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Developing Numeration Literacy Test Based on Bataknese Ethnomathematics in Three-Variable Linear Equation Lesson

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ABSTRACT

One of the factors contributing to the low ability to understand numeracy literacy is the lack of test instruments to improve numeracy literacy skills. Thus, test development is needed to improve students' numeracy literacy skills. A numeracy literacy instrument based on ethnomathematics is a test that is rarely learned at schools. This study aims to produce a qualified ethnomathematics-based numeracy literacy test. This research follows the Research and Development (R & D) method with a 4-D model. The data collection was carried out using a validation test instrument and test. This study produced 16 items of multiple-choice questions and 5 items of essays that were declared valid and suitable for use. The multiple-choice test is reliable with a coefficient of 0.738, an average differentiating power of 0.35 (good), and an average level of difficulty of 0.518 (medium) and distractors function well. The essay test instrument was declared reliable with a reliability coefficient of 0.942, an average differentiating power of 0.41 (good), and an average level of difficulty of 0.56 (medium). Based on tests of validity, different strengths, the level of hardness, and instrument practicality are obtained an average percentage of 82,91%% by students of a very practical category and 80% by teachers with a practical category. Thus it is gained that an assessment instrument developed is stated to be practical and suitable for use as an exercise instrument for developing student numeration literacy capability
Keywords: *test instrument, numeracy literacy, ethnomathematics.*

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INTRODUCTION

Mathematics is a basic science that plays a role in various aspects of human life to develop critical, logical, and systematic thinking skills (Ratnasari & Setiawan, 2022) In learning mathematics, students often find problems that are complex and complicated (Febrianingsih, 2022). These problems are not just routine questions like formulas or rote concepts but are also related to everyday problems (Maghfiroh et al., 2021). Therefore, it is necessary to have students' ability to solve a mathematical problem.

The ability to think in solving a problem is related to numeracy literacy (Ate & Keremata Lede, 2022). Numerical literacy is an individual skill in identifying, analyzing, and understanding the benefits and role of mathematics in the real context of mathematics to make decisions and arguments (Pradana & Sholikhah, 2019). Numerical literacy is the ability to analyze information, interpret and process Mathematical data in the form of numbers and symbols, and conclude the results to make the right decisions (Bahtiar et al., 2020) (Nayazik, 2022). Thus, numeracy literacy is an individual's skill in reasoning, formulating, and understanding an expression arranged in the language of mathematics and expressing it in oral or written form.

Numerical literacy skills are important for students to master (E. Salsabila et al., 2019). According to Rezky et al., (2022) numeracy literacy can foster logical and structured thinking skills in recognizing and understanding, as well as analyzing and solving problems with knowledge capital and mathematical concepts. Numerical literacy helps individuals to increase their understanding of real-world situations for decision-making and thought processes in everyday life (Kuswidi, 2015). Related to this, it is necessary to have a mathematics learning process that has the potential to foster students' numeracy literacy.

However, data from the 2018 Program for International Student Assessment (PISA) study states that numeracy literacy skills in Indonesia are still low (Rahayu et al., 2021). Of the 78 participating countries, Indonesia ranks 72nd with an average score of 379 for numeracy literacy (Muhazir et al., 2021). This shows that the importance of numeracy literacy is not in line with the achievements of students in Indonesia. One of the causes of low numeracy literacy is due to the lack of habit to solve problems related to numeracy literacy questions (Diyarko & Waluya, 2016). Students are used to working on easy questions, closed in nature, and have the same pattern as the example questions taught by the teacher. If the pattern of questions given is different, students will experience difficulties.

From the results of observations obtained at one of the high schools in Medan City, a problem was obtained, namely the limited use of test instruments that have the potential to foster students' numeracy literacy skills. Teachers are used to giving questions that are easy and can be solved using only one formula. Students are not used to solving problems related to everyday problems so it is difficult to communicate mathematical ideas in written form. Most students have mastered the basic concepts and material formulas but the implementation of these formulas and concepts is still not structured to solve problems.

