COMPETITOR:
JURNAL PENDIDIKAN KEPELATIHAN OLAHRAGA
e-ISSN: 2657-0734 & p-ISSN: 2085-5389 ‖ Volume 17, Number 1, 2025 ‖ P.358-364
DOI: 10.26858/cjpko.v17i1.71494

The Effect of Buzz Wire Games On The Fine Motor Skills of Children With Phase B SLBN Cinta Asih

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ABSTRACT

This study aims to determine the effect of buzz-wire games in improving the fine motor skills of children with phase B SLBN Cinta Asih Soreang. Fine motor is one of the important aspects in the development of children's movement. One Group Pre-test Post-test Design research method to determine differences before and after being given certain treatments. The sample used in this study was the total sample technique which is where all phase F Tunagrahita children at SLBN Cinta Asih Soreang aged 7-12 years. Using fine motor skills test as an instrument in research. The results of the normality test data processing resulted in a significant pretest of 0.966 while the posttest was 0.880. From these data, it can be interpreted that the normality test is normally distributed, because the significance> 0.05. Then the homogeneity test carried out resulted in a significance of 0.899. From these data, it can be interpreted that the homogeneity test is homogeneous. Then the Paired Sample T-test was conducted to determine the effect produced with a value of 0.001. So, it can be said to influence because <0.05. The study found that fine motor skills (after using the application of the buzz-wire game training model) increased more than the initial test. This shows that the application of buzz wire games can improve fine motor skills in phase B Tunagrahita children at SLBN Cinta Asih Soreang.

ARTICLE HISTORY
Received: 2025/02/21
Accepted: 2025/02/25
Published: 2025/02/28

KEYWORDS
Tunagrahita;
Fine Motoric;
Buzz Wire Game.

AUTHORS' CONTRIBUTION
A. Conception and design of the study;
B. Acquisition of data;
C. Analysis and interpretation of data;
D. Manuscript preparation;
E. Obtaining funding

Cites this Article : Faturohman, Ian; Sudrazat, Adang; Lengkana, Anggi Setia. (2025). The Effect of Buzz Wire Games On The Fine Motor Skills of Children With Phase B SLBN Cinta Asih. **Competitor: Jurnal Pendidikan Kepelatihan Olahraga**. 17 (1), p.358-364

INTRODUCTION

Children with disabilities have several limitations, including difficulties in understanding abstract concepts and theoretical learning. According to (Yosefa, 2021), children with intellectual disability are children who experience limitations in intellectual abilities and behavioural adaptations, which affect various aspects of development, including fine motor skills. Children with disabilities often face impairments in motor skills, thus requiring education and services that are appropriate to their conditions. Fine motor skills play an important role in daily activities, such as writing, holding cutlery and completing practical tasks. In children with moderate impairment, these skills are crucial (Melliana et al., 2019). However, many disabled children experience difficulties in

developing these skills, which ultimately impacts their level of independence and quality of life.

The phenomenon found in one of the SLBN Cinta Asih shows that many teachers have difficulty in providing effective learning due to the limitations of educational aids that support the development of students' fine motor skills. Motor skills are very important for children, especially in the context of inclusive education, where they must develop the ability to interact with their environment and engage in daily activities (Piek, JP, Dawson, L., Smith, LM, & Gasson, 2019). Children with special needs require a more structured and practical approach to improve their motor skills. More conventional learning approaches that emphasize theory often fail to meet these needs (Kwon, YJ, Kim, JH, & Lee, 2020). Observations show that most of the school's children are not able to use writing utensils correctly, button their clothes, or perform other activities that require optimal hand-eye coordination. Conventional learning approaches that emphasize theory over practice are less effective in improving students' fine motor skills, so children often feel frustrated and less motivated to participate in learning activities.

Educational games have proven to be an effective method to help children with disabilities develop their fine motor skills. One medium that can be used is Buzz Wire, a game that trains hand dexterity by moving rings on a wire track without touching it. The game helps improve hand-eye coordination, dexterity, fine motor control, concentration, and patience (Krismon & Irdamurni, 2023). However, the initial design of the game had constraints, such as difficulty in accurately assessing errors (Kaschub, 2016). With the development of an appropriate design and use in a learning environment, buzz-wire games can be an attractive alternative to improve fine motor skills in phase B children with intellectual disabilities who need support to improve their independence and quality of life.

