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Stimulating Children's Fine Motor Development: Analysis of the Effect of Using Magic Straw Media

Nelviyanti[1], Dewi Sri Suryanti[2]
Universitas Islam Negeri Sultan Syarif Kasim Riau
e-mail corresponden: dewisrisuryanti@uin-suska.ac.id

Abstract. This research aims to determine the effect of using magic straws on the fine motor development of children aged 5-6 years at Al-Muhsinin Kindergarten, Sungai Aur District, West Pasaman Regency, West Sumatra Province. This research uses a quantitative research approach with experimental research methods and uses a pre-experimental type with a one group pretest-posttest research design. The research subjects were teachers and children, while the object was the influence of using magic straws on the fine motor development of children aged 5-6 years at Al-Muhsinin Kindergarten. The population of this study was all children at Al-Muhsinin Kindergarten, totaling 25 children and the sample for this research was children aged 5-6 years, totaling 17 children, using the Purposive Sampling technique. Data collection techniques are observation, tests and documentation. The data analysis technique uses statistical analysis with a t-test using a formula using the SPSS version 29 program. The statistical t test results have a sig value. 0.001 < 0.05 with tcount = 32.168 > ttable = 1.753. So Ho is rejected and Ha is accepted, so it can be concluded that there is an influence of the use of magic straws on the fine motor development of children aged 5-6 years in Al-Muhsinin Kindergarten, Sungai Aur District, West Pasaman Regency, West Sumatra Province, namely 79.66 %.

Keywords: ***Magic Straws; Fine Motor Skills; Early Childhood***

Abstrak. Penelitian ini bertujuan untuk mengetahui pengaruh penggunaan media sedotan ajaib (*magic straws*) terhadap perkembangan motorik halus anak usia 5-6 tahun di TK Al-Muhsinin Kecamatan Sungai Aur Kabupaten Pasaman Barat Provinsi Sumatera Barat. Penelitian ini menggunakan pendekatan penelitian kuantitatif dengan metode penelitian eksperimen dan menggunakan jenis *pre-eksperimental* dengan desain penelitian *one group pretest-posttest*. Subjek penelitian adalah guru dan anak, sedangkan objeknya yaitu pengaruh penggunaan media sedotan ajaib (*magic straws*) terhadap perkembangan motorik halus anak usia 5-6 tahun di TK Al-Muhsinin. Populasi penelitian ini adalah seluruh anak di TK Al-Muhsinin yang berjumlah 25 anak dan sampel penelitian ini adalah anak usia 5-6 tahun yang berjumlah 17 anak, dengan menggunakan teknik *Purposive Sampling*. Teknik pengumpulan data yaitu observasi, tes, dan dokumentasi. Teknik analisis data menggunakan analisis statistik dengan uji t-test menggunakan rumus dengan menggunakan program SPSS versi 29. Hasil uji t statistik nilai sig. 0,001 < 0,05 dengan t_{hitung} = 32,168 > t_{tabel} = 1,753. Maka H_o ditolak dan H_a diterima, sehingga dapat disimpulkan bahwa terdapat pengaruh penggunaan media sedotan ajaib (*magic straws*) terhadap perkembangan motorik halus anak usia 5-6 tahun di TK Al-Muhsinin Kecamatan Sungai Aur Kabupaten Pasaman Barat Provinsi Sumatera Barat yaitu sebesar 79,66%.

Kata kunci: ***Sedotan Ajaib (Magic Sraws); Motorik Halus; Anak Usia Dini***

INTRODUCTION

Currently, many teachers still lack innovation in fostering child development. Learning methods are not limited to the use of simple learning resources and media such as pictures, whiteboards, and books that are visual and conventional. A more diverse range of learning media is needed to prevent boredom and enrich children's learning experiences. Based on research by Tanti Randika et al. at Kober Kasih Ibu Pameungpeuk Garut, the media used in the learning process are also very monotonous, such as pasting pictures on worksheets, coloring, and drawing with crayons (Rantika, Zahro, dan Atika 2024). A variety of learning media can enrich children's experiences. Using media for learning can also fulfill a child's happiness needs. Therefore, learning media plays a crucial role in supporting children's growth and development. Learning media is a form of equipment, method, or technique used to convey information and clarify learning materials. Learning media is a learning resource other than the teacher, referred to as a distributor or link for teaching messages that are held or created by educators in a planned manner (Rosalianisa, Purwoko, dan Nurchayati 2023). The main goal is to trigger children's interest and motivation and improve the quality of the teaching and learning process. (Guslinda 2018). The importance of implementing learning media becomes apparent at the concrete operational stage, especially in early childhood. These media act as effective intermediaries in conveying learning materials, facilitating students' absorption of information during the learning process. In this context, selecting appropriate media capable of capturing students' attention is crucial (Asmawulan et al. 2023).

