

The Effect of Bowling Game on The Growth of 5-6 Years Old Children in Bidayatul Hidayah TK 2021

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Abstract: This research is based on the importance of stimulation in six aspects of child development, namely physical development, motor, cognitive, language skills, social-emotional, artistic, as well as moral and religious values. One of the games that can stimulate children's growth and development is Bowling. Bowling is a type of sport or game that is played by rolling a ball using your hands. So the purpose of this study was to see the effect of Bowling on the growth and development of children aged 5-6 years in Bidayatul Hidayah Islamic Kindergarten with this type of experimental research using the *One Group Pretest-Posttest Design method*. The subjects of this study used 13 children aged 5-6 years in Bidayatul Hidayah Islamic Kindergarten. The data collection method in this research is observation and documentation. The data analysis technique was used between *pretest* and *post-test* with an error rate of 5%. Before the treatment, the average *pretest* average value increased *post-test* to 259.33. The results of the t-test is $dk = N-1 = 13-1 = 12$, and if the error rate is set at 5%, then $t_{table} = 2.179$. The result of t_{count} is greater than $t_{he\ table}$ ($24,639 > 2,179$). So H_a is accepted, and H_o is rejected. So it can be concluded that there is a significant influence on the application of bowling games on aspects of the growth and development of children aged 5-6 years in Bidayatul Hidayah Islamic Kindergarten in the 2020 Academic Year so that bowling games can be used as an alternative in developing the growth and development abilities of children aged 5-6 years.

Keywords: Bowling Game, Child Development.

INTRODUCTION

Soetjiningsih (2010) said growth and development are "a continuous process starting from conception to maturation, influenced by environmental factors and innate factors". Growth and development are gradual, dynamic, and simultaneous processes in infants. This growth and development need to be monitored regularly and periodically to maximize its potential.

Adriana (2013) suggests that child development is continuous, starting from the beginning of the womb until adulthood. In the process of child development, there are critical periods during which time stimulation is needed, which functions as the potential for the child to develop. Child development will be optimal if there is the social interaction that suits the needs of children at various stages of development. Growth and development in Early Childhood Education (PAUD) consists of six aspects of development, namely physical motor

development, cognitive, language skills, social-emotional, artistic, and moral and religious values. These developmental aspects are used as indicators of child development which will be adjusted to the child's age in learning activities. In designing these activities, educators must have the correct reference as a guide for developing learning activities through the level of achievement of children's development in stimulating growth and development. One such reference is the Regulation of the Minister of Education and Culture of the Republic of Indonesia Number 137 of 2014. One of the games that can stimulate children's growth and development is Bowling.

According to Jatmika (2012: 36) permanent *Bowling* is a type of sport or game that is played by rolling the ball using the hands. For children, Bowling is an entertaining game. In Bowling, children learn about writing and eye coordination and figure out how much force it takes to knock down cans at once. Game *bowling* is also defined by Ginanjar Asmasoebrata

(2012:106) as a type of sport or game of rolling or throwing the ball by hand. Balls *Bowling* is tossed into a row of ten pins arranged into a triangular shape when viewed from above.

Robert H. Strickland (2003:21) suggests that there are ten steps in a bowling game, namely: (1) *setup* (getting a balance position), (2) swing and movement rhythm (using a consistent tempo), (3) *footwork* (adjusting the rhythm and movement), (4) four-step delivery (rolling the ball), (5) ball movement (straight ball and curved ball), (6) aiming for *strike* (dropping all pins), (7) aiming for *spare* (dropping remaining pins), (8) physical adaptation (overcoming unusual environmental conditions), (9) mental discipline (practicing to play wisely), (10) leagues and tournaments (competing to train success).

Based on the description above, it can be concluded that Bowling is a game played by rolling the ball towards the pins that have been arranged and totaling ten 10 pins. In this study, researchers modified the bowling game tool to be used, namely a tiny bowling game tool. The pin in this bowling game measures 17 cm.

