



Development of Assessment Instruments Skills of Cultural Lesson Arts and Workshops in Primary School Based on Mobile

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Abstract

The current instruments can not be used to assess the students' skills on the subjects of culture arts and the workshops in particular the material of collage in Primary School objectively. This research aims to develop instruments assessment skills on the subjects of culture arts and the workshops in Primary School based mobile valid, reliable, and effective. This researches method using R & D model of ADDIE with stages Analyze, Design, Develop, Implement, Evaluate. The sample of this study was 75 students. The results show the validity of the contents of 10 criteria measured values > 0.3 , which means the instrument valid instrument developed skills. Results of Kaiser Meyer Olkin (KMO) 0.852 and Bartlett's with 0.000 significances, anti image correlation shows that the correlation value between the criteria measured to get correlation value > 0.5 therefore all the criteria measured can be in factor analysis by including all items. Exploratory factor analysis showed 3 factors formed from 10 criteria measured. The loading factor values for each criterion measured at each factor is > 0.3 . Based on Alpha Cronbach's reliability test obtained value of 0.847, the instrument is declared reliable. The conclusions show the instrument of skill assessment on the subjects of culture arts and workshops in particular collage material in mobile based Primary School, reliable and effective use. The benefits derived from the research of the assessment instrument developed can be used as teacher guidance in the Primary School in conducting assessment of skills on the learning of cultural arts and workshops.

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INTRODUCTION

Assessment is an important component in learning activities. The function of assessment is to know the achievement of goals or feelings of the learning activities. System assessment used in improving the quality of education is a system assessment sustainable. A sustainable

system is to assess all basic competencies, analyze results and follow-up in the form of enrichment or improvement programs (Mardapi, 2016: 12). Assessment aims to measure the success of learning conducted by educators and simultaneously measure the success of students in control of the competencies that have been determined. Educators can do reflection and evaluation of the quality of learning that has been done through assessment activities (Kunandar, 2015:10). In the Curriculum 2013, educators should not only assess the knowledge aspect, but educators should assess the aspect of attitudes and skills as they are known as assessment authentic. Assessment authentically became one of emphasis on Curriculum 2013 (K13) (Sumaryatun, Rusilowati, Ani & Nugroho, S. E, 2016: 67).

The subjects in K13 are integrated or incorporated into the theme, but for assessment it is still done on the competence of each subject. In learning SBdP assessment that is often used is performance performance or a assessment and product. Assessment performed in K13 on subjects SBdP must use authentic assessment that subjective assessment. SBdP learning is usually the student produce the product so that educators do not assess the results of the product of but the teacher must assessment process called performance or work performance equipped with standard assessment guidelines. Assessment performance (performance assessment) is evaluation technique in the process of collecting data to make decisions on individuals is done by means of systematic observation (Utomo, Udi & Ardiyarta, T, 2013: 3). Assessment provides targeted learning performance that allows the examiner to make a judgment credible and unbiased about using an assessment rubric (Tseng, 2016: 377).

Educators in performing an authentic assessment of SBdP in SD are tailored to current technological developments, which should be utilized as best as possible by making them a tool for creating an instrument assessment mobile e-based applications that make it easy about users especially in this case is the educators especially Primary School teachers. Mobile applications today are needed because telecommunication tools are scattered around the world requires applications that can easy user works wherever and whenever especially in terms of information. The mobile device saves time and place making it easier and become more flexible (Burston, 2013: 157). Based on the Observation results in some schools that Primary School in District Karangmoncol already equipped with Wi-Fifacility and teachers already have mobile phone based on Android.

Based on interviews for one of the Classroom teachers at SD N 1 Baleraksa, SD N 1 Pepedan dan SD N 1 Pekiringan Kecamatan Karangmoncol, Purbalingga District, he said that in the assessment process, the observed assessment of the product assessment alone, while for the assessment of performance has not been done, the teacher assesses the knowledge of the teacher SBdP. This happens because the ability possessed by the teacher on the development of skills assessment instrument is still low so that the teacher in assessing not clear or subjective.

Thus, an instrument that can be used to assess SBdP learning skill using mobile is required so that the assessment results is more accountable. In the assessment of SBdP learning skills need to be affirmed the absence of wrong, wrong or right, because there is only the level of ability of children. This is in accordance with research conducted by (Solberg, 2016: 1) that cultural education and socialization, and here is seen as a background to consider the children's native participation in cultural practice.