Magic straws are a tool to help in learning activities using straws in various colors and made of plastic (Astindari dan Suryanti 2020). Magic straws are a construction toy that stimulates children to think like engineers by learning to make building frames such as houses, castles, and even means of transportation such as cars, boats, and so on (Fatdyah 2024). Playing with magic straws is very easy; simply connect the straws. This toy comes with connectors for connecting and constructing various shapes, such as geometric shapes, houses, bridges, buildings, and more. Holding and shaping objects can train children's fine motor skills, develop fine motor skills, develop eye-finger coordination, and enhance their movement skills while assembling. The variety of colors and ease of assembly make children very enthusiastic, especially when they can work together in groups. Hurlock (in Khadijah) is of the opinion that motor skills are a development of control over the body carried out by nerves, muscles which are coordinated with nerves. (Khadijah 2020). According to Sujiono (in Khadijah) fine motor movements are movements that only involve small muscles in the body, namely skills in using the fingers and movements made by the wrists correctly (Khadijah 2020). These muscle and nerve groups then develop to produce fine motor movements, such as squeezing, writing, drawing, tearing, and so on. Rudiyanto also explained that fine motor development is a movement that involves certain parts of the body, especially eye-hand coordination, which is influenced by opportunities to learn and practice. (Rudiyanto 2016). To facilitate fine motor development in early childhood, learning tools are needed that can effectively support the achievement of developmental aspects optimally.

Based on a preliminary study conducted at Al-Muhsinin Kindergarten, Sungai Aur District, West Pasaman Regency, West Sumatra Province, several problems were found during the learning process in group B, namely; some children's fine motor skills in learning are still low, it seems there are still children who have difficulty and ask for help from the teacher when doing assignments, such as cutting or sticking, some children's interest in learning is still lacking, because educators are still fixated on using children's worksheets as the main learning media, there is a lack of variety in learning media, especially indoor media (in the room), the media in the room are only block games, puzzles, and miniature professions. In developing fine motor skills in children, what teachers have applied so far is still conventional and less use of interesting media so that children are less active in the learning process.

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METHOD

This research is a quantitative research using experimental methods. The research design used in this study is Pre-Experimental Designs, where there is no use of control variables and sample selection is not random. In this pre-experimental research, the researcher used the One-Group Pretest-Posttest Design research type, in this type there is a pretest and posttest. The method used in sampling is purposive sampling. Purposive sampling is a technique for sampling data sources with certain considerations. The research was conducted at Al-Muhsinin Kindergarten, Kumpulan Village, Sungai Aur District, West Pasaman Regency, West Sumatra Province. While the time of the research was carried out from May to August 2024. The subjects in this study were teachers and early childhood group B at Al-Muhsinin Kindergarten. While the object of this research is the effect of the use of magic straws media on the fine motor development of children aged 5-6 years at Al-Muhsinin Kindergarten, Sungai Aur District, West Pasaman Regency, West Sumatra Province. The population in this study was all students at Al-Muhsinin Kindergarten, totaling 25 students, consisting of class A, class B1, and class B2. In this study, group B was used as a sample, group B1 consisted of 4 girls and 4 boys, while group B2 consisted of 2 girls and 7 boys.

RESULTS AND DISCUSSION

The discussion of the results of this study was conducted through a comparative analysis of the values before and after being given treatment in the experimental class in the form of magic straws media on the fine motor development of children aged 5-6 years at Al-Muhsinin Kindergarten. To see if there is an effect after being given the treatment. After determining the results of the research values before (pretest) and after (posttest), the next step is to examine the use of the magic straws media that has been given. The following pretest and posttest results can be seen in the following table:

Table 1.

Summary of Fine Motor Development in 5-6 Year Old Children at Al-Muhsinin Kindergarten Before and After Treatment Using Magic Straws

Number	Criteria	Range	Before		After	
			F	%	F	%
1	BSB	76%-100%	0	0	15	88,2
2	BSH	56%-75%	0	0	2	11,8
3	MB	41%-55%	7	41,1	0	0
4	BB	<40%	10	58,9	0	0
Amount			17	100	17	100

Pretest

The use of magic straws media on the development of children's fine motor skills before being given treatment, it was found that some children had not been able to achieve the development as applied. The results of the pretest on the development of fine motor skills of children aged 5-6 years at Al-Muhsinin Kindergarten in the experimental class were 167 with an average score of 40.93%. The highest development indicator was in the indicator section "Children are able to focus their eyes when watching the teacher demonstrate how to use magic

straws media" with a value of 36. Meanwhile, the lowest score was in the indicator "Children are able to imitate various forms of buildings exemplified by the teacher such as houses or schools or others" with a value of 22. This indicator got the lowest point because children had difficulty in imitating various forms of buildings as exemplified by the teacher.

Posttest

After being given treatment in the experimental class on the use of magic straws media, it was seen that the children were very enthusiastic about playing. From the results of the data presentation after being given treatment, a total score of 359 was obtained with an average of 88% in the BSB criteria. The average fine motor development of children increased after being given treatment using magic straws media during the posttest. From this score, it means that the development of children's fine motor skills has reached a good level with the provision of magic straws media treatment for early childhood children aged 5-6 years at Al-Muhsinin Kindergarten.

