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Development of Mathematical Literation Instruments Based on Class IV Geometry Material Conservation

Kakung Prasetyo✉, **Masrukan**, **Sunawan**

Universitas Negeri Semarang, Indonesia

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Abstract

Mathematical-based conservation literacy instruments in elementary school (SD) that are valid, reliable and practical are not yet available. This study aims to develop mathematical literacy instruments based on the conservation of grade IV elementary geometry material validity, reliability, and practicality. This research method uses the R & D Development model of Borg & Gall. Research procedures include (1) preliminary studies; (2) Planning; (3) the development of a hypothetical model; (4) Review of hypothetical models; (5) Revision I; (6) limited trials; (7) Revision II; (8) Extensive trials; (9) Revised final model. The sample used for the study was 30 students for a small scale test and 119 students for a large scale test. Data collection techniques using interviews, observation, and tests. The results of the instrument are declared to be valid in content of 0.60. The estimated reliability of Inter Class Correlation (ICC) between assessors is 0.809. Small-scale tests show the value of Kaiser Meyer Olkin (KMO) of 0.653 and Barteletts test sig. 0,000. However, there is 1 item that has a value of Measures of Sampling Adequacy (MSA) <0.5. Large-scale tests show the value of Results (KMO) of 0.685 and Bartlett's Test sig. 0,000. All items obtain an MSA value of> 0.5. The instrument forms 3 components. The value of Eigenvalues component 1 is 3,273, component 2 is 2,585, and component 3 is 1,562. The conclusion of this study is that the instruments developed proved to be valid, reliable and practical. Valid content based on expert judgment. Valid constructively by forming 3 factors. Reliable based on empirical tests. The instrument proved to be very practical based on teacher ratings. The instrument used by the teacher is used as a tool to measure mathematical literacy and improve students' mathematical abilities.

✉Alamat korespondensi
Kampus Unnes Kelud Raya, Semarang, 50233
E-mail: kakung24@gmail.com

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INTRODUCTION

Literacy is an absorption from English 'literacy' which means the ability to read and write. The ability to read and write is the most basic competency needed by students in carrying out daily activities. Without the ability to read and write, students' communication skills will be difficult to develop to a higher level (Wardhani and Rumiyati, 2011: 53). Mathematical literacy according to Zulkardi (2003: 1-6) is defined as the ability of a person to read, understand and apply mathematics in everyday life as his contribution to being a smart and virtuous member of society. Good literacy will make it easier for students to solve mathematical problems.

Mathematical literacy is very important to solve problems faced in everyday life (Setiawan et al, 2014). Mathematical literacy helps one recognize the role of mathematics in the world and make the necessary decisions and decisions. Now literacy is not only understood as the ability to read and write, but also understood as the ability to use the reading results for the reader's life skills, therefore literacy in the context of literacy becomes one of the needs that must be met and cannot be separated from daily life - day. Husna (2014) states that the problems faced by teachers in assessing mathematical literacy, namely: (1) lack of teacher knowledge about mathematical literacy competencies, (2) there is no format for mathematical literacy assessment, (3) mathematics literacy competitions are rarely carried out in an area so that the teacher does not direct and focus on mathematical literacy, passing on just achieving material goals. Oktaviani (2014) stated that there had never been a mathematical literacy test used in schools. It is very necessary for mathematical literacy instruments because with the existence of these instruments teachers and students can find out about mathematical literacy so that they can adjust it to the material and learning that they will apply to school.