Learning art appreciation focuses on fostering affective aspects (attitude, sensitivity of taste). This is in line with research conducted by (Chin, 2016: 1) that " fair and just social education can be realized through and within a

culture of thought that develops students' balanced intelligence". The learning of art skills focuses on the psychometric aspect (skill) which is usually called studio experience practitioners. This is in line with research conducted by (Rintoul, 2014: 1) that "knowledge and integration approaches as engineering and integration as philosophy, suggestions are made on how to set theory in relation to studio practice". This is in line with the research conducted by Nilson, Fetherston, et al., 2013: 1) that the existence of Art in the curriculum now and further argues that knowing how to develop critical thinking is an important pedagogical skill that needs to be developed in teachers.

METHODS

The method used in this research is R & D. This study uses the ADDIE research design proposed by Dick and Carry (Sugiono, 2017: 28). ADDIE stands for Analyze, Design, Development or Production, Implementation or Delivery and Evaluations. Subjects in this research are students totaling 75 students. The analysis used in this research is qualitative and quantitative. The design of the ADDIE study is described as follows:

Analyze

At this stage, the main activity is to analyze the need for the development of assessment instruments and to analyze the feasibility and development requirements new assessment instrument. The development of a new learning assessment instrument is preceded by the existence of an assessment instrument that has been applied.

Design

In the design of assessment instruments, the design phase has similarities with designing teaching and learning activities. This activity is a systematic process that starts from setting learning goals, designing scenarios or teaching-learning activities, designing learning tools, designing learning materials and learning outco-

mes evaluation tools. The design of the assessment instrument is still conceptual and will underlie the subsequent development processes.

Development

In the design phase, a conceptual framework of the application of new learning assessment instruments has been developed. In the development stage, the conceptual framework is realized to be a ready-to-implement product.

Implementation

At this stage the implementation of an assessment instrument that has been developed in the real situation is in the classroom. During implementation, which has been developed is applied to the actual conditions. After the implementation of the method then conducted an initial evaluation to provide feedback on the application of subsequent instrument assessment.

Evaluation

At this stage evaluation is used to provide feedback to the users of the assessment instrument developed. Revisions are made in accordance with the evaluation results or needs that have not been met by the new assessment instrument.

RESULTS AND DISCUSSION

Analysis

The stage of analysis is the steps undertaken in SD N 1 Baleraksa, SD N 1 Pepedan and SD N 1 Pekiringan, obtaining information that the basic assessment for art and culture subjects in elementary school, one of the tasks is that teachers still do not understand the tools. a tool that does not exist clearly, which can explain clearly, which can be ignored. For the fact, the researcher also did a study on the theory of authentic assessment in the realm and reviewed the research. The results that occur between ideal theoretical studies with empirical studies in the field. The chosen solution is the development of validated and reliability tested instruments by experts in the field.

Design

At the design stage, the researcher prepares the grids, rubrics, assessment instrument form, and assessment sheet. Results in each design stage can be described as follows:

1. Grille

The instruments are designed from basic and basic (KD), indicators, pointing aspects, and definitions used.

2. Instrument Instrument Check

Form of instrument assessment consists of school identity, KI, KD, indicators, objectives, tools and materials needed, tasks, and steps in making.

3. Arrange Rubric

After the preparation of the lattice and make the instrunen, then done rubric assessment instrument on the subjects of art and culture and workshop with different materials. The results of the rubric generation obtained 10 criteria that reflect the developing of the indicator. The scale itself on the record rubric is using the rating scale with the lowest score 0 and the highest 3.

4. Sheet Rating

Further assessments consist of clear assessments, scoring techniques and criteria assessment. Scoring technique of assessment instrument for art and culture subjects on collage material ie (score obtained) / (maximum score) $\times 10$.

Meanwhile, which is an instrument assessment on cultural arts subjects and workshops are:

Very Good	: Score issued	: 7.6-10
Good	: Score issued	: 5,1-7,5
Fair	: scores issued	: 2.6-5
Less	: score issued	: 0-2,5

Development

After the skills assessment instrument on arts and culture subjects on collage material in mobile base school so, then put into application made using Android 5.0 software, the application is made by moving the finished instrument into the form of Android application. The use of skill assessment applications in cultural arts subjects and workshops in mobile-based primary schools is expected to facilitate

teachers in conducting assessments. Views of skills assessment instruments on cultural arts subjects and workshops in mobile base schools are as follows:



Figure 1. Initial App View

The initial view consists of several menus

- Input menu is a menu to enter data or values into the application system.
- The Value menu is the menu to see the results of the assessment that has been done.
- The Close menu is the exit menu to return to the start screen.

