

RUBRIC FOR ASSESSING SKILLS IN BIG AND SMALL BALL MATERIALS IN CLASS VII PHYSICAL EDUCATION SUBJECTS

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Abstract. This research aims to develop skills assessment rubric of Physical Education of large and small ball material in seventh grade of Junior High School in even semesters. This research uses research and development procedures, so researchers conduct research for usability testing. The product resulting from this research is the rubric of subject matter assessment of Physical Education. Validation from experts of Physical Education evaluation is obtained percentage of 75%. Validation from Physical Education experts obtained a percentage of 89.1%. Validation from experts of Physical Education curriculum is obtained percentage of 100%. The results from small group trials obtained a percentage of 93.7%. The results from large group trials obtained a percentage of 94.3%. The results of the trial usage obtained the level of implementation of 4.7. All of the above results show that the product is very well produced.

Keywords: Big and Small Balls, Development, Skills Assessment Rubric

1. INTRODUCTION

When implementing Physical Education learning in schools, it should be carried out systematically so that the Physical Education program is able to achieve the goals that have been set. Then, to know that the goal has been achieved, there needs to be an assessment and evaluation process in it. One of them is carried out in Physical Education learning itself. Then regarding evaluation, Evaluation is looking at the comparison between objectives and results [1], [2]. Furthermore, other statement explains that evaluation is a process of describing students and considering them in terms of meaningful values [3], [4]. Evaluation means determining how far something is valuable, quality or valuable [5], [6]. If we look at several of these opinions, it can be concluded that evaluation of Physical

Education is a systematic process of comparing objectives with results so that we obtain value, quality and value from the results of Physical Education.

Based on several theories, researchers think that the assessment and evaluation process in the Physical Education program, especially in learning, is considered very important. Because from this evaluation it can be seen whether the learning process has been successful or not. However, based on research conducted, it shows that 53.85% of physical education, sports and health teachers are seen from their mastery of learning sufficient category outcomes assessment in the Furthermore, there is research that reveals a survey of the implementation of physical education, the results of research related to the assessment and evaluation of physical education learning which was revealed that in the results of the survey via a questionnaire regarding the assessment process in question number 31, there were physical education teachers as many as 40% carry out assessments that sometimes follow assessment procedures [8]. If you see conditions like that, teachers should understand more about the benefits and objectives of assessment and evaluation so they must follow existing procedures so that the objectives of the assessment and evaluation are achieved. Seeing this, it is necessary to have Physical Education teacher professionalism in the assessment and evaluation process so that the success of the Physical Education program can be achieved which starts from the assessment and evaluation process.

In carrying out the evaluation, the objectives and achievements that have been determined by the Physical Education program must first be known. This goal can be seen from the educational curriculum used. Based on the competency provisions that students must have as a result of the learning process, the Physical Education evaluation refers to these four competencies. However, the most important thing in the Physical Education evaluation and which must be carefully considered is the evaluation of skills competency. Because according to the definition that has been explained, Physical Education is physical education with the mastery of several skills.

Then in the basic competencies which are derivatives of the core competencies of Physical Education skills in the 2013 curriculum as a result of the 2016 revision, it is stated that students are expected to be able to practice specific movements in various games of big ball, small ball, walking, running, jumping and throwing, martial arts, training. physical fitness, floor exercise, and swimming. Then the evaluation is carried out through authentic assessment that currently, in education, authentic assessment is carried out where the assessment is through a demonstration of skills, to show the level of mastery of knowledge and skills [9], [10].

Then, to carry out an evaluation, instruments or tools are needed to measure the success of a goal and collect data used in the evaluation process. As stated, the activity of selecting and compiling evaluation instruments is important in the evaluation step [11], [12]. A good instrument is an instrument that has the criteria of validity, reliability and practicability [13], [14]. Validity means that the instrument really measures what it is supposed to measure, reliability means that measurements using the same instrument repeatedly have the same results, and practicability means that the instrument is economical in terms of cost and time and easy to use.

When collecting data on Physical Education learning outcomes, the instrument or tool that is often used is the assessment rubric. So it can be said that the assessment rubric is part of an instrument that supports the assessment and evaluation process. Then the results of several research surveys regarding the skills assessment rubrics developed by several Physical Education class VII Junior High School teachers on large ball and small ball material showed that the assessment rubrics did not meet the requirements for reliability and practicability criteria. If we look at the reliability criteria, there is a problem where the scoring on the assessment rubric is not very clear. Researchers assume that the reliability criterion means that the scoring is done more than once and with different people, the results remain the same. This occurs due to less objective assessment. So it can be said that it is not in line with the Regulation of the Minister of Education and Culture of the Republic of Indonesia Number 53 of 2015 concerning

Assessment of Learning Outcomes by Educators and Education Units in Primary Education and Secondary Education article 4 part B which states that the assessment of student learning outcomes at the Primary and Secondary Education levels Medium is based on objective principles, which means that the assessment is based on clear procedures and criteria, not influenced by the assessor's subjectivity.