Studying geometry provides many basic skills and helps to build the ability to think logic, analytical reasoning and problem solving that can be learned through literacy, especially mathematical literacy. The results of Mahdiansyah and Rahmawati's research (2014) the average mathematical literacy is 25.8 which is the lowest average compared to the average mathematical literacy in other content. Sulistiyaningsih (2016) the results of the study showed that in general students' ability to solve mathematical problems, especially geometry material, were found at level 1 and level 5, in terms of problem solving abilities, process component abilities and mathematical contexts in PISA. Mathematics learning is still a problem for Indonesian students in their ability to think logically, reason analytically and solve mathematical problems so that there is a need for solutions in learning especially at the evaluation stage.On the other hand, people's lives today do not understand the impact caused by behaviors that do not care about their environment. Public awareness of the importance of protecting the environment will affect the quality of life. Education plays an important role in the development of community character. Education must be able to instill and develop noble characters for students so students can practice in their lives both in the school environment, family and in the community. One character that is neglected to be instilled by educators to students is the character of environmental care. Current environmental conditions are increasingly alarming. Human activities that exploit natural and unlimited natural resources have an impact on the deteriorating natural environment, which affects the quality of life of unhealthy humans. This is in line with Markowitz (2013) stating that the character of caring for the environment by many circles has faded and they no longer think of the impact that will be obtained for the actions taken against the environment. One program that leads to this problem is education that refers to conservation principles. Literally according to Daryanto (2013) conservation comes from the language of English conservation which means pelastrian protection. The principle of conservation means the act of protection, preservation, and sustainable use of both conservation of natural and artistic resources and culture. The introduction of conservation values in children is very important to be planted in schools, but the fact that occurs in the

field is only a small part of the school does it, this is due to the lack of awareness of educators to direct it.

Based on the results of a study of mathematical literacy, subject matter of geometry and the issue of community awareness of the environment, it can be concluded that at this time it is necessary to develop a conservation mathematics literacy instrument for elementary students. The instrument aims to develop knowledge skills, attitudes, logical thinking, systematic, critical, analytical, and knowledge-based conservation for students. The teacher can use it in evaluating the learning process. Instruments that have a scoring guide and are valid and reliable will provide results of evaluation of the learning process that is in accordance with the achievement of Mathematics subject competencies.

METHODS

This research method uses the R & D Development model of Borg & Gall. Research procedures include (1) preliminary studies; (2) Planning; (3) the development of a hypothetical model; (4) Review of hypothetical models; (5) Revision I; (6) limited trials; (7) Revision II; (8) Extensive trials; (9) Revised final model. The sample used for the study was 30 students for a small scale test and 119 students for a large scale test. Data collection techniques using interviews, observation, and tests.

RESULTS AND DISCUSSION

Result

Instrument Forms and Specifications

The development of mathematical literacy instruments based on conservation of class IV geometry material will be realized in the form of a guidebook. The guidebook will contain geometry material, grids, items, assessment rubrics, and assessment sheets. The guidebook will be printed using A5 size HVS paper with colored contents and cover, so that it will be easy and interesting to read. This book is intended to facilitate the teacher in applying the assessment using the developed conservation-based mathematical literacy instrument. The teacher will not be troubled and confused to apply mathematical-based literacy conservation instruments, because in the guidebook it will be explained with examples of how to measure and evaluate from the beginning until the final value is obtained.

The guidebook will be disseminated to fourth grade teachers in Banyumas Regency. Dissemination by providing a link to be downloaded by the teacher. Dissemination of guidebooks also by providing guidebooks to all schools in Kembaran District, Banyumas Regency.

Instrument Specifications The development of mathematical literacy instruments based on conservation of class IV geometry material has special specifications. The instrument consists of Grids, Tasks / Questions, Rubrics, and assessment sheets. The grid is adjusted to the Basic Competence of Grade IV Mathematics subjects namely 3.9. Explain and determine the circumference and area of a square, rectangle and triangle. The grid consists of one Core Competency, namely KI 3 about Understanding factual knowledge by observing and asking questions based on curiosity about himself, God's creatures and activities, objects found at home, at school and at play.

One competency Basic 3.9 consists of seven performance indicators and 14 items. Assessment uses analytical assessment techniques with a maximum score of 6 each item, with the highest score of 6 which means students show the maximum expected ability. The researcher developed the Instrument consisting of 14 items which will be accumulated to produce the final value, namely the formula N = JS84 × 100 JS is the number of scores obtained and 84 is the highest score of all items.

Content Validity

The development of mathematical literacy instruments based on the conservation of class IV geometry material tested the content validity by 3 experts. The content validity test was conducted to see the suitability of the items on the geometry

learning material theory. The experts also provided a questionnaire which concluded the experts' assessment of mathematical literacy instruments based on the conservation of class IV geometry material. The data are in the quantitative form shown in Table 1.