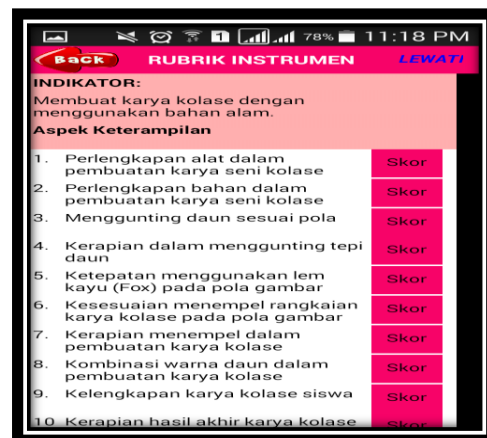


Figure 2. Input Display

The display in the input menu contains:

- The Assessment Rubric is an assessment guide that describes the criteria the teacher wants in assessing or providing a level of student work.
- Indicators are specific basic competencies that can be used to assess the achievement of

learning outcomes and also serve as a benchmark of the extent to which students' mastery of a subject or subject matter.

- Aspects of Skills are assessments undertaken to determine the extent to which students' ability to practice (performance).
- Score is the rating scale used in the scoring rubric using the rating scale with the lowest score of 0 and the highest 3.

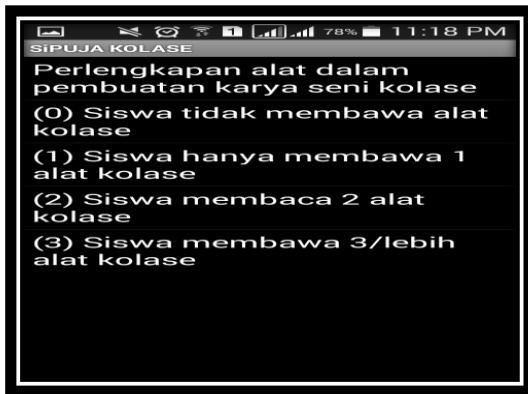


Figure 3. Score View

Score view contains the scoring scale used in the rating rubric using the rating scale with the lowest score of 0 and the highest 3.

Example:

- Equipment tool in making collage artwork
- 0 = students do not carry collage devices
- 1 = students carry 1 collage tool
- 2 = students carry 2 collage tools
- 3 = students carry 3 / more collage devices

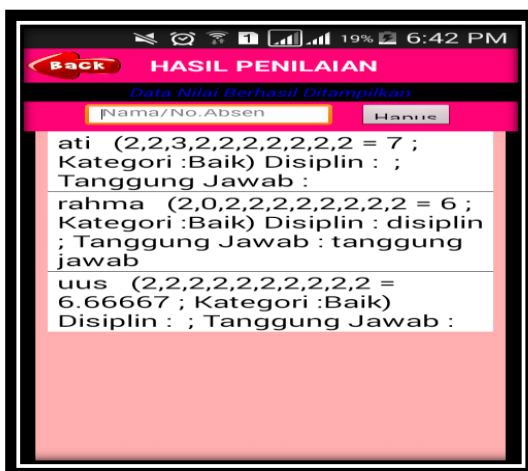


Figure 4. Impressive View

Assessment view contains the results of assessments that have been input consists of student identity and assessment columns of each aspect as measured.

Implementation

Exspert Validity

Instrument validation assessment of skills in arts and culture subjects in mobile elementary school, the researchers involve as many as 4 experts consisting of 1 expert in the field of fine arts, 1 expert on the field of measurement and instrument development, 1 expert on the field of information technology, and 1 teachers and experts are asked to provide assessment, feedback, opinions on the grid, assessment rub, scoring techniques and assessment instruments in the form of observation sheets that have been prepared by researchers. The result of validity tests using Aiken's V formula shows that all aspects considered have Aiken coefficient (> 0.30) means that the skills assessment instrument on art and culture subjects and workshops in mobile elementary schools has good content validity, followed by trials in field. After validating the contents of the experts (Interrater), the results of further research to calculate the level of agreement with the four experts by using the reliability test consistency between assessors in the analysis using different tests of two-way Anava (two way anava) and then proven trough Formula Hoyt analysis. The result calculated using the Hoyt formula yields a reliability coefficient value of 0.83, which means that the assessor (in rerater) judges the agreement on the content conformity and this also indicates that the scoring given by each rater is consistent.