The results of the researcher's observations of the assessment rubric developed by the teacher show that each indicator assessed cannot be measured when it gets the maximum score and when it gets the minimum score. If you look at the assessment rubric table used by teachers, one indicator is given several score options provided in the column, namely scores 1, 2, 3, and 4. Then there is no definite measure of when this indicator can be given a score of 1, 2, 3, and 4, while each teacher's perception may be different. The subjectivity of the assessment rubric as an instrument is very strong so that if it is used by several people the results can be different. This is also evident from the results of a survey which revealed that the results of surveys carried out in the implementation of physical education, sports and health evaluations were not completely objective [15], [16].

Furthermore, if we look at the practicability criteria, there is an assessment rubric which shows that the presentation of the assessment indicator table in one skills assessment is only used to assess one student. So if there are a large number of students, you will need many tables to contain student assessment indicators. More materials needed will also be used to present assessment rubric tables. So it can be considered that the skills assessment rubric as an instrument is not economical. It is not surprising that the results of the opinion of the physical education group revealed that testing the skills learned was impractical and too time consuming [17], [18]. In considering the economics of testing, two factors that must be considered are the monetary cost and the time required for subjects and examiners [19], [20].

Something similar is also found in the example of making a skills assessment rubric as a result of process observations in the 2016 revised edition of the Class VII Physical Education, Sports and Health Teacher's Book. The skills assessment rubric table in the 2016 revised edition of the Physical Education, Sports and Health Teacher's Book for class VII is still the same as explained above in that a rubric table containing student assessment indicators can only be used to assess one student. So it could be said that the assessment rubric is less economical when viewed from the practicability criteria. Then, in the example of a skills assessment rubric resulting from process observations in the 2016 revised edition of the Physical Education, Sports and Health Teacher's Book for class VII, it can be seen that one indicator provides scores 1, 2 and 3. The determination of when the teacher should give scores 1, 2 and 3 has been determined. However, unfortunately the explanation regarding the determination of the score is placed in the information below the table. So when the teacher is going to give a score, you have to look at the instructions for determining the score in the information section. According to researchers, this will slow down the teacher's work in giving scores and take a long time. Moreover, if you see that one table is for assessing one student and if that one table includes information on determining the score, the more students are assessed, the more tables and assessment rubric information that must be printed will increase. Seeing this, researchers consider it very uneconomical if we consider the practicability criteria.

There is already some research and development that has developed assessment instruments for Physical Education subjects. Such as the knowledge assessment instrument developed by Aji and Juniarta and the affective assessment instrument developed by Kurniawan. However, there is no development of assessment instruments for skills aspects, especially assessment rubrics for Physical Education. Therefore, the researcher wants to solve several problems that have been explained previously in the research and development entitled "Development of a Skills Assessment Rubric for Physical Education Subjects for Large and Small Balls for Class VII Even Semester". The aim of this research is to develop a rubric for assessing skills in the Physical Education subject in the material on big balls and small balls for class VII middle school even semester. So it is hoped that by developing a skills

assessment rubric for big ball and small ball material it can be used as an evaluation of learning success in Physical Education subjects in specific skill aspects and in general as an evaluation of the success of sports and health education programs in schools. It is also hoped that the development of a skills assessment rubric for large ball and small ball material will make it easier for teachers to give scores objectively when assessing students.

2. METHOD

The Research and development methods have three kinds of procedural models, conceptual models and theoretical models. Researchers use procedural research and development, namely outlining the steps that must be followed to produce a product. The research and development steps that researchers refer to in this research include 10 steps [21]. Research and development implementation procedures are not standard procedures that are followed standardly. Each developer can choose and find the most appropriate steps for him based on the specific conditions he faces in the development process [22], [23]. Based on several opinions that have been explained above, the researcher has decided to use the following steps in developing a rubric for assessing big and small ball skills for class VII for even Physical Education subjects as follows: information collection, literature review and field observation, (2) initial product creation, (3) product validation, (4) product revision, (5) small group trial of 6 sub-jects, (6) product revision, (7) large group trial of 30 subjects, (8) revision product, (9) trial use, (10) product revision and the final product is obtained.