Table 1. Expert Agreement Coefficient

No. item	Indeks Aiken's V	conclusion	No. item	Indeks Aiken's V	conclusion
1	0.83	Valid	8	1.00	Valid
2	0.83	Valid	9	0.17	Invalid
3	0.17	Invalid	10	1.00	Valid
4	0.83	Valid	11	0.17	Invalid
5	0.17	Invalid	12	0.83	Valid
6	1.00	Valid	13	0.17	Invalid
7	0.17	Invalid	14	1.00	Valid

Based on the results of data analysis in Table 1., information can be obtained from expert agreement. The content validity of mathematical literacy instruments based on conservation of class IV geometry material obtained information that not all items are valid. The items declared valid based on the agreement of experts are points 1, 2, 4, 6, 8, 10, 12, 14. The Aiken V index for the instrument as a whole is worth 0.60, so that the instrument as a whole is declared valid in content by experts. Suggestions for improvement from experts were used as a basis for improving mathematical literacy instruments based on conservation of class IV geometry material. The researcher made improvements based on suggestions from experts. The researcher corrects the grid to reinforce the ability to be measured. Items are revised so that they can be arranged briefly and clearly. Mathematical literacy instruments based on conservation of class 1 draft geometry IV (Initial) which have been compiled in the step of writing the questions then revised based on the results of the analysis of suggestions from experts. The revised items or components are then rearranged into Draft 2. The difference in draft 1 and draft 2 lies in the number of items being eight items and the editorial of each item.

Small Scale Construct Validity

The development of mathematical literacy instruments based on the conservation of class IV geometry material on a small scale test using the draft 2 instrument was carried out to 30 students. students work on the questions which are then assessed based on the rubric assessment of the instrument 2. Analysis was carried out with the help of SPSS software, using an exploratory factor analysis approach. The results of the analysis can be seen in Table 2.

Tabel 2. Instrument Feasibility Test Results on Small Scale Tests

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.653
Bartlett's Test of Sphericity	Approx. Chi-Square	168.004
	Df	28
	Sig.	.000

Based on Table 2. the results of analysis of the draft instrument 2 on a small scale test obtained Kaiser Mayer Olkin (KMO) value> 0.5 which is equal to 0.653, then the requirements for sample adequacy are met to be analyzed further. The Barteletts Test shows sig. <0.5 so that there is a correlation between variables so that it can be analyzed further. The results of the analysis are continued by looking at the anti image matrices table found 1 item that shows a value of <0.5, which does not meet the criteria requirements and cannot be analyzed further. Items that have a correlation value of <0.5 are B2 at 0.450. The results of the analysis can be seen in Table 3.

Tabel 3. Result Anti Image Correlation

No	Item	Anti Image Correlation
1	B1	0.872
2	B2	0.450
3	B3	0.561
4	B4	0.655
5	B5	0.581
6	B6	0.768
7	B7	0.768
8	B8	0.619

Based on Table 3. the results of the draft instrument test 2 by showing that there is 1 item measured invalid because it does not meet the value of the Measures of Sampling Adequacy (MSA), which is> 0.5 or has a correlation coefficient <0.5, so the researcher makes revisions or improvements later produce draft 3 instruments that will be carried out to the next stage, namely by conducting large-scale testing using a sample of 119 elementary school students.

Validity of Large Scale Constructions

Development of mathematical literacy instruments based on the conservation of class IV geometry material on a large scale test using the draft instrument 3 carried out to 119 students. Students work on the questions then are assessed according to the rubric of the draft instrument 3. Analysis was carried out with the help of SPSS 16 software, using an exploratory factor analysis approach. The results of the analysis can be seen in Table 4.

Tabel 4. Instrument Feasibility Test Results on Large Scale Tests

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.685
Bartlett's Test of Sphericity	Approx. Chi-Square	1.205E3
	Df	28
	Sig.	.000

Based on Table 4., the results of the analysis of draft 3 instruments on a large-scale test obtained Kaiser Mayer Olkin's value (KMO)> 0.5 which is equal to 0.685, then the requirements for sample adequacy are met to be analyzed further. The Barteletts Test shows sig. <0.5 so that there is a correlation between variables so that it can be analyzed further. The results of the analysis are continued by looking at the anti image matrices table found all valid items. The results of the analysis can be seen in Table 5.