Construct Validity Test Results

Based on the data analyzed by using exploratory factor analysis approach, the resulting data is said feasible or can be continued to eligible for factor analysis, if it qualifies $KMO MSA > 0.5$, and correlation value of factor has correlation coefficient that is > 0.3 . Results $KMO M SA$ can be seen in table 1 below:

Table 1. KMO and Bartlett's Tests Result

KMO and Bartlett's Test		
Category	Measure of	Score
Kaiser-Meyer-Olkin Sampling Adequacy.		.852
Bartlett's Test of Sphericity	Approx. Chi-Square	693.887
	Df	45
	Sig.	.000

Based on the result of test analysis try to show that the KMO and Bartlett's numbers are 0.852 with a significance of 0.000, looking at the numbers listed in table 1, then the existing indicators and samples actually meet the criteria and can be analyzed further. The result of validity analysis is seen on anti-Image Matrices (MSA) especially in the anti-image correlation section that can be viewed in Table 2 below:

Table 2. Test Validity Test Results

No	Criteria measured	Anti Image Correlation	Information
1	Equipment tool for making collage artwork	0.545	Valid
2	Material equipment in making collage artwork	0.745	Valid
3	Cut the leaves according to the pattern	0.919	Valid
4	Neatness in cutting edges	0.908	Valid
5	The accuracy of using wood glue (Fox) on the pattern of the image	0.922	Valid
6	Compatibility attaches to a series of collage works on image patterns	0.904	Valid
7	Tidiness attached in making collage works	0.923	Valid
8	Combination of leaf color to	0.926	Valid

9	making collage works Completeness of collage work of students	0.537	Valid
10	Neatness of the final work of collage	0.549	Valid

Based on the anti image column correlation on shows that the correlation value of the measured criteria gets the correlation value > 0.5 therefore all the criteria measured is valid so that the factor analysis can be continued by including all the items.

The next step is to see how many factors that may be formed into factor analysis with the number of this 75 sample, after exploratory factor analysis with the help of SPSS program version 16.0. Based on Total Variance Explained results shows there are 3 components that are formed and can represent the indicator, there are 10 criteria measured and then analyzed it has eigenvalues value > 1 means that the 10 measured criteria can be grouped into 3 factors. Factor 1 has n-5,037 and is able to explain the variance of 50.726, Factor 2 has a value of 1.941 and is able to explain the variance of 19.410, Factor 3 has a value of 11,140 and is able to explain the variance of 81.276. Factors used to explain the total diversity then seen from the large eigenvalue, components with eigenvalues > 1 is the component used. Overall results of Total of Varians can be drawn on the scree plot which can be seen below:

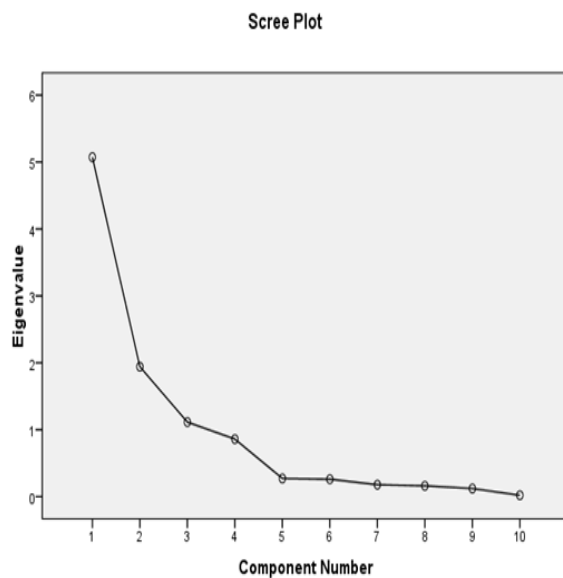


Figure 1. Results of Scree Plot

Based on the above scree plot appears that there are three points that are above a value of 1 and the other points are under the value 1. This illustrates that there are three components that have eigenvalue over 1. Furthermore, the determination of the value of each criteria that measured into any factor of 3 factors. The grouping of measured criteria and the magnitude of the loading factor of one factor is seen from its loading factor value $>> 0.3$. Grouping items into factors can be done by looking at the Rotation table Components Matrix by showing the result of rotation factor seen that grouping criteria measured into factor and the magnitude of the loading factor obtained that visible determination criteria input which is measured to a certain factor follows on the large correlation between variables by factors, to the large correlations.

According to the results of the grouping of the 10 criteria measured into 3 factors formed and the naming of each factor. The components are formed into the first factor named preparation, instrument criterion No. 1 and 2. The components are formed on the second factor was named the manufacturing process, instrument criterion no 3,4,5,6,7, and 8. The components formed on factor 3 are named after the end result, instrument criterion no 9 and 10.

Reliability

After knowing the result of the validity of konstruk, then the next step is to test the reliability. Test instrument reliability assessment of skills in cultural arts subjects and workshops immobile elementary schools is performed using Alpha Cronbach reliability test through SPSS 16.0 program. Based on the value of the coefficient generated that was done obtained reliability test to value is equal to $0.847 > 0.70$ so it can be said that the instrument assessment of skills in cultural arts subjects and workshops in mobile-based primary schools is consistently used in conducting assessments.

