Strategies to Improve Children's Motor Skills with Special Needs Through Circuit Method Based Inclusion Education

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Article Info

Abstract

Circuit based inclusion education is the learning of motion activities through the circuit method which is divided into several posts to improve motor skills according to the characteristics of children with needs special. The population and samples in this study were students at the Sukoharjo state extraordinary school totaling 30 people, sampling technique using purposive sampling. The data collection technique using tests and measurements of motor ability k consists of a 20-meter running test, hand eye coordination, agility, and explosive power of the leg muscles. The t-test used in data analysis with a significance level of $\alpha = 0.05$. The results of this study show that the teacher's strategy in improving the motor skills of children with special needs consists of teachers as companions, mediators, motivators and artists. Thus, it can be concluded that circuit-based inclusion education can improve the motor skills of children with special needs. However, it is necessary to conduct further research by considering social environmental factors, psychosocial, physical components, and those related to improving the motor abilities of children with special needs.

INTRODUCTION

The things behind this research are that sports education learning in inclusive schools should be designed in such a way, so that it is interesting to increase student learning motivation as a form of implementation of independent learning. Independent learning is the freedom of students to explore the abilities and characteristics of children (Rencana Strategis Kementrian Pendidikan dan Kebudayaan 2020-2024, 2020). Similarly, for children with special needs, it refers to the SLB curriculum structure referring to the curriculum structure of SD/MI, SMP/MTs, and SMA/MA which is tailored for students with special needs with intellectual barriers. For students who do not experience intellectual barriers, they can use a regular educational curriculum that is adapted to the conditions of students (Kebudayaan, 2022).

Basically, children with special needs are children who experience limitations, both physical, mental-intellectual, social, and emotional that affect the process of growth and development compared to children (Khairun Nisa et al., 2018). Therefore, through independent learning, students are given special assistance independently in order to achieve optimal learning outcomes. In general, optimal learning is measured through three domains, namely cognitive, psychomotor, and affective. Inclusive learning in extraordinary schools needs to be modified according to the characteristics of children (Darma & Rusyidi, 2015). For this reason, the learning is modified through circuit learning to improve the motor skills of children with special needs. Motor skills are the basic foundation in children for growth and development through modified physical activities so that

students are able to adapt in a social environment with children of their age (Jariono, Sudarmanto, et al., 2021). Observing these problems, the need to synchronize inclusive learning through circuit learning as the implementation of independent learning in the national education curriculum requires students to work nationally. Basically, inclusion education is synchronized with the ma ta lecture Adaptive physical education is a compulsory course in the Sports Education study program of the University of Muhammadiyah Surakarta in the seventh semester with a load of 2 credits. The hope of adaptive assessment courses is that students will be able to implement learning experiences both in theory, concept, method, and practice about the scope of adaptive assessment. The material delivered in the adaptive assessment lecture is designed for treatment in children with special needs.

Inclusion Education is an education delivery system that provides opportunities for all students who have disabilities and have the potential for intelligence and or special talents to take part in education or learning in one educational environment together with students in general (Asiyah, 2018; Rahayu, 2015; Yuliawan, 2017). Circuit learning is learning that is carried out by forming several training posts. It is this combination of several posts that is likened to a circuit (Nasrulloh, 2015; Uergui et al., 2015; Umar et al., 2017). Each post has one form of exercise with a specific function and purpose. Motor skills have the same meaning as basic motion skills which are an overview of a person's ability to carry out activities (Fitri & Mayar, 2020; Jariono, Sudarmanto, et al., 2021; Novitasari et al., 2019). These activities can help the development of children's growth. This study is to describe and analyze strategies for improving motor skills through

circuit-based inclusion education in children with special needs.

The urgency of this research is through previous research: (1) Strategies to teach children with special needs amid COVID-19 pandemic (Jariono, Nurhidayat, Sudarmanto, Kurniawan, & Nugroho, 2021); (2) The Role of Teachers In Reducing Hyperactive Behavior of Children with Special Needs Is Reviewed from The Characteristics of Speed And Balance (Jariono, Nurhidayat, Sudarmanto, Kurniawan, Triadi, et al., 2021); (3) Teacher Strategy In Reducing Hyperactive Behavior Of Children With Special Needs During Pandemic Covid-19 AT SLBN Sukoharjo (Nurhidayat, Nurhidayat, Jariono et al., 2021); (4) Management Strategy for Hyperactive Behavior for Children with Special Needs Viewed from the Perspective of Teacher and Parents (Jariono, Fachezzy, et al., 2021) and (4) Teacher's ability to apply adaptive physical learning to children with special needs (Jariono et al., 2022)

METHODS

The methods of conducting the research are: (1) identification of problems related to learning carried out at SLBN Sukoharjo; (2) Conducting literature studies Literature studies need to be carried out to conceptually complement the data obtained from interviews. From this library data, it is also very necessary when it is time for analysis in the preparation of reports; (3) The determination of the location of this research took the research location at SLBN Sukoharjo. (4) Conducting FGD (Focus Group discussion) with the intended partner to study related to motor skills problems of children with special needs; and (5) The determination of the research consists of: (a) Technical Guidance on the implementation of the research, (b) The division of circuit game

groups through a play approach consists of 5 stations, namely the game of going back and forth, throwing catch the ball, the game of putting the ball in the basket, run 20 meters, and jump without a prefix; Overall this motoric ability is modified according to the characteristics of the learners.

Participants

This research involved students, and teachers of SLBN Sukoharjo as well as sports education students. This research is related to circuit-based inclusion education improving the motor skills of children with special needs. This research process is carried out in several stages, including: literature studies, providing mentoring, workshops, FGDs, open classes, practice of circuit-based games, exercise motor skills and reflection.

