Musamus Journal of Physical Education and Sport (MJPES)
http://ejournal.unmus.ac.id/index.php/physical
Volume 6, No. 4, Oktober 2024, Pg. 620-629
DOI: 10.35724/mjpes.v6i4.6393

Examining the Difficulty of Discriminating Power and Distraction Quality of Daily Test Items about Basketball Material

[1]Hanif Akromi [*] , [2]Agus Wiyanto, [3]Anjar Tri Astuti

*Corresponding Author: Hanif Akromi e-mail: hanifakromi@gmail.com

Physical Education, Health and Recreation, Universitas PGRI Semarang, Indonesia

Abstract

Objective. The purpose of this investigation was to evaluate the discriminatory power, difficulty level, and distractor quality of daily test items in class XI-F at SMA N 6 Semarang.

Materials and Methods. The research method employed is a quantitative descriptive technique that is employed to assess the quality of test items. This is accomplished by analyzing test result data, answer keys, and student answer results. The resulting data is then processed using Anates V4 software to determine the level of difficulty, discriminating power, and distractor quality.

Results. According to the study's findings, 86% of the test items exhibited favorable discrimination power, while 14% of the test items exhibited feeble or insufficient discrimination power. The difficulty level was 17%, while the moderate criteria were 46%. The simple category was as high as 37%. Very excellent distractors were rated at 11%, good distractors at 17%, less good distractors at 11%, and bad distractors at 15%. Distractors in the very bad category were rated at 46%.

Conclusion. The discriminating power of the daily test questions on the subject of Physical Education and Health, basketball material for class XI-F of SMA Negeri 6 Semarang is primarily in the very good category. This implies that the quality of the queries effectively differentiates between students who have comprehended the material and those who have not. The majority are classified as moderate in terms of their level of difficulty. This implies that the queries have the potential to motivate students to exert more effort in resolving a specific issue. The quality of distractors is classified as very good (11%), good (17%), less good (11%), poor (15%), and very bad (46%).

Keywords : Difficulty Level, Distraction Quality, Discriminatory Power, Basketball Material

Introduction

A significant factor in the success of students is the function of teachers in the field of education. Teachers have the primary responsibility of evaluating the learning process and its outcomes, as well as the planning and execution of classes. This assessment, which is frequently referred to as an evaluation, is designed to evaluate the efficacy of learning and the abilities of students. Anas Sudijono (2015: 5) defines evaluation as a process or action that involves assessing the value of an object, typically through tests or measurements.

The learning process is not influenced by evaluation activities. Evaluation, as defined by Mochammad Noor Akhmadi (2021), is a process that is employed to comprehend learning objectives, accumulate data, evaluate, and render decisions. In accordance with Phafandita et

al. (2022), learning evaluation is a critical component of the educational evaluation procedure. It is possible to administer exams at the commencement, midpoint, and conclusion of the semester to assess students.

School evaluations are typically classified into two categories: formative and summative. The purpose of formative evaluation is to enhance teaching strategies or methods, rather than to evaluate student performance. In contrast, summative evaluation is designed to evaluate the learning success of students through the assignment of grades. Summative evaluations are typically administered to all subjects, including PJOK, in senior high school. This is typically carried out twice, at the conclusion of the first and second semesters. The PJOK teacher is also accountable for conducting the evaluation. Daily assessments with multiple-choice formats are frequently implemented by educators to evaluate the cognitive domain as one of the components.

It is customary for teachers to prepare multiple-choice questions at school, which may necessitate a discussion among class instructors. While developing the questions, it is crucial to guarantee their quality in terms of their ability to discriminate, their efficacy as distractors, and their difficulty. In light of this, it is imperative that educators evaluate the quality of each assignment. The test or exam is deemed valid if it can specifically measure the desired outcome. The examination of this section of the query will identify any areas that require improving. In the absence of this analysis, educators will encounter challenges in guaranteeing that the exam queries are both optimal and of high quality. As a consequence, its validity is suspect.

