupied the 65th level. The measurement of this is based on 4 things, namely, the participation rate of basic education, the literacy rate in children aged 15 years and over, the participation rate of sex and years of students up to grade V of elementary school. (Urgència, 2017)

In developing compound intelligence in children, especially in the world of education, it can be done by applying learning activities while playing. It can stimulate the activeness of intelligence in the child, such as when teaching Mathematics lessons, in addition to honing the logical intelligence of Mathematics, it can also hone physical-kinesthetic intelligence, Interpersonal intelligence (reading gestures or signs).

Children are essentially human beings who have their own potential and abilities. So that by applying the learning-by-playing method, it aims to provoke the child's brain for a long enough period of time and give a positive impression on the child's memory and will create a pleasant atmosphere without burdening the child in the slightest. The purpose of applying the learning while playing method is to develop other intelligences in the child. (Nurdiani, 2013)

Based on the results of observations that have been organized by researchers on September 27, 2021 at SD Islam Terpadu Permata Cendekia, Simalungun Regency, there is still a low use of learning media that is able to combine other intelligences so that students who have multiple intelligences are hampered in their development.

Learning methods or media will be appropriate and suitable to be applied when the teacher has understood the 8 intelligences contained in the child. So that it can develop other intelligences by

utilizing media that is suitable for students. *The medium of Snakes and Ladders Math*, which can develop other intelligences in children, has been designed by researchers to develop prominent sensitivity in students. Based on the results of the multiple intelligences test by Gardner's theory, there are 4 intelligences that are seen in students, namely (1) *logical mathematical intelligence*, (2) *physical-kinesthetic intelligence*, (3) *verbal-linguistic intelligence*, (4) *Interpersonal intelligence*. then from the 4 intelligences combined with the medium *Snakes Ladders Math* based on *multiple intelligences*. which is valid and very effective to apply (Amir, 2020).

In the field of education the theory of *multiple intelligences* is not something new. Multi-modal learning by Plato, John Dewy with *learning by doing*, inductive models, investigation models, co-operative learning and information management models. So it is said that the learning model can trigger the development of other intelligences in students. The application of the learning model has been identified to have a positive effect on the development of intelligence in children, especially in their academics. So that it becomes a big problem regarding the thing behind the learning process stated in the Education unit why not emphasize on stimulating various intelligences in students?. In fact, if this is done by the teacher, the learning process will be more effective and give a different impression. (Gardner, 2003; Armstrong, 2004). (Legowo 2017)

So that the research conducted by the researcher aims to apply snakes and ladders media to the development of *multiple intelligences* in students in grade III students of SD Islam Terpadu Permata Cendekia, Simalungun Regency.

RESEARCH METHODOLOGY

The selection of methods in the research used by researchers is quantitative research. The research is in the form of numbers and uses statistics with the help of

SPSS version 26. The design in the study is experimental research. Experimental research is the only research method used to test in detail and in detail the truth of hypotheses regarding causal relationships. (Anshori and Iswati, 2019) This is in line with the purpose of the experimental research itself, which is to find out the cause and effect relationship of something by applying treatment.

The experimental design used in this study was semi-experimental with *One group pretest posttest design*. In the implementation of the study, it did not use a comparison class or control class but applied the initial test so that it would be seen how much influence the application of the *snakes and ladders math* media was. In the implementation of testing on the media, first the research sample was given a preliminary test (pretest) which was intended to see the extent of the student's ability before being given treatment. Furthermore, after being given the performance, a final test (posttest) will be given to determine the influence of the application of snakes and ladders math media on the development of *multiple intelligences* in children.

The population that was the object of this study was the third grade students of SD Islam Terpadu which amounted to 27 students. The sample used was part of the population, namely class III students of Ibn Shuja, which was 9 students. The reason for using a sample of 9 students is because the situation is still not normal so that learning still implements a limited face-to-face meeting system. There are 2 data collection techniques carried out, namely (1) observation, (2) tests. Observation is a technique of analyzing and conducting systematic monitoring of the behavior or movements of the research subject directly. While the test is a sheet given to the research subject which contains a question that has been prepared by the researcher so that it aims to measure understanding of the material or discussion that has been discussed before. The instruments applied

by the researcher are test sheets in the form of (pretest and posttest) and observation sheets.

