



## **Analysis Final Semester Exam Questions For Physical Education, Sports, And Health Learning Junior High School Level In South Bengkulu Regency**

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### **Abstract**

This research evaluates the quality of Physical Education, Sports, and Health (PJOK) final examination items across junior high schools in South Bengkulu Regency. Utilizing a quantitative descriptive approach, the study assessed five key psychometric properties: validity, reliability, difficulty index, discriminating power, and distractor efficiency. Data were gathered from 128 students across five schools through documentation, interviews, and observations. Findings indicate that a significant portion of the test items failed to meet standard quality benchmarks, characterized by low validity, disproportionate difficulty levels, and weak discriminating power. The study concludes that the PJOK assessment instruments in this region necessitate a comprehensive overhaul to align with professional testing principles.

**Keywords:** Item Analysis, Exams, Learning

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## **INTRODUCTION**

Education is agreed upon as essential for every nation. The quality of education in a country is a determining factor in its progress (Kurniawati, 2022). Achieving this goal requires careful planning, approach, and strategic planning. Indonesia's national education system is governed by curriculum regulations.

To achieve the goals of physical education in Indonesia, it is crucial to continuously improve student quality through measurable and meaningful learning processes. To achieve these goals effectively, sound item analysis is essential as part of creating valid and reliable assessment instruments, ensuring that evaluation results accurately reflect students' abilities, attitudes, and skills. Item analysis serves as a critical evaluation tool for educators to enhance the caliber of their assessment instruments. According to Mahendra (2019), this process entails the systematic collection and synthesis of student performance data to guide instructional and evaluative decisions. Ultimately, this analysis aims to refine test items while providing valuable diagnostic insights into student learning.

A quality question is a question that can provide the most critical information possible, so that it can be known which students have mastered the material and which have not (Kurniawan, 2015). To ensure that this research has a clear focus, an in-depth review of previous research that is relevant to the theme to be discussed is needed. Relevant research that has been studied includes by Amelya Laras Wati in Class V of Trowono 1 State Elementary School, Gunungkidul Regency, in the 2021/2022 Academic Year. This study employs a quantitative survey design grounded in classical test theory, utilizing ITEMAN software for data processing. The analysis reveals that a significant majority of the multiple-choice items (64%) fail to meet the criteria for high-quality questions, whereas only 36% are categorized as effective or good.

Question makers often fail to analyze the items to determine whether they meet standards and are suitable for measuring student or test-taker abilities. Good- quality items can provide accurate information about students' mastery of the material, while poor-quality items fail to differentiate students' abilities based on their prior mastery of the material (Umami, 2022). In view of the aforementioned context, the researcher seeks to investigate the quality of assessment items through a study titled “Analysis Of Final Semester Exam Questions For Physical Education, Sports, And Health Learning At The Junior High School Level In South Bengkulu Regency”.

## **METHODS**

This study employs a quantitative descriptive design. As noted by Sugiyono (2016), quantitative methodology is rooted in the philosophy of positivism and is specifically designed for investigating specific populations and representative samples.

The population used for this study was five junior high schools in South Bengkulu, with one class selected from each. The total sample size for this study was five junior high schools in South Bengkulu.

To gather the necessary information, this study employed a combination of data collection techniques, specifically documentation, interviews, and observations.

Instrument validity was assessed using the Pearson product-moment formula to verify the relevance of the questions to the curriculum and learning standards. For reliability, the researcher applied Cronbach's Alpha, which is the appropriate measure for the multiple-choice format used in this study.

The types of instruments used were item tests, item analysis, and interviews with physical education teachers.

**Table 1.** Types Of Research Instrumen

No	Instrument Type	Form	Form Purpose of Use	Information
1	Test Items	Final Exam Questions for Even Semester Physical Education	Serves as the primary data source for assessing student learning outcomes and analyzing question quality.	Physical Education Final Exam (UAS) questions used in junior high schools throughout South Bengkulu.
2	Item Analysis	Analysis table (Excel/Word) containing calculations of difficulty level, discriminating power, and distractor effectiveness	Analysis table (Excel/Word) containing calculations of difficulty level, discriminating power, and distractor effectiveness.	Analysis table (Excel/Word) containing calculations of difficulty level, discriminating power, and distractor effectiveness.
3	Physical Education Teacher Interview	Interview Guidelines (list of questions)	Ensures question validity, understands the question development process, and confirms question difficulty levels.	Administered to Physical Education teachers

Data were analyzed using quantitative item analysis to evaluate the quality of each test item based on five key metrics: validity, reliability, difficulty level, discriminating power, and distractor effectiveness. This research employed a descriptive quantitative approach, focusing on characterizing the data as it appeared without seeking to draw broader generalizations. Once the data collection was complete, Microsoft Excel 2010 and SPSS were utilized to process and describe the findings.