As a result, the researcher contends that item analysis is crucial for evaluating the quality of the test device in order to provide future enhancement references. Furthermore, in light of the available facilities and procedure, the researcher is of the opinion that this analysis should be conducted immediately. The learning outcomes of class XI-F students at State Senior High School 6 Semarang are assessed through daily tests, which are a form of assessment that function as an evaluation tool.

Teacher of Physical Education stated that the inquiries were initiated by the teacher. The teacher was unable to determine the quality of each question, as he had not conducted an analysis of the questions. As a result, the research titled "Analysis of Difficulty Level, Discriminating Power, and Distracting Quality of Daily Test Questions on Basketball Material" is necessary to evaluate the quality and feasibility of daily test questions on basketball material in Physical Education, Sports, and Health subjects. The findings of the

Musamus Journal of Physical Education and Sport (MJPES)
http://ejournal.unmus.ac.id/index.php/physical
Volume 6, No. 4, Oktober 2024, Pg. 620-629
DOI: 10.35724/mjpes.v6i4.6393

investigation conducted at State Senior High School 6 Semarang indicated that students' capacity to engage in basketball instruction still existed.

Materials and Methods

Study Participants.

The quantitative approach of this study, which is designed to evaluate the quality of test questions, involves the formulation of hypotheses, the collection of empirical data, the analysis of data, and the drawing of conclusions based on the figures obtained (Rukminingsih et al., 2020). The study focused on students in class XI-F at SMA Negeri 6 Semarang.

Study organization.

A questionnaire was employed in this investigation, which was derived from the results of daily basketball material evaluations. The queries were composed of 35 multiple-choice options, each with five possible responses. The queries were subjected to quantitative analysis using Anates version 4 software to ascertain the quality of the distractor, difficulty level, and discriminating power. The Anates software is used to analyze the data from pupil responses in accordance with the specific requirements. The analysis results will be displayed in the form of a percentage automatically. The results are subsequently analyzed to identify high-quality queries that require improvement and those that should not be re-used. The analysis results will be categorized into distinct categories in accordance with the classification that has been established (Asrul et al., 2014).

Statistical analysis.

1. Differentiating Power

Discriminatory power is the capacity of a question to distinguish between pupils with high and low abilities. Abbreviated as D, the discrimination index is a numerical value that denotes the extent of discriminatory authority. A query is deemed to possess discriminatory power if it is capable of distinguishing between a group of high achievers and a group of low achievers. Table 2 illustrates numerous categories of discriminatory power classification.

Table 1. Category Power Differentiator

No	The size Power Differentiator	Information
1.	0.00 until 0.20	Not enough Good
2.	0.20 until 0.40	Enough
3.	0.40 until 0.70	Good
4.	0.70 up to 1.00	Good Very

A query is deemed to be of low quality if it can be satisfactorily answered by students of all abilities, as it lacks distinctiveness. The question is also declared bad due to the lack of discriminating power if neither the good nor the less able students can answer the question accurately. A query that is of high quality is one that can only be

Musamus Journal of Physical Education and Sport (MJPES)
http://ejournal.unmus.ac.id/index.php/physical
Volume 6, No. 4, Oktober 2024, Pg. 620-629
DOI: 10.35724/mjpes.v6i4.6393

answered accurately by intelligent students. The clever group (upper group) and the stupid group (lower group) are the two categories into which all test participants are divided.Difficulty Level

A query is considered to be of low quality if it can be satisfactorily answered by student of all abilities, as it lacks distinctiveness. The query is also declared unfavorable due to the absence of discriminating power if neither the proficient nor the less capable students are able to provide an accurate response. A high-quality query is one that can only be accurately answered by intelligent students. The two categories into which all test participants are divided are the intelligent group (upper group) and the stupid group (lower group).

Table 2 . Category Index Difficulty

Index	Category Difficulty
$0.00 \leq P \leq 0.30$	Difficult
$0.30 < P \leq 0.70$	Moderate
$0.70 < P \leq 1.00$	Easy

Questions that are considered good are moderate questions that have a difficulty index of 0.30 to 0.70.