3. RESULTS AND DISCUSSION

3.1 Result

Development Products

The development product, in the form of a Physical Education skills assessment rubric for big ball and small ball games, was developed with the aim of making it easier for teachers to assess students' skills. Apart from convenience, this skills assessment rubric is intended to be more practical and

economical because the assessment can be done using *a smartphone* which does not require paper and is easy to use in the field. The skills assessment rubric was developed based on groups of big ball and small ball games, namely football games, volleyball games, basketball games, baseball games, badminton games and table tennis games.

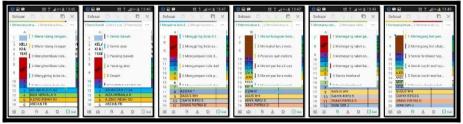


Figure 2. Skills Assessment Rubric in the Form of a *Microsoft Excel Program* for Each Sports Game Group
Sources: author source

Each skills assessment rubric contains class identity, KI and KD, the technique being assessed, student name, assessment indicators, scoring instructions, and total score. The scoring method is by giving the number 1 (one) to the indicator that the student can show and giving the number 0 (zero) or leaving *the cell blank* for the indicator that the student cannot show. After scoring, the total score will automatically be obtained in the score column.

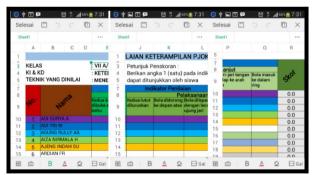


Figure 3 . Skills Assessment Rubric Display Sources: author source

Furthermore, to make it easier for teachers to learn how to use this skills assessment rubric product, it is equipped with video instructions for using it. Apart from the video, to make it easier to learn how to use the skills assessment rubric, a guidebook for using the skills assessment rubric in the form of an electronic book is also provided.



Figure 4. Video Instructions for Using the Skills Assessment Rubric Sources: author source



Figure 5. Instructions for Using Skills Assessment Rubrics Sources: author source

Validation Results

1) Physical Education Evaluation Expert Validation Results

The results of the expert validation of the Physical Education evaluation obtained through questionnaires were subjected to data analysis to determine the feasibility of the skills assessment rubric product that had been developed. The data analysis process is carried out by adding up all the validator questionnaire answer scores then dividing by the maximum score and multiplying by 100%. After obtaining the percentage from the calculation, it is compared with the percentage level criteria table. The following is the data analysis of the validation results from physical education evaluation experts shown in table 1.

	Validation Results						
No	Indicator	Score (TSEV)	Maximum Score (S-max)	Percentag e (V)			
1	Suitability of indicators	18	24	75%			
2	Conformity of indicator sequence	18	24	75%			
3	Effectiveness of assessment rubrics	3	4	75%			
4	Scoring	6	8	75%			
5	Benefit	3	4	75%			
	Ave	rage Percentage	2	75%			

Table 1. Data Analysis of Physical Education Evaluation Expert

Based on the results of the total calculation of all the validation scores of the Physical Education evaluation experts, an average percentage of 75% was obtained. If the percentage obtained is compared with the percentage level criteria table, the Physical Education subject skills assessment rubric product is feasible and can be used at the product trial stage but needs to be revised first.

2) Physical Education Expert Validation Results

The results of the Physical Education expert validation obtained from the questionnaire data were analyzed to determine the feasibility of the product that had been developed. The data analysis method is the same as the data analysis method from other validators. The following are the results of data analysis from physical education experts shown in table 2.

Table 2. Data Analysis of Physical Education Expert Validation ResultsNo.Score (TSEV)Maximum (TSEV)Percenta ge (V)1Appropriateness of 222491.7%

	Deliciti	<u> </u>	<u> </u>	
8	Benefit	4	4	100.0%
7	Accountability	4	4	100.0%
6	Ease of use of assessment rubrics	3	4	75.0%
5	Ease of setting assessment rubrics	3	4	75.0%
4	Ease of determining scores	3	4	75.0%
3	Effectiveness of assessment rubrics	4	4	100.0%
2	techniques assessed Suitability of assessed indicators	23	24	95.8%

The results of calculating all validation scores from Physical Education experts obtained an average percentage of 89.1%. This percentage is measured using the percentage level criteria table so that the Physical Education subject skills assessment rubric product is feasible and can be used at the product trial stage in the field.

3) Results of Expert Validation of the Physical Education Curriculum

The results of the Curriculum expert validation are also analyzed to determine the feasibility of the product that has been developed. Data analysis is also the same as data analysis from other validation results. The results of data analysis from physical education curriculum experts are shown in table 3.

