Analysis Of The Use Of Fruit Dice And Bar Chart Media On Learning Outcomes In Data Collection For Fifth-Grade Students At SD Fontein II, Kupang City

Kristina E. Noya Nahak[1], Michael W. Dapa Wunga[2], Laurdes T. De Jesus[3], Ria Anabokay[4], Dortia Snae[5], Efron H. Otu[6]

PGSD, Universitas Citra Bangsa

ArticleInfo	ABSTRACT
	In elementary school education, mathematics learning is crucial for an individual's ability to understand, use, and interpret mathematics in everyday life. Mathematics should be implemented in a fun learning environment. In mathematics learning, students should be introduced to gain knowledge related to the characteristics found in an object or a collection of objects. In mathematics learning, there is a statistics material that includes the sub-material of data collection. Data collection is an important material in mathematics. The data collection process includes collecting and measuring the necessary information according to the objectives. In learning, media is needed as an intermediary to convey information quickly. Such as fruit dice media which are shaped like a cube and have six sides. In addition to fruit dice media, bar chart media are also used to present data from the results of data collection. However, this is often overlooked by teachers in learning. This study aims to analyze the use of fruit dice and bar chart media to improve student learning outcomes in mathematics learning on data collection material in class V SDN Fontein 2 Kupang City. This type of research is qualitative with a descriptive method. Data collection was carried out through observation, interviews, and student knowledge tests through the questions given. The number of students in this study was 25 people. The use of fruit dice and bar chart media begins by dividing students into groups, where students will roll fruit dice 20 times and collect the results of the throws in the form of a bar chart. The results showed that the use of fruit dice and bar chart media can increase students' activeness and participation in the learning process. This can be seen from the average student score of 70 to 80. This shows that fruit dice and bar chart media have succeeded in improving student learning outcomes in mathematics on data collection material. In addition, this media also managed to create a fun, enjoyable, and interactive learning atmosphere, which attracts students' interest and motivation to learn.
	Corresponding Author: Kristina E. Noya Nahak PGSD, Universitas Citra Bangsa Kristina.noya.nahak@gmail.com

INTRODUCTION

Learning is a process or way to educate and improve students through interaction. According to Darman (2020), learning is essentially a direct collaboration between teachers and

Analysis Of The Use Of Fruit Dice And Bar Chart Media On Learning Outcomes In Data Collection For Fifth-Grade Students At SD Fontein II, Kupang City—Kristina E. Noya Nahak et.al

602 | P a g e

students, as well as indirectly through learning media. The interaction process that occurs in the classroom must be effective, interactive, and enjoyable. The role of a teacher is crucial in managing and directing the learning process in the classroom, so teachers should utilize all their abilities to create a pleasant learning atmosphere for students. Subjects in elementary school, including mathematics, should be designed in a fun way, as it is often perceived by students as a difficult subject to learn.

Mathematics is a fundamental science that supports other sciences and technologies. Introducing appropriate theories for mathematics learning in elementary school is essential because they are the basic theories or initial concepts that students must understand to grasp mathematical theories at higher levels. Furthermore, according Indrawati & Suardiman (2013), mathematics is part of a learning series that plays a crucial role in the world of education. Generally, mathematics is defined as a discipline that delves into the shapes and structures of space. In elementary school education, mathematics is vital for an individual's ability to understand, use, and interpret mathematics in daily life. Mathematics should be implemented in a fun and engaging way of learning.

Students first formally encounter mathematics education when they enter the first grade of elementary school (SD). First-grade students have ample opportunities to either develop a liking or disliking for mathematics. The first gateway to mathematics learning is in the first grade of elementary school. In mathematics instruction, students should be introduced to gain knowledge through understanding the characteristics found in an object or a collection of objects. However, all of this must be tailored to the student's developmental abilities to support smooth mathematics learning. Within mathematics learning, there is a statistics topic that includes a sub-topic on data.

Data is factual information that can be acknowledged as true. Data itself is not the final result of research or a data collection activity. Data also needs to be processed to become a valid or accurate result or information. For researchers or data holders, data is a tool to determine the next steps. Data collection is an essential topic in mathematics. The data collection process involves gathering and measuring the necessary information according to the objectives. At the elementary school level, the material related to data collection includes collecting data, processing it, and presenting it. There are various ways to collect data, such as tests, observations, questionnaires, direct interviews, and so on. After the data is collected, it can be presented in the form of charts, line graphs, or bar graphs. To learn how to collect data, a medium is needed to facilitate this learning process.

