



Development of a Physical Test Application for Physical Fitness Courses

**Novi Wijaya^{1*}, Iyakrus², Syafaruddin³, Wahyu Indra Bayu⁴, Meirizal Usra⁵,
Herri Yusfi⁶, Arizky Ramadhan⁷, Kevin Octara⁸**

^{1,2,3,4,5,6,7,8}Faculty of Teacher Training and Education / Program Education Master's Study Program /
Sriwijaya University / South Sumatera / Indonesian

^{1,2,3,4,5,6,7,8}Street Raya Palembang – Prabumulih No. KM. 32, Indralaya, Kec. Indralaya, Ogran Ilir,
South Sumatera, 30862

¹noviwijaya304@gmail.com, ²iyakrus@fkip.unsri.ac.id, ³syafaruddin@fkip.unsri.ac.id,
⁴wahyu.indra@fkip.unsri.ac.id, ⁵meirizalusra@fkip.unsri.ac.id, ⁶herryusfi@fkip.unsri.ac.id,
⁷arizkyramadhan@fkip.unsri.ac.id, ⁸kevinoctara@fkip.unsri.ac.id

Received: October 04, 2023; **Reviewed:** October 10, 2023; **Accepted:** October 11, 2023;

Published: October 27, 2023

ABSTRACT

This research aims to produce a physical test application in physical fitness courses as a learning resource for Physical Education and Health students, Faculty of Teacher Training and Education, Sriwijaya University. The type of research used is research and development (R&D). The population in this study was all fifth semester students (5) totaling eighty four students (84). The sample for the small-scale trial consisted of twenty-one students (30), the large-scale trial consisted of fifty-four students (54). The instruments in this research are data collection using validation sheets, questionnaires or questionnaires and student learning test results. Technical data analysis uses validity tests, practicality analysis and effectiveness analysis. Based on the research results obtained from this research, this physical test application is said to be very valid, seen from the validation results for the average score for all aspects of the assessment of 4.05 in the very valid category. From the student response questionnaire, this learning media was said to be practical to use by getting a practicality score of 3.70 in the very positive category. Based on the results of student learning tests, physical fitness learning media, namely as a learning resource for Physical Education and Physical Education students at FKIP Sriwijaya University, is said to be effective to use. The test results from the learning outcomes obtained 92.0% completeness which is included in the high category. From the results of this research, it was concluded that the application of the physical test in the physical fitness course for Physical Education and Health students at FKIP Sriwijaya University was declared very valid, in its use the application of the filit test was also said to be practical in the positive category and the application of the physical test was also effective for use as a support for activities the learning process in physical fitness courses is due to being in the high category.

Keywords: Application; Physical Test; Physical Fitness.

INTRODUCTION

Information and communication technology Learning in the 21st century must be able to welcome progress to prepare generations of Indonesian people for life in society.

Technology-based learning in the 21st century is required to balance the millennium era. This aims to ensure that when using the program, students are expected to be familiar with 21st century developments. This agrees with Sugiyarti et al., (2018) states that the 21st century is a situation that separates reality and hope, in a life that must be able to collaborate or communicate and master metacognitive skills, master knowledge, be creative and be able to think critically. This agrees Mardhiyah et al., (2021) states that human resources who have all the results of work and business in the 21st century are expected or require good quality. Harun, (2022) believes that 21st century capabilities are (1) learning and innovation skills, (2) Information media and technology skills, (3) life and career skills. Based on this understanding, in the 21st century, using or based on technology can create more innovative learning or people to make it easier to make learning more interesting so that it is not only guided by existing resources but utilizes technology by using certain technology sites to support the younger generation, in developing or preparing good quality designs that have been programmed in the 21st century.

Physical fitness is a support for students to get a healthy and fit body. This can be seen from each existing study program, because there are differences in the level of physical fitness requirements of the students. In the curriculum for students of the physical education and sports study program, most of the material is mostly related to physical movement, this means that physical fitness is a part that comes from within the body that increases due to supporting good and regular physical movement. The physical fitness that students in the sports education study program must have must be able to follow the various series in the study program, thereby creating or improving good physical fitness for students. Subekti (2018) states that emotionally and socially the importance of physical fitness for students functions to improve the ability of body organs and foster enthusiasm, motivation and sportsmanship in competition. González et al., (2017) states that to increase the components of physical fitness produced by skeletal muscles and requiring energy expenditure, physical activity is any planned movement. physical activity can increase emotional intelligence and overcome a person's stress, physical activity is one solution that must be considered in maintaining/maintaining physical fitness to make the body fit (Rihiantoro & Widodo, 2018). Shahrbanian et al., (2020) states that physical fitness is a component of body movement resulting from physical activity to fight viruses, maintain health, improve the body's immune system and maintain a person's independence. Based on the opinions of several experts, it can be concluded that physical fitness is a series of physical activities that a person does to obtain or make a person's physical fitness healthy.

