

## Instrument Development Chapter of Learning Game Football Kick The Ball for Elementary School Grade Five

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### Abstract

Authentic assessment at school has generally been carried out, but has not been supported by a tested assessment instrument. The purpose of this study was to produce a valid, reliable, and practical assessment instrument in learning soccer kicking material. The research method used is research and development involving 3 expert assessments, namely, Information Technology Experts, and Sport and health physical education teachers. The expert validation instrument has 4 categories, namely invalid, less valid, valid, very valid. For data analysis, the validity level used the Aiken's V formula, while knowing the reliability level of the instrument used the Cronbach alpha formula assisted by SPSS 16.0. The results of the content validation analysis of all items were valued above 0.3, which means that all aspects assessed by the expert were valid. The reliability test of the assessment instrument using Cronbach's alpha was obtained a value of 0.747. The practicality test of the assessment instrument in the form of a website has a value of 85%. It can be concluded that the instrument application has a very high level of practicality. This study serves to increase the reference data of researchers and of course it can be used by teachers in conducting assessments.

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## INTRODUCTION

The presence of Information and Communication Technology in the world of education in developed countries, directly or indirectly has boosted teaching change.

Assessment is a series of systematic and continuous activities to obtain data and information about the learning process and outcomes of students. Assessment is also used to collect data and information about strengths and weaknesses in the learning process so that it can be used as a basis for decision making and improving the learning process (Kemendikbud, 2013 : 66).

According to (Mardapi, 2016 : 12) Assessment is the process of gathering and processing information to measure the achievement of learning outcomes. This is in line with Anderson's opinion which states that appraisal is a process of gathering information used to make accountable decisions..

According to (Anam, K & Suharjana, 2015: 15) The goal of modern football today is how to put the ball into the opponent's goal as much as possible by relying on the ability and teamwork that is compact, so that in the game of football mastery of technique, physical condition, development of tactics and having the maturity of a champion are very important..

Sport and health physical education has sub material practice of basic skills to play football. The empirical fact shows that the assessment of the basic skills practice in playing football in schools is still not perfect in the standard practice assessment instrument, so that what appears is the final value of the teacher's assessment, without detailing every aspect that is in the assessment of basic skills to play football (Daniel Suparno, wawancara, 18 September 2016).

The reality in the field of Authentic Assessment has been applied but it is not perfect in the implementation of the assessment. This has been proven in observations in schools that have used the 2013 curriculum in Semarang, namely Rejosari 01 Elementary School. After making observations to the school the data obtained 1)

Sport and health physical education teachers in conducting assessments are still fixated by teacher books, 2) Sport and health physical education teachers in make an assessment using less standard instruments, 3) the teacher in the dominant assessment on direct observation..

Research results from Nur Fajri Subagyo, et al (2015), show that the results of this study obtained data (1) a model for assessing the performance of learning soccer games in elementary schools; (2) the assessment of the learning performance of the soccer game has an inter rater reliability coefficient of 0.792 with an error variance of 0.137; (3) indicators that can be measured in an integrated manner in the assessment of the learning performance of the soccer game in primary schools consist of cognitive, psychomotor and affective aspects.

According to Firyomanto, et al. (2016) Teachers are one of the keys in the education system, but they still have problems related to the low quality of teaching, the quality of education, and teaching practices. This condition became the basis for the development of a learning assessment instrument in the soccer game at Rejosari 01 Elementary School in grade 5. Using the R&D method and supported by the Aiken's V validity test, Cronbach's alpha reliability and practicality tests.

This study aims as a source of reference for researchers, and of course it can be used by teachers in conducting assessments.

## METHOD

In this assessment instrument development research, the method used is the Research and Development (R&D) method. R&D research is currently a type of research that is widely developed. The data obtained were in the form of qualitative data from interviews with Sport and health physical education teachers and quantitative data from filling out validation sheets by three experts, including 2 informatics engineering expert lecturers and one Sport and health physical education expert teacher. From the results of the questionnaire the data were processed using the Aiken's V formula. The

reliability test was assisted by SPSS 16.0 with Cronbach's alpha by using the data on the results of the assessment of 5th grade students at Rejosari 01 Elementary School.

Then in the final part, a practicality test was carried out by giving a questionnaire to the Sport and health physical education teacher at Rejosari 01 Elementary School who had previously carried out the process of assessing the football game with the material of kicking a ball.

## RESULT AND DISCUSSION

The term assessment in Indonesian can be synonymous with evaluation and now the term assessment is also popular. There are many definitions of judgment put forward by people, which, although they are different formulas, generally refer to almost the same meaning. According to Sumaryatun, Rusilowati, A & Nugroho, S, E (2016: 67) also explained that paradigmatically authentic assessment requires the realization of authentic learning and authentic learning. Authentic assessment in relation to the term assessment is sometimes referred to by other names, including performance assessment, alternative assessment, and direct assessment.

The preparation of test instruments must be structured logically and rationally regarding any subject matter that should be asked as important knowledge materials to be known and understood by students. Not only that, the test made by the teacher needs to pay attention to the difficulty level of the item which is based on student characteristics or characteristics. the tests made also need to be tested in large groups (Alam, Japar, & Asnur, 2019: 61).

The development of an assessment instrument for soccer learning in kicking a football material is the development of an instrument or measuring instrument used to measure students' ability to practice the theory that has been given by the Sport and health physical education teacher in kicking a ball material. The instrument consists of 4 items with different levels of difficulty, the aim is that the items can measure the level of students' problem

solving abilities. Before being distributed, the test was first tested for its validity and reliability by providing a test assessment questionnaire to 3 experts..