The test grids given in developing multiple child intelligences with snakes and ladders math media include the following; (1) Addition and multiplication test to develop mathematical logical intelligence (2) test of reading texts contained in media aimed at developing verbal intelligence. (3) the test demonstrates instructions from the media aims to develop interpersonal intelligence (4) the test of the Movement according to the media instructions aims to develop kinesthetic-physical intelligence.

RESULT AND DISCUSSION

1. Result

The implementation of the research aims to develop other intelligences contained in students. It's not just focusing on one intelligence that stands out. With that, based on the purpose of the study, the results of the application of snakes and ladders math media were obtained in terms of several intelligences.

First, the results of verbal and logical intelligence of mathematics are obtained through testing in the form of pretest and posttest tests that have been given to students. The results obtained after completing the learning using snakes and ladders math media obtained significant learning results.

Table 1. Student Learning Outcomes Data

Many Students	Information	Completeness
7	Pass	77.78%
2	Not Passed	22.22%

The results of the scores obtained by students before and after being given treatment can be seen in the following statistical table.

Table 2. Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
pretest	9	40	20	60	40.00	13.229	175.000
Post	9	25	75	100	91.11	11.118	123.611
Valid N (listwise)	9						

Based on the research that has been carried out, it can be seen the results of the application of *snakes and ladders math media* to the development of *multiple intelligences* of children, especially in mathematical logical intelligence and verbal intelligence. This can be seen from the results of hypothesis testing with the help of Spss version 26.

Based on the hypothesis test carried out, a value of $t = -14.95601$ was obtained. The calculated price t is then consulted with $dk = n_1 + n_2 - 2 = 16$. With $dk = 16$, and the significance level is 5%, then $t_{table} = 1.746$. The calculated price of t is smaller than $t_{of\ the\ table}$ ($-14.95601 < 1.746$) so H_0 is accepted and H_a is rejected. So *multiple intelligences* learning strategies are effective against the development of mathematical logical intelligence and verbal intelligence of the child. From the calculation results above, there are two ways to see whether it is effective or not, namely the first by looking at the comparison between t_{hitung} and t_{table} with the provision that if the calculation is positive, there is no influence on the use of the media, while if t counts negative value, there will be an influence on the application of the media.

$$t = \frac{x_1 - x_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2} - 2r\left(\frac{s_1}{\sqrt{n_1}}\right)\left(\frac{s_2}{\sqrt{n_2}}\right)}}$$

$$t = \frac{40 - 91}{\sqrt{\frac{175}{9} + \frac{123}{9} - 2(0,663)\left(\frac{13,22}{\sqrt{9}}\right)\left(\frac{11,11}{\sqrt{9}}\right)}}$$

$$t = \frac{-51}{\sqrt{(19,4 + 13,6) - 1,3(4,44)(3,70)}}$$

$$t = \frac{-51}{\sqrt{33 - 1,3(16,42)}}$$

$$t = \frac{-51}{\sqrt{33 - 21,34}}$$

$$t = \frac{-51}{\sqrt{11,66}}$$

$$t = \frac{-51}{3,41}$$

$$t = -14,95601$$

Then, it appears that the results of the observations made that there is an influence of *Snakes and Ladders Math* media in developing compound intelligence in children. This is said to be successful because there is a significant change in the value of the student's pretest and posttest scores. This can be seen from the average score of students who were originally worth 40 to 91 after getting a treatment.

In addition to the increase in logical and verbal intelligence, it turns out that the application of the Snakes and Ladders medium can develop other ingenuities such as linguistic verbal intelligence, physical-kinesthetic intelligence and interpersonal intelligence. This can be seen from the student's literacy during the learning process. The following are indicators of the development of compound intelligence in children with the application of *snakes and ladders math* media (Musfiroh, n.d.)