Media is a tool used to convey or deliver instructional messages (K. Nahak et al., 2024). Therefore, media is essential in learning to help students understand the material presented through the learning media used. Learning media is an aid used to stimulate students to focus their attention on learning. According to Ompusunggu (2022), learning media is a part of learning that contains instructional material to create a learning atmosphere that can encourage students to learn. Good learning aids can help students understand the learning material and encourage them to grasp the content. Media also plays a major role in improving learning achievement and assisting educators in delivering teaching materials. In learning, there are many choices of media that can be used, one of which can be applied to attract

Analysis Of The Use Of Fruit Dice And Bar Chart Media On Learning Outcomes In Data Collection For Fifth-Grade Students At SD Fontein II, Kupang City—
Kristina E. Noya Nahak et.al
603 | P a g e

attention and motivate students in mathematics learning, specifically in the topic of data collection, by using fruit dice and bar chart media.

Dice are six-sided objects commonly used in games. According to Sukriyanti & Nadiputro (2015), the word "dice" comes from the Latin word "datum," meaning "something given or played." Dice are small, cube-shaped objects used to generate numbers. Dice are often used in mathematics education to determine numbers or collect data. In addition to dice, bar charts are also commonly used in mathematics learning.

Bar charts typically consist of rectangles used to present statistical data. A bar chart is a graph used to display and compare quantities of data in different categories. On a bar chart, the horizontal axis represents the names of the data objects or categories, while the vertical axis shows the numerical values of the data objects. There are two types of bar charts: vertical bar charts and horizontal bar charts. Besides their use in mathematics education, bar charts are also employed in data collection for optimal learning outcomes.

Dice media can be used in learning, as in the research by Mumtahana, et al. (2022), which uses dice to choose numbers from several available questions, then on cards containing questions, and students can answer them according to their potential. The fruit dice and bar chart media used in this study use fruit dice that have 6 sides, each side has a picture of fruit, and a bar chart as a tool to collect data from the results of fruit dice rolls. The researcher chose to use this media because elementary school children would be very interested in activities packaged as a game. In Cahyo (2021) research, it is stated that playing the dice game has the following steps: 1) At first, the pawn is stored in the "start" box, after that the player who gets a turn shakes and throws two dice. 2) The dice that appear from the dice are then added up 3) Next, the pawn is moved as many steps as the number of dice obtained. 4) The pawn's steps will continue if you get 12 dice and if the dice you get are under 12, the dice pawn will stop moving. In research conducted by (Syam & Rusmayadi, n.d.), it is stated that the application of dice games can develop cognitive abilities to recognize numbers 1-10.

According to Anwar (2012), the use of media in mathematics learning can make students more interested in participating in the learning process. Learning media according to Ompusunggu (2022) is a part of learning that contains teaching materials for a learning atmosphere that can encourage students to learn. Good learning aids can make it easier for students to understand the learning material and can encourage students to understand the content of the material. Media also plays a major role in improving learning outcomes and making it easier for educators to deliver teaching materials. In learning, there are many choices of media that can be used, one of which can be applied to attract attention and motivate students, in mathematics learning on data collection material using fruit dice and bar chart media.

Learning outcomes are achievements attained by students in school through active participation in question-and-answer sessions, as well as through assignments and exams that support the achievement of these outcomes (Dakhi, 2020). Learning outcomes become the process for determining students' learning grades through assessment activities or measurements. From learning outcomes, we can also know the extent to which students can

Analysis Of The Use Of Fruit Dice And Bar Chart Media On Learning Outcomes In Data Collection For Fifth-Grade Students At SD Fontein II, Kupang City—
Kristina E. Noya Nahak et.al
604 | P a g e

understand the lessons delivered by the teacher, allowing educators to take appropriate steps or decisions in continuing the teaching-learning process.

Based on observations at UPTD SDN FONTEIN 2, in mathematics lessons on data collection, it was observed that the teacher did not use teaching aids. The teacher only used a whiteboard, shoe sizes, and explained the material using continuous lectures, making students in the class feel uncomfortable during the lesson. With such classroom conditions, students feel disturbed and unfocused. This leads to students having difficulty understanding the material and sometimes not paying attention to the teacher's explanations due to boredom.

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The research questions in this study are how to use fruit dice and bar chart media in mathematics learning on data collection material, and how students' learning outcomes are after using fruit dice and bar chart media in class V SDN Fontein 2 Kupang City. The purpose of this study is to find out how to use fruit dice and bar chart media in mathematics learning in class V SDN Fontein 2 Kupang City and students' learning outcomes after using fruit dice and bar chart media. It is expected that after using fruit dice and bar chart media, students will become more active in mathematics learning, thereby increasing students' understanding and learning outcomes in mathematics learning on data collection material.