Tabel 5. Anti Image Correlation

No	item	Anti Image Correlation
1	Item 1	0.549
2	Item 2	0.529
3	Item 3	0.811
4	Item 4	0.592
5	Item 5	0.744
6	Item 6	0.701
7	Item 7	0.803
8	Item 8	0.698

The next step is to see many possible factors in factor analysis with a sample of 119 students on a large scale test. After done exploratory factor analysis with the help of the SPSS program. The following are the results of Table Total Variance Explained in Table 6.

Tabel 6. Total Variance Explained

Compt	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.273	40.913	40.913	3.273	40.913	40.913
2	2.585	32.315	73.228	2.584	32.315	73.228
3	1.662	20.778	94.007	1.662	20.778	94.007
4	0.185	2.316	96.323			
5	0.119	1.493	97.816			
6	0.081	1.017	98.833			
7	0.080	1.001	99.834			
8	0.013	0.166	100.000			

Table 6. shows that there are 3 components formed and can represent the number of indicators. The 8 items analyzed turned out to have the value of eigenvalues> 1 which means that the 8 items can be grouped into 3 factors. Factor 1 has a value of 3,273 and is able to explain the variance of 40,913%. Factor 2 has a value of 2,585 and is able to explain the variance of 32,315%. Factor 4 has a value of 1.662 and is able to explain the variance of 20.778%. To determine how many components / factors are used in order to explain the total diversity, it can be seen from the eigenvalue value, the component eigenvalues> 1 is the component used. Overall the results of the Total Variance can be described in Figure 1.

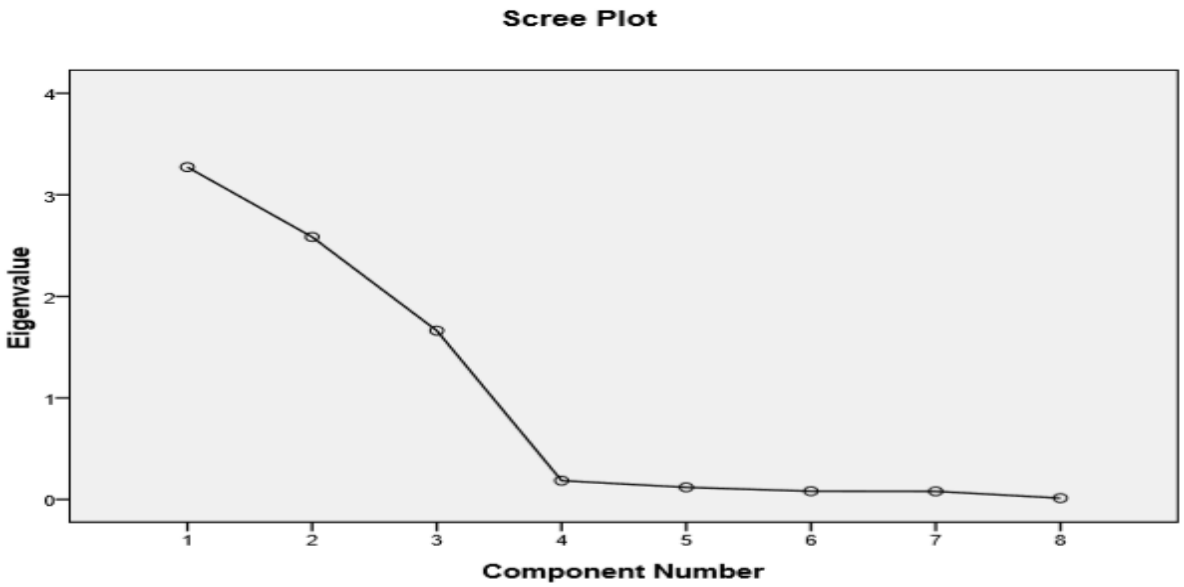

Figure 1. Screen Large Scale Test Plot

Based on the Screen Plot above, it can be seen that there are 3 points above the value of eigenvalue 1 and the other points are below the value 1. This illustrates that there are 3 components that have an eigenvalue value above the value of 1. Then determine each each item will enter into any of the two factors. Grain grouping and the magnitude of loading factors from one factor are seen from the factor loading value which has a value of> 0.3. Grouping items into factors can be done by looking at the Rotated Component Matrix Table. The following are the results of the Rotated Component Matrix in Table 7.

