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The Effect of ABC Running Drills on the Gross Motor Skills of Elementary School Students

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ABSTRACT

The implementation of physical education and health learning is taught to develop children's motor skills. This study aims to analyze the effect of implementing the ABC Running Drill on the improvement of gross motor skills in elementary school students. The method used is an experiment with a pre-experimental design of One Group Pretest-Posttest. The research sample consisted of 25 students from SDN Babakan Jampang 1 with an age range of 9-10 years. The instrument used is the Test of Gross Motor Development 2nd Edition (TGMD-2). Data were analyzed using normality tests, homogeneity tests, paired sample t-tests, and R-Square tests with the help of SPSS 27. The research results show that the ABC Running Drill has a significant effect on the improvement of student's gross motor skills with a Sig. (2-tailed) value of 0.001 < 0.05 and an R-Square value of 0.610, which means 61% of the variation in the improvement of gross motor skills is explained by this exercise. In conclusion, the ABC Running Drill is effective in improving the gross motor skills of elementary school students.

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A. Conception and design of the study;
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INTRODUCTION

The rapid advancement of technology, along with the progress of the world, demands that every individual be able to adapt to all the changes that occur, one of which affects the world of education (Handiyani & Muhtar, 2022). Physical education is an integral part of the overall education system (Mubarok et al., 2022). The implementation of physical education and health are taught to develop children's motor skills (Muhtar & Dallyono, 2020). However, there are still children who face challenges in optimally developing their gross motor skills. Motor development refers to the physical development of a child at birth. In this era, children have a busy school schedule, a habit of playing with gadgets, and a lack of sports facilities at school (Muhtar & Dallyono, 2020). The impact of infrequent activity includes a decline in health quality and an increase in disease rates (Dinangsit et al., 2021). According to Widiana et al., (2022); Yanti & Fridalni, (2020), one of the factors contributing to the delay is the use of gadgets. Problems in gross motor development in early childhood, especially difficulties in coordinating

visual movements (sight) with motor movements (hand, finger, or foot movements), are generally caused by weak coordination abilities between visual and motor skills (Sopiyati, 2021; Wandi & Mayar, 2019; Widiana et al., 2022). Children today find it difficult to develop gross motor skills, which can negatively impact their health and well-being. In situations like this, parents, educational institutions, and the community must work together to enhance understanding and support for motor development in physical education for early childhood (Hakiki & Khotimah, 2020). As parents, the task of motivating their children to learn is certainly not as easy as it seems, because many factors influence their children's success in education (Lengkana et al., 2020). To improve a desired skill, it can be achieved by using training methods. Practice is a good way to develop certain habits, and it will also help in acquiring agility, precision, opportunity, and skills (Yuliastuti et al., 2020). Training methods are usually used to improve the skills or agility of what has been learned (Aqib & Murtadlo, 2016; Yuliastuti et al., 2020). One of the methods that has the potential to address this issue is the ABC Running Drill. This exercise is designed to improve coordination, agility, and strength through specific movements that involve gross motor components. According to Brown & Ferrigno (2014) in Haetami & Triansyah (2021), the ABC running drill movements are systematically arranged based on various forms of leg movements, from easy to difficult. Therefore, research on the influence of the ABC Running Drill on the gross motor skills of elementary school students is very important to conduct, considering that the ABC Running Drill is one of the training methods designed to improve motor skills through running exercises focused on technique and coordination (Haetami & Triansyah, 2021).

Several research findings over the past 5 years related to this study include the research by Haetami & Triansyah (2021) which conducted a study on the "Effect Of Abc Running Drill on the 50 Meter Sprint Of Students" using a pre-experimental research design on the influence of ABC Running Drill on students' 50-meter sprint. This study focuses on the speed of seventh-grade students at SMP 2 Pontianak, aged 12-14 years, with a total of 29 participants in the 50-meter sprint. The results of the research provide evidence that the ABC running drill affects students' ability to sprint 50 meters. Then the research by Aristiyanto et al., (2021) conducted a study on "The Influence of Athletic Basic Coordination (ABC) Running Training on Students' Running Skills" using a quasi-experimental research design on the influence of ABC Running on students' running skills in Semarang Regency. From the research results, there was a significant improvement in the running skills of student-athletes in Semarang Regency. Articles are typed in Micr Also, research by Setyantoko et al., (2019) conducted a study on "The Game-Based ABC Running Exercise Model for Children Ages 6-12 Years" using the Borg and Gall development research design with 10 stages on the Game-Based ABC Running Exercise Model for Children Aged 6-12 years at athletic clubs in the Special Region of Yogyakarta. The results of this study can be concluded that the developed game-based ABC running exercise model is quite effective in improving the 30-meter sprint speed of athletes aged 6-12 years. And also the research by Syafrianto et al., (2024) conducted a study on "Effects of ABC Running and Bodyweight Training combination: A case study on the speed of hurdling athletes" using a quasi-experimental pre-test post-test two-group design with 22 trained male subjects enrolled in

the study. This study aims to analyze the effects arising from the use of ABC Running training combined with Bodyweight Training. The results of this study indicate a significant difference between group 1, which only used Running ABC exercises, and group 2, which used Running ABC exercises combined with Bodyweight Training, with a difference value of 0.043<0.05. This means that ABC running (agility, balance, and coordination) and bodyweight training significantly improve the sprinting speed of hurdle athletes, but combining bodyweight training with ABC running (agility, balance, and coordination) is more effective than using only one type of physical component training.