Physical condition is a complete unity of components that cannot be separated either by improvement or maintenance (Musrifin & Bausad, 2020). Physical condition is a complete unit of components that cannot be separated, either for improvement or maintenance (Indrayana & Yuliawan, 2019). Physical Fitness has a component. Physical condition influences achievement. Kadafi & Irsyada, (2021) These include: flexibility, endurance, coordination, speed and strength. Elkadiowanda et al., (2019) stated that from the aspect of physical conditions there are the following elements: (1) speed; (2) aerobic endurance; (3) explosive power of leg muscles; (4) agility; (5) leg muscle strength; (6) balance; (7) coordination; and (8) flexibility. Mahendra, (2014) states that the development of physical conditions in sports means that if an athlete wants to excel, he must have physical conditions such as: Strength, endurance, muscle explosive power, speed, coordination, flexibility, agility, balance, and accuracy, reaction.

The meaning of use comes from the word application, namely application, an application is a ready-to-use program that is set to carry out an application function that can be used by the target user (Azis, 2018). Dewi et al., (2021) states that a program on a cellphone or computer that has been created to carry out an existing program is the definition of an application. Tresnawati et al., (2016) that a program that is ready to be used to process data with the provisions of a programming language or using rules for implementation originating from the system being designed, so that the purpose of making the application is to be able to display or present the desired results to carry out a function to be practical and efficient. Rao & Krishna (2014) stated that in 2014, the use of mobile phone devices in the world reached 4.25 billion units. This means that half of the world's population uses mobile devices. People in Indonesia also welcome the development of smartphone device technology, as evidenced by the increase in the number of smartphone users in Indonesia. This has an impact on changes in increasingly modern lifestyles and sedentary lifestyles which are often found in big cities in Indonesia. This lifestyle change has resulted in a change in diet which refers to a diet high in calories, fat and cholesterol but low in fiber, especially fast food which has the effect of increasing obesity. (Evert et al., 2019).

In recent years there has been an increase in the number of applications developed to promote health behavior whereas in 2013, there were more than 40 thousand applications available that fall into the health and fitness category on iTunes and the Play Store (Listiandi et al., 2020). In terms of fitness and health, applications in the health and fitness category can foster a positive attitude for users in carrying out physical activities. Rao &

Krishna, (2014) stated that applications in the health sector were ranked fifth in the Top 10 Consumer Mobile Applications in 2012. In 2015, more than 1.4 billion smartphone device users used health apps. Seventy percent of this number are smartphone users with Android devices. These apps include fitness and sports trackers such as heart rate monitors, step counters, workout programs, and coaching apps (Azar et al., 2013). From these explanations it can be concluded that sports activities are greatly helped by applications on smartphones because they can help monitor various things related to sports activities such as displaying the number of steps, heart rate, calories burned, distance and travel time. running and cycling and other things can provide positive benefits.

Based on previous research Gumantan (2020) stated that manual physical fitness tests for students require quite a long time and are not efficient in carrying out the test so they require faster fitness tests by accessing via Android or other technology that is appropriate to the field of learning. Another foundation that strengthened the researchers after conducting interviews with lecturers who taught the physical fitness course at Physical Education, Physical Education, FKIP Unsri, namely Dr. Iyakrus M.Kes, in the Physical test application there is no feature for students specifically for physical fitness courses, only in the Physical test application it is only for athletes. students who have taken this course said that when taking the test in the physical fitness course there were no appropriate features and guidelines for the physical fitness course and they were still looking for other sources. Based on the interview above, it can be concluded that the previous filit test guidelines still have many shortcomings, one of which is that it is not practical and there is no recent reference specifically for practical physical fitness courses because the features that are not in the filit application still use manual methods, so it must be further developed to suit the needs of the course. The physical test can only carry out a physical fitness test, there is no material reference or physical fitness test assessment norm values in it, so it must be developed further to adapt to the needs of the course. The physical test can only carry out a physical fitness test, there is no material reference or physical fitness test assessment norm values in it, so it must be developed further to adapt to the needs of the course. Based on the results of research and interviews regarding the filit test application, the author was motivated to take the title of developing a filit test application for physical fitness courses for physical education students, because there has been no research regarding the development of a filit test application for physical fitness courses for students, and also a companion application with features. There are not yet complete physical fitness courses.

