

Physical Education for Early Childhood:

The Development of Students' Motor in Athletics Basic Motion

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Abstract—Basic motion for children is a move that must be truly mastered by every individual to support common daily activities included physical activity, athletics as one of sport branches that represents all activities to be more effective and efficient. This study aims at how the process of planting physical activity (PA) can affect physical activity (PA) in the future. The research method used is true-experimental design using pre-test post-test control group design. The results of this study are five basic motion development models for children's basic athletic movement skills that can contribute in their future. The conclusion is the development models can give positive impacts and opportunity to students to transfer their energy for fun athletic activity, as a result, although children aged 5-7 years have lots of activities, they enjoy it and do not seem tired. By using a good learning motion strategy for early childhood, children will frequently do physical activity on further days.

Keywords: *activities, physical activity, early childhood, learning motion, athletics basic motion*

I. INTRODUCTION

Movement skills owned by individual do not certainly happen instantly without an appropriate process, this process aims to create better movement skills that can be done since early childhood. Movement skills possessed by children will help them in the learning process of movement in the future because in every stage of education, movement experiences will be more complex [1]. PA has been an important part of children's development process both to improve health, cardiovascular and as a way to do socialization with peers [2]. Children's involvement in the physical activities namely running, kicking, hopping in the early years will develop positive perception in sports competition that will continue in their teens [3]. Particularly, physical education in Indonesia, the frequency and accuracy in the learning process of basic motion is an issue that needs special attention, especially early childhood education in Indonesia is still lacking in providing classes for physical education to be able to apply basic movement from different types of sport.

In some cases of early childhood education in Indonesia, the implementation of early childhood education has some limitations regarding human resources, teachers in early childhood education usually have less opportunity both specific related to physical activity and sport [4]. As a result, it causes the teachers do not have enough references to teach physical

education, yet this also becomes the main problem when we consider unwanted things that may happen to children from all their physical activities and improper exercise. Commonly, gender differences become a serious matter in terms of ability between boys and girls, girls tend to have more difficulty to master movement compared to boys [5]. This happens a lot in some countries in Southeast Asia such as Indonesia, where boys are more dominant to master some physical skills than girls [6].

However, it is an obligation to provide physical education to every child regardless their gender differences in the process of PA, because this will be able to give opportunity for all children to express themselves, increase interest, exercise and develop their ability using various physical exercise [7]. In the golden age of children (birth-5 year) is an essential period to their development in the future, especially for better controlling objects skills (kicking, catching, throwing) and movement skills (running, hopping, jumping) [8]. Motion errors are generally caused during early childhood process, due to the lack of understanding of educators on the physical education learning process.

It should be noted that the PA process of children needs to have extra attention about the basic motion in order to participate in all PA in various sports can easily adjust because his motor skills have been prepared in the learning process since early years of education [9]. Athletics is a sport that provides basic of all movements in various sport such as walking, running, jumping, throwing and others. This is a basic motor or movement skill that every child needs to have because this will be the basic movement for all sports. In several studies argue that children's level of fitness is triggered by poor movement skills [10]. However, this current research conducted is to determine the impact of poor motor skills toward children's level of fitness, in other studies that specifically discuss the importance of FMS possessed since early years needs to be given opportunity to children to be able to develop the FMS [6]. This research emphasises how to apply FMS that can be applied since early childhood. Also, other studies say that with the appropriate strategy to develop motor skills for children is pivotal to help PA behaviour and maintain their PA behaviour [11]. This study concludes how investing PA for young children can provide positive impact on their PA in the future. Therefore, this will be important to focus on developing motor skill for young children that can be more

specifically directed to the basic movement of athletics due to this research has not been done particularly to one specific sport. Thus, this research will focus on developing motor skill for children, by highlighting the importance of developing basic athletic motion.

II. METHOD

The research method used in this study was True-Experimental Design using Pre-test Post-test Control Group Design. The population were children aged 5-7 years from Kuningan District. The subjects consisted of 30 children from Kindergarten. Samples were determined by using simple random sampling technique. Previously the development process was carried out using 10 development models process [12] and subsequently, children’s motor development in basic athletic movements was measured using a motor fitness test.