METHODS

The research design employed by the researcher is a descriptive quantitative. The researcher will describe how the fruit dice and bar chart media are implemented in mathematics learning for fifth-grade students at SD FONTEIN 2, and how their learning outcomes are affected after using these two media. The population in this study is all fifth-grade students. The sampling technique used is saturation sampling, where the entire population is used as a sample because the population size is relatively small. Therefore, the sample size is 25 fifth-grade students. The data collection techniques used are observation, interviews, and tests. Observations are conducted during mathematics lessons on the topic of data collection using fruit dice and bar chart media to observe students' attitudes, activeness, and learning

Analysis Of The Use Of Fruit Dice And Bar Chart Media On Learning Outcomes In Data Collection For Fifth-Grade Students At SD Fontein II, Kupang City—
Kristina E. Noya Nahak et.al
605 | P a g e

outcomes. Interviews are conducted with students by asking questions related to their understanding of the data collection material. Additionally, tests are administered in the form of 20 multiple-choice questions. After the data is collected, it is analyzed by calculating the average score obtained by the students and measuring the dispersion of the data, such as creating a range of values. The analysis results are then presented in an easy-to-understand table. After the data is presented, it is interpreted by giving meaning or significance to the results of the analysis and comparing them with previous research or relevant theories.

RESULTS AND DISCUSSION

The Use of Fruit Dice and Bar Chart Media

This research focuses on the use of innovative learning media, namely fruit dice and bar charts, in the learning process of data collection. Fruit dice are a mathematical learning aid made of dice with sides that display pictures of fruits. These dice are used to collect data about the types of fruits that students like, for example. A bar chart is a graphical representation of data that uses vertical or horizontal bars to show the values of different categories. In mathematics learning, bar charts are used to present data collected, such as data about the types of fruits that students like. According to Estiningsih (2016), fruit dice are used to collect qualitative data on students' preferences for certain types of fruit. The advantages of fruit dice are that they attract students' attention and make the learning process more interactive, help students understand the basic concepts of data collection concretely, and can be modified for other topics, such as favorite colors, pets, etc. Meanwhile, bar charts are used to visually present data collected from fruit dice (or other sources). The advantages of using bar charts are that they make it easier for students to see the comparison of frequencies between data categories, help students identify trends or patterns in the data, and can be used to predict or draw conclusions based on data.

According to Estiningsih (Estiningsih, 2016), the steps to use fruit dice and bar charts can be done as follows: First, preparation: prepare fruit dice and materials for making bar charts (paper, colored pencils, ruler). Second, Data Collection: Each student rolls the fruit dice several times (e.g., 5 times) and records the results. Third, Data Tabulation: Make a table to record the types of fruits and their frequency from all students. Fourth, Creating a Bar Chart: Draw horizontal and vertical axes, then create bars according to the frequency of each type of fruit. Fifth, Analysis and Discussion: Invite students to analyze the bar chart, for example: What fruit is the most/least liked? What is the difference between the most liked and least liked fruit? Are there any fruits that have the same frequency? The results of the study indicate that the application of these two media has a significant positive impact on students' understanding of the concept of data collection.

The fruit dice serve as a concrete tool that facilitates students in collecting data directly. Through the activity of rolling dice depicting types of fruit, students actively participate in the data collection process and experience an enjoyable learning experience. Meanwhile, the bar chart functions as a visual representation that helps students interpret the collected data. By observing the bar chart, students can easily understand data patterns and distributions, as

Analysis Of The Use Of Fruit Dice And Bar Chart Media On Learning Outcomes In Data Collection For Fifth-Grade Students At SD Fontein II, Kupang City—Kristina E. Noya Nahak et.al

606 | P a g e

well as draw relevant conclusions. The combination of using fruit dice and bar charts creates an interactive, enjoyable, and meaningful learning experience for students.

In the implementation of fruit dice and bar chart media in the mathematics learning process for the topic of data collection, initially, the researcher provided fruit dice to 25 students, divided into groups of two, with thirteen groups using fruit dice and bar charts according to the total number of 25 students in the class. Afterward, the researcher explained the material about data collection and also how to use the fruit dice and bar chart media. The use of fruit dice and bar chart media in the learning process is very easy. The teacher directs students into groups, with each group consisting of two students. They will take turns rolling the dice twenty times, with each student rolling ten times. After this activity, students collect the data using a prepared bar chart, coloring each column of the bar chart according to the results of the fruit dice rolls, and then summing up all the results of the rolls into the bar chart.

