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Stimulating Fundamental Movement Skills through Field Games among Elementary School Students

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Abstract

Objective: Fundamental movements are basic movements that develop in line with the growth of the body and the level of maturity of the child, becoming the foundation for mastering more complex motor skills. This study aims to determine the effectiveness of using *field games* in stimulating the fundamental movement skills of elementary school students.

Materials and Methods: This study used an experimental method with *a One Group Pretest-Posttest Design* . The sample consisted of 12 elementary school students. The instrument used was *the Test of Gross Motor Skills* (TGMD) which includes 12 types of gross motor skills tests. Data were analyzed using the SPSS application with normality tests and paired *sample t-tests* .

Results: The results of the analysis showed a significance value (2-tailed) of 0.000 (<0.05) , so it can be concluded that there is a significant influence of the use of *field games* on improving students' fundamental motor skills. Comparison of pretest and posttest results showed positive changes in various aspects of motor skills.

Conclusion: This study concludes that *field games* are effective in improving elementary school students' fundamental motor skills. Overall, students' gross motor skills after treatment are in the moderate to good category.

Research Contribution: This research provides practical contributions to the world of physical education, especially in designing field game-based learning programs to improve children's motor skills. In addition, these findings add empirical evidence regarding the effectiveness of *field games* as a fun and adaptive intervention method in improving students' basic motor skills at the elementary school level.

Keywords: Fundamental Movement Skills, Field Games, Physical EducationElementary School Students.

Introduction

Physical activity is not only about activities that expend energy, but also as a medium to develop fundamental motor skills (Bryant, 2015) . Fundamental motor skills possessed by children are also very important for healthy physical and social development and in everyday life (O'Hagan et al., 2022) . In order to be able to do physical activities well, children need to have fundamental motor skills. (Hands, 2012) . However, fundamental motor skills cannot be owned just like that, but there needs to be a physical activity program that can develop motor skills (Cook et al., 2014) . Fundamental motor skills are abilities that need to be mastered by

every child, fundamental movements are also defined as basic movements carried out by children as a stage where the child explores and tries the motor abilities in his body (Kurnaz & Altinkök, 2023) .

Movement activity can also be interpreted as a change in body position with space or to other parts of the body resulting in a transition (Winpenny et al., 2020) . The development of movement in childhood is very prominent, especially in locomotor abilities (movements from place to place), non-locomotor (movements that do not move from place to place) and manipulative (movements imitating others). Refinement or improvement of movement in childhood has occurred (Anderson et al., 2013) . Where when approaching adulthood or adolescence, increasingly complex movements can be mastered with the ability to utilize movement skills according to their needs.

The increase in movement that occurs in children is a form of change in the ability to move, coordinate hands and eyes, language and social emotions, so that children are more sensitive to their surroundings (Anderson et al., 2013) . Education is fundamental for children (Campos et al., 2011) . Where the formation of overall development occurs in children, at this stage children will experience very rapid changes. This will have an impact on the development of intelligence, motor, language and social emotional capacities in the future (Harris et al., 2022) .

The development of abilities can really develop without training, this development can increase or develop due to the influence of maturity and growth (Ford et al., 2011) . Changes in abilities like this will improve skills. The development of movement that grows in children is one form of an increase in the ability to move, coordinate eyes and hands, language and social emotions that make children more active and have a high sense of curiosity and are more emotional (Khusnidakhon, 2021) . From these movement activities, children can interact with their parents, adults and playmates.

In addition, children also have an egocentric nature, but with movement activities, children will most likely learn to work together, be responsible, compete healthily and develop leadership skills. Movement development is a process that will always continue according to age, where movement development will continue to occur from simple movements to unorganized movements until achieving well-organized movement skills (Eldrian et al., 2024) . Throughout their life cycle, humans are never free from what is called movement activity, both in the form of movement within cells and movements that can be observed in everyday life (Kozłowski et al., 2020) . Activity is always inherent in the human body (Sarkar et al., 2023) .

