

The Effect of Busy Book Stimulation on Fine Motoric Development in Sakinah Preschool Children of Bogor

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Abstract

Backgrounds: Health development is part of efforts to build a complete human being, among others, carried out through child health efforts that are carried out as early as possible. 5-25% of preschool-aged children suffer from minor brain dysfunction, including impaired fine motor development. Disorders of growth and development of children in Indonesia reach 35.7% and are classified as high public health problems because they are still above 30%. The level of fine motor development (68.5%) of children is still relatively low.

Aim: The purpose of this study was to determine the analysis of the effect of busy book stimulation on fine motoric development in children aged 3 to 6 years.

Methodology: This study used pre-experimental with one group pretest posttest design, instrument observation sheet busy book will be implemented in Sakinah Preschool Children of Bogor. The number of samples is 20 children using Saturated Sampling. Analysis of Wilcoxon signed ranks test.

Result: The results of the pretest showed that of the 20 participants there were 11 participants with deviant fine motor development (55%), posttest showed that of the 20 participants most of the participants had appropriate fine motor development, namely 17 participants (85%). The intervention group, the average fine motor development of children before being given busy book stimulation was 62.47 ± 7.539 , while after being given busy book stimulation it increased to 86.08 ± 4.104 . The statistical test results of the Wilcoxon signed ranks test obtained a p-value 0.000, so that the p-value = $0.000 < 0.05$.

Conclusion: It can be concluded that it means that H_0 is rejected and H_a is accepted, so the results of the study are that there is an influence of Busy Book Fine Motor Development of Children aged 3-6 years in the form of improving finger skills, and eye hand coordination so that children are ready to learn to draw, paint and write early.

Keywords: *Busy books; fine motor; toddler*

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Introduction

The preschool age is a golden period, where the development of a child

will experience many significant changes. In order for the growth of preschool age children to be optimal, stimulation is given

to provide stimulation to all aspects of child development.¹

The World Health Organization (WHO) reports that 5-25% of preschool-aged children suffer from minor brain dysfunction, including impaired fine motor development.² According to UNICEF (2020), data is still high on the incidence of growth and development disorders in children under five, especially fine motor development disorders (27.5%).³

The incidence of fine motor disorders in preschool children in the United States ranges from 12-16%, Thailand 24%, Argentina 22%, and in Indonesia between 13%-18%. Seeing these epidemiological figures, it is necessary to have early detection in children with developmental disorders to prevent delays in handling.⁴ If not handled properly, this disorder can continue into adolescence or adulthood.⁵

Impaired growth and development of children in Indonesia reaches 35.7% and is classified as a high public health problem because it is still above 30%.⁶

According to the Indonesian Ministry of Health, 16% of toddlers experience fine motor development disorders, because they cannot coordinate their body movements.⁷ One of the causes of suboptimal fine motor development is because the fine motor area is rarely touched for increased development. Bogor Regency, West Java. The level of fine motor development (68.5%) of children is still relatively low.⁸

The most common disorders are fine motor disorders.⁹ Fine motor skills are movements that use smooth muscles or certain parts of the body, which are influenced by opportunities to learn and practice, for example: the ability to move objects from the hands, scribble, arrange blocks, cut, write, and so on.¹⁰

This fine motor development can be achieved with practice, for example by practicing writing, scribbling, or squeezing wax. Disorders of fine motor development usually cause children to have learning

difficulties. This child's fine motor development is influenced by two factors, namely internal factors which include: genetics, motivation to practice, health, nutrition, and practice opportunities, and external which include: parental knowledge, parental education, parental attitudes, family, socio-economic, socio-cultural, environmental, health workers, and parenting.¹¹

While the impact caused by delays in fine motor development is difficulty in several activities as described in the characteristics of children with good fine motor intelligence.¹²

For handling or developing fine motor skills at once overcome boredom in children, can be given stimulation / stimulation in the form of interesting activities so that children can learn with enthusiasm.¹³ Activities that can be done are playing puzzles, cutting, making stories, pasting pictures, pasting pictures, sewing, drawing / writing, counting, making pictures paste, mix colors, and draw with fingers (finger painting).¹⁴