Tabel 7. Rotated Componen Matrix

	Component		
item	1	2	3
Item 1	.043	.132	.942
Item 2	.048	.049	.951
Item 3	.022	.957	.092
Item 4	.994	.041	.048
Item 5	.061	.968	.076
Item 6	.977	.036	.042
Item 7	.062	.959	.066
Item 8	.976	.069	.031

Based on Table 7. shows the results of the rotation factor, it can be seen that the grouping of indicators into factors and the magnitude of loading can be seen in the table above. It can be seen that the determination of indicator inputs to certain factors follows in the magnitude of the correlation between variables with factors, namely those with large

correlations. Thus the factors formed along with the items are presented in Table 8.

Tabel 8. Grouping items in a factor

No item	Indicator	Factor formed	Corelation value	Factor name
4	Students Calculate the circumference of a square flat building.	1	.994	Ability to Calculate Around Build Flat
6	Students prove the circumference of a rectangle.		.997	
8	Students can find the circumambulation of the smallest triangle from the sudden rise of a triangular flat.		.976	
3	Students Calculate the area of a square flat.	2	.957	Ability to Calculate Flat Build Area
5	Students decide on the area of a rectangle.		.968	
7	Students can combine two broad, flat triangle shapes.		.959	
1	Students name a flat wake based on the image.	3	.942	Ability to Identify Flat Wake
2	Students distinguish between flat and rectangular shapes.		.951	

Based on Table 8. according to the results of the grouping of 8 items into 3 factors formed and naming each factor. Components formed in factor 1 are given the Ability to Calculate Flat Build-Up, the instrument consists of the top 4, 6, and 8. The components formed in factor 2 are named Ability to calculate the area of Flat wake, the items consist of items 3, 5, and 7. Components formed in factor 3 are given the ability to identify flat builds, the instrument consists of items 1 and 2.

Reliability Test

The development of mathematical literacy instruments based on the conservation of class IV geometry material carried out reliability testing which was divided into 3 parts. Reliability tests were carried out on expert assessment reliability tests, small scale tests and large scale tests. Test reliability using the SPSS application. Based on the analysis obtained the results in Table 9.

Tabel 9. Small Scale Test Reliability Data Analysis

Uji	Cronbach's Alpha	Intraclass Correlation Coefficient	N of items
ICC Ahli	0.927	0.809	14
Skala Kecil	0.817		8
Skala Besar	0.790		8

Table 9. shows that the estimation of the reliability of expert judgment using Inter Class Correlation (ICC) of 0.809 shows that experts are

appropriate in assessing mathematical literacy instruments based on conservation of class IV geometry material. The small scale reliability estimate of 0.817 is greater than 0.7 so that it can be interpreted as a Reliable instrument. The large-scale test results show a large-scale test reliability coefficient of 0.790 greater than 0.7, so that it can be interpreted as a Reliable instrument.

Practical Test

The practicality test was carried out after conducting a large-scale test using a questionnaire to determine the practicality criteria for the instrument mathematical literacy based on conservation of class IV geometry material. The practicality test was carried out to five fourth grade teaching teachers. The instrument is said to be practical if there is an ease that is felt or experienced by the user (the teacher) when using mathematical literacy instruments based on the conservation of geometric material in conducting assessments.

The scale used in the practicality test in this study used a Likert scale of 1 to 5 namely "Very Good" = 5, "Good" = 4, "Enough" = 3, "Poor" = 2, and "Bad" = 1. Results filling out questionnaires by five teachers (rater) has been percentage and can be seen in Table 10.