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Movement is a characteristic of living things or humans, the ability to move is a form that can maintain the survival of humans themselves (Lemaire & Vallortigara, 2023) . Humans are social creatures with complex activities and are highly dependent on their surroundings (Uralovich et al., 2023) . Various human activities to carry out daily life include work, sports, mutual cooperation. Movement is a human effort to meet their life needs with activities. Humans carry out movement activities according to their needs, human movement activities ranging from simple movements to complex and complex movements are important elements in human life. Movement as an instrument to achieve the goals of all human life activities, including movement in sports (Ahmed et al., 2020) .

The importance of fundamental movement learning for children must be possessed from an early age, because movement skills have benefits and influences on children's development (Xu et al., 2024) . Movement learning for children consists of three phases, namely the introduction phase, the concept and skill development phase and the peak phase. The introduction phase is designed to invite children to warm up by developing locomotor activities such as running and jumping and introducing children to the shapes and movements that will be developed. The second is the concept and skill development phase which includes the stages of introducing concepts and skills, knowing the concepts being developed and providing reinforcement and practice of these skills. And the third is the peak phase where in this phase children use their new skills in moving, learning them and designing them in the form of lessons (Supartini et al., 2020) . However, the problems that occur regarding the movement program are (a) there are no clear goals and objectives , (b) insufficient time for movement skill practice, (c) no planning, (d) limited models and examples, (e) unsuitable equipment. The problem that often occurs is that most parents and schools only focus on improving children's cognitive abilities and lack of understanding from parents regarding the importance of motor activities, resulting in children experiencing problems related to their motor activity abilities. (Qureshi et al., 2022)

From the explanation above, the researcher intends to create a series of games that can stimulate fundamental movement activities in children through the TGFU approach (Education, 2023) . With the TGFU learning method, it can provide a reaction to the ability to control emotions and can make decisions based on teamwork (Ronglan & Ertesvåg, 2015) . The researcher wants to create or introduce how children understand fundamental movement activities through the basic concept of playing on the field, and so that children can carry out movement activities that can help maximize their movement development. The description is based on locomotor movements such as running, jumping, and walking. These activities will

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be packaged in the form of a game where the learning model is like learning while playing. The object or target of this study is children between the ages of 9-10 years where it will be focused on elementary school students. These activities will be carried out in stages so that they will get significant results. And the reason researchers use the TGFU approach is because at that age children prefer to play and according to researchers, the learning while playing method for children will provide children with the opportunity to absorb, understand, and give them meaning that what they learn can make them understand how to solve problems through the game.

In this context, the use of **field games** , namely active, competitive, and structured field games, is considered as one of the effective approaches to stimulate the development of fundamental motor skills. Field games not only offer fun and challenging physical activities, but also integrate elements of coordination, speed, strength, and teamwork that are essential for building children's basic motor skills. However, to date, there has not been much research that specifically examines the effectiveness of field games in improving fundamental motor skills at the elementary school level.

Therefore, this study aims to explore how stimulation through field games can optimize the development of elementary school students' fundamental motor skills, as well as provide practical recommendations for its implementation in physical education environments. The urgency is that by building fundamental motor skills early on, children will have a strong foundation for advanced motor skills, future sports participation, and a lifelong active lifestyle .

Materials and Methods

Participant

This research was conducted at State Elementary School 04 Tembawang Bale, precisely in Tembawang Bale Village, Banyuke Hulu District, Landak Regency. It was carried out for 14 days starting from August 7, 2023 to August 21, 2023. In this study, the researcher used elementary school children as the population in his research, and the number needed by this researcher was around 20 elementary school students and the sample to be used in this study was 12 elementary school students with the provisions of 9-10 years of age.

Research Design

The type of method used in this study is quantitative descriptive with experimental methods, using tests and measurements and the research design that will be used is *One Group Pretest Posttest Design* with a design form. Before conducting the study,

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measurements will be carried out which are given treatment in the form of *a pre-test* and after the measurement is carried out, treatment will be given in the form of *a post-test* .

