

NEED ANALYSIS FOR THE DEVELOPMENT PASSING TEST FOR VOLLEYBALL GAMES

**Destriana¹, Destriani², Ahmad Richard Victorian³,
M. Fransazeli Makorohim⁴**

Universitas Sriwijaya^{1,2,3}, Universitas Islam Riau⁴
destriana@fkip.unsri.ac.id¹, destriani@fkip.unsri.ac.id²,
ahmadrichardvictorian@fkip.unsri.ac.id³, mfransazeli@edu.uir.ac.id⁴

Abstract

This study aims to analyze the need for the development of a passing test kit in volleyball games. This research uses quantitative descriptive method. The subjects of the research were physical education students from Faculty of Teacher Training and Education Unsri, totaling 144 students. Data collected through techniques survey with instruments in the form of questionnaire with google form. Questionnaire is used for find out student opinions related to the needs of the developed test kits. This research was conducted in July 2021. The results showed that the subject needed the development of a sensor-based upper and lower pass test kit. Subjective needs are found through the students' personal needs (self-assessment) using lists and scales, and questionnaires. The subjects in this study were students of physical education and health, faculty of teacher training and education Universitas Sriwijaya, totaling 144 people. This stage has 5 types of analysis that must be surveyed, including analysis objective, analysis of the state of research, analysis of the state of research, analysis research environmental, and content analysis. The results of the analysis research, it can be found that there is a need for the development of the upper and lower pass test equipment so that the test can run well, and the analysis became the basis for developing a sensor-based upper and lower pass test tool for volleyball games that would be given to research subjects to be a solution in the upper and lower passing tests volleyball games so that they were more effective and efficient.

Keywords: Needs analysis, test, volleyball game

Accepted: 07th of Januari 2022

Correspondence Author: Destriana, Universitas Sriwijaya, Indonesia. E-Mail: destriana@fkip.unsri.ac.id

DOI <http://dx.doi.org/10.31851/hon.v5i1.6469> 



Jurnal Halaman Olahraga Nusantara licensed under a [Creative Commons Attribution-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/)

INTRODUCTION

The development of science and technology is getting faster, this has a direct effect on all lines of life, including in the learning and learning process. Volleyball game skills are one of the subjects in Physical Education and Health, Faculty of Teacher Training and Education, Sriwijaya University. The use of

science and technology in sports from year to year in various developed countries or professional athletes has experienced significant changes and improvements, for example at this time if we want to increase speed, we don't have to train it just by running continuously, conceptually is the ability to cover the shortest distance (Nurhasan, 2019). The development of sports technology is very important to be used, especially in Indonesia to improve the achievements of athletes both locally and nationally. The development and advancement of sports technology is very necessary for the advancement of sports achievement.

The game of volleyball is actually a medium that has a complete philosophy. The completeness of the philosophy is related to educational values, social values, and other values that can be widely developed, the breadth of which is (Riyanto & Kristiyanto, 2017) according to what we can develop. One of the things that have not been developed optimally is regarding how to design and create volleyball as a means of social communication that has high recreational value in society.

The results of observations on Physical Education students Faculty of Teacher Training and Education Universitas Sriwijaya when doing the upper and lower passing tests were still having difficulties in carrying out the test, the difficulty was found in the tester (student) who stood up to count and determine the height of the ball when the ball was inserted or not at the height that had been set. determined, then this will invalidate the results of the upper and lower pass calculations.

Previous research on the development of a passing test kit is from (Suriadi & Dewi, 2020) The development of this tool is in the form of an adaptation of the previous test instrument which is still a wall with a diameter of 1.5 x 1.5 meters with a height according to the needs of the test to be carried out, into a shape portable that can be used anytime and anywhere with hard materials such as walls so that the ball's reflecting power does not decrease and is equipped with sensors so that calculations become easier and more accurate, this development makes protables such as reflective walls that have been added sensors, besides (Hidayat,