1. Deceptive Quality

A distractor is considered good if the number of students who choose it is the same or close to the ideal number. The quality of the distractor can be assessed based on the distractor index, which is explained as follows (Wiguna in Cahyaningrum et al., 2023).

Table 3. Category Quality The Trickster

Index	Category Trickster
76% until 125%	Very Good
51% until 75% or 126% up to 150%	Good
26% until 50% or 151% until 175%	Less Good
0% until 25% or 176% until 200%	Bad
in over 200%	Very Bad

Results

The teacher's creation of each query in measurement activities must be genuinely directed toward the objective of assessing appropriate and satisfactory learning outcomes. The effectiveness of the examination can be ascertained through the use of question analysis. Item analysis can be conducted using both qualitative and quantitative analysis; in this study, quantitative analysis was employed to accumulate documents that illustrate the results of the

Musamus Journal of Physical Education and Sport (MJPES)
http://ejournal.unmus.ac.id/index.php/physical
Volume 6, No. 4, Oktober 2024, Pg. 620-629
DOI: 10.35724/mjpes.v6i4.6393

measurements. Basketball material in class XI-F at SMA N 6 Semarang is the primary focus of the research. Multiple-choice questions are implemented.

queries that have five possible responses. The results are generated by the Anates software after the students' responses are collated and entered, as illustrated in Figure 1.

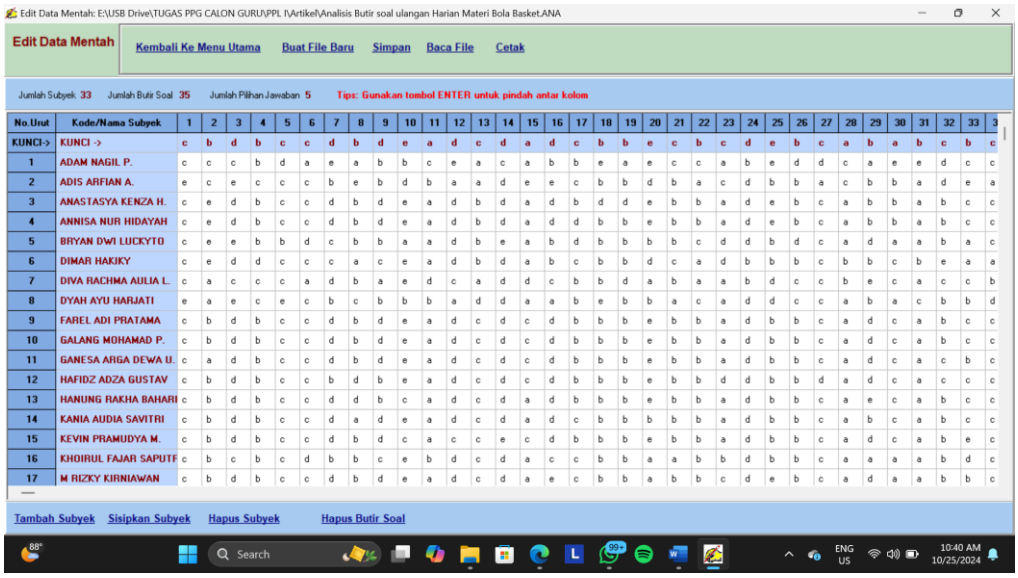


Figure 1. Input Activity of Student Work Results of Class XI-F

Students' responses were individually recorded prior to analysis in order to accumulate data. Students were provided with a total of 31 multiple-choice questions and 40 keys. The question numbers and keys are provided separately, and the students are arranged vertically based on the number of absences. The answers are arranged longitudinally, as illustrated in Figure 1. The initial menu display will adhere to the pattern illustrated in Figure 2 after all the data has been entered.

