



The Development of Physical Fitness Training Models for Prospective TNI and POLRI Students

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Article Info

Article History :

Received : November 2023

Revised : December 2023

Accepted : December 2023

Keywords:

Model Training,
Physical Fitness,
POLRI, TNI,

Abstract

The purpose of this study is to provide an overview and determine the feasibility of the physical fitness training model. This research uses the ADDIE model R&D research method which is planned for 2 months, from April 10 to June 10 2023. The design of this physical fitness training model consists of several training components, namely strength, endurance and speed. The sample in this study was a test of the effectiveness of the Independent High School Bimbel as many as 34 prospective students. The pre-test average score was 62.38 and the post-test average score after being given the physical fitness training model was 76.71, which means that there was an increase in the results from the pretest to the post-test. In the mean difference test with SPSS, mean = -14.324 indicates the difference between the pre-test and post-test, t-count results = -31.537, df = 33 and p-value = 0.000 <0.05, which means there is a difference significant difference between before and after being given the treatment of physical fitness training models. So it can be concluded that the physical fitness training model for prospective TNI and POLRI students is effective for use in fitness training.



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ISSN 2685-6514 (Online)
ISSN 2477-331X (Print)

INTRODUCTION

Nowadays there are many activities in schools, various kinds of activities both during class hours and outside class hours are so busy that they take up students' time as a result they are unable to do physical activities (Kohl et al., 2013). Physical activity is very important to balance other activities so that students have good fitness (Wassenaar et al., 2019). With the many activities carried out by children psychologically it also burdens them. If this continues to happen then over time the student's condition will decline over time and eventually they can become sick (Pedrelli et al., 2015). Official schools have physical fitness tests, which in the test say there are several types of fitness tests (Alfrey, 2023). The purpose of this test is to measure the level of physical fitness of prospective students. official work, but there are several things that always become obstacles in achieving good results on the physical fitness test. especially in endurance, agility and strength tests (Kasper, 2019).

Physical fitness consists of several components, one of which is components related to health, namely body composition, cardiorespiratory endurance, flexibility, endurance and muscle strength (Yuniana et al., 2023). A person's level of physical fitness can be determined by assessing these components. A person who has an ideal body composition, good cardiorespiratory endurance, good flexibility and muscular endurance and good muscle strength will also have a good level of physical fitness (Cheng et al., 2019). A person's level of physical fitness is said to be good if they have good cardiovascular endurance (Armstrong & Welsman, 2019). Cardiovascular endurance will function optimally when carrying out daily activities for a long

time without experiencing fatigue (Plasqui & Westerterp, 2007). This is caused by an increase in cardiovascular muscle strength, where these muscles will increase the heart's ability to pump more blood and more smoothly throughout the body (Sawalha, 2021).

In general, the level of human physical fitness can also be determined by daily activities, so that the more activities carried out can affect a person's level of physical fitness (Luo et al., 2022). However, in this global era, so many children do not have physical fitness, because they lack sports activities and even ignore sports by playing games, even though physical fitness is very important for the academic community in supporting the learning process for schools, especially for students, because There are many things that affect children's development and level of physical fitness in their teenage years.

Adapted physical activity is about physical activity that spans an individual's lifetime and many specific behaviors. Physical fitness training is a physical fitness program of individual motor skills, basic motor skills and skills, and skills in water sports, dancing and individual and group games and sports designed to meet unique individual needs (J. S. Wang et al., 2020). Although adapted physical fitness training programs are individualized, they can be implemented in a group setting and must be appropriate to the needs, limitations and abilities of each athlete. Training is a systematic sports activity over a long period of time, increased (Virtuoso et al., 2019) progressively and individually which leads to human psychological and physiological functions to achieve specified targets. A good level of physical fitness will make a student able to work effectively and efficiently, not easily get sick, learn more passionately and

enthusiastically, and be able to optimally face challenges in life both in the school environment and in society. There needs to be a tailored training plan to take into account individual abilities, as some individuals will progress to more intensive levels of training more quickly than others (Aschbrenner et al., 2016). Prospective students consist of 16-20 year olds, some of whom are still in grade 12 and some who have graduated from school. Quoted from WHO, there are several aspects that can describe the stages of adolescent development. However, what will be immediately visible and can be compared from previous ages is physical changes or when teenagers experience puberty.