METHOD

This research uses RND (research and development) type research, this research is research that is used to create new products or develop existing products. Based on needs analysis in the field or the results of observations, interviews, questionnaires (Tangkudung, 2016). This development generally aims to produce the development of a fitness test application in student physical fitness courses. The aim of this research is to produce a suitable application for physical fitness courses that is valid and practical and can improve student learning outcomes. The research design used was to develop the Physical test Application for the Student Physical Fitness Course.

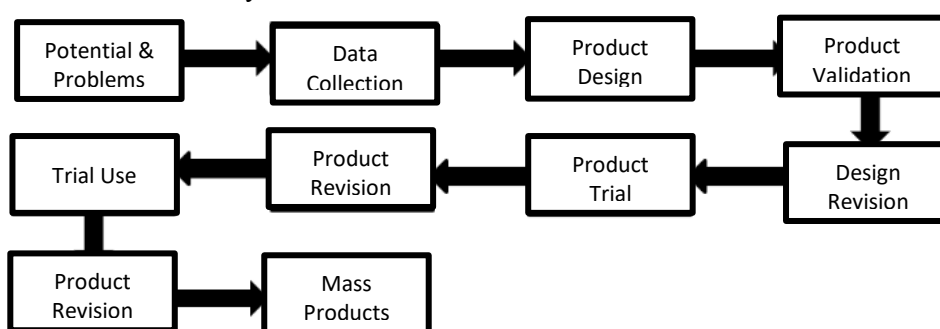


Figure 1.
Research Design (Mesra, 2023)

The development procedure carried out in designing, creating and evaluating in this research is using the steps resulting from conducting preliminary studies, literature and field studies, and designing a list of instruments, and these steps are complemented by several Creswell development models in (Pratiwi, 2016). These steps are described as follows: Examining the learning situation, Identifying the need for developing the physical test application in physical fitness courses for students, Determining problems in learning, Product evaluation is intended to obtain data in order to revise the product. Part of this stage involves material experts, media experts, and students for trials or individually, small groups or large groups, and the final result is the development of a test-fit application in physical fitness courses for students. The population in this study was eighty-four third semester students of Physical Education and Physical Education, FKIP, Sriwijaya University. The small scale trial was thirty students. The large-scale trial consisted of fifty-four students. The instruments in this research are used to measure the validity, practicality and effectiveness of learning tools. Analysis of the data obtained in this research is analysis of validity, practicality and effectiveness. Learning using media and learning resources is carried out in accordance with the competency material that has been prepared. Then the

implementation of the Physical test application on physical fitness was carried out by analyzing the product developed through data analysis techniques.

RESULTS AND DISCUSSION

Validator Validity Test

From the research carried out, results were obtained from material and media expert validators, the results of material and media validation are as follows.

Table 1.
Average Validation Assessment Results

Validation	Rating result	Category
Material Validation	4,1	Very Valid
Media Validation	4,0	Very Valid
Average	4,05	Very Valid

Judging from table 4.4 above, the average result of the validator's assessment of the developed Physical test application is 4.05, which is in the very valid category. These results can be concluded that the Physical test application in the physical fitness course was developed with a little revision and tested.

Student Validity Test

The results of the initial trial of 30 students, the score obtained was 3.69, which is in the very positive category and suitable for use as teaching material in physical fitness lectures. The remaining score for the questionnaire answers is 0.31 due to the fact that there are still deficiencies in making the tesfilt application in physical fitness courses and there will be revisions to the learning media. Then, the stage of measuring the practicality of the web-based learning media created by the researchers was to carry out an initial trial on the 5th semester Physical Education students of FKIP Sriwijaya University who were currently taking the physical fitness course, totaling 84 students. From the results of the main trial, the total score obtained was 3.50, which is in the very positive category and is suitable for use as teaching material in physical fitness learning lectures. The remaining score for the questionnaire answers is 0.50 due to the fact that there are still deficiencies in making the physical test application and revisions will be made to the application.

Practical Operational Test

At the stage of measuring the practicality of the learning media created by the researchers, an operational trial was carried out on the fifth (5th) semester of Physical Education students at FKIP Sriwijaya University who were taking physical fitness courses

with a total number of students. The researcher asked respondents to answer the research instrument items on the practicality of the physical test application. The following are the results of operational trials of the filit test application by 84 students. From the results of practical operational trials, the total score obtained was 3.70, which was in the positive category and suitable for use as teaching material in physical fitness lectures. The remaining score for the questionnaire answers is 0.30 due to the fact that there are still deficiencies in making the physical test application and revisions will be made to this physical test application.