## **RESULTS AND DISCUSSION**

### **Result**

The assessment instruments were processed through documentation, where the test items, answer keys, and student responses were systematically evaluated using Microsoft Excel and SPSS. This procedure facilitated a comprehensive analysis of item quality, focusing on validity, reliability, difficulty index, discriminating power, and distractor efficiency. The

findings of this analysis are summarized below:

According to the criteria proposed by Heale and Twyeross, a value of 0.70 is considered unreliable. A value less than 0.70 indicates that the items are unreliable. Number of students: SMPN 1 (28 students), SMPN 2 (26 students), SMPN 3 (26 students), SMPN 4 (22 students), SMPN 5 (26 students).

**Table 2.** Conclusion of Validity Results

School	Amount Question	Valid Question	Invalid Question	esentase Valid	Student Amount
SMPN 1	50	12	38	24% Valid	28
		Question	Question		
SMPN 2	40	10	30	25% Valid	26
		Question	Question		
SMPN 3	40	8	32	20% Valid	26
		Question			
SMPN 4	20	6	14	30% Valid	22
		Question			
SMPN 5	30	2	28	6,7% Valid	26

Based on the description of the validity results above in five schools, it shows that the level of validity is generally still low, SMPN 1 has 12 valid questions out of 50 questions (24%), SMPN 2 has 10 valid questions out of 40 questions (25%), SMPN 3 has 8 valid questions out of 40 questions (20%), while SMPN 4 is the school with the highest validity percentage, namely 6 valid questions out of 20 questions (30%), SMPN 5 has the lowest validity percentage with only 2 valid questions out of 30 questions (6.7%).

**Table 3.** Conclusion of Reliability Results

School	Amount Question	Cronbach's Alpha
SMPN 1	50	0,677
SMPN 2	40	0,740
SMPN 3	40	0,570
SMPN 4	20	0,500
SMPN 5	30	0,524

The analysis of the Physical Education even semester final exams across five junior high schools in South Bengkulu, conducted using Microsoft Excel, yielded varying results in item difficulty. At SMPN 1, out of 50 questions, 54% (27 items) were medium and 46% (23 items) were easy. SMPN 2 (40 items) showed a distribution of 47.5% medium, 47.5% easy, and 5% difficult. Similarly, SMPN 3 (40 items) consisted of 62.5% medium, 32.5% easy, and

5% difficult questions. At SMPN 4, 35% of the 20 items were moderate, while 65% were categorized as easy. Lastly, SMPN 5 (30 items) was dominated by easy questions, with 97% in the easy category and only 3% classified as moderate.

**Table 4.** Distribution of Question Difficulty Levels SMPN 1

No	Category	Number Item Question	Amount	Persentase(%)
1	Difficult	0	0	0%
2	Medium	5,8,12,13,16,17,19,20,22,23,24,25,26,27,29,31,32,33,34,35,37,38,40,44,47,48,49	27	54%
3	Easy	1,2,3,4,6,7,9,10,11,14,15,18,21,28,30,36,39,41,42,43,45,46,50	23	46%

**Table 5.** Distribution of Question Difficulty Levels SMPN 2

No	Category	Number Item Question	Amount	Persentase(%)
1	Difficult	9,15	2	5%
2	Medium	1,2,4,7,10,12,13,17,19,20,24,25,26,32,33,34,35,36,39	19	47,5%
3	Easy	3,5,6,8,11,14,16,18,21,22,23,27,28,29,30,31,37,38,40	19	47,5%

**Table 6.** Distribution of Question Difficulty Levels SMPN 3

No	Category	Number Item Question	Amount	Persentase(%)
1	Difficult	28,37	2	5%
2	Medium	4,6,7,8,9,10,11,13,16,17,18,19,22,23,24,25,26,29,30,32,33,35,38,39	25	62,5%
3	Easy	1,2,3,5,12,15,20,21,27,31,34,36,40	13	32,5%

**Table 7.** Distribution of Question Difficulty Levels SMPN 4

No	Category	Number Item Question	Amount	Persentase(%)
1	Difficult	0	0	0%
2	Medium	1,2,8,13,14,16,19	7	35%
3	Easy	3,4,5,6,7,9,10,11,12,15,17,18,20	13	65%

**Table 8.** Distribution of Question Difficulty Levels SMPN 5

No	Category	Number Item Question	Amount	Persentase(%)
1	Difficult	0	0	0%
2	Medium	1	1	3%
3	Easy	2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30	29	97%

The analysis of the multiple-choice items for the Physical Education even semester final exams across five junior high schools in South Bengkulu yielded the following results:

- a. SMPN 1 Bengkulu Selatan through the Exel assistance program, it can be obtained that from the total of 50 multiple choice questions submitted, there are 18 questions or 36% that have poor discrimination power, 16 questions or 32% that have moderate discrimination power, 10 questions or 20% that have good discrimination power, 0 questions or 0% that have very good discrimination power, and 6 questions or 12% that have very poor discrimination power.
- b. SMPN 2 Bengkulu Selatan through the Exel assistance program, it can be obtained that from the total of 40 multiple choice questions submitted, there are 5 questions that have poor discrimination power or 12.5%, 12 questions that have moderate discrimination power or 30%, 21 questions that have good discrimination power or 52.5%, 2 questions that have very good discrimination power or 5%, and 0 questions that have very poor discrimination power or 0%.
- c. SMPN 3 Bengkulu Selatan through the Exel assistance program, it can be obtained that from the total of 40 multiple choice questions submitted, there are 7 questions that have poor discrimination power or 17.5%, 20 questions that have moderate discrimination power or 50%, 5 questions that have good discrimination power or

12.5%, 0 questions achieved a very good discrimination power (0%), while 8 items demonstrated very poor discrimination power, accounting for 20% of the total.