The use of bar charts aligns with the results of the dice rolls performed by the students, followed by the students coloring the fruit bar chart according to the results of the fruit dice rolls. The learning process carried out by collecting data on the bar chart enables students to adapt during the learning process, both individually and in groups, in completing the data collection to be used in the bar chart. The results of this learning enable students to acquire the process of data collection using bar charts, which can be applied in their daily lives. The method of using bar chart media is also consistent with the process described by Ambarwati & Rini (2024), who stated that learning using bar charts allows students to easily adapt during the learning process, both individually when completing assigned tasks and collaboratively in completing tasks using bar charts for data collection.

The method of using dice media, according to Mumtahana et al (2022), involves using dice to select numbers from several available questions. The cards contain questions, and students can answer them according to their potential. Therefore, classroom learning can become a fun and non-monotonous activity for students who have difficulties understanding certain learning concepts.

Student Learning Outcomes Using Fruit Dice and Bar Chart Media in Data Collection

Learning outcomes are achievements obtained after undergoing a learning process. According to Maisaroh & Rostrieningsih (2010), several factors influence student learning outcomes, both from within the students themselves and from external factors or the student's environment. Factors coming from within the students include discipline, responsiveness, and student motivation, while external factors consist of the learning environment, the creativity of the teacher's chosen teaching methods, and learning media.

The proper and correct implementation of learning media will create a comfortable learning environment. A comfortable learning environment will affect learning enthusiasm and improve discipline. Increased learning enthusiasm can improve student learning outcomes. In the learning process, an educator has a significant contribution; they must be creative in choosing and using learning media to deliver material to students to make them more interested in learning. According to Amir (2016), the application of media in learning can affect the learning outcomes. Based on the results of its implementation, educators can

Analysis Of The Use Of Fruit Dice And Bar Chart Media On Learning Outcomes In Data Collection For Fifth-Grade Students At SD Fontein II, Kupang City—
Kristina E. Noya Nahak et.al
607 | P a g e

also adjust the material and level of students. Therefore, educators must be able to choose appropriate media and ensure that the media is suitable for the students being taught.

The researcher's observations, focusing on mathematics lessons about data collection, revealed that student participation in using the media was excellent, with students collaborating to complete the assigned tasks. The interaction between students and the media was quite positive, and they showed great enthusiasm when using the fruit dice and bar chart. According to Anwar (2012), the use of media in mathematics learning can make students more interested in participating in the learning process. During the explanation of the media's concept, students were able to grasp the concept of fruit dice and bar charts, enabling them to answer questions correctly. Based on these observations, the researcher noted a significant improvement in students' learning outcomes after using the media, leading to increased academic performance. Following these findings, the researcher interviewed the teacher involved in the learning process.

The results of the teacher's interview indicated that the teacher observed students using the fruit dice and bar chart media with great enthusiasm and a noticeable improvement in the learning process. This was evident from the students' activeness when using the media, as it was considered effective, easy to understand, and helpful in the learning process. The media also proved to be very beneficial, as students who previously struggled to understand the data collection material were now able to collect data according to the media. This success was attributed to social interactions such as cooperation and communication among students, resulting in a 90% increase in student motivation and interest in learning mathematics, particularly in data collection. This aligns with Nahak (2023) statement that the use of media in learning significantly aids students in their studies.

The teacher's interview results were further supported by student statements during their interviews, expressing their enjoyment of learning with the fruit dice and bar chart media due to its attractive form and ease of use in data collection. This is consistent with the statement by Unaenah & Sumantri (2019) that dice media are highly engaging and make students enthusiastic about participating in learning. Based on these results, the fruit dice and bar chart media successfully provided a good understanding, as demonstrated by students' ability to collect data on the number of fruits rolled.