III. RESULTS

The result of research in figure 1 explains that motor development of children at the age of 5-7 years has a higher category for gross motoric measurements than fine motoric. All children experience good category in their development process. During development process, we can see that children with age range of 5-7 years have rapid motor development, this is based on children characteristics who actively move and explore their surrounding environment as one of factors gross motor develops better than fine motor. This is the principal for the development of the basic athletic motion model development based on MVPA where children spend a lot of time on MPA.

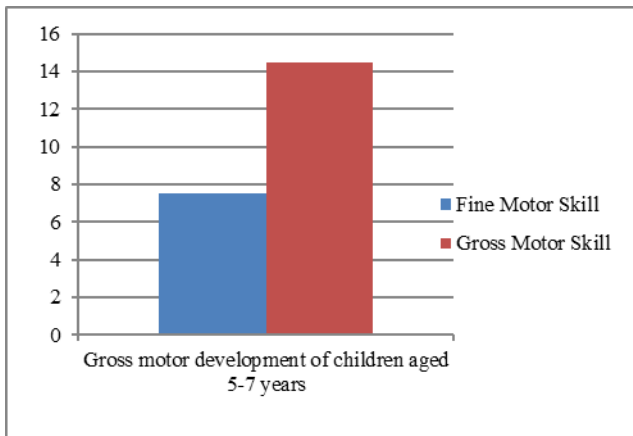


Fig. 1. Motor gross skill and fine motor skill in 5-7 years old children.

The results of the study as shown in the table 1 explain that there is an influence of training process using children motoric development model in the athletic basic motion and control group that significantly influences their performance in various physical activities especially in basic athletic movement. These results are based on comparing between experimental group and control group that shows that there is better improvement from previous result between experimental group and control group. The results of better positive change are found in Run, Jump, Throw, Agility, flexibility, these are based on evaluators’ assessments of movement patterns carried out in

this research activity. Table 1 summarizes all data of pre-test and post-test results conducted in the experimental group and control group based on movement pattern assessment carried out by all children.

TABLE I. COMPARISON OF PARTICIPANTS SIZE BEFORE AND AFTER TREATMENT IS GIVEN FROM BASIC MOVEMENT SKILLS

Fundamental Movement Skills Proficiency	Group Experimental		Group Control	
	Pre-test	Post-test	Pre-test	Post-test
Run ^a	5.69	7.08	4.85	5.85
Jump ^a	5.31	7.38	4.69	5.23
Throw ^a	5.15	6.77	4.08	5.00
Agility ^a	4.15	5.31	4.00	4.77
Flexibility ^a	5.15	6.77	4.69	5.23

^a. Movement pattern assessment

In testing using the t-test using all data that has been obtained shows a significant difference between experimental group and control group. Both groups were given similar test for each type of skills based on movement skills but the difference between the two was the treatment used as a result when comparing between the experimental and control group skills, it is found a significant difference from the treatment given.

Treatment given by the experimental group through giving lesson using 5 models that have been made before, this aims to see how much influence given by the 5 basic athletic motion model in influencing early childhood skills. Investing a good concept of motion skills for early childhood will greatly affect the quality of the motion possessed which will influence PA in their future [11]. Especially, if the development aims as FMS because athletic sport is the basic of all sports.

IV. DISCUSSION

The experimental study aims to explore the causal effects of the 5 development models of basic athletic motion models. In this research, it is clearly illustrated that the 5 models that have been developed previously can effectively improve FMS, especially in athletic, this is indicated by the result in the table 1 which shows that the results of the data reflect the training conducted by the experimental group using treatment form 5 development models improve significantly and the control group that was given treatment model did not experience a significant increase.