Table 3. Data Analysis of Physical Education Curriculum Expert Validation Results

No.	Indicator	dicator Score Maximum S (TSEV) max)		Percentage (V)
1	Soccer game	32	32	100%
2	Volleyball Game	20	20	100%
3	Basketball Game	40	40	100%
4	Rounders Game	36	36	100%
5	Badminton Game	36	36	100%
6	Table Tennis Game	52	52	100%
		Average Perce	ntage	100%

Calculation of all validation scores from Physical Education Curriculum experts obtained an average percentage of 100%. So with this percentage level and compared with the percentage level criteria table, the Physical Education subject skills assessment rubric product is feasible and can be used at the small group trial and large group trial stages.

Test Results

1) Small Group Trial Results

Data analysis from small group trial results is carried out in a way similar to analyzing product validation results. However, there are differences because they relate to the number of respondents or research subjects who are the data source. The difference is that all the scores for each indicator obtained from the six research subjects are added up. After the total is divided by the maximum score and multiplied by 100%. Next, the average percentage of the indicator percentage is calculated. The following are the results of the small group trial data analysis shown in table 4.

Table 4. Data Analysis of Small Group Trial Results

No. Indicator		Score (TSEV)	Maximum Score (S-max)	Percenta ge (V)	
1	Appropriateness of techniques assessed	70	72	97.2%	
2	Clarity of the indicators being assessed	63	72	87.5%	
3	Effectiveness of assessment rubrics	12	12	100.0%	
4	Objectivity	11	12	91.7%	
5	Economical	11	12	91.7%	
6	Ease of determining scores	11	12	91.7%	
7	Ease of setting assessment rubrics	11	12	91.7%	
8	Ease of use of assessment rubrics	11	12	91.7%	
9	Benefit	12	12	100.0%	
		Average		93.7%	

1) Results of Large Group Trials

Analysis was also carried out on data from the results of large group trials. The analysis method is also the same as the analysis method for

small group trial data. However, what is different in large group trials is that the number of respondents or research subjects who are the data source is 30 people. The results of the large group trial data analysis can be seen in table 5.

Table 5. Data Analysis of Large Group Trial Results

No	Indicator	Score (TSEV)	Maximum Score (S-max)	Percenta ge (V)	
1	Appropriateness of techniques assessed	360	360	100.0%	
2	Clarity of the indicators being assessed	332	360	92.2%	
3	Effectiveness of assessment rubrics	55	60	91.7%	
4	Objectivity	57	60	95.0%	
5	Economical	59	60	98.3%	
6	Ease of determining scores	58	60	96.7%	
7	Ease of setting assessment rubrics	54	60	90.0%	
8	Ease of use of assessment rubrics	54	60	90.0%	
9	Benefit	57	60	95.0%	
		Average		94.3%	

The average percentage result from large group trials was 94.3%. In accordance with the percentage level criteria table, the Physical Education subject skills assessment rubric product is feasible and can be used at the trial use stage.

Usage Trial Results

Analysis of data from use trials was carried out by calculating all total averages for all aspects, all observer observation results and all observation activities. Then observe each total score for an aspect to ensure that there are no aspects that fall into the category below moderate/sufficient. The following are the results of analysis of usage trial data shown in table 6.

Table 6. Data Analysis of Usage Trial Results

N.	Observed Assessed	Observation to					
NO.	Observed Aspects	1	2	3	4	5	AV

1	Preparation Phase Implemen	ntation	Level				
	a. Download and Install WPS Office Software from Google Playstore	.5	.5 4	4	.5	5	.5 4
	b. Open the skills assessment rubric file	4	5	5	.5	5	.7
	c. Changes the skills assessment rubric into edit mode	.5	5	5	.5 4 .5	5	.8
	d. Writing the identity of the skills assessment	4	.5	5	.5 4 .5	5	.6
	e. Write the names of the students who will be assessed	.5	.5	5	5	5	.8
2	Level of Implementation of Skills Assessment Rubric Display Setup Stage						
	a. Activate the unfreeze panes facility or freeze the panels.	.5	4	4	.5	.5	.3
	b. Set the display so that student names and assessment indicators remain visible on the	.5	.5	.5	.5	.5	.5 4
	screen c. Displays the on-screen keyboard	4	5	5	5	5	4
3	Level of Implementation of the Assessment Stage						.8
	a. Search for the name of the student to be assessed	5	5	5	5	5	5
	b. Observe the student's skills being assessed	4	5	.5	.5	4	.4 .4
	c. Look for assessment indicators that will be given a score	5	4	5	5	5	.8 .8
	d. Give a score of 1 (one) on assessment indicators that can be practiced by students	.5	5	4	4	5	.5
	e. Check students' total score results	5	5	5	5	5	5
	f. Save skills assessment results	.5	5	5	5	5	.9 4
	g. End the use of skills assessment rubrics	4	5	5	5	5	.8
	Total Average						4
							.7_

If you look at the table, the average total trial usage is 4.7. This shows that the level of implementation of the skills assessment rubric product is in the high category. Each aspect also does not appear in the category below moderate/fair or a score of less than 3 (<3). This shows that the skills assessment rubric product can be used and does not need to be revised.