The observation and interview results were supported by the test results of 25 students, revealing that 20 students were able to complete the questions and achieve scores meeting or exceeding the Learning Objectives Achievement Criteria (KKTP), while the remaining 5 students did not yet meet the KKTP. Student learning outcomes the results can be seen in the following table:

Table 1.1 Average Student Scores

KKTP	Score Range	Number of Students
70	81-100	14
	61-80	6
	41-60	5
	21-40	0
	0-20	0

Analysis Of The Use Of Fruit Dice And Bar Chart Media On Learning Outcomes In Data Collection For Fifth-Grade Students At SD Fontein II, Kupang City—Kristina E. Noya Nahak et.al

608 | P a g e

Based on the table above, it can be seen that out of 26 students, fourteen students obtained scores between 81-100. Six students obtained scores between 61-80, and five students obtained scores between 41-60. This means that only five students did not pass or reach the Minimum Completion Criteria (KKTP), while twenty-one students achieved the KKTP with an average score of 86. According to Nahak & Naitili (2023), the research began by conducting an experiment on students' ability to answer questions using a multiple-choice test. The test results above indicate that student learning outcomes in mathematics, specifically on the topic of data collection, improved after using fruit dice and bar chart media. This aligns with the research conducted by Rohmah et al (2016), which concluded that the learning outcomes of students in group A were higher than those in group B because group A used cooperative learning through effective dice media, while group B used an individual approach with origami media.

The use of dice media is not only limited to mathematics learning for data collection but can also be applied to other topics such as instilling the concept of numbers. Research conducted by Apriliani et al (2013) titled "Implementation of the Number Head Together Model with Dice Media to Improve the Ability to Recognize Number Concepts" revealed that there was an increase in the ability to recognize number concepts in group A children using dice media. In cycle I, it showed an increase of 59.24% and was still classified as low, while in cycle II it increased to 85.06%, which was in the very high category.

Additionally, research conducted by Yuliyani (2016) titled "Improving Mathematics Learning Outcomes Counting 1-10 Through the Great Dice Throwing Game Method (Classroom Action Research on Deaf Students in Class I at SLB B/C Dian Kahuripan East Jakarta)" showed that the great dice throwing game media can improve learning outcomes in counting 1-10 in deaf students in class I. It is hoped that teachers can improve mathematics using the great dice throwing game media and other varied media.

Another research was conducted by Wati (2021), which used dice media to introduce Hijaiyah letters to group B children at TKIT Bina Aneuk Nanggroe, Mutiara District. Wati's research results showed that The average results of the pre-action Hijaiyah letter dice game showed that the children were not yet developed (BB) 9 children or 45%, starting to develop (MB) 4 children or 20%, developing as expected (BSH) 4 children or 20%, and developing very well (BSB) 3 children or 15%. The average results of cycle I of the Hijaiyah letter dice game showed that the children were not yet developed (BB) 7 children or 35%, starting to develop (MB) 6 children or 30%, developing as expected (BSH) 4 children or 20%, and developing very well (BSB) 3 children or 15%. The average results of cycle II showed that the children were not yet developed (BB) 1 child or 5%, starting to develop (MB) 1 child or 5%, developing as expected (BSH) 1 child or 5%, and developing very well (BSB) 17 children or 85%. The research results indicate that the Hijaiyah letter dice game can improve the ability of group B children at TKIT Bina Aneuk Nanggroe, Pidie Regency, to recognize Hijaiyah letters.

Analysis Of The Use Of Fruit Dice And Bar Chart Media On Learning Outcomes In Data Collection For Fifth-Grade Students At SD Fontein II, Kupang City—
Kristina E. Noya Nahak et.al
609 | P a g e

CONCLUSIONS

Dice media are used in mathematics learning on data collection material. The steps are to first provide fruit dice and bar chart media. After providing them, the students are divided into several groups for the use of fruit dice media. Each group consists of two members. Initially, each group is given one dice to roll 20 times. After that, the bar chart is distributed to all students in the class. Next, the results of the fruit dice rolls are summed up and then entered into the diagram to be colored according to the color of the fruit on the side of the dice from the results of the throw. The use of fruit dice and bar chart media proves that students are interested in the media, so students' learning outcomes increase and are good. The results of using fruit dice and bar chart media in mathematics learning on the material "Data Collection" in class V SDN Fontein 2 Kupang City can improve students' learning outcomes where the average student gets a score above 70 to 80. Students show high enthusiasm for learning and are very enthusiastic when answering questions. Active participation in discussions is very visible when they work together to complete tasks and commands in using fruit dice and bar charts.

REFERENCE

Ambarwati, S., & Rini, Z. R. (2024). The effect of the think pair and share learning model assisted by snakes, ladders, bar charts on the critical thinking ability of grade V students. *TRIHAYU: Journal of Elementary Education*, *10*(3), 225–231.

Amir, A. (2016). The use of image media in mathematics learning. *Exact Journal*, *2*(1), 34–40.

Anwar, Z. (2012). Implementation of mathematics learning in elementary schools. *Journal of Educational Research*, *5*(2), 124669.