Table 3. The Development of Compound Intelligence

Intelligence	Indicator
Verbal Linguistics	Children's ability to speak well with teachers and friends
Mathematical Logic	Children's pleasure in counting Proficiency in thinking using logic

Physical-Kinesthetic	It can be seen that the increase in children's movements will have an impact on the strength and agility of the student's body
Interpersonal	This can be seen in the increasing sense of care and cooperation between groups so that it will have an impact on mutual helping attitudes

This research is based on the theory of *multiple intelligences* or compound intelligences pioneered by Howard Gardner from Harvard University, who states that everyone's intelligence is different, so the learning needs are also different. The theory was born out of the target that Gardner targeted to see the effect of the theory presented by Jean Piaget that considering what an individual thinks is an effort made towards true scientific understanding and the originator of the common mind about intelligence and relates it to understandings related to linguistic and logic skills (Gardner, 2013, pp. 7).

2. Discussion

Neologists say that every individual born in advance of the earth is already equipped with complete brain organs and structures, only to experience maturity after a period outside the womb. This is reinforced by the statement that since the baby was born, he already has a provision of billions of neurons in his brain. The formation of the neuron occurs from the age of the fetus to the size of the fetus is still 8 ounces. So that early childhood becomes the most important and fundamental early stage for human growth and development. (Nurdiani, 2013)

Activities that support the success of learning objectives, one of the supporting components is the selection of various kinds of learning strategies and methods appropriately. By applying the learning method while playing with traditional

games, it can develop *multiple intelligences* in children, including being able to train children's motorics (kinesthetics), training children to be able to process information both in the form of numbers and language, being able to train children in speaking and processing words in speaking and in writing, and being able to familiarize children to think logically and build communication that is like friends (Yusri, 2016).

Based on the results of the study by applying traditional games with *snakes and ladders math* media to develop compound intelligence in children which uses quantitative analysis methods with test results and direct observation. The results of the research that has been carried out have been seen that *snakes and ladders* media can develop the compound intelligence of students, including mathematical logical intelligence, verbal intelligence, kinesthetic-physical intelligence, and interpersonal intelligence.

The results of the development of mathematical and verbal logical intelligence are seen to have increased. This can be seen from the learning outcomes of students before and after being given treatment with the help of *snakes and ladders math* media. With this game, it can improve children's cognitive intelligence because this game is not only trained to recognize numbers but also fosters the curiosity of students. In addition, this game can also foster the enthusiasm and enthusiasm of children when the game is taking place. Cognitive developments seen in children during the game include, among others, being able to mention the numbers contained in the game, mentioning colors and shapes, training student focus, being able to control between hand and eye movements, training the level of patience of students because they have to wait for their turn to play when rolling the dice.

In addition, the development of kinesthetic-physical intelligence and interpersonal intelligence is also seen to have increased. This can be seen from the

movements practiced by children based on the instructions contained in *the snakes and ladders math* game regarding jumping movements and hand movements. Meanwhile, the visible interpersonal intelligence is the ability of children to read the cues contained in *the media of snakes and ladders math* so as to foster the creativity and high thinking ability of students.

The theory of *multiple intelligences* was originally developed as an explanation of how the mind works—not as an educational policy, let alone a panacea of education. Especially as we and other colleagues begin to consider the implications of the theory for education, the last thing to do is to multiply the work of educators ninefold. Instead, the education system seeks to show that because students bring diverse intellectual profiles to the classroom, one measure of "IQ" is not enough to evaluate, label, and plan educational programs for all students. Adopting a multiple intelligence approach can generate a calm revolution of students seeing themselves and others. Instead of defining themselves as "smart" or "stupid," students can consider themselves potentially smart in some way. (Moran, Kornhaber, and Gardner, 2006)

The learning success of students is influenced by their intelligence. So based on the research that has been carried out, it is stated that the level of intelligence of children correlates with their learning achievements. In other words, the achievements that arise in the child are influenced by the intelligence that exists in him. That is, if the child has a high level of intelligence, then the achievement that appears in the child is also high. Vice versa, if the child's intelligence level is low, the achievement in the child is also low. This is also in line with the expert opinion that the intelligence possessed by children is the main capital in learning success so as to produce optimal learning outcomes. So it can be ascertained that children who have an intelligence level or IQ below 70 will

find it difficult to be able to learn and achieve optimal learning outcomes such as children who have intelligence or IQ above 70 or normal children. (Sunartini, 2013)