The Effect of Using Magic Straws on the Fine Motor Development of 5-6 Year Old Children at Al-Muhsinin Kindergarten

This experimental research was conducted by providing treatment or treatment for four meetings by providing treatment using magic straws media to children aged 5-6 years at Al-Muhsinin Kindergarten. After providing treatment or treatment using magic straws media on fine motor development in children aged 5-6 years at Al-Muhsinin Kindergarten, children showed fine motor development through the use of magic straws media, not only that, children also looked enthusiastic during the learning process. Findings in the field before treatment showed that children's fine motor development was low, children were not yet able to coordinate their hands and eyes well. At the time of the observation, the average percentage of children who were able to focus their eyes when watching the teacher demonstrate how to use magic straws was 36 with a percentage of 52.94% in the MB criteria, children were able to insert connectors or connectors into the holes of magic straws as many as 33 with a percentage of 48.53% in the MB criteria, children were able to connect straws to make objects or structures such as geometric shapes or buildings as many as 26 with a percentage of 38.24% in the BB criteria, children were able to assemble magic straws well as many as 27 with a percentage of 39.71% in the BB criteria, children were able to imitate various forms of buildings exemplified by the teacher such as houses or schools or others as many as 22 with a percentage of 32.35% in the BB criteria, children were able to complete magic straw media activities using both hands simultaneously well as many as 23 with a percentage of 39.71% in the BB criteria. 33.82% in BB criteria. The indicator that received the highest score was indicator 1 "children are able to focus their eyes when watching the teacher demonstrate how to use magic straws" with a score of 36 percent (52.94%). Meanwhile, the lowest score was indicator 5 "children are able to imitate various forms of buildings exemplified by the teacher such as houses or schools or others" with a score of 22 percent (32.35%).

Regarding the findings in the field after using magic straws, children enjoy playing using magic straws, children enjoy assembling various shapes or buildings from magic straws, children are happy and excited when they see various colors of straws, children feel happy with the results they make, children feel encouraged to experiment with various ways to arrange and shape straws, so that it can provide good stimulation for fine motor development. At the time after being given treatment in the experimental class on the use of magic straws media, the results obtained were the average percentage of children able to focus their eyes when watching the teacher demonstrate how to use magic straws media as many as 54 with a percentage of 79.41% in the BSB criteria, children were able to insert connectors or connectors into the holes of magic straws as many as 66 with a percentage of 97.06% in the BSB criteria, children were able to connect straws to make objects or structures such as geometric shapes or buildings as many as 59 with a percentage of 86.76% in the BSB criteria, children were able to assemble magic straws

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media well as many as 62 with a percentage of 91.18% in the BSB criteria, children were able to imitate various forms of buildings exemplified by the teacher such as houses or schools or others as many as 58 with a percentage of 85.29% in the BSB criteria, children were able to complete magic straw media activities (magic straws) using both hands simultaneously well as many as 60 with a percentage of 88.24% in the BSB criteria.

Meanwhile, the indicator that received the highest score was indicator 2 "children are able to insert connectors or connectors into the holes of magic straws" with a score of 66 percentage 97.06%. Meanwhile, the lowest score was in indicator 1 "Children are able to focus their eyes when watching the teacher demonstrate how to use magic straws" with a score of 54 percentage 79.41%. Examining the comparative results of the pretest and posttest above, it can be concluded that indicator 1 experienced an increase of 26.47%, indicator 2 by 48.76%, indicator 3 by 48.52%, indicator 4 by 51.47%, indicator 5 by 52.94%, indicator 6 by 54.42%. From the data above, it can be concluded that all indicators increased after being given treatment using magic straws media, the indicator that experienced the highest increase was indicator 6 at 54.42%. While the indicator that experienced the lowest increase was indicator 1 at 26.47%. To find out how much influence the use of magic straws media has on the fine motor development of children aged 5-6 years at Al-Muhsinin Kindergarten, Sungai Aur District, West Pasaman Regency, West Sumatra Province, using the N-Gain test, the results were 79.66%, which is in the high category of 79.66% > 70%. Based on the results of the statistical t test, it can be seen that the calculated results were 0.001 < 0.05, the calculated results of the tcount value = 32.168 > ttable = 1.753, thus Ha was accepted and Ho was rejected. From the results of the calculations above, it is known that there is an influence of the use of magic straws media on the development of fine motor skills of children aged 5-6 years at Al-Muhsinin Kindergarten, Sungai Aur District, West Pasaman Regency, West Sumatra Province.

CONCLUSION

Based on the research objectives and the results of the analysis of the research data, it is proven that there is an increase in the average score of motor development of children aged 5-6 years at Al-Muhsinin Kindergarten before and after being given treatment, namely 40.93% to 88%. Meanwhile, by looking at the results of the significant value of the statistical t test, it was found that it was significant at 0.001 <0.05 so that the Ho hypothesis was rejected and Ha was accepted, with a calculated t value = 32.168> t table = 1.753. Thus, it can be concluded that there is an influence of the use of magic straws media on the motor development of children aged 5-6 years at Al-Muhsinin Kindergarten, Sungai Aur District, West Pasaman Regency, West Sumatra Province, which is 79.66%.

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