3.2 Discussion

The skill assessment rubric product for the Physical Education subject, big ball and small ball material for class VII,

even semester, has gone through a development process and various stages to reach the level of product feasibility. The final product produced is a skills assessment rubric *file in Excel form* which will later be used on *smartphones*. The rubrics developed include rubrics for assessing skills in football games , volleyball games , basketball games , baseball games, badminton games and table tennis games.

The skills assessment rubric was developed by referring to the criteria and requirements, namely: (1) the indicators contained are able to assess certain competencies, (2) the order of indicators is in accordance with the sequence of work steps carried out by students, (3) the rubric must be able to measure the ability to be measured or be valid, (4) the rubric can be used to assess student abilities, (5) the rubric can map student abilities, and (6) the rubric scoring method is clear for making decisions [24], [25].

Next, we will explain the study of the skill assessment rubric product for the Physical Education subject, big ball and small ball material for class VII, even semester, according to the criteria and conditions previously described.

Assessment Indicators

The indicators outlined in the skill assessment rubric are the result of analyzing the movements of each game and citing research results and international journal articles. Then the researchers simplified the existing language structure so that it was easy for Physical Education teachers in Indonesia to understand and comprehend. Apart from that, the sequence of indicators is also adjusted to the order in which students practice a technical skill. The indicators contained in the skills assessment rubric, starting from football games, volleyball games, basketball games, baseball games, badminton games and table tennis games, go through a review stage to determine their suitability. This is proven by the validation results of the Physical Education evaluation expert stating that the level of suitability of the assessment indicators in the assessment rubric is 75% and the level of suitability of the sequence of assessment indicators in the rubric is 75% so that from this level of suitability the assessment indicators contained in the skills assessment rubric are suitable for use. Apart from the validation

results from Physical Education experts, the level of conformity of assessment indicators was obtained at 95.8%, which means that the indicators contained in the skills assessment rubric are suitable for use and serve as a reference in assessment.

Apart from strengthening the feasibility of assessment indicators through the validation stage, assessment indicators are also observed and responded to at the small group trial and large group trial stages. At the small group trial stage, the level of clarity of the indicators assessed was 87%. Then at the large group trial stage, the level of clarity of the indicators assessed was 92.2%. These two percentage results show that the assessment indicators contained in the skills assessment rubric are suitable and appropriate to use as an assessment reference.

Then, at the trial use stage, the existing assessment indicators also influence the implementation of the assessment process and the use of the skills assessment rubric by teachers. In the implementation aspect, look for assessment indicators that will be given a score for the level of implementation, namely 4.8. Furthermore, the aspect of giving a score to the assessment indicator for the level of implementation is 4.5. If the two levels of implementation obtained are analyzed using the interpretation of the level of implementation, the level of implementation is in the high category.

Rubric Validity

The validity of the skills assessment rubric, which means that the skills assessment rubric is able to measure what is being measured has received a suitable category from the feasibility results obtained from the validation and trial stages of aspects of the assessment indicators. Because assessment indicators also influence the validity of the rubric. Bearing in mind that each indicator in the skills assessment rubric that assesses a technique has its own assessment indicator that corresponds to the technical skill being assessed.

Apart from the suitability of the assessment indicators, the validity of the rubric can also be seen through the validation results of the Physical Education curriculum experts. At this stage the Physical Education curriculum expert reviews the assessment grid which is the result of a reduction from the Core Competencies and Basic Competencies in the curriculum to the

grouping and preparation of skill assessment rubrics for each technical skill. The results of the expert validation of the Physical Education curriculum obtained a feasibility level of 100%. This shows that all the skills assessment rubrics developed are very valid and can be used as a tool to measure student skills.

The validity of the rubric can also be seen from the effectiveness of the skills assessment rubric Because effectiveness is related to the purpose of the assessment rubric used and it is certain that the skills assessment rubric aims to assess what should be assessed. The effectiveness of the rubric is also studied and reviewed at the validation, small group trial and large group trial stages. The results of the expert validation of Physical Education evaluation show that the effectiveness level of the skills assessment rubric is 75%. Results from validation by Physical Education experts show an effectiveness level of 100%. The results of respondents' responses related to the effectiveness of the assessment rubric in small group trials were 100%. The results of respondents' responses in large group trials regarding the effectiveness of the skills assessment rubric were 91.7%. Based on the product description and study relating to supporting aspects of the validity of the skills assessment rubric, the rubric can be said to be valid.