Effective Test

The effectiveness of the instrument is obtained through the analysis of the results of the questionnaire filling the effectiveness of the instruments by 4 class teachers. Questionnaire hen questionnaire is done based on developed instrument. Each teacher is given quisioner and one instrument has been developed.

The results of the assessment given by the teacher of the instrument class assessment of skills on the subjects of cultural arts and crafts in primary school based mobile contain some assessment criteria are measured indicate that aspects of the suitability of learning objectives, indicators, and KD gets a percentage of 85%, aspects of thematic learning gets a percentage of 94%, this aspect of the allocation of assessment time to get percentage of 88%, instrument suitability aspect got 84% percentage, data relevance aspect and result get percentage 94%, so instrument assessment of skills on cultural arts subjects and workshops in mobile elementary schools is said to be very effective.

Evaluation

The evaluation phase of the ADDIE development model is carried out at almost every stage. Evaluation conducted on this development research is formative evaluation at each phase of ADDIE development and revision to know whether product development for valid to be applied for learning. At the evaluation stage, the developer evaluates the product

development that includes the validity, reliability and effectiveness of the product.

Prior to the experimental research on instrument development, it must first be analyzed through validity and reliability tests based on Expert Judgment, as Azwar (2016: 42) argues that content validity is a validity that is estimated through testing of feasibility or relevance the contents of the test through rational analysis by a panel that is competent or through expert judgment. Testing the validity of the content in this study based on expert test results that dilakukan four validators. This is in line with the research conducted by Majid on the Development of Authentic Assessment Instruments Performance on Science Subjects at SDN Jlamprang and SDN Wonosari 03 Kabupaten Batang. The result of the research shows that agreement between rater means that the instrument has high enough stability (Majid, Nur K., Tri Joko R., & Supriyadi, 2017). This is in line with the research conducted by Eris Fahmi Rahmawan that performance appraisal is appropriate to be used as a form of assessment. (Rahmawan, Eris F, Sumaryanto, & Supriyadi, 2016).

Reliability in this study has a high reliability. This corresponds to the theory suggests that if the reliability coefficient value > 0.6 , then the expert is consistent in judging (Sujarwanto & Rosilawati, 2015: 785) this means that the four experts are consistent in assessing the instrument. The analysis performed by the researchers shows the instrument assessment of skills on the subjects of art and craft culture in primary schools developed mobile based has proven the validity and reliability through an agreement based on the expert, that the instruments developed was appropriate and memenuhi terms of validity and reliability that can be used for testing. This is in accordance with the results of research by Widya Puji Astuti which shows that the performance assessment instrument is reliable and the result of trial 2 has a higher level of reliability than the result of test 1 (Astuti, Widya P, Wibawanto, H & Khumaedi, M, 2015). This is in line with the research of Ibn Wachyudin with the title Resear

ch for Developing Performance Rating Instrument. The results of the PUK Instrument research developed proved to be valid, reliable and effective (Wachyudi, I, Sukestiyarno, & Waluya, B, 2015).

The results of calculating the effectiveness of the skills assessment instruments on cultural arts subjects and workshops in mobile-based primary schools show that the developed instruments are highly effective. This is in accordance with research conducted by Agus Budi Utomo the effectiveness of IPKGP-TKR shows effective to be used. (Agus Budi Utomo & Samsudi, 2015). This is in line with research Research conducted by Khusnul Khotimah on Development of Contextual Based Learning Assessment Instruments To Measure Student Laboratory Skills. The results of the Instrument analysis were declared to effectively measure students' laboratory skills because 26 of the 29 students had had high and very high laboratory skills. The performance assessment instrument of the research result is standard and can be used to assess students' laboratory skills. (Khotimah, Khusnul, Endang Susilaningih, 2017).

CONCLUSION

The results of content validation and construct and reliability by experts show the instrument a s s e s s m e n t worth using. Trials are conducted in one primary school by showing that the skills instrument obtains a very high percentage of effectiveness value. Based on this analysis it can be concluded that the instrument of assessment to skills, in primary schools on the subjects of art, culture and craft valid, reliable, and effective for use in the process assessment. Instrument development as s e s s m e n t skills in the areas of skills has not been done by teachers in primary schools. Therefore, it is necessary to do further research and development for make the instrument a s s e s s m e n t downloading t o n the realm of skills for other themes. Subsequent research can disseminate instrument development as s e s s m e n t skills on a wider scale.

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