Mastering motor skills at an early age is pivotal so that children remain involved in physical activity in adulthood. As a result, children can avoid having obesity. This is following various types of research showing the relationship between physical activity and prevention for children. Low level of PA not only influences motoric skills development but also the tendency to contribute to higher obesity rates in children [13,14].

Motoric skills provide basic for every movement activity that will be performed by children and for complex movement patterns that will be used for PA. In athletic sport, children’s motion skills need to be maximized because athletic sports

need good motor skills to support all their activities including being able to improve academic abilities, performance, fitness and perception in understanding every movement [13,15].

Furthermore, we can see the impact coming from a relatively short training and has a very significant effect. However, the results of this training do not examine more detail the relationship between FMS that is given toward PA in the future, this is also supported by several studies that explain that improvements to FMS for children is not directly link to PA in the future [2], however, training conducted in relatively short distance can have an impact in a certain period of time on the intensity of children's PA that can regulate body quality and children's health [14].

However, in this experimental study the researchers determined the target of achievement that is to improve the FMS of early childhood. Children tend to have a high PA but their activities in daily life are still natural without having to be directed, they will be able to do these activities by themselves, yet the PA is directed to increase FMS. Physical activity, on the other hand, will relatively stimulate a child to want to explore the given FMS [3], this depends on the parenting style and play of the child which is proven to affect PA this is not done completely in this study and clearly needs further investigation.

Other studies explain that developing objects especially the gross motor skills are a priority in children development that can have an impact on their motion skills in the future rather than develop in their teens. This is similar in prospective studies that provide strong predictive support for the development of fundamental motor skills in preschool and children. More specifically, motor skills are generally greater predictors of future fitness for boys and girls than their locomotor skills [16]. Thus, educational institutions that promote physical activity in preschool must consider focussing on developing fundamental motor skills needed for success in sports. By doing that, children need to be given more opportunities to success in physical education and sport achievements, and lead to further physiological, physiological and behavioural benefits.

This is the most consistent finding where good motor skills do not guarantee an impact to improve PA in adulthood but good motor skills can improve health and avoid disease, improving academic ability and understanding on perception [13,16]. Meanwhile, this study does not aim to evaluate the motor skills of each child, yet the learning approach used in FMS training activities. Some points that can be the basis for those interested in training FMS in children, improvements that need to be noticed in the movement patterns instructions given to children need to be made naturally to avoid children from a sense of compulsion in doing FMS and errors that may occur during the training process in children [17,18].

Basically, the fundamental movement skills can develop naturally in children, but FMS will increase with specific training process. This is proven by the training to a group that received special skills training that can show a significant increase in FMS. This demonstrates that an increase in FMS training can be attributed to specific skills training which can lead to fundamentally athletic sports.

This development model needs to be redeveloped for the future in order to be able to provide various kinds of exercise that can be easily understood by children. Each finding presented here is based on each activity in this research using a small sample size. However, through MDC analysis, it provides support for the effect of changes in FMS in each skill in children's PA, time constraints do not allow to be able to analyse the level of involvement of children in Physical Activity in adulthood. As a result, this has been discussed for future research.

V. CONCLUSION

This experimental study aims to test the effectiveness of children's motor development in basic athletic motion for early childhood using pre-test post-test control group design. Giving a motor development model to children has a significant increase in FMS in each skill in PA. Motor development is supposedly an activity that is inseparable from the lives of children, but if the motor is not directed properly it will make the development of children's movements become inhibited in mastering new movements. The character of the physical abilities of children is to have excess energy to enable children to explore various activities in their environment, the role of teachers and parents play an important part in their children growth and development, especially in terms of transferring children's excess energy.

The role of teachers and parents who are required to provide play activities and play equipment that is proportional to the needs for developmental age of children. Through motoric development of the athletic basic movements in children of early childhood education, this becomes a medium for teachers in terms of providing PA of children in school. Aside from being a learning tool, it is also a means for strengthening the fundamental movement skills for various sports, especially athletics. This study provides preliminary research that will be done further in order to explore the underlying motor development of early childhood students specifically in order to master the movements of various sports branches.

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