From previous research relevant to this study, which will examine the influence of ABC Running Drill on the gross motor skills of elementary school children, Haetami & Triansyah (2021) studied the effect of ABC Running Drill on the 50-meter sprint of seventh-grade students at SMP 2 Pontianak, aged 12-14 years. This differs from the current study, which will focus on the gross motor skills of elementary school students. Then, the research by Aristiyanto et al., (2021) examined the influence of ABC Running on the running skills of students in Semarang Regency but did not study the gross motor skills of elementary school children. Furthermore, the research by Setyantoko et al., (2019) examines the ABC Running Training Model Based on Games for Children Aged 6-12 years at athletic clubs in the Special Region of Yogyakarta. This study focuses on the speed of students in running, not on the gross motor skills of children. And also the research by Syafrianto et al., (2024) examines the effects arising from the use of the Running ABC exercise combined with Bodyweight Training, which focuses on sprinting speed. Although the ABC Running Drill has been used in several sports and physical education programs, there is not much research specifically examining the impact of this method on the gross motor development of elementary school children.

Based on the issue discussed regarding the lack of gross motor skills among these elementary school students, this research aims to develop children's gross motor skills using an application method through exercises. One of the training methods intended to improve the child's gross motor skills is the use of the ABC Running drill. This research has the potential to make an important contribution to the understanding of the impact of the ABC Running Drill on gross motor skills. The findings of this research are expected to complement knowledge in this field. With a special focus on improving gross motor skills in elementary school students, this research aims to provide insights into the ABC Running Drill exercise model and its impact on the gross motor development of elementary school students.

METHODS

This research is a quantitative study using a pre-experimental design experimental research method. This research was conducted to see the extent of the influence of the ABC Running Drill on the gross motor skills of elementary school students before and after the treatment. The Pre-Experimental Design used in this study is the One Group Pretest Posttest, which is a design that provides a pretest before the treatment is applied, and a posttest after the treatment is applied.

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The population in this study is the elementary school students of SDN Babakan Jampang 1. The research location will be conducted at one of the elementary schools in Rancabali District, Bandung Regency. The sample in this study consists of students at SDN Babakan Jampang 1, totalling 25 individuals. The sampling technique used is non-probability sampling or non-random sampling, which is non-random with a purposive sampling type. With the criteria taken, is children aged 9-10 years, because children at this age have entered the late childhood period where they are ready to receive education in school and their development is already centred on intellectual aspects. This stage is also the time when a "sense of accomplishment" emerges, where children of this age are ready to accept demands that may arise from others and fulfil/complete those demands (Sudirjo & Alif, 2019).

The instrument used in this research, the motor skills test, will utilize the Test Gross Motor Development 2nd Edition (TGMD 2) from (Mashuri et al., 2022; Ulrich, 2000). The Test of Gross Motor Development 2nd Edition (TGMD 2) is one of the most frequently used tests to evaluate fundamental movement skills (FMS) oriented towards the processes of children and adolescents (Bandeira et al., 2020; Klingberg et al., 2019). This test assesses gross motor skills in children aged 3 to 10 years and includes two main categories: six locomotor skills and six control skills (Farrokhi et al., 2014; Mashuri et al., 2022).

The research procedure to be conducted has 3 stages: the preparation stage carried out before the research, the implementation stage including a pretest using the TGMD 2nd, the treatment implementation using the ABC Running Drill method in this study, which uses a training frequency of 2 meetings per week with a total of 12 meetings. The form of the ABC Running Drill exercises in this study includes, among others: Ankle Drill, high knee drill, butt kick, straight leg (kicking), high-knees bounce skips, Foreleg Extension Marching, Cross step-over running, Ankling Bounce, Bounding (Triansyah, 2021). The posttest will be conducted using the TGMD 2nd again, and the final stage of the research is the processing of the collected data.

Then the data analysis that will be conducted includes assumption tests such as the normality test and the homogeneity test. If the data is normally distributed and homogeneous, then parametric statistics will be used, and later the Paired Sample T-test will be applied. If the data is not normally distributed and not homogeneous, then non-parametric statistics will be used, and later the W Test will be applied. Next, to determine the extent of the influence of the ABC Running Drill on the Gross Motor Skills of Elementary School Students, a Regression Test, commonly referred to as the R Test, will be used. In conducting data analysis, the researcher used SPSS.27 For Windows.

RESULTS AND DISCUSSION

Result

The data from the gross motor skills test through TGMD 2nd of elementary school students at SDN Babakan Jampang 1 were first analyzed using descriptive formulas to obtain clearer values. The researcher used the SPSS version 27 for Windows software for

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assistance. With the help of the application, the researcher can determine the lowest, highest, and average scores of the 3rd-grade students at SDN Babakan Jampang 1, as can be seen in the following table.