Rubric Practicability

Basically, this skills assessment rubric is developed in the form of an excel file which can then be opened and used on a smartphone. The aim is to make it easier for teachers to assess and to achieve the efficiency required during the assessment process. Apart from that, using a skills assessment rubric on a smartphone will be more practical when used in the field. Cost savings are also benefited in this case because there is no need to print paper to record student skill scores. So, the practical level of capability of the skills assessment rubric can be seen from the results of validation, group trials and usage trials.

The validation results from Physical Education experts regarding the ease of setting the assessment rubric are at the 75% level. Furthermore, the aspect of ease of use of the assessment rubric was 75%. Referring to the validation results of Physical Education experts, the skills assessment rubric has a

good level of practicability and can be used. The results of the small group trial stage showed that in the aspect of ease of setting the assessment rubric, the percentage was 91.7%. In the aspect of ease of use, the assessment rubric obtained a percentage of 91.7%. Furthermore, the economic aspect obtained a percentage of 91.7%. All percentage results obtained from small group trials show that the skills assessment rubric is in the very good category.

The results of the large group trial stage on the aspect of ease of setting the assessment rubric obtained a percentage of 90%. The aspect of ease of use of the assessment rubric obtained a percentage of 90%. Then in the economic aspect, the skills assessment rubric obtained a percentage of 98.3. So from all the results of the small group trials, the skills assessment rubric can be said to be in the very good category. The practicability of the skills assessment rubric can be fully seen from the results of trial use. Because the use trial is to see how far the skills assessment rubric can be used. The results of all recapitulations of trials using the skills assessment rubric show that the rubric is at level 4.7, which means the level of implementation of the skills assessment rubric is in the high category.

Benefits of Rubrics

Rubrics are instruments used to measure students' level of mastery of skills. The aim is to evaluate and improve the learning process on certain components or indicators that are felt to have not yet been achieved. The skills assessment rubric developed is a very detailed rubric in recording each indicator operationally and objectively. The results of the rubric can be seen at all stages of research, from product validation to product testing. As a result of validation by Physical Education evaluation experts, the benefits of this skills assessment rubric obtained a percentage of 75%. The validation results from Physical Education experts on the accountability aspect were 100% and on the benefits aspect it was 100%. So, from the results of the two validators, this skills assessment rubric is considered useful for the Physical Education evaluation process.

The results of the small group trial showed that the objectivity aspect obtained a percentage of 91.7% and the

benefits aspect obtained a percentage of 100%. Meanwhile, from the results of large group trials, the objectivity aspect obtained a percentage of 95% and the benefits aspect obtained a percentage of 95%. Both results from product trials in small groups and large groups show that the benefits of the rubric are in the very good category.

Rubric Scoring

The method for giving scores on the skills assessment rubric developed in this research is relatively easy. Giving a score is enough to give the number 1 (one) to the indicator that the student can come up with and leave the indicator column blank if the indicator in question cannot be come up by the student. This is a step to make it easy to make corrections to any indicators that students cannot show which can then be corrected in the next learning process. The level of ease in giving scores on this skills assessment rubric can be seen at the validation stage, product trial and usage test.

The results of expert validation of Physical Education evaluation of scoring obtained a percentage of 75%. Meanwhile, validation from Physical Education experts obtained a percentage in the aspect of ease of determining scores of 75%. The two percentage results from two experts on the scoring of the skills assessment rubric make the rubric classified in the good category. The results of small group trials on the aspect of ease of determining scores obtained a percentage of 91.7%. Meanwhile, in large group trials on the same aspect, a percentage of 96.7% was also obtained. Thus, the aspect of ease of scoring at the trial stage is included in the very good category.

At the trial usage stage, the score was obtained at the level of implementation, a score of 4.5, which means the level of implementation was in the good category. All the percentage results and implementation levels obtained for the skills assessment rubric developed show that the rubric has a good scoring method and is easy to carry out.

4. CONCLUSION

Based on the findings of several research results which show that skills assessment rubrics are suitable for use, there are several suggestions and implications that can be taken for further development in the application of these rubrics in the education sector, especially Physical Education, Sports and Health. Skills assessment rubrics must be used consistently by teachers at every assessment opportunity. This consistency will not only increase clarity in the evaluation of student skills, but also help students to clearly understand the expectations they must achieve. Thus, the rubric will be a tool not only to assess, but also to guide student skill development.