Apriliani, N. W., Agung, A. G., & Kristiantari, M. R. (2013). Application of the Number Head Together Model with Dice Media to Improve the Ability to Know Number Concepts. *Undiksha Early Childhood Education Journal*, *1*(1).

Cahyo, A. N. (2021). *Special Game for Balancing Children's Brains and Children's Left*. Our Books.

Dakhi, A. S. (2020). Improvement of student learning outcomes. *Jurnal Education and Development*, *8*(2), 468.

Darman. (2020). *Learning and learning*. Guepedia.

Estiningsih, E. (2016). Realistic Math Learning. In *Graha Ilmu*.

Indrawati, D., & Suardiman, S. P. (2013). Development of Travel Game Media for Learning Multiplication and Division of Fractional Numbers in Mathematics for Grade V. *Journal of Prima Edukasia*, *1*(2), 135–146. https://doi.org/10.21831/jpe.v1i2.2631

Maisaroh, -, & Rostrieningsih, -. (2010). Improving student learning outcomes by using the quiz team type active learning method in basic communication skills subjects at SMK Negeri 1 Bogor. *Journal of Economics & Education*, *7*(2), 157–172. https://doi.org/10.21831/jep.v7i2.571

Mumtahana, L., Ikmal, H., & Sari, A. A. (2022). Students' Learning Interest Using Dice Throwing Media and Question and Answer Methods in Aqidah Akhlaq Subjects. *Chalim Journal of Teaching and Learning*, *2*(1), 1–6.

Analysis Of The Use Of Fruit Dice And Bar Chart Media On Learning Outcomes In Data Collection For Fifth-Grade Students At SD Fontein II, Kupang City—Kristina E. Noya Nahak et.al

610 | P a g e

Nahak, K. E. N. (2023). Implementation of Differentiated Learning to Optimize the Learning Outcomes of Grade IV Students of SD Inpres Labat Kupang City. *Scientific Journal of Elementary Education*, *8*(3), 139–150.

Nahak, K. E. N., & Naitili, C. A. (2023). The Use of Fable Storybooks with Quantum Learning Models in Early Reading Learning in Elementary Schools. *Journal of Educational Sciences*, *2*(2), 39–47. https://doi.org/10.37792/hinef.v2i2.1000

Nahak, K., Naitili, C., Ceunfin, M., & Ndolu, R. (2024). Designing Vocabulary Board Media to Improve Reading Skills of Students of SD Inpres Fatufeto 2. *Leader-Community Service Education*, *4*(1), 2–5.

Ompusunggu, V. D. K. (2022). The Use of Media in Mathematics Learning and Its Benefits at SMP Negeri 1 Paranginan. *Education, Science, Social and Law (PSSH)*, *1*(18), 4–5.

Rohmah, N., Rustono, & Rifa'i, A. (2016). The Effectiveness of Cooperative Learning Through Dice Media in the Development of Mathematical Skills for Early Childhood. *Journal of Primary Education*, *5*(1), 42–48.

Sukriyanti, F. Z., & Nadiputro, M. (2015). Development of Dice Shaking Game Media in Learning Cultural Arts and Skills Class VI SDN 1 Banjaran Baureno Bojonegoro. *Journal of Fine Arts Education*, *3*(1), 119–125.

Syam, D., & Rusmayadi, A. M. (n.d.). *The Application of Dice Game in Developing Cognitive Ability to Recognize Numbers 1-10 Group A Kindergarten Negeri Pembina Mamuju*.

Unaenah, E., & Sumantri, M. S. (2019). Analysis of the understanding of mathematical concepts of grade 5 elementary school students on fractional materials. *Basicedu Journal*, *3*(1), 106–111.

Wati, L. (2021). *Improving the ability to recognize hijaiyah letters through letter dice games in group B children of Tkit Bina Aneuk Nanggroe, Mutiara District (Doctoral dissertation, STKIP Bina Bangsa Getsempena)*.

Yuliyani, S. K. (2016). *Improving Mathematics Learning Outcomes Counting 1-10 Through the Great Dice Throwing Game Method (Classroom Action Research on Deaf Students in Grade I at SLB B/C Dian Kahuripan, East Jakarta) (Doctoral dissertation, State University of Jakarta)*.

Analysis Of The Use Of Fruit Dice And Bar Chart Media On Learning Outcomes In Data Collection For Fifth-Grade Students At SD Fontein II, Kupang City—
Kristina E. Noya Nahak et.al
611 | P a g e