From the results of observations that have been made at Bidayatul Hidayah Islamic Kindergarten, the reality seen in the field is that the growth and development of children have developed as expected. However, some students with physical development are motoric, social-emotional, cognitive, language, art, and religious values and morals have not developed optimally. The process of playing at school is carried out using learning media that have been prepared by the teacher and APE that has been available from the school. However, learning cannot be said to be learning while playing fun because fun games are not applied to the learning process in the classroom.

Based on the description of the problems above, it is necessary to research to see the extent of the influence of bowling game media to improve children's growth and development with the title "The Effect of Bowling Games on the Growth and Development of Children Aged 5-6 Years in Bidayatul Hidayah Islamic Kindergarten in the 2021/2022 Academic Year".

RESEARCH METHODS

This type of research uses the kind of experimental research. The practical method is a study to find out whether or not there is a change in a condition that is tightly controlled, so it must

require (treatment) in these conditions, and this is what is done in experimental research (Sutrisno Hadi 2016). Thus the experimental research method can be interpreted as a research method used to find the effect of certain treatments on others under controlled conditions.

The research design used is experimental research with *One Group Pretest-Posttest Design*. The first thing in implementing the experiment using a single sample design is done by giving a test to the sample that has not been treated called a *pretest* (O_1) to get data on the growth and development of children in 6 aspects of development. Then treatment (X) is carried out by applying bowling games in group B. After being subjected to the experimental variable (X). In the *post-test*, the data from the experiment will be obtained. Namely, the child's growth and development have increased or no increase at all. Compare O_2 and O_1 and *determine*. How much difference there is, if any, as a result of the given experimental variable. Then the data were analyzed using a *t-test* (Arikunto; 2002).

In this study, there is a pretest before being given treatment so that the treatment results can be known more accurately because researchers can compare the results of the study with the conditions before being treated. Data collection techniques used in this research are documentation and observation. The data collection instrument in this study was an observation guide. The indicators in this study are based on the level of achievement of child development contained in the ministerial regulation number 137 of 2014. Validity is a measure to measure the level of truth of an instrument. Valid means that the instrument can be used to measure what should be measured (Sugiyono, 2016:173).

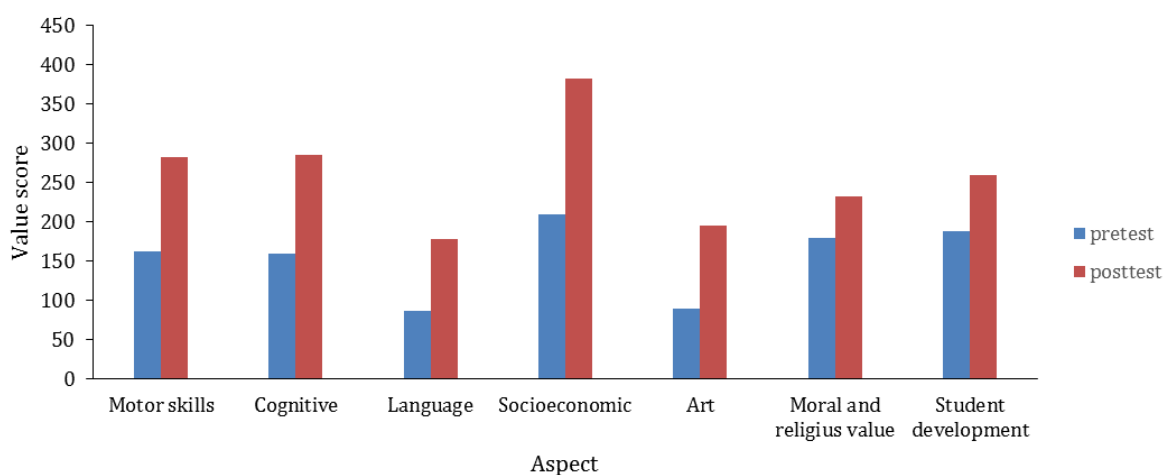
Analysis of the data used in this study uses the formula for data normality test and hypothesis testing. Data analysis systematically searches and compiles data obtained from interviews, field notes, and documentation. The data into categories, describing them into units, synthesizing, and arranging them into patterns, choosing which ones are important and studied, and making conclusions so that they are easily understood by themselves and others (Sugiyono: 2016). The formula used in this study is short because it analyzes the results of experiments using *design experiments by subjects*. It is an experiment that uses only one group (*one group experiment*), the experimental group and the

control group in different experimental periods. (Sutrisno Hadi, 2016: 242-243).