Based on these conditions, it can be seen that there is a need for a test

instrument that is capable of being a forum for students to practice their numeracy literacy skills. One of the contexts in numeracy literacy is socio-cultural because it relates to life and the surrounding environment (Rahmawati & Cholily, 2023). The link between mathematics and socio-cultural life is known as ethnomathematics. Ethnomathematics is a mathematics learning that is formed from a process of reasoning and understanding cultural perspectives that grow and develop in society (Noto et al., 2018). In ethnomathematics, customs are related to the application of mathematical concepts which can be seen from the results of cultural products such as art, traditional houses, jewelry, historical objects, community activities, cultural product and carved ornaments (Sulaiman & Nasir, 2020) (Nisa & Rofiki, 2022). Based on this, ethnomathematics can be applied as an orientation in making numeracy literacy instruments.

Several studies on numeracy and ethnomathematics literacy have been carried out by researchers. According to research conducted by Zulfah (Zulfah, 2018) mentioning that it is necessary to develop mathematics questions by integrating local culture. Research conducted by (Aini & Budiarto, 2022) obtained the result that the cultural system in Mojokerto fulfills aspects of mathematical literacy so that learning innovations can be carried out by applying ethnomathematics in the design of test instruments. (A. Salsabila et al., 2023) suggests that ethnomathematics-based AKM questions in agricultural activities in Aceh Besar have good potential and can be used to increase student numeracy.

However, from the research above, there has been no research that has developed material for a Three-Variable Linear Equation System in Ethnomatematics-Based Numeral Literacy Instruments. Therefore the researchers focused on developing a numeracy literacy test instrument by integrating Batak culture. The development of an ethnomathematics-based numeracy test instrument for Bataknese culture is an update from previous research so that researchers focus on conducting research entitled "Developing Numeration Literacy Test Based on Bataknese Ethnomathematics on Three-Variable Linear Equation Lesson"

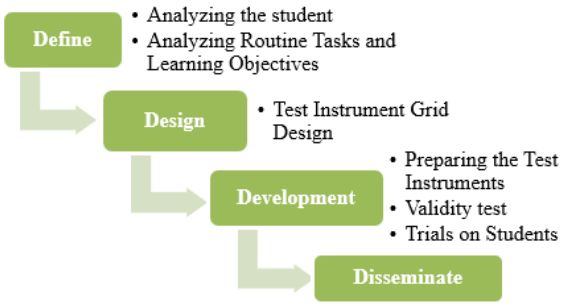
METHODS

This study follows a Research and Development method. The development model used follows Thiagarajan, et al (Sugiyono, 2020), namely the 4D model with the following stages:

1. The defining stage defines the needs in the learning process and collects information related to the product being developed. The activities carried out at the defining stage are initial analysis, student analysis, and analysis of routine assignments and learning objectives.
2. The designing stage includes designing the basic form of the Bataknese ethnomathematics-based numeracy test instrument. The basic design carried out includes determining the shape of the instrument and the preparation of the instrument grid. The instruments developed were in the form of multiple-choice tests and descriptions. The grid is designed based on indicators of numeracy literacy skills converted from (Windisch, 2015) namely communication, mathematization, representation, reasoning and arguments, deciding problem-

solving strategies, and using language and symbols.

3. The development stage, namely producing a draft containing tests that have been prepared and then evaluating it from experts, revising the instrument according to expert advice, and conducting product trials. This stage aims to produce a quality test instrument draft before it becomes final.
4. The dissemination stage includes the process of disseminating qualified Bataknese ethnomathematics-based numeracy literacy instruments. Research only conducts limited dissemination, namely distributing the results of the final product in a limited manner.



Pigure 1. Instrument for Developing the Research Procedures

The sampling technique used purposive sampling. This technique is used to draw samples by adjusting the research objectives, namely the sample has studied the material to be tested. Based on this, the research subjects were selected, namely class X students of SMA Negeri 8 Medan for the 2022/2023 academic year.