Fine motor skills are skills that require the ability to control small or fine muscles to achieve successful execution of skills. Wrong one way to optimize fine motor development in children, especially children aged 3-6 years is to play.¹⁵

Children's fine motor development needs to be optimized with a variety of interesting and varied media. One solution that will be carried out is to use appropriate and interesting learning media and can train fine motor development in children, namely by using busy book.¹⁶

Fine motor development is related to the child's ability to observe things, perform movements that involve only certain body parts, with the help of small muscles and require careful coordination of the eyes, hands and fingers. Fine motor skills are fine coordination of small muscles that play a major role.¹⁷

Ramadhani & Sudarsini (2018) argue that busy books have benefits, namely that media are designed to help

develop cognitive abilities and are useful in developing children's fine motor skills.¹⁸ Romadhona (2017) argues that busy books contain concise material (to the point) in the form of interesting pictures, stimulate basic skills in the form of fine motor skills, improve hand-eye coordination, and train concentration.¹⁹

The results of research conducted by Astrinia Ristia Putri et al. (2019) with the title Cognitive comprehension of dental health education using a busy book "Ayo Sikat Gigi" in down syndrome children show that based on the results of statistical tests using obtained value < 0.05 . The educational toy busy book, Ayo Sikat Gigi, appears to be an effective learning tool for dental health education in Down Syndrome children.²⁰

Based on the results of a preliminary study conducted in Sakinah Preschool Children of Bogor in September-October 2022 by observing and using KPSP²¹ aged 3-6 years with a reference book for early detection stimulation of growth and development of the Ministry of Health of the Republic of Indonesia in 2016 on 10 children in in Sakinah Preschool Children of Bogor obtained the results: 3 children who have good fine motor skills and 7 participants have poor fine motor skills. Game activities that support fine motor skills at the school have been supported with appropriate game tools such as puzzles, blocks to distinguish colors and shapes, but children seem bored quickly and are less interested in using them.

In connection with these conditions, innovative games are needed, namely the renewal of existing and practical game tools or games, namely various kinds of activities that can be packaged into a game to describe fine motor skills and can attract children's attention. One of the games that can include some stimulation of children's fine motor development such as stringing, weaving, buttoning clothes and tying shoelaces is the busy book.²²

Based on the description above, it is necessary to conduct research on "The

Effect of Busy Book Stimulation on Fine Motoric Development in Sakinah Preschool Children of Bogor".

Purpose of this study was to determine the frequency distribution of children's fine motor development before and after using of Busy Book Stimulation on Fine Motoric Development in Sakinah Preschool Children of Bogor.

Methodology

The type of research used in this research is quantitative research in the form of Pre- Experimental is an experiment that does not have a control variable. The research design used a one group pretest-posttest design with the instrument of collecting data from the KPSP questionnaire (Pre-Screening Development Questionnaire).

This type of pre-experimental is done by giving treatment/intervention and then observing it to see its impact or effect. In this design there is a pretest, before being given treatment. Thus the results of the treatment can be known more accurately, because it can compare with the conditions before and after treatment, namely experiments conducted in one group without a comparison group.

The research was carried out at Sakinah Preschool Children of Bogor on June 20 2022 to 20 July 2022. The population in this study are all children aged 3-6 years who attend in Sakinah Preschool Children of Bogor as many as 20 people, namely 8 boys and 12 girls. And for the sampling technique in this study using a saturated sampling.

In carrying out data collection, researchers were assisted by several research assistants who were given an explanation in advance about the research flow to be carried out. Before conducting the research, the researcher provided an informed consent form to be signed by the respondent's parents and explained that the respondent's participation in the study was free without any coercion, the respondent's

parent/respondent could accept or refuse to become a respondent. With the number of participants 20 participants.

The data collection tool used in this study was a checklist in the Pre-Screening (KPSP) according to the age of each child, namely 3, 4, 5 and 6 years.