The physical changes experienced by teenage girls have been going on since they were 9 years old. Therefore, at the age of 16, most girls have almost reached their peak growth. Meanwhile, in adolescent boys, physical development is still ongoing. Some developments at the age of 16 include: (1) physical changes in teenage girls are slowing down because they are at their peak, (2) the menstrual cycle is becoming more stable every month, (3) the fine hair on the face and body is getting thicker, (4) the body is getting thicker. the taller, especially in men, (5) the body gets bigger because the appetite increases (Khanra et al., 2020).

Psychological development during adolescence includes building identity, managing emotions, and how to socialize with people around you. They need to find ways to deal with various problems even though they are under stress. The emotional development of 16 year old teenagers is accustomed to expressing explosive anger. Apart from that, the ability to control emotions is also needed so that good relationships can be maintained with the people around them. Social development is almost the same as when children are 15 years old, even at

this age they prefer to hang out with their friends. Building social relationships has its own benefits for the future. This social relationship can also help the development of emotional intelligence. Another thing that might become a concern when the child starts to have a relationship with the opposite sex (Szeffler et al., 2019). Although the development of training models is rarely carried out, sometimes carried out irregularly, the development of this training model has been carried out since the 1960s (Rode et al., 2023). he development of training models makes it possible to implement, analyze, predict, and modify training forms based on specific physiology and performance in the development of athlete abilities. The development of training models is a long-term, continuous process and is carried out repeatedly, training models are always developed, evaluated and modified, assisted by specific knowledge (Hu et al., 2023).

The development of the training model begins with analysis of scientific literature regarding sports, understanding physiology, morphology, anatomy, biomotor and physiological characteristics. Next, in the second stage, observations were made of what development was needed to develop a training model according to the conditions in the sport, for example the throwing sport was identified as requiring maximum strength and perfect explosive power to master the sport. The third stage is to carry out tests and evaluations of the athlete's condition, both the athlete's physical condition and the ability of sports skills. This is important to consider to what extent the development of the training model is provided (Hoolihan et al., 2023). The implementation of this training model is still very rarely found in schools, even though in terms of time and ease of physical activity, this training

model is very effective in being implemented in schools. By using a little time from physical education class hours, which is no more than 15 minutes, this training pattern is very suitable for elementary to high school so that they have good physical fitness, making it easier for students to enter official school.

METHODS

The method approach used in this research is the research and development method. This research into the development of a physical fitness training model uses the ADDIE model. This model is a general model that is used as a guide in creating effective designs (Dewi, 2018). The ADDIE model is an abbreviation of Analysis, Design, development, implementation, and Evaluation, using five development stages carried out systematically (Trisiana & Wartoyo, 2016). This is intended to help users create effective, efficient and interesting learning.

Participants

The aim of this research is to create a physical fitness training model for prospective TNI and POLRI students at Braha Tutoring. The group to test product effectiveness was 34 prospective students from Samapta Mandiri Tutoring. The targets in this research are prospective students with characteristics aged 16-20 years and whose aim is to enter the TNI and POLRI.

Sampling Procedures

Sample selection using purposive sampling technique. Purposive sampling is a technique for determining samples with certain considerations (Sugiyono, 2017). The sample was 34 prospective tutoring students aged 16-20 years.

Materials and Apparatus

In this research, the instrument used was the TNI and POLRI fitness test which consisted of 12 minutes of running, push ups (Bompa & Buzzichelli, 2021), pull ups (men) dan chining (women) (L. Wang & Shao, 2023), shit up (Aschbrenner et al., 2016), dan shuttle run (Bompa & Buzzichelli, 2021).

Procedures

Conceptually, the research and development approach include five general steps in model ADDIE as follows: 1) Analysis, 2) Design, 3) Development, 4) implementation, and 5) Evaluation (Choi et al., 2021).

Data Analysis

Data analysis techniques using effectiveness test (t-test) with an analysis of the difference between the two means for dependent samples (Arifin et al., 2022).