Musamus Journal of Physical Education and Sport (MJPES)
http://ejournal.unmus.ac.id/index.php/physical
Volume 6, No. 4, Oktober 2024, Pg. 620-629
DOI: 10.35724/mjpes.v6i4.6393

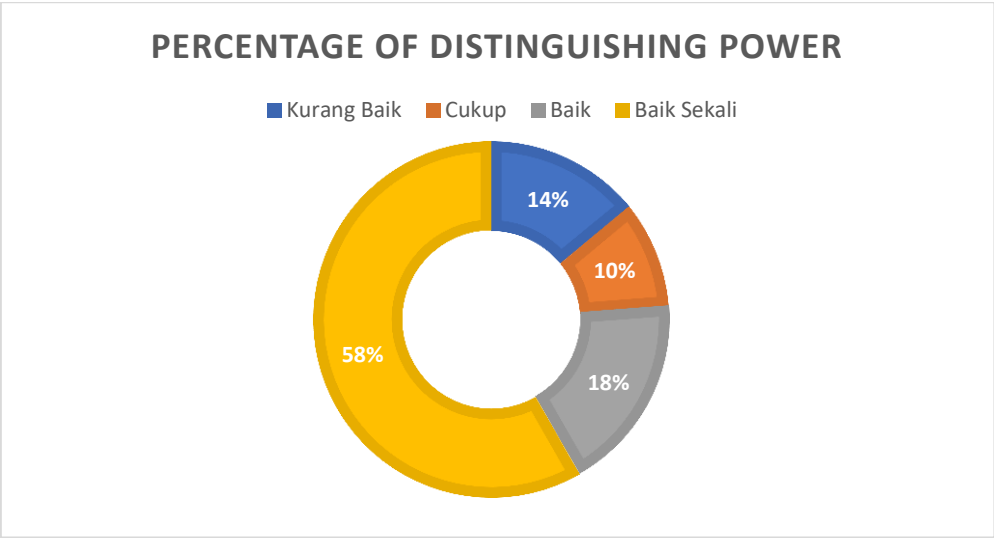
Figure 2 . Anates Menu View

1. Following the entry of the data, the subsequent stage is to select one of the available options from the menu, including automatic all processing, weighted scoring, and data scoring. The menu that appears on the screen includes item reliability analysis, superior (top) and inferior (bottom) groups, discriminatory power, difficulty level, correlation between item scores and total scores, and distractor quality if the automatic all processing option is selected.
2. Distinguishing Power
   The AnatesV4 program was used to evaluate 35 daily test questions on basketball material. The results indicated that 10 questions were classified as "less," 7 questions as "sufficient," 13 questions as "good," and 5 questions as "very good." These results yielded only four criteria. This differs from the theoretical study, which has five prerequisites. The aggregate results are not impacted by the fact that the numbers that appear are direct results of the program. The outcomes will be as follows if the distribution is determined by the discrimination index:

Table 1. Distribution of Distinguishing Power of Daily Test Questions on Basketball Game Material

No.	Category	Question Number	Amount	Presentation
1	Not good	15,17, 19, 21, 23,29, 30, 31, 32, 33	10	29%
2	Enough	1,6,8,14,18,25,27	7	20%
3	Good	2,3,4,5,7,11,12,13,16,20,24,34,35	13	37%
4	Very well	9,10,22,26,28	5	14%

Then if the results of the analysis are changed into a pie chart, the results are as follows :



Musamus Journal of Physical Education and Sport (MJPES)
http://ejournal.unmus.ac.id/index.php/physical
Volume 6, No. 4, Oktober 2024, Pg. 620-629
DOI: 10.35724/mjpes.v6i4.6393

Figure 3. Pie Chart of Percentage of Distinguishing Power of Daily Test Questions on Basketball Game Material

3. The discrimination power of 86% of the test items is quite excellent, as indicated by the results of the aforementioned analysis. Conversely, 14% of the test items exhibit weak or inadequate discrimination power. Questions that possess sufficient discriminatory power are considered permissible, as they are capable of distinguishing between students who have comprehended the material and those who have not. Conversely, queries that are either inadequate or have weak discrimination power should be omitted from the exam or discarded. Nevertheless, there is still a potential to enhance queries that have weak or insufficient discrimination power. This is possible due to the presence of numerous factors that may result in weak discrimination power, including distractors that are malfunctioning, incorrect responses to queries, unclear competencies being assessed, or material that is exceedingly challenging.
4. Difficulty Level

Information was obtained from the analysis of daily test questions on basketball game material using anatesv4 software. The results indicated that 13 questions were classified as easy, 16 as medium, and 6 as difficult, out of a total of 35 questions analyzed.