Special training is required for teachers to develop their ability to use skills assessment rubrics. This training can include how to create a rubric that suits the skills being assessed, how to use the rubric objectively, and provide feedback based on the criteria listed in the rubric. Trained teachers will be able to use rubrics more effectively and accurately, which in turn will improve the quality of evaluations.

Using a skills assessment rubric will increase transparency in the evaluation process. Learners will have a clearer understanding of the standards and criteria used to assess their skills. This can reduce the potential for confusion or misunderstanding regarding assessment results, as well as provide students with clear guidance to improve their skills. By using rubrics that have been developed based on research, the assessment process becomes more objective and accurate. Rubrics allow teachers to avoid subjective assessments, because each skill assessed has clear criteria. This is very important in the assessment of practical skills at PJOK, where the assessment must be based on concrete and measurable performance.

Grading rubrics allow teachers to provide more constructive and targeted feedback. Students can clearly know which aspects of their skills meet the criteria and which still need to be improved. Thus, rubrics not only function as assessment tools, but also as learning tools that help students to develop continuously. With a clear rubric, students' skill development will be more focused. They can focus their efforts on the specific aspects that are focused on in the rubric. Apart from that, rubrics can also be used as a reflection tool for students to assess the progress of their skills independently.

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REFERENCES

- [1] P. Bundi and V. Pattyn, "Citizens and Evaluation: A Review of Evaluation Models," *Am. J. Eval.*, vol. 44, no. 4, pp. 574–603, Dec. 2023, doi: 10.1177/10982140211047219.
- [2] D. L. Wanzer, "What Is Evaluation?: Perspectives of How Evaluation Differs (or Not) From Research," *Am. J. Eval.*, vol. 42, no. 1, pp. 28–46, Mar. 2021, doi: 10.1177/1098214020920710.
- [3] R. Bommasani, P. Liang, and T. Lee, "Holistic Evaluation of Language Models," *Ann. N. Y. Acad. Sci.*, vol. 1525, no. 1, pp. 140–146, Jul. 2023, doi: 10.1111/nyas.15007.
- [4] H. Al Hudib and J. B. Cousins, "Understanding Evaluation Policy and Organizational Capacity for Evaluation: An Interview Study," *Am. J. Eval.*, vol. 43, no. 2, pp. 234–254, Jun. 2022, doi: 10.1177/10982140211007573.
- [5] A. E. Smith, N. Zlatevska, R. M. M. I. Chowdhury, and A. Belli, "A Meta-Analytical Assessment of the Effect of Deontological Evaluations and Teleological Evaluations on Ethical Judgments/Intentions," *J. Bus. Ethics*, vol. 188, no. 3, pp. 553–588, Dec. 2023, doi: 10.1007/s10551-022-05311-x.
- [6] D. Bajpai, C. Popa, P. Verma, S. Dumanski, and S. Shah, "Evaluation and Management of Hypertensive Disorders of Pregnancy," *Kidney360*, vol. 4, no. 10, pp. 1512–1525, Oct. 2023, doi: 10.34067/KID.0000000000000228.
- [7] M. Molina Soria, V. M. López-Pastor, D. Hortigüela-Alcalá, C. Pascual-Arias, and C. Fernández-Garcimartín, "Formative and Shared Assessment and Feedback: an example of good practice in Physical Education in Preservice Teacher Education," *Cult. Cienc. y Deport.*, vol.