The diversity of each child's intelligence level will certainly give various colors in the classroom. In providing learning materials by the teacher will also show a difference in the way it is delivered, because there will be a different level of understanding of each child in understanding the material so that it will be a new challenge by the teacher in overcoming the difference in the child's ability. Being a teacher must be required to know the difference in intelligence of each student. In order to be able to design learning goals so that they can be achieved by all students. However, the differences in intelligence found in students should not be used as an excuse by teachers and consider students who have delays low. However, it is used as a motivation to find new innovations in order to achieve learning goals with the diversity of intelligence possessed by students.

The level of ingenuity in children can be ascertained to be a reference in student learning success. The high or low learning outcomes obtained by children will be seen from the level of intelligence possessed by children. However, the level of intelligence contained in children should not be used as the only success of the child's learning, but must also look at other factors. As has been stated in the factors that affect children's learning outcomes. So that what is of concern to teachers is their policy in responding to differences in intelligence in children.

It is necessary to pay attention to the teacher in looking at intelligence in students. There should be no tendency of one of the intelligences to have the highest level so that the other intelligence is not important. What often happens in the field is that the highest intelligence is logical-mathematical intelligence. Even though this perception is a fallacy. In essence, the education process provides an

improvement in learning activities that can trigger the development of multiple intelligences in children. So it is necessary to study theories about multiple intelligences to be applied during learning so that it can provoke the development of various intelligences in children and not look down on other intelligences. (Suwanto and Fatimah, 2021)

The application of the theory of multiple intelligences in the teaching and learning process activities requires a maximum effort from the teacher. This can be done by getting used to developing learning goals that are student-centered rather than material-centered or themselves-centered. In other words, learning must be *student centered learning* not *teacher centered learning*. The purpose of implementing this is to make it easier for teachers to find their strategies in learning based on the differences in intelligence possessed by students. Things that can be done by teachers to be able to apply the theory of multiple intelligences include; first must pay attention to all the intelligence contained in the child. Second, it provides intense learning of the intelligence that stands out in the child.

In developing multiple intelligences in children, appropriate methods or strategies are needed. In addition, there is also a component that supports the success of learning objectives, namely the selection of learning media. Learning media is used as a tool for teachers in delivering learning materials. So that the difficulties experienced by students can be resolved with the help of these media. Apart from being a tool, the media is also used as appropriate feedback for children. With another purpose, the application of media can be used as motivation in increasing the passion for students' interest in learning.

The reuse of traditional games is essentially a new source of inspiration in innovating, especially in designing learning media. One of the traditional games that can be innovated into a learning medium is the snakes and ladders game. In fact, the reality

is that the game of snakes and ladders became a familiar game in other neighboring countries. The design in the game is designed to be a group game so that it will involve more than one player. When viewed from the aspect of psychology, it has unwittingly built the social aspect of children, namely that children can interact with many people and foster an attitude of mutual cooperation between teams.

The innovation that has been designed by researchers in developing traditional games is known as *snakes and ladders math*. The game contained in the game can be an initial repulsion to develop intelligence not only about mathematical and verbal logical intelligence, but also develop kinesthetic-physical intelligence and interpersonal intelligence of children. The advantages of snakes and ladders learning media are (1) creating a more relaxed learning atmosphere, (2) learning in groups (3) can help students understand the material because there is media as a tool (4) high creativity without requiring expensive costs. (Afandi, 2015)