Fine motor skills are very important skills in supporting various aspects of learning. Motor skills are one of the factors that greatly influence a person's movement potential, body exercise skills, and mobility (Sekarwati & Riyanto, 2023). Fine motor skills refer to the ability to coordinate small muscles in the hands and fingers to perform tasks that require precision, such as holding stationery, buttoning clothes, or using scissors. Fine motor development in children with disabilities tends to experience delays that vary in each individual. This is influenced by the habits that children do at home, school, and in their play environment (Setiyati, 2018). Children with disabilities often face obstacles in developing these skills, which in turn can have an impact on their learning abilities and social interactions. Therefore, appropriate and effective interventions are needed to help them overcome these barriers.

Adaptive sports learning through games can improve basic manipulative movement competencies in children with disabilities. One effective method in this learning is the use of educational games, which allow children to play while developing their creativity and skills. Play has a positive impact on the physical, motor, psychological and intellectual development of children, including children with disabilities (Melliana et al., 2019). Hand skills, which involve regulating small muscles to perform eye and hand

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movements efficiently and adaptively, and intellectual skills, which include the ability to present concepts and symbols, are very important to develop (Adiatama et al., 2023). Specially designed games, such as Buzz Wire, which trains children to move tools through a wire path without touching them, can help improve hand-eye coordination, dexterity, fine movement control, concentration and patience. Therefore, this play approach is one of the effective ways to improve the fine motor skills of children with disabilities (Krismon, A. and Irdamurni, 2023).

Given the complexity of the fine motor problems faced by children with disabilities and the importance of these skills in writing tasks, educators must strive to assist students with disabilities in developing their fine motor skills. Fine motor development is very important for every individual because a person's talent and potential will be influenced by optimal fine motor growth (Reni, 2015). Students' physical and mental development at school can also be influenced by their fine motor development (Arsanti & Kuncoro, 2022). At preschool age, children's fine motor skills begin to develop, such as the ability to use fingers to write and draw. Although the stages of development of each child are the same, the process of achievement is different, depending on the speed of each child in achieving the maturity of their motor organs (Mohammad Heri, Ni MadePada et al., 2020). In addition to improving fine motor skills, games that involve physical activity and cognitive skills also help children develop problem-solving strategies, which can affect all aspects of development, including fine motor skills. Children with low fine motor skills often struggle to perform activities that require eye-hand coordination, such as writing, holding, buttoning or throwing (Susanti, n.d.). Therefore, a fun and interactive learning approach is essential to motivate children with deafblindness to develop.

Based on these problems, fine motor skills are very important for phase B deafblind children, because their limited intellectual abilities can affect their ability to carry out daily activities. Therefore, this study focuses on the application of buzz-wire game media specifically designed to train fine motor components in phase B children with disabilities in elementary school. One of the main components focused on in this study. Is fine motor skills. Play media or educational game tools can be used as a means to encourage children's fine motor development (Melliana et al., 2019). This study aims to develop a program to implement the Buzz Wire game model in training fine motor skills to optimally improve the independence and quality of life of phase B deaf children. Op skills needed for daily life.

METHODS

This research uses quantitative methods because the research is to collect information or data and analyze the data. In this study, researchers took a pre-experiment with a Group Pretest-Posttest Design design. According to Mustafa et al., (2020) in research (Viera Valencia & Garcia Giraldo, 2019) Research requires a research design that allows you to fully control the number of variables that can affect the accuracy of the results. Based on the characteristics of the population, the number of

phase B students is only 6 people. Therefore, the researcher decided to use the total sampling method, in which all phase B students in the population were sampled. Thus, the total sample used in this study was 6 people. In this study, instruments were used to measure the data obtained. Pretest and posttest data collection was carried out using a fine motor skill test.

RESULTS AND DISCUSSION

Data analysis in this study used Statistical Package for the Social Sciences (SPSS) software. Each test result data that has been carried out through the pretest and posttest will later be processed by calculating the average value both in the pre-experiment class. After finding the average value, data management and analysis must be carried out including a normality test, homogeneity test, hypothesis test and r-square test. The data management and data analysis techniques are as follows.