RESULTS AND DISCUSSION

The research results have been done and found that there was an effect of the application of bowling games on six aspects of children's development. Before being given treatment (*pretest*) the ability to play bowling games on children's growth and development was still low, 187.83 after being given treatment (*post-test*). Playing bowling games on children's growth and development becomes high, namely 259.93.

Based on the results of hypothesis testing that has been carried out using the t-test on child growth and development, the results obtained are t_{table} with $dk = N-1 = 13-1 = 12$, and if the error rate is set at 5% then $t_{table} = 2.179$. The result of t_{count} is greater than t_{table} ($24,639 > 2,179$), so H_a is accepted and H_o is rejected. So it can be concluded that there is a significant influence on the application of bowling games on aspects of child development in the B2 group of Bidayatul Hidayah Islamic Kindergarten in the 2020 Academic Year.



Research Results in the Pre-Test and Post-Test Effect of Bowling on the Growth and Development of Children Aged 5-6 Years in Kindergarten Islam Bidayatul Hidayah 2021.

Discussion

The above research results were conducted six times with several children, namely 13 people. There was an increase from the first treatment to the second treatment. In the physical motor aspect in the first treatment, a score of 162 was obtained, and the final result was 283. The cognitive aspect in the first treatment was a score of 90. The final result was 195, the language aspect in the first treatment got a score of 86, and the final result was 178, the social-emotional aspect in the first treatment got a score of 209, and the final result was 383, the artistic aspect in the first treatment gets a score of 160. The final result is 285, and the last aspect of religious and moral values in the first treatment scores 115, and the final result is 232.

The above research is in line with the theory put forward by Adriana (2013) suggests

Child development is continuous, starting from the beginning of the womb until adulthood. In the process of child development, there are critical periods during which time stimulation is needed, which functions as the potential for the child to develop. One way that can be done to stimulate children is through fun games for children.

The research that has been done above has increased by 70%. It is in line with the previously conducted research by Nita Julistia Harista (2016) entitled "The Bowling Game Against Children's Gross Motor Ability". This study showed the beginning of the observation/pretest, the average was 47.9%, and after being given treatment at the end of the observation/post-test, the average was 77.08%. Nita Julistia Harista's (2016) research entitled "The Bowling Game Against Gross Motor Ability of Children" has increased by 30%.

The bowling game steps proposed by Robert H. Strickland (2003:21), then there are several bowling game steps developed in this study are as follows, 1) Preparing a bowling place in the school yard 2) Preparing bowling game tools 3) Players line up neatly outside the track to determine the order of play 4) Players stand on the bowling game track that has been provided with a balanced body position 5) Players take bowling balls 6) Players carry bowling balls while jumping over the patterns found on the bowling game track by keeping body balance 7) The player's initial position before throwing is standing upright and holding the ball with both hands 8) The player stands straight towards the pin to be thrown with the player's feet right at the boundary of the game line to get ready to throw the ball 9) The ball is placed right under the body, then the position of the body leans forward and slightly bent to get maintain a balanced body position 10) Players swing the ball forward and backward according to the tempo before throwing the ball using one hand to train hand flexibility 11) Players coordinate eyes and hands in throwing the ball using one hand to hit the target pin in front of him 12) The player puts the pin back in the starting position using both hands and the game is repeated according to the agreed game rules.

CONCLUSION

The research results that have been carried out found an effect of the application of bowling games on six aspects of children's development. During the treatment (*pretest*), the ability to play bowling games on children's growth and development was still low, 187.83 after being given treatment (*post-test*). Playing bowling games on children's growth and development becomes high, namely 259.93.

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