Operational Effectiveness Test

The effectiveness of the learning tools developed is analyzed through data measuring student learning outcomes. Achieving learning outcomes is directed through individual or individual achievements. Students are said to be successful or complete if they get a score greater than or equal to the KKM score or a score $>$ KKM. Learning is said to be classically successful if at least 80% of students achieve complete grades. The percentage of results of the effectiveness of the filit test application in the physical fitness course for students in the 5th semester of Physical Education, Physical Fitness, FKIP, Sriwijaya University, can be seen in the following table.

Table 2.
Results of Learning Completion Percentage

Completeness	Amount	KKM
Completed Student	78	
Incomplete Students	6	75
Percentage of Learning Completeness	92%	

From table 2 above, the results show that the number of students who achieved completeness above the KKM was 76 with a completeness standard of 75. Meanwhile, 6 students obtained completeness below the KKM. The percentage of student learning outcomes obtained was 92% with an average student learning mastery level score of 92.0, in the high category. These results can be concluded that the application of the fitness test in the physical fitness course that was developed can be categorized as effective for use during the learning process. The results of this research show that the development of the physical test application in student physical fitness courses can be useful as a learning resource and used in physical fitness courses. This is because, seen from the validation results, the average score for all aspects of the assessment is 4.05 in the valid category. From the student response questionnaire, the physical test application was said to be

practical to use, getting a practicality score of 3.70 in the positive category. The results of the student learning test using the Physical test application in the physical fitness course obtained 92.0% completeness, including in the effective category. This Physical test application is an effect of the times that have taken advantage of the impact of technological progress. Using this physical test application is used in education which is the most important component of learning. Sriwijaya University has a Faculty of Teacher Training and Education, in particular there is a first degree (S1) physical education and health study program, and the study program has various courses according to the applicable curriculum. Physical education is the goal of acquiring physical skills or abilities. Fajar (2017) states that education as a whole cannot be separated from activities at school in physical education and sports. Education goes through a process of adjusting physical activities such as ethics, culture, social, emotional, neuromuscular, body organs (Iyakrus, 2018). Physical fitness is one of the courses in the Physical Education study program. Physical fitness learning studies the components of physical fitness as well as physical fitness.

Researchers collected factual data from interviews with lecturers who taught physical fitness courses and analyzed student needs, namely the physical test application for student learning used in the Physical Education and Physical Education Study Program, FKIP, Sriwijaya University, which is in accordance with the RPS. Innovation is creating something new that has a brilliant breakthrough, namely technology, practice and a product that comes from thought. (Shalikhah, 2017) Learning using printed books is more boring compared to learning with visual displays which are more helpful and easier for students in physical fitness courses. In this case, the Physical test application is a breakthrough that has evidence that it can increase motivation in the learning process. Like research conducted by Tanjung & Parsika (2017) stated that the use of applications or the web is one of the innovations created to make it easier for students or educators to learn in class and outside the classroom so that learning is not monotonous and more interesting. The development of this application also makes it easier for users to register data more quickly and effectively. The development of this application also provides the advantage of being easy to access and carry anywhere. Therefore, research needs to develop the physical test application in student physical fitness courses. Applications in learning function to convey messages or clarify what you want to convey through supporting applications in the learning process so that learning objectives can be achieved well and interestingly (Maulani, 2020).

Quality in education is very important because quality is an advantage or superiority of an institution when compared to other quality institutions (Fadhli, 2017). In education, it is also said to have quality if directed learning is achieved, in accordance with what is intended and smoothly. If learning is supported by applications, it will run faster, more efficiently and effectively. In this research, the learning application developed is an application that helps students in physical fitness courses by utilizing increasingly advanced technology, making it easier with the help of using technology. The development of science is increasingly advanced to support education in Indonesia, so that in this digital age new technology can be created which has new breakthroughs to support science in the world of education. (Lestari, 2018).

Technology has both advantages and disadvantages because technology is man-made so there are positive and negative impacts. One of the technological developments is the existence of applications that support the learning process in certain institutions which makes it easier for educators and students to use them (Daulay et al., 2020). From the description above, this means that technology that utilizes the Physical test application in student physical fitness courses is an innovation for students by adapting the existing RPS.

CONCLUSIONS AND SUGGESTIONS

Based on the results of the research "Development of the Physical Test Application in Physical Fitness Courses for Physical Fitness Students, FKIP Sriwijaya University", it can be declared suitable for use, it can be proven that the Physical test application product in physical fitness courses as a whole is valid and has been tested for the level of validity, effectiveness and practicality that has been tested. can be used in the teaching and learning process in physical fitness courses at the Physical Education and Physical Education study program, FKIP, Sriwijaya University. This Physical test application as a learning resource in physical fitness courses for Physical Education students needs to be refined again, if this is useful and produces higher quality products in the future.

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