A., Muslimin, M., & Kasim, A, 2018) in their research made a passing target using an iron pole that was adjusted to the height of a female or male athlete, the tool is called computer-based because it is directly related to the computer, seen from the development carried out to make a target match with predetermined size, in addition to research on There is a lot about volleyball development about the development of learning models such as the Primary research, CMW 2020 on the development of the volleyball game passing learning model, then (Rudi & Arhesa, 2020)) developing a lower passing learning model for elementary school children, further research by (Destriana, Destriani, & Yusfi, 2018) is about the development of a low-level learning in junior high school with drill method, (Mu'arifuddin, 2018) the research development the drill underpassing method for student Budi Utomo. Looking at the research that has been done by previous researchers, this study develops a volleyball passing test instrument by modifying the existing manual test, then making a test kit that is added to a sensor and a laser that is connected to the Arduino Mega as a data input so that this research is felt to be different from previous studies.

This study aims to analyze the need for the development of the upper and lower pass test kits in volleyball so that from the results of this study we get what things are needed in the development of the upper and lower pass test kits and get the reasons why the upper and lower pass test kits are used. below is worth developing.

METHOD

Qualitative is a research method based on the philosophy of positivism, which used to examine the population or certain samples; research data collected using research instruments, analysis of quantitative or statistical data, with the purpose of testing the established hypothesis. Data collected through techniques survey with instruments in the form of questionnaire. Questionnaire is used for find out student opinions related to the needs of the developed test kits.

The research instrument is a questionnaire to 144 physical education students of Universitas Sriwijaya . This research was conducted in July 2021.

RESULT AND DISCUSSION

Result

The analysis carried out resulted in several discussions on the need to support the results of the existing analysis. The needs analysis research stage, which is an Analysis activity, is conducting a needs assessment (needs analysis) by reviewing literature and the results of previous research or field studies (preliminary research) starting from a needs analysis conducted with a survey related to the development to be carried out. According to opinion, namely in designing a learning innovation, a needs analysis is needed, then divides the needs into two, namely target needs and learning needs. An example of target needs is "What the learner needs to do in the target situation (what the learner needs to do in the target situation)". Meanwhile, examples of learning needs are "Do students need something they want in learning (what the learner needs to do in order to learn)", there is another way to look at needs: making a major division between current knowledge and required knowledge, objective and subjective needs. Information about objective needs can be collected through questionnaires, personal interviews, data collection (collecting exam papers, textbooks and analyzing the data), observation (observing students in their daily life), informal consultations with teachers and students, and tests. Subjective needs are found through the students' personal needs (self-assessment) using lists and scales, and questionnaires and interviews. This stage has 5 types of analysis that must be surveyed, including:

a. Analysis Objective

Analysis The objective analysis in this research is an objective answer regarding how the upper and lower pass test tools are and their effectiveness testing. Globally, this objective analysis is correlated with the initial needs analysis to be more specific to describe the description and effectiveness of the tool made. The results of the assessment and analysis of 144 physical education

students from Faculty of Teacher Training and Education Unsri related to the results of research obtained in the field, agreed that it was necessary to have a new upper and lower pass test tool by utilizing media to improve the accuracy of the results of the volleyball top and bottom passing tests. The following are the results of a survey conducted to determine the level of need for a sensor-based upper and lower pass test kit. The results of the survey for the development of a new upper and lower pass test kit based on a volleyball sensor, a total of 124 students or 86.18% thought it was very necessary to develop a volleyball sensor-based up and down pass test, there were 15 students or 10.42% who voted needed to provide answers to their choices, and 5 athletes or 3.47% thought it was not necessary to develop a volleyball sensor-based up and down pass test. Based on the results of the survey, it can be concluded that it is necessary to develop a sensor-based upper and lower pass test tool. The research was conducted by developing a test tool for the upper and lower pass of a sensor-based volleyball game. This analysis is an analysis of who the users are for the tool to be developed, this tool was developed for students at first but this tool can be used for first-level students so that more users of the developed test tool can be used.