Table 2. Distribution of Difficulty Level of Daily Test Questions on Basketball Game Material

No	Category	No Question	Amount	Percentage
1	Difficult	21, 23, 25, 31, 32, 33	6	17 %
2	Currently	2, 7, 8, 9, 10, 12, 13, 15, 16, 17, 20, 22, 28, 29, 30, 35	16	46 %
3	Easy	1,3,4,5,6,11,14,18,19,24,26,27,34	13	37 %

Furthermore, if the results of the analysis are changed into a pie chart, the results are as follows:

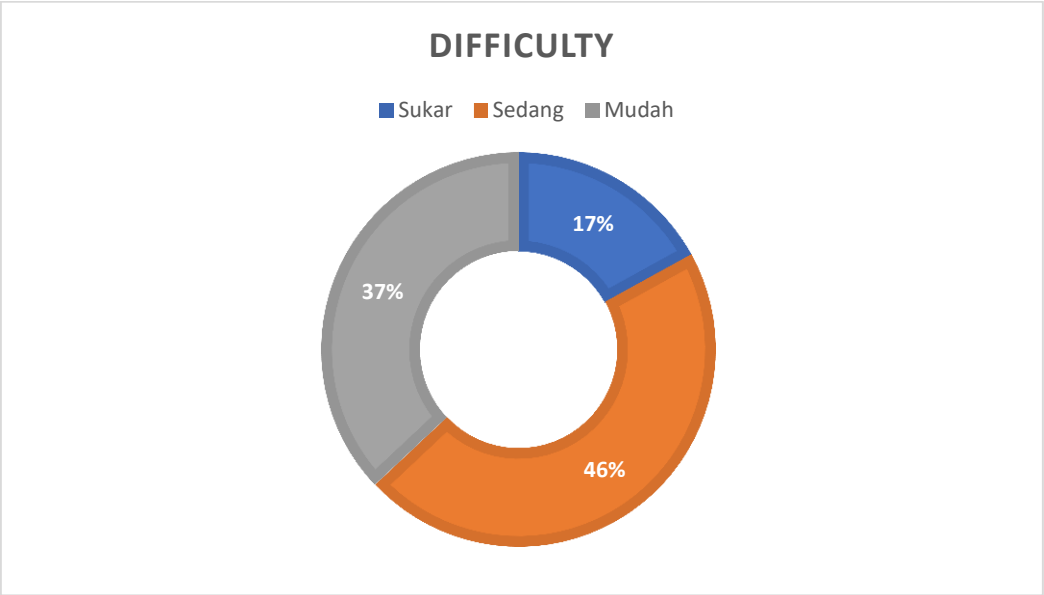


Figure 4. Percentage Pie Chart of Difficulty Level of Daily Test Questions

Musamus Journal of Physical Education and Sport (MJPES)
http://ejournal.unmus.ac.id/index.php/physical
Volume 6, No. 4, Oktober 2024, Pg. 620-629
DOI: 10.35724/mjpes.v6i4.6393

The daily test questions for Physical Education, Sports, and Health subjects have a level of difficulty of 17%, 46% for those with moderate criteria, and 37% for the simple category, as indicated in the diagram above.

5. Effectiveness of the Deception
   The following results were derived by analyzing daily test questions on volleyball game material using the Anates v4 Program: 9 questions were classified as "very good," 17 questions as "good," and 9 questions as "less good" out of a total of 50 multiple-choice questions that were analyzed.