In this study, there was one group of participants consisting of 20 people. Before the treatment, the respondent was given pretest with the KPSP measuring instrument to determine the initial value of the participants before the intervention. Furthermore, during treatment, participants will be divided into groups based on age and then given treatment in 4 meetings, each meeting is held for 15 minutes which is carried out for 4 days. After treatment, a posttest on all participants to determine the effect of treatment on participants.

The variables in this study consisted of 2 variables, namely the independent variable was busy book and the dependent variable was fine motor development in children aged 3-6 years. Data processing and data analysis using SPSS computer program. Analysis of the data used is a prerequisite test which includes homogeneity test, normality test, and hypothesis testing.²³

Results

Table 1. Frequency Distribution by Age of Participants in Sakinah Preschool Children of Bogor

Age	Frequency	Percentage (%)
3 Years	5	25
4 Years	5	25
5 Years	6	30
6 Years	4	20
Total	20	100

Based on the results of table 1 above, it is known that the frequency distribution of participants by age that out of 20 participants, 6 participants (30%) were 6 years old.

Table 2. Homogeneity and Normality Test

Test	N	Pretest	Posttest
Homogeneity	20	0.324	0.324
Normality	20	0.000	0.000

Table 2 showed that the results of the Homogeneity Test using the Levene Statistic formula is 0.324, and this means that the data comes from populations with homogeneous variance. The results of the normality test using the saphiro willk formula is Sig. value was 0.000 at the pre-test and 0.000 at the post-test. Thus, the significant value < 0.05 and the data distribution was not normal.

Table 3. Frequency Distribution Fine Motor Development before and after stimulation busy book in Sakinah Preschool Children of Bogor

Fine Motor Development	Pretest		Posttest	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Deviant	11	55	0	0
Doubtful	9	45	3	15
Appropriate	0	0	17	85
Total	20	100	20	100

Based on table 3 above showed that from 20 participants there were 11 participants with deviant fine motor development (55%) before stimulation busy book intervention (pretest), and 17 participants (85%) after stimulation busy book intervention (posttest).

Table 4. Non-Parametric Hypothesis Test Results

Fine motor development of children				
Intervention		N	Mean \pm up	to P-Value
Pre Test	Negative Ranks	20	62.47 \pm 7.539	0.000
	Positive Ranks	20	86.08 \pm 4.104	

Table 4 showed that p value was 0.000 and the value is $0.000 < 0.05$ (H_a was accepted, H_o was rejected). Therefore, there was a significant difference between the results of the pretest before intervention with busy book and the posttest results after busy book intervention.

Discussion

A. Busy Book Stimulation of Fine Motoric Development in Sakinah Preschool Children of Bogor (Pretest)

Based on the frequency distribution of Busy Book Fine Motor Development of Children aged 3-6 years, pre-intervention showed that from 20 participants there were 11 participants with deviant fine motor development (55%).

This research is in line with the research conducted by Qonitah Faizatul Fitriyah et al. (2021) with the title Busy Book Media Development Fine Motor Learning for Children aged 4-5 years. This type of research is the type of R&D or research and development using the borg and gall in data from instrument validation in the form of descriptive data by experts, namely media experts, material experts and users. This result is that the busy book gets an assessment from material experts who show very good criteria showing a percentage of 82%. Scores by media experts with very good criteria with a percentage of 92%, media product field trial was busy book tested on 8 ant class students (Group A) and responded by class teachers and educators as users at Ceria Demangan Kindergarten Yogyakarta, the results of the trial phase showed 50% of students got the Very Good category and 50% students get the category "Good" playing media is busy book worth using.²⁴

Based on the description above, the researchers concluded from the results of the study, before being given the

intervention, most of their fine motor development deviated. And based on the results of the characteristics of the participants most of the participants were 5 years old.