Data analysis

Data analysis in this study through the stage of testing the normality of data from samples taken using *Shapiro-Willk* . The data to be analyzed is data from *the pre-test* and the results of the analysis, apply to the population from which the sample comes. If the data shows a normal distribution and has homogeneous variations, then the data collected from the pretest and posttest are analyzed statistically using the t-test, and if it is not normal, then using a nonparametric test to determine the magnitude of the influence of the independent variable on the related variable after h compared with a significance rate of 0.05%. In this study, this data analysis was also calculated using the SPSS Version 26 application

Results

It has been explained in the previous chapter that the purpose of this study is to determine the success of using field games in stimulating imaginative motor skills. In this study, the author presents the results of the study obtained from data collection in the field.

Based on the results of the pretest conducted in the field, the average student with a sample size of 12 people had a score below 70, which means that the students' fundamental movements were at a very poor level. So it can be said that the students' fundamental movements are predominantly at a very bad level.

Table 1. *Pretest Results* Fundamental Movement Skills in Children

Gross Motor Quotient	Absolute	Descriptive Ratings
>130	0	Very Superior
121-130	0	Superior
111-120	0	Above Average
90-110	0	Average
80-89	0	Below Average
70-79	0	Poor
<70	12	Very Poor

Book Source Dale A.Ulrich (1985:15)

Based on the results of the posttest conducted in the field, it can be seen that 2 children have a score of 61-66 with the conclusion that the child's movement is at a very bad level. Then 2 children have a score of 74-76 which means the child's movement is bad. Then 6 children have a score of 83-86 meaning the child's movement is below average. And there

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are 2 children who have a score of 90-110 with the conclusion that the child's movement is at an average level.

Table 2 *Posttest results of fundamental motor skills in children*

Gross Motor Quotient	Absolute	Descriptive Ratings
>130	0	Very Superior
121-130	0	Superior
111-120	0	Above Average
90-110	2	Average
80-89	6	Below Average
70-79	2	Poor
<70	2	Very Poor

Book Source Dale A.Ulrich (1985:15)

Table 3 *Pretest and posttest results on fundamental motor skills in children*

No	**Student Name**	**Age**	**Score**	**Score**	**Score**	**score**
			pretest	**tgmd-2**	**posttest**	**tgmd-2**
1	Rendy	9 years old	58	100	84	115
2	Egan	10 years	49	95	85	115
3	Taru	10 years	56	100	76	110
4	Galina	10 years	59	100	66	105
5	Gio	10 years	63	105	90	120
6	Nathaniel	10 years	65	105	83	110
7	Theo	10 years	48	95	86	115
8	Agatha	10 years	61	100	74	105
9	English	10 years	46	95	61	100
10	Cornelia	10	49	95	86	115

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		years				
11	Deswanti	10 years	49	95	85	115
12	Leri	10 years	66	105	90	120
	average value		55.75	99,167	80.5	112.08

Book Source Dale A.Ulrich (1985:14)

Table 4. 1 *One-Sample Kolmogorov-Smirnov Test*

		Unstandardized Residual	Pre Test	Post Test
N		12	12	12
Normal Parametersa,b	Mean	.0000000	55.75	80.50
	Std. Deviation	7.07013690	7,250	9.308
Most Extreme Differences	Absolute	.233	.241	.273
	Positive	.233	.241	.154
	Negative	-.203	-.122	-.273
Test Statistics		.233	.241	.273
Asymp. Sig. (2-tailed)		.070 [c]	.053 [c]	.014 [c]

The normality test is conducted to determine whether the data obtained is normally distributed or not. Based on the results of the SPSS *Kolmogorov-Smirnov calculation* , the pretest calculation value is 0.053 > 0.05, so the data is normally distributed and the *posttest value* is 0.014 > 0.005, so the data is normally distributed.

Table 4. 2overall *pretest* and *posttest* results

T-test	N	Sig,(2-tailed)
Overall *pretest* and *posttest*	12	0,000

Based on the results of the SPSS from the table above, the results of the significance analysis (2-tailed) 0.000 <0.05, it can be concluded that the results of the T pretest and posttest tests are all stated differently. Based on the normality test and T test conducted, it can be concluded that there are differences or changes before and after the treatment can be seen in table 3.15 above where the table shows how the changes in value are very significant between the pretest and posttest. The results of the difference test conducted through the hypothesis test show a significant difference between before the treatment (pretest) and after the treatment (posttest) .