After the validator gives an assessment of the instrument being developed. The content validity test was conducted to check the validity of the instrument in terms of 3 aspects, including: content feasibility, construction, and language aspects. The assessor simply gives a check mark on each column that has been made by the researcher. There are 4 categories in each aspect, namely (4) very valid, (3) valid, (2) less relevant, and (1) invalid.

From the results of expert judgment, then the formula for the validity of Aiken's V content is calculated to determine whether this instrument is feasible or not suitable for use. Aiken (1985) formulated Aiken's V formula to calculate the content validity coefficient based on the results of research from a panel of n experts on an item in terms of the extent to which the item represents the construct being measured. The formula proposed by Aiken is as follows (Azwar, 2015: 113), the coefficient values are obtained as in Table 1.

$$V = \frac{\sum s}{n(c-1)}$$

Information:

s	= r – lo
lo	= Lowest validity assessment number
c	= Highest validity assessment rate
r	= Number given by an assessors
n	= Number of assessors

Checking valid items can be actualized by looking at the predetermined criteria based on the validity coefficient  $\geq 0.3$ , the items are said to be valid if the validity value is  $\geq 0.3$  (Azwar, 2015: 134). The results of the validity that have been obtained can be seen in Table 1, of the 11 items all of them have valid criteria.

**Table 1.** Expert Agreement Coefficients

Items	Rater 1	Rater 2	Rater 3	ΣS	Coefisien Aiken	Criteria
1	3	2	3	8	0.8	Valid
2	3	3	3	9	0.9	Valid
3	3	2	3	8	0.8	Valid
4	3	2	3	8	0.8	Valid
5	3	3	2	8	0.8	Valid
6	2	3	2	7	0.7	Valid
7	3	2	2	7	0.7	Valid
8	2	2	3	7	0.7	Valid
9	2	3	3	8	0.8	Valid
10	2	3	2	7	0.7	Valid
11	2	2	3	7	0.7	Valid

Content validity assessment is carried out by expert judgment, namely informatics engineering expert lecturers and Sport and health physical education teachers. Experts carry out an assessment of two main points. Based on the calculation of content validation using the Aiken V formula, it can be concluded that all item items show the valid category, with the lowest index being 0.7 and the highest index being 0.9. So it can be said that the instrument used has high validity.

In addition to quantitative data, qualitative data were also obtained from expert validators in the form of suggestions and input that became a reference for improvement in the development of an assessment instrument for soccer game kicking material. The items that have been assessed by the experts are then revised by taking into account the suggestions given so that the items can better measure the student's ability to kick a ball. The suggestions given by the validator on the developed problem solving ability instrument can be seen in Table 2.

**Table 2.** Assessment Results and Comments of Validators

Experts	Comments/Suggestion
Dr. Djuniadi, M.T. (Information Technology expert)	More developed for its user grouping features.
Farid Ahmadi, S.Kom, M.Kom, Ph.D (Information Technology expert)	It's good to continue on the next process.

Technology expert)

Daniel Suparno, Performance sheet to be M.Pd (Sport and fixed again. The health physical assessment application is education teacher made as simple as and expert) possible for the proficiency received by sports and health physical education teachers

Based on input from experts, researchers made improvements to the website-based assessment application in the user grouping and instrument usage flow. The second improvement to the performance instrument before it is implemented into the application by adding a detailed assessment rubric.

The next analysis is to use Cronbach's alpha to determine the consistency of the instrument when it is used in conducting the assessment. The analysis was assisted by SPSS 16.0 with the result of an Alpha Cronbach value of 0.747 as seen in Table 3, thus the assessment instrument can be said to be reliable because it has a value above 0.6.

**Table 3.** Reliability Statistics

Cronbach's Alpha	N of Items
.747	4

From the results of the instrument reliability test showed that the coefficient value of Cronbach's Alpha was 0.747. These results indicate that the authentic assessment instrument of the website-based soccer game material has good reliability. Likewise for Cronbach's Alpha if Item Deleted value as shown in Table 4 has a value > 0.6.

**Table 4.** Item Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1	9.3889	3.787	.398	.761
Q2	9.4722	3.799	.476	.723
Q3	9.4722	2.828	.669	.608
Q4	9.6667	2.971	.641	.627

Based on the results of the practicality data recapitulation obtained from the results of the assessment sheet given to the sports physical education and health Rejosari 01 Elementary School teacher, the average percentage of the practicality assessment of the instrument was 85%, so the football game assessment instrument on website-based kicking ball material had a high practicality level.

Zaenal Arifin (2013: 264) explains that practicality is a requirement for a standard test instrument, and practicality means the ease of an instrument in preparing, using, processing, interpreting, and administering.

Thus, the development of a football game assessment instrument for kicking a ball that has been tested for validity, reliability by 3 experts using the Aiken V formula and reliability using Cronbach's alpha and application practicality tests have been carried out with respondents from teachers of sports physical education and health at Rejosari 01 Elementary School.

## CONCLUSION

From the results of the study it can be concluded that the development of a website-based football game learning assessment instrument is declared feasible based on reviews from 3 experts in the field of physical education and health and informatics engineering using Aiken's V with results above 0.7. The instrument was also declared reliable using Alpha Cronbach analysis using SPSS 16.0 to produce a reliability value of 0.747. As well as practicality tests that have been carried out by researchers to PJOK teachers who use the appraisal application shows the results of 85%. It can be concluded that the

website-based assessment instrument meets the requirements of practicality. Suggestions for researchers who will carry out similar research are to improve the assessment of experts, because the more experts who assess the quality of food, the better in terms of content validity.

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