According to Piaget (2018) show that children aged 5 years are able to understand and receive information. Although at that age the child is able to understand and receive information, the child has never previously received intervention or information related to busy book before, and the results of research before the intervention had deviant fine motor development where some children did not understand how to adjust the picture, shapes and letters.²⁵ While the impact caused by delays in fine motor development is difficulty in several activities as described in the characteristics of children with good fine motor intelligence.¹²

B. Busy Book Stimulation of Fine Motoric Development in Sakinah Preschool Children of Bogor (Posttest)

Based on the frequency distribution of Busy Book Fine Motor Development of Children Age 3-6 Years after the intervention, it showed that of the 20 participants, most of the participants had appropriate fine motor development, namely 17 participants (85%).

This research is in line with the research conducted by Astrinia Ristia Putri et al. (2019) with the title Cognitive comprehension of dental health education using a busy book "Ayo Sikat Gigi" in down syndrome children show that based on the results of statistical tests using obtained value < 0.05 . The educational toy busy book, Ayo Sikat Gigi, appears to be an effective learning tool for dental health education in Down Syndrome children.²⁰

Based on the description above, the researchers concluded from the results of the study, after being given the intervention, most of the children's fine motor development was appropriate. And

based on the results of the characteristics of the participants most of the participants were 5 years old. According Piaget (2018) that children aged 5 years are able to understand and receive information. After being given intervention, children begin to understand one by one the activities in the busy book and are able to distinguish shapes, colors, letters and numbers.²⁵ This is in line with the opinion Soetjningsih (2010) that fine motor development is related to the child's ability to observe something, perform movements that involve only certain body parts, with the help of small muscles and require careful coordination of the eyes, hands and fingers. Fine motor skills are the fine coordination of small muscles that play a major role.¹

C. The Effect of Busy Book Stimulation on Fine Motoric Development in Sakinah Preschool Children of Bogor

It can be seen that based on the statistical test results of the Wilcoxon Signed Ranks test got a negative rank of 0 which means that busy book children's fine motor development posttest is lower than busy book children's fine motor development pretest positive ranks 20, which means busy book on fine motor development of posttest is higher than busy book on fine motor development of pretest children. While the value of ties 0 means busy book on fine motor development of posttest is higher than busy book on fine motor development of pretest children.

And the p-value 0.000, so the p-value = 0.000 < 0.05 means H_a is accepted and H_o is rejected, the result of the study is that there is an effect of Busy Book Fine Motoric Development in Sakinah Preschool Children of Bogor.

Fine motor activity is defined as skills that require the ability to coordinate or regulate small/smooth muscles. Such as eye and hand movements that are efficient, precise and adaptive. The development of

fine motor control or eye-hand coordination skills represents an important part of motor development. Examples of fine motor activities include the ability to move objects from their hands, scribble, arrange blocks, cut, write, and so on.¹⁴

Nilmayani, Zulkifli, & Risma, (2019) revealed that in its application busy book can develop aspects of early childhood development including cognitive development, media busy book can be adjusted based on needs during the learning process for students because busy book media is a new form of creative and innovative media in developing the abilities possessed by children.²⁶

Development is a pattern that develops continuously throughout life. This change lasts until it gives rise to new traits in the individual. For example, the selfish nature of children will develop after getting to know social interactions and mutual need between humans so that they change these attitudes.¹⁷

Based on the description above, the researchers concluded from the results of the study, after being given the intervention, most of the children's fine motor development was appropriate. And based on the results of the characteristics of the respondents most of the respondents were 5 years old. According to Piaget (2018) that children aged 5 years are able to understand and receive information. And according to that age, children are able to understand and receive information related to busy books stimulation busy book on fine motor development in children and have appropriate fine motor development.²⁵

Romadhona (2017) that busy books contain concise material (to the point) in the form of interesting pictures and the busy book itself has benefits for stimulating basic skills in the form of fine motor skills, improving hand-eye coordination, and training concentration in children.¹⁹

Conclusion

There was an effect of busy book stimulation on fine motoric development in Sakinah Preschool Children of Bogor.

Ethical Clearance: Ethical permission was not required.

Conflicts of Interest: There was no conflict of interest in the research.

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