Results

The results of pre-test and post-test research on the effect of buzz wire games on fine motor skills of phase b deaf children:

Table 1.
Pretest-Posttest Results

No	Student Name	L/P	Pre-Test	Post-Test	Difference
			Score Acquisition	Score Acquisition	
1	Naufal	L	27	30	3
2	Azma	P	20	21	1
3	Dahlan	L	39	43	4
4	Ade	L	26	29	3
5	Sabita	P	30	32	2
6	Abang	L	12	15	3
Total			**154**	**170**	**16**
Average			**25,67**	**28,33**	**2,66**
Standard Deviation			**9,136**	**9,626**	**0,49**
Lowest Score			**12**	**15**	**3**
Highest Score			**39**	**43**	**4**

Table 2.
Normality Test.

	Statistics	df	Sig.	Description
Pretest	0,983	6	0,966	Normal
posttest	0,968	6	0,880	Normal

Based on the table above from the normality test that has been carried out. So it can be concluded that the data that has been taken through the fine motor ability test shows that the results of the pretest have a significance of 0,966 >0.05 while for the posttest it is 0.800>0.05. It can be said that the normality test data is normally distributed.

Table 3.
Homogeneity Test.

Group	Levene Statistic	df1	df2	Sig.	Description
Pretest-Posttest	.017	1	10	0,899	Homogen

Based on the table above, shows that the significant value of homogeneity of variance of pretest and posttest data is 0.899 because the significant value of 0.899> 0.05. With these results, it can be said that the pretest and posttest data are homogeneous.

Table 4.
Hypothesis Test.

		t	df	Sig. (2-tailed)
Pair 1	Pretest result - posttest result	-6,325	5	,001

Based on the table, it can be seen that the value of Sig. (2-tailed) which shows the result of 0.001 <0.05, which means that H_1 is accepted and H_0 is rejected. In this case, it means that it can be concluded that there is an "effect of the application of buzz wire games in improving the fine motor skills of children with phase B SLBN Cinta Asih Soreang" accepted. Furthermore, to find out how much influence the application of buzz wire games has in improving the fine motor skills of phase B SLBN Cinta Asih Soreang children, then do the R-Square test.

Based on the data that has been analyzed from the pretest and posttest results which show that the results of the buzz wire game in improving the fine motor skills of phase B Tunagrahita children of SLBN Cinta Asih Soreang have increased, therefore knowing the contribution of the application of the buzz wire game in improving the fine motor skills of phase B tunagrahita children in learning and everyday life.

Table 5.
R-Square Test.

Model	R	R Square	Adjusted R Square	Std. Error of theEstimate
1	.995[a]	.991	.988	,989

The results in the table show that the R Square value is 0.991 which means that the effect of the independent variable on the dependent variable is 0.991 x 100% = 99,1%. So the influence of the buzz-wire game in improving the fine motor skills of phase B deaf children is significant at 99,1%. The rest is a 0,9% contribution from other variables.

Discussion

This study's results align with motor development theories that emphasize the importance of stimulation and directed practice in optimizing children's fine motor development. Santrock (2011) and Hurlock (1978) state that stimulation provided through interesting activities and following children's abilities can help them develop fine motor skills more effectively. Buzz wire games train eye-hand coordination, strengthen small muscles in the hands and fingers, and improve children's ability to perform tasks that require precision.

In addition, the results of this study can also be explained from the perspective of the behavioristic learning theory developed by Skinner. In this theory, positive reinforcement such as praise or small gifts when children succeed in the game can increase their motivation to continue practicing. Thus, buzz-wire games not only

improve fine motor skills but can also increase children's self-confidence and independence in performing daily activities.

The practical implication of this study is that buzz-wire games can be integrated into learning methods by teachers and therapists to improve the fine motor skills of children with disabilities. Modifications to the game, such as adjusting the difficulty level or using bright colours, can be made to better suit the individual abilities and interests of children, as suggested by Sugiyanto (2008). With appropriate adaptations, this game can be an effective and inclusive tool in supporting the development of children with disabilities.

CONCLUSION

Based on the results and discussion, it can be concluded that the buzz-wire game can significantly improve the fine motor skills of phase B tunagrahita children, especially in children's basic movements. This research provides a basis for teachers to optimize PE learning through an interesting and educational buzz-wire game model. Therefore, it is recommended that teachers develop a variety of games with different levels of difficulty, integrate them into the curriculum regularly, and provide positive feedback to increase children's motivation and confidence. In addition, collaboration with therapists and child psychologists is necessary to design interventions that are more suited to individual needs, as well as conduct periodic evaluations to ensure the effectiveness of the methods applied. Thus, it is hoped that the fine motor skills of phase B children can develop more optimally and contribute to improving the quality of learning at school.

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