The validation of test items by experts is calculated based on Aiken using the V index. The ethnomathematics-based numeracy test instrument is said to be valid if the results of the minimum validation value are in the sufficient category. The scale used for the validity of the V index is in the following table :

Table 1. Aiken's V Index Scoring Category

`Number	Category
$0{,}80 < V \leq 1{,}00$	Very Valid
$0{,}60 < V \leq 0{,}80$	Valid
$0{,}40 < V \leq 0{,}60$	Enough
$0{,}20 < V \leq 0{,}40$	Invalid
$0{,}00 < V \leq 0{,}20$	Very invalid

After expert validation was carried out, the stage is continued with instrument trials on students. Data from the trial results were obtained based on the scores of students' answers which were corrected according to the assessment rubric that had been prepared and then analyzed to determine the validity, reliability, discriminatory power, level of difficulty, and effectiveness of the test item distractors. Validity is a measure that states the level of validity of an instrument (Sugiyono, 2020). The results of these calculations are then analogous to r_{table} at a significance level of 5%. If $r_{table} < r_{count}$ then the test items are valid, otherwise the test items are invalid.

Reliability is carried out to determine the level of consistency of instrument accuracy in making measurements (Muluki & Bundu, 2020). The reliability of this instrument follows the -Richardson 20 (KR-20) method with the following reliability criteria:

Table 2. Reliability Criteria

Coefficient (r_{11})	Criteria
$\boldsymbol{r_{11} < 0,199}$	Very low
$0{,}20 < 0{,}399$	Low
$0{,}40 < 0{,}599$	Medium
$0{,}60 < 0{,}799$	High
$0{,}80 < 1{,}00$	Very High

(Sugiyono, 2020)

Differentiating power is the ability of the test items to classify the abilities of individual students belonging to the upper or the lower group. Differentiating power is calculated by the formula:

$D = PA - PB$ with $PA = \frac{BA}{JA}$ and $PB = \frac{BB}{JB}$ …… (1)

Description:

D = the index of differeintiating power
PA = the number of subjects of the upper group who answered every question correctly;
PB = the number of subjects of the lower group who answered every question correctly
BA = the number of correct answers by the upper group;
BB = the number of correct answers by the lower group;
JA = the number of subjects in the upper group;
JB = the number of subjects of the lower group;

Then, it is classifieid based on the following criteiria:

Table 3. Test Item for Differentiating Power Criteria

The index of differentiating power	Criteria
$0{,}71 - 100$	Very good
$0{,}41 - 0{,}70$	Good
$0{,}21 - 0{,}40$	Enough
$0{,}00 - 0{,}20$	Bad

(Saputra et al., 2022)

Difficulty level is a measure that represents the difficulty category of a test item (Junika, et al., 2020). The difficulty level is calculated by the following formula:

$$P = \frac{B}{JS} \ldots (2)$$

Description:

P = test difficulty level,
B = the number of students who answered correctly,
JS = total number of students

Then, it is classified based on the following criteria:

Table 4. Test Item for Difficulty Level Criteria

Difficulty Index	Criteria
$0{,}71 - 100$	Easy
$0{,}31 - 0{,}70$	Medium
$0{,}00 - 0{,}30$	Difficult

(Saputra et al., 2022)

Distractor analysis on multiple choice test items was carried out to see the effectiveness of the distractor on multiple choice test items. The distractor can be said to function properly if 5% of the participants who take the test choose that option (Rahmaini & Taufiq, 2018)

The next step is to cary out a practicality to see if instrument based on ethnomathematics of the Batak tribe is practical or not for student and teacher. Percentage of data obtained was calculated in formula:

$$\%\ Practicality = \frac{Score\ number}{All\ responden} \times 100\%$$

Analysis of teacher and student response questionnaires with score interpretation criteria is listed in the following table:

Table 5. Item Practicality Score Criteria

Presentase (%)	Kategori
0% - 20%	Very Impractical
21% - 40%	Impractical
41% - 60%	Enough Practical
61% 80%	Practical
81% - 100%	Very Practical