Tabel 10. Results of Practical Questionnaire Recapitulation

No	Indikator	R1	R2	R3	R4	R5	total
1	Instrument capability measures according to the objectives measured.	4	5	5	4	4	22
2	Instrument capability measures Literacy ability.	5	4	5	5	5	24
3	Suitability of the order of the instruments in measuring Mathematical Literacy abilities.	4	5	4	4	4	21
4	The steps for assessing details are in the order.	5	5	4	5	5	24
5	The sentence arrangement on the instrument is good.	4	4	4	4	4	20
6	The sentence for each item is not biased or multiple meaning.	4	5	4	4	4	21
7	The use of language in accordance with applicable rules.	5	5	5	5	5	25
8	Ease of assessment.	5	5	5	5	5	25
9	The ease of administering to the final value.	5	4	5	5	4	23
10	Ease of instruments to be used in general.	4	4	4	4	5	21
	Total	45	46	45	45	45	226

Based on Table 1.11 shows the results of the practicality test design of mathematical literacy instruments as follows: a) assessor 1 gets a score of 45, b) appraisal 2 gets a score of 46, c) appraiser 3 gets a score of 45. d) appraiser 4 gets a score of 45, and e) appraiser 5 got a score of 45. The score of the assessment of five assessors was 226, so in general mathematical literacy instruments based on

conservation of fourth grade geometry material were included in the category "Very Practical".

Based on the results of the reliability test carried out through the two-way test using SPSS, it shows that the variance between the items stated by the mean Square Item is 0.676 while the Error is stated by the Mean Square Grading * Item amounting to 0.176. All of these gains were

recalculated through Ebel's reliability with the average of five people assessed. The result of ebel calculation produces a value of 0.74. His conclusions are appropriate assessors in assessing instruments using practicality instruments.

rxx '= (ss2- se2) / ss2

= (0.676-0,176) / 0.676

= 0.74

Discussion

The development of mathematical literacy instruments based on conservation of class IV geometry material was carried out several tests to produce good instruments. Instrument validity analysis based on opinion expert. This is consistent with Azwar's statement that content validity is an estimated validity by testing the feasibility or relevance of the contents of a test through rational analysis by a competent panel or through expert judgment.

Test the content validity to see the suitability of the contents of the instrument carried out by 3 experts / validators. The expert opinion was analyzed using Aiken's formula V. Mathematical literacy instruments based on conservation of class IV geometry material consisting of 14 items obtained a value of> 0.3, which is 0.60 representing all items, so it can be concluded that mathematical literacy instruments based on conservation of class geometry material IV is relevant and can be tested in the field test. However, the researchers found six items that were considered irrelevant by experts so that the researchers disposed or did not include the six invalid items for further testing. This is in accordance with the criteria stated by Azwar (2014: 34) that the validity coefficient greater than or equal to 0.3 can be said to be adequate or valid. However, if the validity coefficient value is smaller than 0.3 then the item is declared inadequate or invalid. The results of the study show agreement between the rater means that the instrument has a fairly high quality of 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 worthy of being used as a form of assessment. (Rahmawan, Eris F, Sumaryanto, & Supriyadi, 2016).

The content validity test results were successful by estimating the reliability of expert approval using the Inter Class Correlation (ICC) test. The estimated reliability of the content based on the expert test obtained an ICC coefficient of 0.809. The ICC coefficient value is greater than 0.7 so that it can be concluded that the expert increases in the assessment of instruments and classifications in the High category. This discusses Stainer and Norman (2000) that the measuring instrument has a level of adequacy if the ICC between gauges> 0.50 is high if the ICC between gauges is ≥ 0.80. This is in accordance with the theory which suggests that the reliability coefficient value is> 0.6, so experts in the assessment (Sujarwanto & Rosilawati, 2015: 785). This is in accordance with the results of the study of Widya Puji Astuti which shows that the performance assessment instruments that have been relied upon and the results of trial 2 have a higher level of reliability than the results of trial 1 (Astuti, Widya P, Wibawanto, H & Khumaedi, M, 2015) . This discusses with Ibn Wachyudin's research with the title Research for Developing Performance Evaluation Instruments. The results of the PUK Instrument research developed proved to be valid, reliable and effective (Wachyudi, I, Sukestiyarno, & Waluya, B, 2015).

Mathematical literacy instruments based on class IV geometry proved valid. Appraisal instruments have proven well with evidenced by the consistency of the assessment of three experts. Based on content validity and reliability through expert agreements that have been approved the instruments developed contribute 8 items to meet the

requirements of validity and reliability so that instruments can be carried out to conduct small-scale and large-scale tests.