Sampling Procedures

The sample determination procedure using purposive samples provided that the students of the Sukoharjo state extraordinary school totaling 30 people were divided into two, namely 15 male and 15 female.

Materials and Apparatus

Data collection techniques using motor ability tests and measurements consist of a running speed test using a 20-meter running test, hand-eye coordination using a ball capture throw test, agility using a back and forth running test, and explosive power of leg muscles using a standing board jump test.

Procedures

This research uses the following procedures: (i) the first stage of the researcher performs a test and measurement of motor ability consisting of a 20-meter running test, hand eye coordination, agility, and explosive

power of the leg muscles; and (iii) the conduct of the test was conducted in Dalangan, RW. 02 RW. 02, Klaseman, Gatak, 57557, Sawah, Sukoharjo, Kabupaten Sukoharjo, Jawa Tengah 57519.

Design or Data Analysis

Data analysis in this study used descriptive analysis of frequency, data normality test, and t-test with a significant level of $\alpha = 0.05$. After the data is obtained, then proceed to analyze the data to draw conclusions, overall data analysis using the Statistical Package for the Social Sciences (SPSS) software version 25.00.

RESULT

1. Characteristics of Respondents

The characteristics of respondents at SLB Negeri Sukoharjo consisted of a. visually impaired; b. deaf; c. hearing impaired; d. mentally impaired; e. impaired; f. impaired; g. learning difficulties; h. slow learning; i. autistic; j. have motor disorders; k. being a victim of drug abuse, illegal drugs, and other addictive substances; l. have other abnormalities; m. double disabled.

2. Data description

Based on the results of descriptive analysis of frequencies related to tests and measurements of strategies to improve the motor skills of children with special needs (CSN) through inclusion education based on circuit methods consisting of average values and Standard deviations can be seen in table 1:

Table 1. Results of descriptive analysis of motor skills of children with special needs

No	Variable	Mean±SD	
		Male	Female
1	20-meter dash	4,97±0,44	5,28±0,22
2	Hand eye coordination	5,33±0,98	3,33±0,98
3	Explosive power of limb muscles	1,84±0,28	1,53±0,27
4	Agility	4,80±0,21	5,87±0,22

Table 1 shows that the motor abilities of children with special needs are different, as evidenced by the results of a descriptive analysis of the frequency of each indicator: (1) for the men's 20-meter run obtained an average score of 4.97 and the women's 5.28 with a standard deviation of 0.44 and 0.22, respectively ; (2) for the coordination of the hands of the sons obtained an average value of 5.33 and the daughter's 3.33 with a standard deviation of 0.98 each; the explosive power of the men's limb muscles obtained an average value of 1.84 meters and the women's 1.53 meters with a standard deviation of 0.28 and 0.27, respectively; and (4) men's agility obtained an average score of 4.80 seconds and women's 5.87 seconds with standard deviations of 0.21 and 0.22, respectively . After the results of the descriptive analysis were obtained, the data normality test was then carried out using the Smirnov Kolmogorov test with a significant level of 0.05. Table 2 illustrates the results of the normality test of the research data;

Tabel 2. Data Normality Test Results

No	Variable	One-Sample Kolmogorov-Smirnov Test	
		Male	Female
1	20-meter dash	0,000	0,001
2	Hand eye coordination	0,027	0,005
3	Explosive power of limb muscles	0,002	0,003
4	Agility	0,026	0,001

Table 2 shows the results of the normality test of motoric ability data for children with special needs using the Kolmogorov-Smirnov Test, overall, the indicators are normally distributed. After the test requirements are met, the hypothesis test is then carried out, as for the results of the hypothesis test to determine the significance of the Strategy to Improve the Motor Ability of Children with Special Needs through Circuit Method-Based Inclusion Education can be seen in table 3.

Table 3. Recapitulation of significance test (t-test)

No	Variable	t_{count}	sig
1	20-meter dash	2,598	0,021
2	Hand eye coordination	3,187	0,005
3	Explosive power of limb muscles	4,192	0,001
4	Agility	56,78	0,000

Based on anally, the t-test in table 3 in terms of the overall indicator of motor ability of children with special needs there is a difference or $t_{count} > t_{table}$. Based on these results, it can be concluded that the t-test between the motor abilities of children with significant special needs sons and daughters or H_0 was rejected and accepted H_1. Thus, it can be concluded that there are significant differences in Strategies to Improve the Motor Ability of Children with Special Needs Through Inclusion Education Based on Circuit Methods. This means that the coefficient can be generalized or it can apply to the overall population of students where a sample of 30 people is taken.

DISCUSSION

Children with permanent special needs who have disorders and children with permanent special needs who have the potential for both gross motor and fine motoric and/or certain talents are two examples of children with special needs who have weak motor abilities. Children with special needs have unique traits that distinguish them from other children, although they do not always show physical, mental, or emotional weakness. Visually impaired, deaf, mentally handicapped, deaf, hearing impaired, learning disabilities, behavioral disorders, intelligent children, children with health problems, and socially awkward children are all covered in CSN. Children with disabilities and exceptional children are another title for children with special needs. For example, for the visually impaired, reading text must be modified into Braille writing, and deaf people communicate with sign language, in order to meet their need for special educational services that match the child's talents and potential.

CONCLUSION

The results of this study can be concluded that Circuit Method-Based Inclusion Education can Improve the Motor Ability of Children with Special Needs at SLB Negeri Sukoharjo. However, it is necessary to be careful in giving exercises, because in the process of training children still need more assistance when compared to normal children. For this reason, further research is needed related to other learning

packaged in games according to the characteristics of children with special needs.

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