Table 3 Effectiveness of Distractors for Daily Test Questions on Basketball Material

No	Category	Question Number	Amount	Percentage
1	Very good	2, 16, 20, 35	4	11%
2	Good	5, 8, 10, 12, 22, 34	6	17 %
3	Not good	3, 9, 11, 28	4	11%
4	Bad	4, 6, 7, 15, 27	5	15%
5	Very bad	1, 13, 14, 17, 18, 19, 21, 23, 24, 25, 26, 29, 30, 31, 32, 33,	16	46 %

Then, if the results of the analysis of the daily test questions on volleyball game material regarding the effectiveness of distractors are converted into a pie chart, the results are as follows:

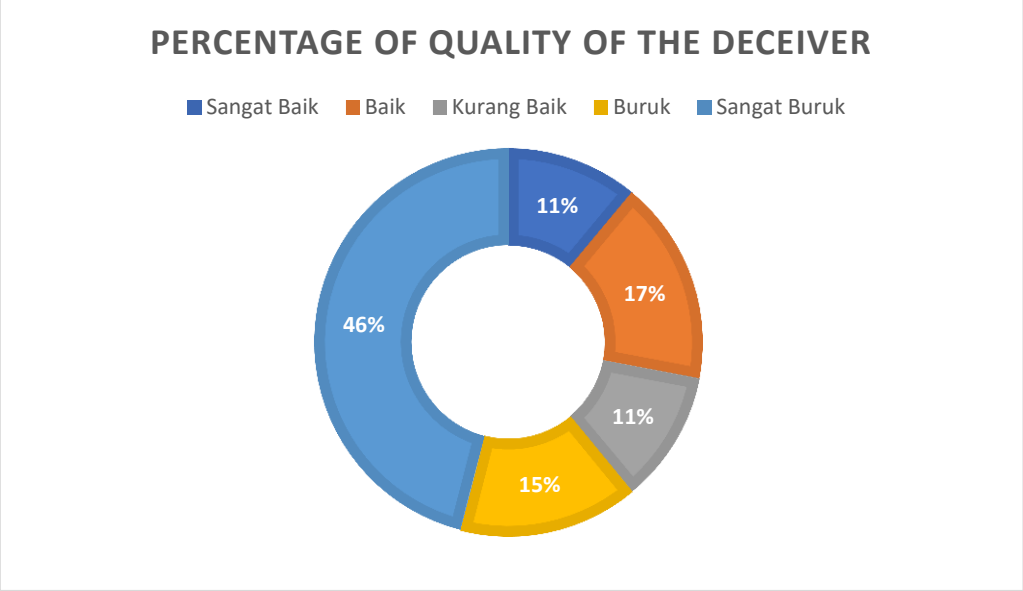


Figure 5. Effectiveness diagram of distractor items for daily test questions on basketball game material

Based on the analysis carried out in table 3, it can be seen that the quality of the very good distractors is 11%, the good category is 17%, less good 11%, bad 15%, and the quality of the distractors in the very bad category is 46%.

Conclusions

The discriminating power of the daily test questions on the subject of PJOK on basketball material was primarily in the very excellent category in class XI-F of SMA Negeri 6 Semarang. This demonstrates that the quality of the queries is the determining factor between students who comprehend the material and those who do not. The majority of them fall under the moderate difficulty category. This demonstrates that the queries are sufficient to encourage students to exert more effort in resolving the issues. Nevertheless, the distractors' quality is classified as follows: very good (11%), good (17%), less good (11%), poor (15%), and very bad (46%).

Acknowledgement

The researcher would like to thank all parties who have helped the researcher in making this research a success. May Allah SWT repay all the kindness that has been given to us.

Conflict of interest

The author has no conflicts of interest to declare.