Mathematical literacy instruments based on the conservation of geometry material in class IV geometry followed by a small scale test. A small scale test was conducted involving 30 samples obtained by the adequacy of the sample requirements by looking at the KMO value of 0.653 and Bartelett's test obtained by sig. smaller than 0.05 so the data can be continued for further analysis. Instrument test results in the anti image correlation table, found one item that obtained an MSA value below 0.5 which did not meet the requirements so that it could not be analyzed further because the correlation value was <0.5. Items that have values below 0.5 are items 2 which have an MSA value of 0.450. So the analysis cannot continue. The researcher looked at the results of instrument reliability in a small scale test. The test is based on the results of a small usage test by obtaining an estimate of instrument reliability of 0.817. The condition is said to be reliable is more than 0.7, so researchers made improvements to the instrument to get the MSA value for item 1 greater than 0.5 and get a higher reliability value to produce a reliable instrument.

The researcher goes on to test out the revised instrument for a broader test, namely on a large scale test. Large-scale tests involved 119 samples. The large-scale test results were examined by exploratory factors and obtained the value of Keizer Mayer Olkin (KMO) of 0.685 which met the sample adequacy requirements of more than 0.5 and the Barttelet's test showed sig. smaller than 0.05 so the analysis can be continued by looking at the value of the MSA item. The MSA value for eight items is more than 0.5 so that it can be continued to see the Total variance explained which shows there are three components which have eigenvalues values more than 1. This is in accordance with Azwar (2017: 143) that if the KMO value is ≥ 0.5 , Anti image Correlation ≥ 0.5, Eigenvalues ≥ 1 and Loading factor ≥ 0.3, factor analysis can be continued.

Based on the screen plot, it can be seen that there are 3 points that are above the value of 1 and the other points are below the value of 1. This indicates that the instrument forms 3 components which have an eigenvalue above the value 1. The names of the factors formed include Ability to Calculate Flat Wake Around, Ability to Calculate Flat Waking Area, and Ability to Identify Flat Wake.

The mathematical literacy instrument based on the conservation of class IV geometry material on a large scale test was continued by testing reliability. Estimated reliability of instruments in large-scale tests can show consistency in measuring instruments. The results of the instrument test were tested using the Cronbach Alpha reliability test obtained reliability coefficient of 0.790. This is in line with what was stated by Naga that the reliability coefficient of 0.5 and above is sufficient to be accepted as good reliability (Khumaedi, 2012: 13).

Mathematical literacy instruments based on conservation of grade IV geometry are seen as practicable based on practicality tests. The practicality test involved 5 practitioners / teachers who were directly aware of the implementation of the instrument trial. The practicality test has 10 questions that will be answered by the instrument's practicality assessor. The practicality test results showed that the instruments developed were classified as Very Practical for use in learning, with a total score of 226, so that mathematical literacy instruments based on conservation of class IV geometry were said to be very practical and could be used in learning. This is in line with the research conducted by Setiawan (2017: 8) practicality test conducted with two techniques, namely field trials and assessments from the teacher. The very high value of practicality shows that a decent instrument is used to measure basic competencies. Explain and determine the circumference and area of a square, rectangle and triangle. The instrument is easy to use, easy to understand, easy to obtain value results and easy to document the measurement results. Mathematical literacy instruments based on conservation of class IV geometry material developed were stated to be very practical and feasible in terms of users, used to measure Basic

Competence Explaining and determining the circumference and area of a square, rectangle and triangle.

CONCLUSION

Based on the results of the research and discussion that has been conducted, it can be concluded several results, namely 1) The form of mathematical literacy instruments based on conservation of class IV geometry material is realized in the form of a guidebook. The guidebook will contain geometry material, grids, items, assessment rubrics, and assessment sheets accompanied by examples of how to measure and evaluate from the beginning to the final score. The guidebook will be printed using A5 size HVS paper with colored contents and cover, so that it will be easy and interesting to read. The specification of mathematical literacy instruments based on conservation of class IV geometry material developed consists of a question sheet consisting of 8 items with a range of scores 1-6 with the highest score in category 6. The grid is adjusted to the Basic Competence of Grade IV Mathematics subject 3.9. Explain and determine the circumference and area of a square, rectangle and triangle. 2) Mathematical literacy instruments based on conservation of class IV geometry material are valid and reliable. 3) Mathematical literacy instruments based on conservation of class IV geometry material developed were declared practical and feasible.

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