b. Analysis of the State of Research

Subjects Analysis of the state of the subject in this study was carried out by means of a survey of the subject to be studied to see the actual state of the subject. Subjects who are collaborators in this research will be clearly seen with the results of the survey so that they get the right initial data for the development of a sensor-based upper and lower pass test kit. Based on the results of the analysis of the state of the research subject, it shows that there are 126 students or 87.5% strongly agree with the development of the upper and lower pass test equipment based on sensor-based volleyball, there are 16 students or 11.11% agree, then 2 students or 1.39% disagree, there are no students or 0% disagree with the development of the sensor-based upper and lower pass test kits for volleyball games. Based on the results of the analysis, it

can be concluded that most of the subjects strongly agree with the development of a sensor-based upper and lower pass test kit. The condition of the subject requires new innovations in the lower and upper pass tests, the tests are often carried out without using the media as a supporter in conducting the test

c. Analysis of the characteristics of research subjects

The characteristics of the subjects have differences and that of course makes this research better, because the types of subjects vary in their characteristics so that the research results can be generalized to other places or regions. The results of the analysis of the characteristics of this subject provide an overview of the character of each subject by submitting several statements on the survey distributed to respondents. The survey was distributed containing information about the subject's interest in new things, new media, motivation for new things, as well as the introduction of new exercise models created by the research. Sensor-based up and down pass test equipment products. Subjects can reach all ages, whether students, college students or volleyball athletes. On some age characteristics there are survey results in the form of 120 (83.33%) students strongly agree, 17 agree (11.8%) and 7 (4.86%) students who do not agree and 0% disagree about the development of the upper pass test tool. and passing down sensor-based volleyball games.

d. Analysis Research Environmental

The analysis of the research environment specifically describes the implementation support for the development of the sensor-based upper and lower pass test kits for volleyball games. In general, environmental analysis is related to the existing facilities and infrastructure at the training ground that will be used as a place to conduct research. The aspect of the facility is a factor that can affect the research process to be carried out, because the upper and lower pass test equipment for a sensor-based volleyball game runs well if the existing facilities for the exercise area are in good condition.

Based on the diagram above, the analysis of the research environment consists of aspects of security, suitability, renewability, feasibility, facilities,

access, infrastructure, and comfort of the place as well as the existing tools in the training environment. The results of the analysis show that the environmental safety aspect. There are 134 (93.05%) students strongly agree, 10 (6.94%) students agree and 1 (0.69%) students do not agree and 0 (0%) students disagree with the development of the upper and lower game test kits sensor based ball.

Based on the results of the environmental analysis above, the development of a sensor-based upper and lower pass test tool for volleyball games can be carried out in the volleyball court of Faculty of Teacher Training and Education Unsri and the Penjakses Laboratory of Faculty of Teacher Training and Education Unsri. Several aspects analyzed showed conformity and strongly supported the implementation of the research. Access and various existing facilities in the Unsri environment are good and in accordance with the needs that will be used to support the development of sensor-based upper and lower pass test equipment

e. Content Analysis

Content analysis in the developed product is the result of an analysis of several aspects related to the development of a sensor-based upper and lower pass test tool for volleyball games. Several aspects that become indicators of the content analysis of the test product include aspects of test suitability, aspects of test ease, aspects of test manuals, and aspects of test novelty, from these aspects the development of test kits for the upper and lower pass of the sensor-based volleyball game according to the needs of the research subject after being analyzed. . The survey results showed that 127 (88.19%) students strongly agree, 15 (10.41%) students agree, 2 (1.39%) students disagree and 0 (0%) students disagree.

Based on these results, it can be concluded that the subject requires the development of a sensor-based upper and lower pass test kit. The results of the analysis became the basis for developing a sensor-based upper and lower pass test

tool for volleyball games that would be given to research subjects to be a solution in the upper and lower passing tests so that they were more effective and efficient.

Discussion

This study aims to find out the analysis of the need for the development of sensor-based up and down passing test equipment in volleyball games. This analysis includes several points including analysis of objectives, analysis of the state of the subject, analysis of the characteristics of the subject, environmental analysis and content analysis. The analysis phase is a process of defining what the learning participants will learn, namely conducting a needs assessment (needs analysis), identifying problems (needs), and conducting task analysis. Therefore, the outputs that we will produce are in the form of characteristics or profiles of prospective study participants, identification of gaps, identification of needs and detailed task analysis based on needs. Activities at this stage are carried out to determine and define development requirements. In another model, this stage is often called the needs analysis of (Yamin & Karmila, 2020) besides the needs analysis also describes skills that have or have not been mastered by learners (Widianingsih & Listyaningrum, 2019).