References

Admin. (2017, July 17). *Strengthening Character Education as the Gateway to National Education Improvement* . Ministry of Education, Culture, Research, and Technology. https://www.kemdikbud.go.id/main/blog/2017/07/penguatan-pendidikan-karakter-jadi-pintu-masuk-pembenahan-pendidikan-nasional

Administrator. (2023, September 29). *Character Education in Indonesia: Foundation, Implementation, Challenges, and Hopes – UI An Nur Lampung Blog* . https://an-nur.ac.id/blog/pendidikan-karakter-di-indonesia-landasan-implementasi-tantangan-dan-harapan.html

Aprilina Wulandari, & Fauzi, A. (2021). THE URGENCY OF MORAL AND CHARACTER EDUCATION IN FORMING STUDENTS' PERSONALITY. *Edupedia: Journal of Islamic Education and Pedagogy Studies* , *6* (1), 75–85. https://doi.org/10.35316/edupedia.v6i1.1393

Arikunto, S. (2010). *Arikunto, S. (2010). Research Procedures: A Practical Approach (Revised Edition). PT. Rineka Cipta.Research Procedures: A Practical Approach* (Revised Edition). PT. Rineka Cipta.

Auvisena, AU, Faiz, A., & Aeni, K. (2022). *Literature Study: Analysis of the Influence and Efforts to Develop Prosocial Behavior Values in Elementary School Students* .

Bean, C., Kramers, S., & Harlow, M. (2022). Exploring life skills transfer processes in youth hockey and volleyball. *International Journal of Sport and Exercise Psychology* , *20* (1), 263–282. https://doi.org/10.1080/1612197X.2020.1819369

Bf, H., R, W., K, V., H, van E., J, O., & E, H. (2020). Effects of physical activity interventions on cognitive outcomes and academic performance in adolescents and young adults: A meta-analysis. *Journal of Sports Sciences* , *38* (23). https://doi.org/10.1080/02640414.2020.1794763

Dewi, R. (2023). The Effect Of Big Ball Game Modification On Gross Motor Development Of Elementary School Students. *COMPETITOR: Journal of Sports Coaching Education* , *15* (1), 48. https://doi.org/10.26858/cjpko.v15i1.43810

Ginting, A. (2014). *CHARACTER IN PHYSICAL EDUCATION AND SPORTS . 20 .*

Hutajulu, PT (2013). IMPROVING BASIC FOOTBALL PASSING TECHNIQUE SKILLS THROUGH THE DEVELOPMENT OF GAME LEARNING MODELS IN GRADE V MALE STUDENTS OF SD Pahala Tua Hutajulu FIK Cenderawasih University, Jl Kamp Wolker New Campus Waena. *Journal of Physical Education, Sports and Health* , *1* (1), 46–51.

Kuswoyo, DD, & Donggoran, MF (2019). Identification of Basic Football Game Ability Levels of Physical Education and Sport Students. *Musamus Journal of Physical Education and Sport (MJPES* , *02* (01), Article 01.

Kuswoyo, DD, Wasa, C., & Dongoran, MF (2020). Back-up training effects to the students' ability in heading the ball. *Edu Sportivo Indonesian Journal of Physical Education* , *1* (1), Article 1.

Magfiroh, L., Wulandari, RT, & M, RDT (2020a). Implementation of the Cheerful Jump Game to Improve Gross Motor Physical Abilities of 5-6 Year Old Children at PKK 3 Kindergarten, Gunungsari, Pasuruan. *Journal of Early Childhood Education* , *2* (1), Article 1.

Magfiroh, L., Wulandari, RT, & M, RDT (2020b). Implementation of the Cheerful Jump Game to Improve Gross Motor Physical Abilities of 5-6 Year Old Children at PKK 3 Kindergarten, Gunungsari, Pasuruan. *Journal of Early Childhood Education* , *2* (1), Article 1.

Mustafa, PS, & Sugiharto, S. (2020). MOTOR SKILLS IN PHYSICAL EDUCATION IMPROVE LIFELONG MOVEMENT LEARNING. *Sporta Saintika* , *5* (2), 199–218. https://doi.org/10.24036/sporta.v5i2.133

Pradipta, GD (2015). SPORTSMANSHIP IN SPORTS AS PART OF FORMING THE YOUNG GENERATION AND NATIONALISM. *CIVIS Scientific Journal* , *V* (1), Article 1.

Sugiyono. (2012). *Quantitative, Qualitative and R&D Research Methods* . CV. Alfabeta.

Sugiyono. (2017). Quantitative Research. *Explanation of Quantitative Research Methods* , *2* , 16.