Table 1.
Descriptive Statistics Pretest Posttest

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
Pretest	25	48.00	74.00	1529.00	61.16	7.87231
Posttest	25	67.00	87.00	1962.00	78.48	6.15169

Based on Table 2 above, it can be seen that the entire sample consists of 25 people who participated in the pretest and posttest. The lowest score in the pretest was 48, while in the posttest it was 67. For the highest score, the pretest was 74 and the post-test was 87. For the average score on the pretest, it was 61.16, while the average on the posttest was 78.48. Then, the standard deviation for the pretest was 7.87231, while the standard deviation for the posttest was 6.15169.

Normality Test

To determine whether the hypothesis test to be used in the future will employ parametric or non-parametric statistics, the gross motor skills data of SDN Babakan Jampang 1 students must first undergo a normality test using the Shapiro-Wilk test because the data is small (< 50) and to ascertain whether the data is normally distributed or not. The results of the data normality test can be seen in Table 3.

Table 2.
Normality Test Results

	Shapiro-Wilk		
	Statistic	df	Sig.
Zscore(Pretest)	.938	25	.136
Zscore(Posttest)	.924	25	.062

Based on table 3. above from the normality test that has been conducted. It can be concluded that the data obtained through the TGMD 2nd test shows that the pretest results have a significance of 0.136 > 0.05, while the posttest results have a significance of 0.062 > 0.05. It can be concluded that the data from the normality test is normally distributed.

Hypothesis Test

The hypothesis in this study was tested using a paired sample t-test with SPSS. The first hypothesis is "the significant effect of the implementation of the ABC Running Drill to improve the gross motor skills of students at SDN Babakan Jampang 1." The conclusion of this study is considered significant if the sig value is below 0.05 (sig < 0.05). Based on the normality test which has a normal distribution, a paired sample t-test was subsequently conducted using the SPSS 27 for Windows application. According to the analysis results, the data is presented in the table below.

Table 3.
Hypothesis Test Result

		t	df	Sig. (2-tailed)
Pair 1	Pretest-Posttest Result	-41.714	24	<.001

Based on Table 5, the Sig. (2-tailed) value of 0.001 < 0.05 indicates that the alternative hypothesis (H_1) is accepted and the null hypothesis (H_0) is rejected. This indicates a significant influence of the ABC Running Drill implementation on the improvement of gross motor skills of students at SDN Babakan Jampang 1. In other words, this training method has proven to be effective in significantly developing the students' gross motor skills.

R-Square Test

The R-Square test is a test designed to determine the extent of the influence of the ABC Running Drill on the gross motor skills of elementary school students. Here are the results of the r-squared test using the SPSS 27 application.

Test 4.
R-Square Result

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.781[a]	.610	.602	7.065

The results in Table 6, show that the R Square value is 0.610, which means that the influence of the independent variable on the dependent variable is 0.610 x 100% = 61%. Therefore, there is a significant influence of the implementation of the ABC Running Drill on gross motor skills by 61%. The remaining 39% is contributed by other variables.

Discussion

The results of this study are in line with the theory of Emami Kashfi et al., (2019). Research shows that attention-based, balance, and coordination approaches like ABC can significantly improve children's gross motor skills. This exercise is effective because it is designed to improve coordination, balance, agility, and muscle strength through specific movement patterns that target basic motor skills (Brown & Ferrigno 2014). The ABC Running Drill involves various movements such as ankle drills, high knee drills, butt kicks, and bounding, which help strengthen the core and lower extremity muscles, as well as improve body movement control (Haetami & Triansyah, 2021). Additionally, research shows that coordination and balance-based exercises can significantly enhance children's gross motor development, particularly in terms of postural stability and functional movement patterns (Emami Kashfi et al., 2019).

The improvement of gross motor skills through the ABC Running Drill is also supported by motor development theory, which states that motor skills develop through repetitive practice and consistent stimulation (Mashuri et al., 2022). Elementary school children are in the phase of strengthening basic motor skills, so exercises with specific and structured movements like the ABC Running Drill can maximize their ability to control body movements and improve coordination accuracy (Setyantoko et al., 2019). Therefore, this exercise not only aids in the development of gross motor skills but also positively impacts speed, physical endurance, and the child's readiness to engage in other physical activities.

The practical implication of this research is that the ABC Running Drill can be integrated into physical education learning as an additional method reference to attract students' interest in learning physical education, particularly in improving gross motor skills. Education in Indonesia has been increasingly developing (Lengkana & Sofa, 2017). With proper instruction, this method can become an effective process in developing gross motor skills and students' movement abilities.

CONCLUSIONS

Based on the discussion above, it can be concluded that there is an influence of the ABC Running Drill on the gross motor skills of elementary school students. The magnitude of the influence of the ABC Running Drill on gross motor skills is 61%. Based on the results of this study, it also shows that the ABC Running Drill can be directly applied to children aged 9-10 years, and can also serve as an additional reference for teachers, students, and coaches in developing children's motor skills.

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