(Asniati, 2019)

RESULTS AND DISCUSSIONS

The results of the development of this study are a numeracy literacy test instrument based on ethnomathematics of the Batak tribe which consists of 20 multiple choice test items and 5 essay test items in the subject of Three Variable Linear Equation System, as well as data acquisition. The development of the test instrument is carried out in the following stages:

1. Defining Stage

The initial analysis was carried out by observing potentials and problems by conducting surveys and interviews with Mathematics teachers at SMA Negeri 8 Medan. From the initial analysis, information was obtained that the school used the 2013 curriculum, while for routine assignments students were often given questions from textbooks or LKS which rarely contained questions related to numeracy literacy. Student analysis obtained from the results of interviews with Mathematics teachers found that students' mathematical abilities and numeracy literacy were heterogeneous and varied, ranging from those with low, medium, and high abilities. Task analysis is carried out by reviewing the Basic Compe`tency and Core Competency related to the Three Variable Linear Equation System material. Furthermore, a study of learning objectives is carried out to determine indicators of competency achievement.

2. Designing Stage

At this stage, 25 test grid items were produced which were formulated based on students' numeracy literacy indicators.

Table 6. Numerical Literacy Indicators

Numerical Litreacy Indicator	Description
Ability to Use Language And Symbols	Students can apply definitions and other concepts related to a system of three-variable linear equations
Communication Skills	Students can describe all the procedures for obtaining solutions and conclusions from cultural topics in the three-variable linear equation system material presented
Mathematization ability	Students can apply mathematical concepts to solve problems related to culture in the material of a three-variable system of linear equations
Representational Capability	Students can connect numbers and symbols in solving problems in a cultural context in the material of a three-variable linear equation system
Ability to Choose a Problem-Solving Strategy	Students can apply strategies in solving problems related to the culture of a three-variable linear equation system to obtain the right solution
Reasoning and Argument Skills	Students can give rational reasons for the process of solving problems in the material of a three-variable system of linear equations presented in a cultural context.

3. Developing Stage

The activity carried out at this stage is to arrange test instruments according to the grid that has been designed. The preparation of the test instrument resulted in an initial design in the form of Draft I which consisted of the identity of the test instrument, instructions for work and 20 multiple-choice test items, and 5 test items on ethnomathematics-based numeracy literacy descriptions. Display of the 3 test items that have been developed in draft 1 is presented as follows :

Table 7. Draft 1 Development of Test Items

No.	Draft 1
1.	Bagas Gondang is the traditional house of the Mandailing Batak people. At the Bagas Gondang house, some ornaments function as symbols and symbols that contain meaning and philosophy for the Mandailing Batak tribe. The colors of the ornaments on the Bagas Gondang traditional house are usually black, white, and red.  Pigure 1. Gondang's House A handyman wants to buy paint for Bagas Gondang's house ornaments. His regular paint shop produces paint in various forms, such as small, medium, and large packages. The volume of 2 small packs of paint and 3 medium paint packs is 31 liters. The volume of 3 small paint packs and 2 large paint packs is 45 liters. Meanwhile, the volume of 2 medium paint packs and 3 large paint packs is 59 liters. The volume of each large, medium, and small paint package is… a. 7 liter, 15 liter, 5 liter b. 10 liter, 5 liter, 2 liter c. 5 liter, 7 liter, 15 liter d. 15 liter, 7 liter, 5 liter e. 2 liter, 5 liter, 7 liter
2.	Gorga is a traditional carving or sculpture that is usually found on the walls of traditional Batak houses and has symbols for the Batak people.