In this lesson, the game of snakes and ladders is modified into a Mathematical snakes and ladders or called *Snakes and Ladders Math*. *Snakes and Ladders Math* was developed into a game that is very flexible and understandable to many people, can be seen directly so that it will cause interest in students in participating in learning. The design used in the manufacture of snakes and ladders media also uses interesting images accompanied

by various colors. It has been tested in a study that children's understanding using visual media will experience a significant increase compared to verbal language. In terms of increasing students' interest in learning and giving a good impression of the material presented so that it is stored in the memory of students' memories, the snakes and ladders media is designed with full of illustrations full of colors. In essence, providing learning by learning while playing for children is the most important thing. This is reinforced by research by Peter Kline who said that a pleasant atmosphere in the learning process will result in effective learning outcomes. (Nugrahani and Rupa, 2007)

So that new innovations have emerged that are applied by researchers who move away from traditional games that are often played by children. The results of this design are expected to foster students' interest in learning. The box is designed combined with various illustrations along with colors that will foster a sense of fun in following the learning. The illustration shown in the media is that the type of registration in the form of a card was chosen because according to the science of child psychologists, it is more interested and easy to understand because the age level is still inclined to cartoon things. Tukiman stated that through pictures students can see clearly what is being discussed so that it can increase interest and learning outcomes. (In 2013 Growth and Growth)