The objective analysis stage is the first step of the research process, where this detailed analysis aims to find supporting reference sources with theories sourced from journals or books so that they are strong, that assessments by experts can be used as alternative evidence of validity. However, there is a possibility that the validity by experts is very subjective, depending on the background of knowledge (Mardapi & Kartowagiran, 2013).

Analysis of objectives is the target to be achieved, while the purpose of this research is to produce a sensor-based up and down pass test kit for volleyball games. This test kit is a new test tool that was developed to provide a solution in an effort to increase the validity of the upper and lower pass test results.

The next stage is to analyze the state of the research subject. The subjects involved in this study came from students of the physical education study program. students who are included in the research subject take a volleyball game

lecture. All subjects were then analyzed for their characteristics to make it easier for researchers to determine the appropriate test equipment with the characteristics of the subject. After analyzing the subjects involved were students. Thus, it is in accordance with the research objective, namely to make a product in the form of a sensor-based up and down pass test tool in volleyball games.

(Widianingsih & Listyaningrum, 2019) state several considerations when carrying out a needs analysis. First, direct needs analysis targeting the objectives and content of the material or subject of learning. Second, analysis Needs are needed to reveal what students already know and what students need to know. Then a needs analysis is needed to create confidence that students or the product being developed contains things that are relevant and useful for students, based on the opinion above, this analysis has been in accordance with the guidelines, namely the analysis has targeted the subject directly and the product in the form of a tool developed is very relevant for students.

The instrument stated by (Djaali & Muljojo, 2010) explains that in general, what is meant by an instrument is a tool that meets academic needs, so that it can be used as a tool to measure an object size or collect data about a variable. Data collection instruments or tools are tools used to collect data in a study. Data collected using certain instruments will be described and proposed in a study (Margono, 2013) develop an instrument for measuring attitudes towards Statistics in students is so important.

The instrument used to measure it should have steady validity and reliability, and be fair. This means that no particular person or group of people feels disadvantaged by (Mardapi & Kartowagiran, 2013). With this needs analysis, it is hoped that a product can be developed in the form of a sensor-based up and down pass test tool in volleyball so that an ideal test can be carried out. Student learning problems must be overcome by teachers in order to be able to answer the results of learning to pass under in a perfect ball game (Okilanda et al., 2021). To overcome the problem of students in passing during ball learning, of course, the right learning model is needed (Putra et al., 2020).

Based on these results, it can be concluded that the subject requires the development of a sensor-based upper and lower pass test kit. conduct a needs analysis to design mind mapping-based science learning media. The results of literature studies and field studies show that it is necessary to develop learning media (Dadi, Redhana, & Juniartina, 2019), the result show the anlisis is so important. The results of the analysis became the basis for developing a sensor-based upper and lower pass test tool for volleyball games that would be given to research subjects to be a solution in the upper and lower passing tests so that they were more effective and efficient, In addition, ideally there is no error in measurement, either random error or systematic error. In other words, there should be no mistakes made by test takers, test execution, and also no measurement errors. From the results of the analysis of this research, it can be found that there is a need for the development of the upper and lower pass test equipment so that the test can run well.

CONCLUSION

Based on these results, it can be concluded that the subject requires the development of a sensor-based upper and lower pass test tool for volleyball games. The results of the analysis became the basis for developing a sensor-based upper and lower pass test tool for volleyball games that would be given to research subjects to be a solution in the upper and lower passing tests so that they were.