Pigure 3. Gorga

In the Cultural Arts lesson, students are given the task of painting Gorga motifs. To paint Gorga's motifs, you will need a brush, watercolor, and canvas. A painting tools store is holding a cheap painting tools promo with 3 item packages. The first package costs Rp. 50,000, you get 2 brushes, 2 boxes of watercolors, and 1 canvas. The second package, priced at Rp. 60,000, including 2 brushes, 3 boxes of watercolors, and 1 canvas. The third package, priced at Rp. 70,000, including 2 brushes, 2 boxes of watercolors, and 1 canvas. The unit price of brush, watercolor, and canvas respectively is...

a. Rp.10.000 ; Rp.25.000 ; Rp.5000
b. Rp.15.000 ; Rp.20.000 ; Rp.10.000
c. Rp.5.000 ; Rp.10.000 ; Rp.15.000
d. Rp.5.000 ; Rp.10.000 ; Rp.20.000
e. Rp.10.000 ; Rp.15.000 ; Rp.20.000

3. Mie Gomak is one of the typical foods of the Batak people which is made from the basic ingredients of stick noodles cooked using spices and the addition of Andaliman and a splash of coconut milk. Gomak noodles that are often popular with the public are Kuah Gomak and Fried Noodles.

Pigure 4. Mie Gomak

In the Medan Merdeka Square area, there are several sellers of Mie Gomak, one of which is Mie Gomak Bang Ucok which has been selling for 4 years. Every day he goes to the market to shop for ingredients to make Mie Gomak. On Monday-Tuesday he buys 3 kg of noodles, 4 coconuts, and 2 shelves of eggs for Rp. 153,000. On Wednesdays and Thursdays, he buys 4 kg of noodles, 3 coconuts, and 2 racks of eggs for IDR 160,500. On Friday and Saturday, he bought 3 kg of noodles, 3 coconuts, and 3

racks of eggs for 184,500. On Sunday, Bang Ucok buys a lot of materials, because it is a holiday and there are more buyers. He bought 5 kg of noodles, 4 coconuts, and 3 racks of eggs. How much money does Bang Ucok have to spend to buy the materials needed on Sunday?

The test instrument was developed through two stages of assessment. The first stage of assessment was carried out by testing the validity of the test instrument with 3 mathematics education expert lecturers as validators. The results of the validator's analysis of the developed numeracy literacy instruments are as follows:

Table 8. Multiple Choice Test Item Validation Results

Item	Aiken's V coefficient	Criteria
$1-25$	$0{,}750-0{,}785$	Valid

Table 9. Test Item Validation Results in Description

Item	Aiken's V coefficient	Criteria
$1-5$	$0{,}778-0{,}792$	Valid

Based on the results of the analysis using Aiken's V index, the ethnomathematics-based numeracy literacy test instrument consisting of 20 multiple-choice test items and 5 descriptive test items were all declared valid so that they were feasible to proceed to the field trial stage. Even so, several test items need to be improved in terms of sentence formulation according to the suggestions of the three validators. Draft I, which has been revised according to the validator's suggestion, produces Draft II.

The second stage of assessment was carried out by field trials on Draft II instruments involving 30 students. The trial was carried out at SMA Negeri 8 Medan. From the data obtained from the field trial results, further tests were carried out on the validity, reliability, discriminatory power, and difficulty level of the test items. The validity test in this instrument development research was calculated using Microsoft Excel. The results of these calculations are then analogous to the 5% level and n = 20 so that the r_{table} value is 0.349.

Table 10. Validity Results of Numerical Literacy Test Instruments Based on Ethnomathematics Bataknese Culture in Multiple Choice Questions

No	Validity Index	Item	Number	Percentage
1.	≥ 0,349 (Valid)	1,2,3,4,5,6,7, 8,9,10,13,14, 17,18,19,20	16	80%
2.	< 0,349 (Invalid)	11,12, 15,16	4	20%

Table 11. Results of the Validity of Numerical Literacy Test Instruments Based on Ethnomathematics Batak Culture Description

No.	Validity Index	Item	Number	Percentage
1.	≥ 0,349 (Valid)	1, 2, 3, 4, 5	5	100%

Based on the results of the analysis of the validity of multiple choice test instruments, it can be seen that of the 20 test items that have been developed, there are 16 test items (80%) that are declared valid and 4 test items (20%) which are declared invalid. While the results of the analysis of the test items stated that all the test items developed were valid. Test items that have been declared valid can be accepted as test instruments to train students' numeracy literacy skills. This is in line with the opinion (Arifin, 2016)

which states that a test is said to be valid if it can achieve certain goals.