- d. SMPN 4 Bengkulu Selatan through the Exel assistance program, it can be obtained that from the total of 20 multiple choice questions submitted, there are 10 questions or 50% that have poor discriminatory power, 4 questions or 20% that have moderate discriminatory power, 3 questions or 15% that have good discriminatory power, 0 questions or 0% that have very good discriminatory power, and 3 questions or 15% that have very poor discriminatory power.
- e. SMPN 5 Bengkulu Selatan through the Exel assistance program, it can be obtained that from the total of 30 multiple choice questions submitted, there are 18 questions or 60% that have poor discrimination power, 4 questions or 13% that have moderate discrimination power, 1 question or 3.3% that have good discrimination power, 0 questions or 0% that have very good discrimination power, and 7 questions or 23% that have very poor discrimination power.

Distractor effectiveness for the Physical Education final exam items across five junior high schools in South Bengkulu was evaluated using Microsoft Excel. This analysis specifically targeted the multiple-choice questions to determine the functionality of each alternative answer. It was considered good if more than 5% of the total number of students chose them.

- a. At SMPN 1 South Bengkulu, a distractor analysis of 50 evaluated questions revealed that 14 items (28%) achieved a very good rating, while the majority (34 items or 68%) were classified as good. Only 2 questions (4%) were considered poor, with no items (0%) falling into the bad or very bad categories.
- b. At SMPN 2 South Bengkulu, the analysis of 40 questions showed that 13 items (32.5%) were in the very good category, while the majority (25 items or 62.5%) were classified as good. Only 2 questions (5%) were rated as less good, with no items (0%) falling into the bad or very bad categories.
- c. At SMPN 3 South Bengkulu, the analysis of 40 test items revealed that 8 questions (20%) were in the excellent category, while 22 questions (55%) were classified as good. The remaining 10 items (25%) were rated as poor, with no questions (0%) falling into the bad or very poor categories.
- d. At SMPN 4 South Bengkulu, the evaluation of 20 questions revealed that 12 items (60%) attained an excellent rating, while 6 questions (30%) were classified as

good. Only 2 items (10%) were categorized as poor, with no questions (0%) falling into the bad or very poor categories.

- e. At SMPN 5 South Bengkulu, the results for the 30 questions analyzed were exceptionally high, with 28 items (93%) falling into the very good category and the remaining 2 items (7%) classified as good. Notably, no questions (0%) were identified as less good, bad, or very bad.

## **Discussion**

The validity assessment of junior high school examination items in South Bengkulu highlighted a notably low success rate. These findings imply that the majority of the questions lack the necessary construct validity to effectively evaluate the students' actual mastery of intended competencies. In general, many items did not meet statistical validity requirements, with significance values greater than 0.05. This indicates that the question construction did not adhere to good question writing principles or item construction analysis. Reliability of exam items for junior high schools in South Bengkulu Regency. Low reliability values in the majority of schools indicate weak item consistency. This low reliability is related to the large number of invalid questions and disproportionate difficulty levels. The assessment of item difficulty in South Bengkulu Regency revealed a disproportionate distribution among easy, medium, and difficult questions. This imbalance suggests that the instruments fail to capture the full spectrum of student capabilities. Furthermore, the discriminating power, which should distinguish between high-achieving and low-achieving students, was found to be inadequate in many items. Notably, questions with negative discrimination indices were identified, where lower-ability students outperformed their higher-ability peers, thus undermining the test's evaluative purpose. Regarding distractor effectiveness, an option is deemed functional if selected by at least 5% of test-takers, indicating it remains a plausible choice for those who have not mastered the material. However, distractors that received zero selections were classified as non-functional, ultimately diminishing the overall quality of the assessment.

## **CONCLUSIONS**

In conclusion, the analysis of Physical Education final exams across junior high schools in South Bengkulu Regency indicates that the overall quality of the assessment items requires significant enhancement. The majority of the questions fail to meet validity standards and exhibit only moderate-to-low reliability. Furthermore, the disproportionate distribution of difficulty levels, dominated by moderate items—combined with weak discriminating power

and ineffective distractors, hinders the instrument's ability to differentiate student performance. Consequently, a more rigorous preparation and review process is essential to ensure that future evaluations are accurate, objective, and aligned with the learning objectives of Physical Education.

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