ACKNOWLEDGEMENT

The research of this article was funded by DIPA of Public Service Agency of Universitas Sriwijaya 20221. SP DIPA-023.17.2.677515/ 2021, ON November 23, 2020. In accordance with the Rector's Decree Number: 0007/UN9/SK.LP2M.PT/2021, On April 27, 2021''

REFERENCES

- Dadi, I. K., Redhana, I. W., & Juniartina, P. P. (2019). Analisis Kebutuhan Untuk Pengembangan Media Pembelajaran Ipa Berbasis Mind Mapping. *Jurnal Pendidikan Dan Pembelajaran Sains Indonesia (JPPSI)*. <https://doi.org/10.23887/jppsi.v2i2.19375>
- Destriana, D., Destriani, D., & Yusfi, H. (2018). Pengembangan Teknik Pembelajaran Pasing Bawah Permainan Bola Voli Smp Kelas Vii. *Sebatik*. <https://doi.org/10.46984/sebatik.v22i2.324>
- Djaali, & Muljojo, P. (2010). Pengukuran Dalam Bidang Pendidikan. In *PT. Grasindo*.
- Mardapi, D., & Kartowagiran, B. (2013). Pengembangan Instrumen Pengukur Hasil Belajar Nirbias Dan Terskala Baku. *Jurnal Penelitian Dan Evaluasi Pendidikan*. <https://doi.org/10.21831/pep.v15i2.1100>
- Margono, G. (2013). The Development of Instrument for Measuring Attitudes toward Statistics Using Semantic Differential Scale. *2nd International Seminar on Quality and Affordable Education*.
- Mu'arifuddin, M. A. (2018). Pengembangan Model Latihan Pasing Bawah Klub Bolavoli IKIP Budi Utomo Malang. *Jurnal SPORTIF: Jurnal Penelitian Pembelajaran*. https://doi.org/10.29407/js_unpgri.v4i2.12326
- Nurhasan. (2019). tes dan pengukuran pendidikan olahraga. In *Time*.
- Okilanda, A., Dlis, F., Humaid, H., Putra, D. D., Arisman, & Muslimin. (2021). Defense warm-up exercise material for 13-age athlete using video technology in covid-19 era. *International Journal of Human Movement and Sports Sciences*. <https://doi.org/10.13189/saj.2021.090404>
- Hidayat, A., Muslimin, M., & Kasim, A. (2018). Pengembangan Perangkat Tes Dan Pengukuran Passing Bola Voli Berbasis Komputer. <https://doi.org/10.5614/sostek.itbj.2018.17.2.11>
- Putra, D. D., Okilanda, A., Arisman, A., Lanos, M. E. C., Putri, S. A. R., Fajar, M., ... Wanto, S. (2020). Kupas Tuntas Penelitian Pengembangan Model Borg & Gall. *Wahana Dedikasi: Jurnal PkM Ilmu Kependidikan*. <https://doi.org/10.31851/dedikasi.v3i1.5340>
- Riyanto, I. A., & Kristiyanto, A. K. (2017). Pengembangan Model Pembelajaran Keterampilan Motorik Berbasis Permainan Untuk Anak Sekolah Dasar Usia 9-10 Tahun. *TEGAR: Journal of Teaching Physical Education in Elementary School*. <https://doi.org/10.17509/tegar.v1i1.8679>
- Rudi, R., & Arhesa, S. (2020). Model Pembelajaran Passing Bawah Bola Voli Untuk Usia Sekolah Dasar. *JOURNAL RESPECS*. <https://doi.org/10.31949/jr.v2i1.2015>

- Suriadi, S., & Dewi, R. (2020). Pengembangan Instrumen Tes Passing Bolavoli Berbasis Digital. *JURNAL PRESTASI*.
<https://doi.org/10.24114/jp.v4i1.16821>
- Widianingsih, B., & Listyaningrum, R. (2019). A Need Analysis Of English Learning For Designing English Curriculum And Worksheet (A Case Study for the sixth semester of Electrical Engineering Students in the Academic Year of 2015/2016 at State Polytechnic of Cilacap). *Epigram*.
<https://doi.org/10.32722/epi.v15i2.1247>
- Yamin, M. R., & Karmila, K. (2020). Analisis Kebutuhan Pengembangan Media Pembelajaran Berbasis Cartoon dalam Pembelajaran IPA pada Materi Lingkungan Kelas III SD. *Biology Teaching and Learning*.
<https://doi.org/10.35580/btl.v2i2.12307>