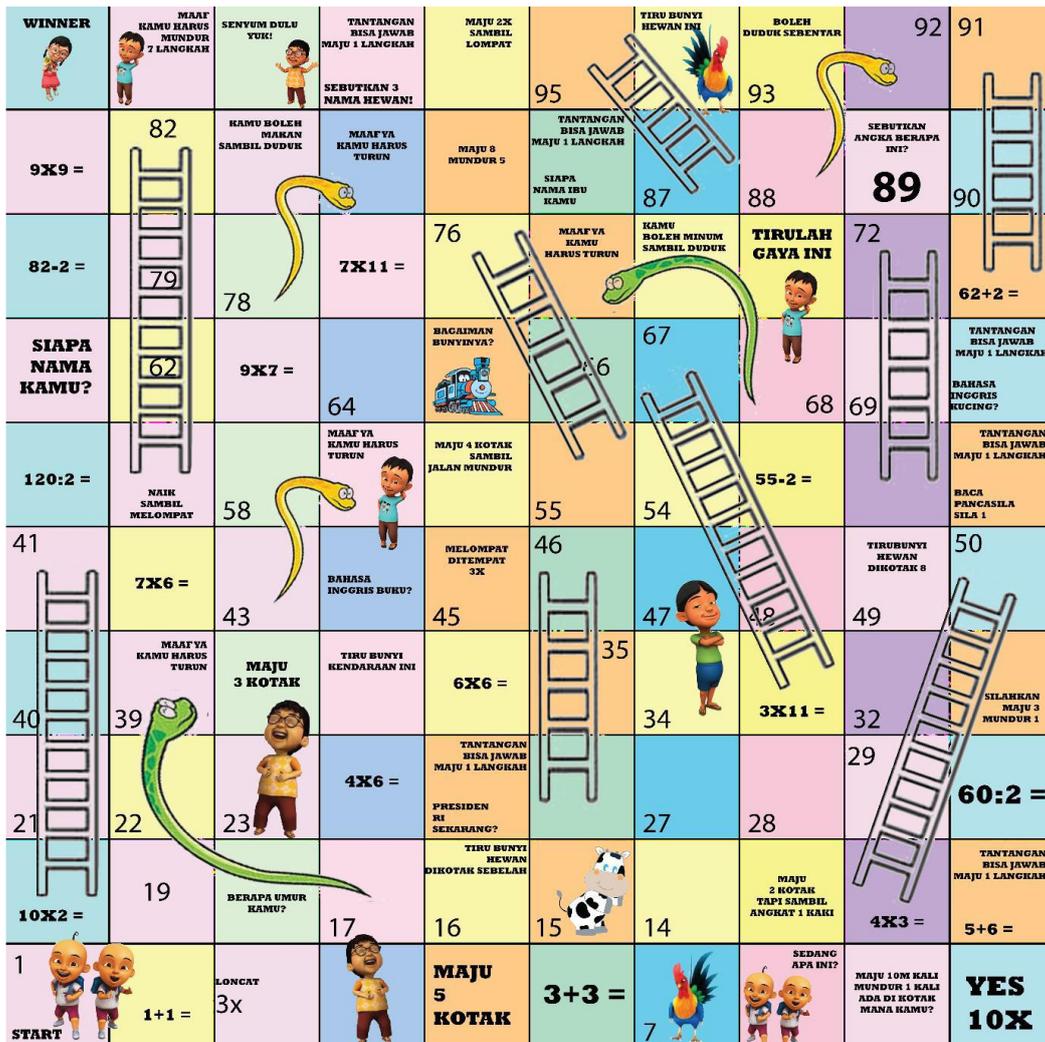


Figure 1. Learning Media Snakes and Ladders Math Mathematics Studies

The concept of using the learning media *Snakes and Ladders Math* has undergone a change from the basic concept of the game. The innovations carried out by researchers include the following; (1) players in the snakes and ladders math game are 8 participants, (2) the initial start is used as the first step of the game (3) to start the game participants are required to throw the dice first, (4) the results of the dice obtained become the guidelines for the participant to step up (5) according to the occupied box, the participant must make orders to the occupied box.

This research has been carried out by previous research Yani Nurdiani who said that using the method of playing while learning is very effective to do besides that it can also increase multiple child

intelligence. (Nurdiani, 2013). In addition, other studies by Mantasiah, et al related to traditional games to improve children's multiple intelligences. The result of the study is that all intelligence possessed by children is special and needs special attention in developing it, so that parents and teachers are led to be proficient in choosing the right method to improve the child's intelligence. (Yusri, 2016)

In the application of traditional games that are innovated into a medium snakes and ladders math experienced several obstacles faced by researchers, including that the request required more than one teacher to supervise the running of the game in order to realize an effective learning environment. This is applied to minimize the trapping of students who are

too focused by playing and forgetting the essence of learning. So that no matter how interesting the media that has been designed by the teacher, it will certainly require the full role of the teacher to achieve the objectives of the learning that has been designed by the teacher. The weakness of this research is that it can only be done for a few materials in learning. So for another lesson, researchers must design snakes and ladders media according to the material and intelligence they want to develop.

CONCLUSION

Based on this discussion, it was concluded that the application of *multiple intelligences* learning strategies in learning using *Snakes and Ladders Math* media can develop compound intelligence found in students. This can be seen from the improved learning outcomes of students so that they will automatically develop logical mathematics and visual intelligence of children. The results of student learning in mathematics calculation materials in grade III of SD Islam Terpadu Permata Cendekia, Simalungun Regency, seem to have changed. The value before treatment and after treatment showed significant results of 91. Or in other words the posttest value is greater than the pretest value.

After the pretest and posttest values are known, a presumption test will be carried out or called a hypothesis test. The test is used as a follow-up that the application of multiple intelligences learning strategies is effective in learning mathematical calculations. Hypothesis tests are also used to compare pretest and posttest values. Based on the results of the hypothesis test calculation obtained $t_{\text{count}} = -14.95601$ and consulted with t_{table} with a significant level of $5\% = 1.746$ for $dk = n_1 + n_2 - 2 = 16$. The price of t_{count} must be smaller than t_{table} ($-14.95601 < 1.746$) then it appears that the results of research on mathematical logical intelligence have increased so that the application of snakes and ladders media affects the development of mathematical logical intelligence and

verbal intelligence of grade III students of SDIT Permata Cendekia, Simalungun Regency.

In addition, the application of *snakes and ladders* media can also develop physical-kinesthetic intelligence and interpersonal intelligence of children. This can be seen from the movements carried out by students and the ability of children to understand the cues contained in the learning media in the form of traditional games, namely snakes and ladders that have undergone innovation so as to produce a new media called *snakes and ladders math*.

The obstacle that arises during learning activities by applying multiple intelligence learning strategies in calculations in mathematics lessons in grade 3 of SDIT Permata Cendekia, Simalungun Regency, is the lack of conducive learning because the students are too eager to learn to play, causing an uproar in the class. But these obstacles can be overcome with the help of observers.

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