- 18, no. 55, pp. 157–169, Mar. 2023, doi: 10.12800/CCD.V18I55.1986.
- [8] D. Scanlon, A. MacPhail, C. Walsh, and D. Tannehill, "Embedding assessment in learning experiences: enacting the principles of instructional alignment in physical education teacher education," *Curric. Stud. Heal. Phys. Educ.*, vol. 14, no. 1, pp. 3–20, 2023, doi: 10.1080/25742981.2022.2039074.
- [9] J. H. Nieminen, M. Bearman, and R. Ajjawi, "Designing the digital in authentic assessment: is it fit for purpose?," *Assess. Eval. High. Educ.*, vol. 48, no. 4, pp. 529–543, 2023, doi: 10.1080/02602938.2022.2089627.
- [10] J. McArthur, "Rethinking authentic assessment: work, well-being, and society," *High. Educ.*, vol. 85, no. 1, pp. 85–101, Jan. 2023, doi: 10.1007/s10734-022-00822-y.
- [11] A. C. Maldonado-Fuentes, C. S. P. Vargas, and J. C. M. Romero, "Connotations given to assessment by future Physical Education teachers in their first university year on-site," *Retos*, vol. 51, pp. 75–85, 2024, doi: 10.47197/retos.v51.99916.
- [12] K. Jarrett, B. Cooke, S. Harvey, and V. Lopez-Ros, "Discussing the Case for Use of Practically Assessed Structured Scenarios (PASS) as a Mode of Assessment in Physical Education Teacher Education and Sport Coaching Programs," *J. Phys. Educ. Recreat. Danc.*, vol. 94, no. 6, pp. 29–36, 2023, doi: 10.1080/07303084.2023.2221722.
- [13] M. Zubillaga-Olague and L. Cañadas, "Design and validation of «#EvalEF» questionnaire to value assessment processes developed by physical education teachers," *Retos*, vol. 42, pp. 47–55, Mar. 2021, doi: 10.47197/RETOS.V42I0.86627.
- [14] S. Asún-Dieste and M. Guíu Carrera, "Use of formative assessment in Physical Education teacher education in Secondary School: a case study," *Cult. Cienc. y Deport.*, vol. 18, no. 55, pp. 171–190, Mar. 2023, doi: 10.12800/CCD.V18I55.1918.
- [15] R. Ajjawi, J. Tai, M. Dollinger, P. Dawson, D. Boud, and M. Bearman, "From authentic assessment to authenticity

- in assessment: broadening perspectives," *Assess. Eval. High. Educ.*, vol. 49, no. 4, pp. 499–510, 2024, doi: 10.1080/02602938.2023.2271193.
- [16] A. S. Saher, A. M. J. Ali, D. Amani, and F. Najwan, "Traditional Versus Authentic Assessments in Higher Education," *Pegem Egit. ve Ogr. Derg.*, vol. 12, no. 1, pp. 283–291, Jan. 2022, doi: 10.47750/pegegog.12.01.29.
- [17] G. Fitriady, S. Nurrochmah, D. S. Yudasmara, and N. Salamuddin, "Alternative Assessment for Movement Skills in Physical Education: The Effectiveness of Online Self and Peer Assessment," in *Proceedings of the International Conference on Sports Science and Health (ICSSH 2022)*, Atlantis Press International BV, 2022, pp. 393–398.
- [18] R. Dewi, I. Verawati, B. S. Pane, and N. Nurkadri, "Analysis of Instruments for Assessment of Basic Movement Skills PJOK Elementary School," *Kinestetik J. Ilm. Pendidik. Jasm.*, vol. 6, no. 2, pp. 250–261, Jun. 2022, doi: 10.33369/jk.v6i2.21631.
- [19] G. Fitriady, M. A. Mohammad Alfarizi, and S. A. Saputra, "Optimization of movement skills assessment in physical education learning using online self and peer assessment," *J. Sci. Educ.*, vol. 3, no. 2, pp. 159–164, Dec. 2022, doi: 10.56003/jse.v3i2.168.
- [20] W. O'Brien *et al.*, "Motor competence assessment in physical education–convergent validity between fundamental movement skills and functional movement assessments in adolescence," *Phys. Educ. Sport Pedagog.*, vol. 28, no. 3, pp. 306–319, 2023, doi: 10.1080/17408989.2021.1990241.
- [21] E. Hermann, G. Hermann, and J. C. Tremblay, "Ethical Artificial Intelligence in Chemical Research and Development: A Dual Advantage for Sustainability," *Sci. Eng. Ethics*, vol. 27, no. 4, pp. 34–45, Aug. 2021, doi: 10.1007/s11948-021-00325-6.
- [22] M. Koningstein and S. Azadegan, "Participatory video for two-way communication in research for development," *Action Res.*, vol. 19, no. 2, pp. 218–236, Jun. 2021, doi: 10.1177/1476750318762032.

- M. Apgar, M. Snijder, G. L. Higdon, and S. Szabo, [23] "Evaluating Research for Development: Innovation to Complexity," Navigate European Journal Development Research, vol. 35, no. 2. Palgrave 241–259, Apr. Macmillan. 2023. doi: pp. 10.1057/s41287-023-00577-x.
- [24] L. Eddy *et al.*, "Fundamental Movement Skills and Their Assessment in Primary Schools from the Perspective of Teachers," *Meas. Phys. Educ. Exerc. Sci.*, vol. 25, no. 3, pp. 236–249, 2021, doi: 10.1080/1091367X.2021.1874955.
- [25] J. Patterson-Price and G. Gutierrez, "Validating the dance fundamental movement skills assessment for balance," *Res. Danc. Educ.*, vol. 22, no. 3, pp. 336–350, 2021, doi: 10.1080/14647893.2020.1781075.

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