RESULT

The results of the development of physical fitness training models for prospective TNI and POLRI students are in the form of a manuscript which presents various physical fitness training models for prospective TNI and POLRI students that are tailored to the needs of prospective students. The physical fitness training model applied to prospective TNI and POLRI students aims to make it easier for prospective students to exercise physical fitness. The results of the effectiveness test of the physical fitness training model carried out in this research were by implementing 24 physical fitness training models for prospective TNI and POLRI students, totaling 34 prospective students as experimental subjects who were given treatment using variations of physical fitness training models.

From the calculation results, there are differences in results between the pre-test and post-test which can be seen in the picture below.

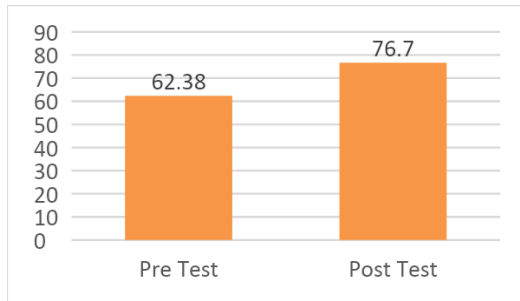


Figure 1. Pre-test and post test data

It can be concluded based on the picture above that the physical fitness training model for prospective TNI and POLRI students that has been developed is effective and can improve physical fitness. Furthermore, in the mean difference test with SPSS, the mean = -14.324 shows the difference between the pre-test and post-test, the t-count = -31.537, df = 33 and p-value = 0.000 < 0.05 which means There was a significant difference between before and after being given the physical fitness training model treatment. Based on these results, it can be concluded that through the physical fitness training model developed by researchers, the physical fitness of prospective TNI and POLRI students can be improved, meaning that the training model developed has significant effectiveness.

DISCUSSION

It is known that the physical fitness training model developed for prospective TNI and POLRI students can improve physical fitness results. Physical fitness gives a person the ability to carry out daily work without excessive fatigue and still has energy reserves to enjoy his free time well and also carry out sudden

work. components of physical fitness related to skills, including: Explosive power, speed, agility, coordination, reaction speed and balance (Brand & Ekkekakis, 2018).

Physical fitness is one of the main keys for anyone to be able to carry out activities well and smoothly. The importance of having fitness has been visible since the days of sports. Physical fitness has a relationship with improvements in sports and speed-agility skills (Hartman et al., 2021). Limitations in this research include: (1) the field trial was only carried out at one tutoring place, (2) the limited number of participants in tutoring, and (3) there are other factors that are thought to influence the research results that cannot be controlled, such as factors physical condition and also psychological condition factors. Improving the physical fitness of prospective TNI and Polri students through providing physical fitness training must of course take into account various aspects, including training models, training programs, facilities and infrastructure. Training is a systematic process repeatedly, consistently, always providing increasing loads. Fitness training is defined as a systematic process of using movement aimed at improving or maintaining the quality of body function which includes the qualities of lung-heart endurance, muscle strength and endurance, flexibility and body composition (J. S. Wang et al., 2020).

Training is a systematic sports activity over a long period of time, increased progressively and individually which leads to human psychological and physiological functions to achieve specified targets (Virtuoso et al., 2019). In order for training to meet the desired goals, you must pay attention to frequency, intensity, time and type. The 20s are the most crucial and important age. At this age, you experience a

transition period that determines your life and the success you will achieve. At this age you will also feel like you are an adult because you can make your own money and already have principles for your way of life. Age 20 is the benchmark for maturity. Psychologically, a person at the age of 20 is considered to be quite capable in terms of planning, decision making, and the consequences of actions (Mavrommatis et al., 2018). Thus, providing appropriate and appropriate training models such as physical fitness training models can improve the physical fitness of prospective TNI and Polri students.

CONCLUSION

The physical fitness training model for prospective TNI and POLRI students can be used and is effectively used in physical fitness training. However, there is a need for variations in training models and training programs as well as support for facilities and infrastructure in order to improve the quality of physical fitness for prospective TNI and POLRI students.

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