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Discussion

Based on the calculation of the research data, it shows that overall, regardless of gender, the gross motor skills of upper grade students of State Elementary School 20 Pontianak City are 1 student (2.70%) in the very good category, 9 students (24.32%) in the good category, 15 students (40.54%) in the moderate category, 10 students (27.03%) in the less category, 2 students (5.41%) in the very less category. The highest frequency is in the moderate category, so it can be concluded that the gross motor skills of upper grade students of State Elementary School 20 Pontianak City are moderate or range between the good and less categories. It is rare for these students to have very good gross motor skills or very poor ones.

The purpose of this study was to determine the success of using field games in stimulating fundamental motor skills in children. Based on the results of the study, there was an increase in knowing the fundamental motor skills in children through field games so that children can learn how to improve the basic skills of sports games that they want to achieve through stimulation of real game movements.

Stimulation is the stimulation that children receive from the environment outside the individual. Stimulation given to children can also function as reinforcement. Stimulation is one of the important things in the process of child growth and development. Growth and development in children will be faster if they get targeted and regular stimulation (Alderman et al., 2014) .

In a field game, a child can gain appreciation in the requirements of adult play (Havukainen et al., 2020) . Appreciation that can invite children to learn to understand tactical awareness in how to play a game that can provide benefits from the game itself (Fadhilah & Sugeng, 2021) . Through tactical awareness, children make the right decisions about how to do it and how to do it (Harvey et al., 2020) .

Gross motor development is the development of children's abilities that involve large muscles in performing movements and body postures. Many factors influence gross motor development, namely genetics, prenatal, postnatal, stimulation and history of premature birth (Arifiyanti, 2020) . Children who have good gross motor skills will also have good mental development because children are able to adapt to their surroundings so that their self-confidence will continue to increase and will have a positive effect on their cognitive motor skills (Phytanza et al., 2021) . The definition of gross motor skills is body movements that use large muscles or most or all of the body's limbs which are influenced by the child's physical maturity. There are several examples of activities that involve gross motor skills,

namely sitting, kicking, running, jumping, walking, going up and down stairs and so on (Ruiz-Esteban et al., 2020) . Gross motor coordination skills include activities of the whole body or part of the body. Gross motor coordination skills include endurance, agility, speed, flexibility, balance and strength (Sutapa et al., 2021) .

Fundamental basic movements are basic movements that develop in line with body growth and maturity levels in children (Newell, 2020) . Fundamental basic movements are movement patterns that form the basis for more complex movement agility. Fundamental basic movements can be classified into three, namely: (1) locomotor movements, (2) non-locomotor movements, (3) manipulative movements. (Parwata, 2021) . Good mastery of fundamental basic movements in children can have a good influence on the child himself so that the child is able to interact and socialize with the surrounding environment (Dobell et al., 2020) .

The skills possessed by children in game learning that are delivered directly can provide solutions for children in their cognitive growth and development, with game models that are provided and that have been modified in such a way that children can be interested and enthusiastic in participating in the learning process (Suharsiwi et al., 2023) .

Based on the results of the discussion above, the modification of the field game can stimulate fundamental motor skills in children, not only that, through the game researchers can find out and also assess the level of motor skills in children. In addition, motor skills are also different, this can be seen during the pretest and posttest , here it is also explained that there is an increase after being given treatment and before being given treatment.

And it can be concluded that the modification of the field game can improve fundamental motor skills in children. So that with the modification of this game, it can encourage children to learn while playing , and can encourage children to work together with their friends and can eliminate boredom and saturation in following lessons, especially sports lessons.

Conclusion

The results of the study before the treatment were obtained the average results of the TGMD-2 study of the first test (pretest) which was 55.75 . After that the children were given treatment from the researcher to improve their fundamental motor skills, then the children were given a second test (posttest) with the same test as the first test and obtained the average results of the TGMD-2 study which was 80.5 . And it can be concluded that the modification of the field game can improve fundamental motor skills in children. Teachers must be able to identify obstacles to the development of their students' movements, especially fundamental

movements. Teachers can provide the right solutions to overcome problems faced by students. Parents are expected to pay more attention to their children's basic fundamental movements.

Conflict of interest

Have no conflict of interest

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