The reliability of the Batak ethnomathematics-based numeracy literacy instruments for multiple-choice test items developed by researchers was generally declared reliable in the strong criteria with a coefficient of r_{11}, namely 0.738. The ethnomathematics-based numeracy literacy instrument for the Batak tribe for essay test items was also declared reliable with a coefficient value of r_{11}, namely 0.942. This shows that the developed numeracy literacy instrument can be trusted as a test instrument.

The results of the analysis of the differential power of the test items are shown in the following table:

Table 12. Results of Analysis of Differentiating Power of Multiple Choice Test Items

No	Differentiating Power Index	Item	Number	Percentage
1.	0,41 – 0,70 (Good)	1,2,3,4, 5,6,7, 9,14,17, 19,20	12	60%
2.	0,21 – 0,40 (Enough)	8,10,13, 18	4	20%
3.	0,00 – 0,20 (Weak)	11,12,15,16	4	20%

Table 13. Results of the analysis of different test item descriptions

No.	Differentiating power index	Item Number	Percentage
1.	0,41 – 0,70 (Good)	1, 3, 4, 5	4	80%
2.	0,21 – 0,40 (Enough)	2	1	20%

The results of the analysis of differentiating power in the multiple choice test instrument show that of the 20 multiple choice test items developed, 12 test items (60%) have good discriminatory power, 4 test items (20%) have sufficient discriminatory power and 4 test items (20%) has a weak discriminating power. While the results of the analysis of the differentiating power of the descriptive test instrument show that of the 5 test items developed, there are 4 test items (80%) that have good discriminating power and 1 test item (20%) having sufficient discriminating power. Average differentiating power of multiple choice 0.35 (good) and essay test 0.41 (good). Good discriminating power indicates that the developed instrument can distinguish between students belonging to the upper group (having high ability) and students belonging to the lower group (having low ability).

The results of the analysis of the difficulty level of the test items are shown in the following table:

Table 14. Results of Analysis of Difficulty Level of Multiple Choice Test Itemss

No	Difficulty Index	Item	Number	Percentage
1.	0,71 – 100 (easy)	13	1	5%
2.	0,31 – 0,70 (medium)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17,18,19,20	18	90%
3.	0,00 – 0,30 (difficult)	16	1	5%

Table 15. Results of Analysis of Difficulty Level of Test Items Description

No.	Difficulty Index	Item	Number	Percentage
1.	0,31 – 0,70 (Sedang)	1, 2, 3, 4, 5	5	100%

The results of the analysis of the difficulty level of the multiple choice test instrument showed that 1 test item (5%) was in the easy category, 18 test items (90%) were in the moderate category and 1 test item (5%) was in the difficult category. While the results of the analysis of differential power on the description test instrument show that all the test items developed have a level of difficulty that is in the medium category. Average level of difficulty multiple-choice 0.518 (medium) and essay test 0.56 (medium). Good questions are questions that are mostly in the medium category so they are not too easy or not too difficult (Asrul, 2015). Based on this, the difficulty level of the test that has been developed is in a good category.

The results of the analysis of the effectiveness of the multiple-choice test items are displayed in the following table:

Table 16. Results of the Effectiveness Analysis of Multiple Choice Test Item Detractors
The total number of distractors = 5 options × 20 items = 100 options

Category	Distractor option	Number	Percen Tage
Work (≥ 5%)	1-A, 1-B, 1-C, 1-D, 1-E, 2-A, 2-B, 2-C, 2-D, 2-E, 3-A, 3-B, 3-C, 3-D, 3-E, 4-A, 4-B, 4-C, 4-D, 4-E, 5-A, 5-B, 5-C, 5-D, 5-E, 6-A, 6-B, 6-C, 6-D, 6-E, 7-A, 7-B, 7-C, 7-D, 7-E, 8-A, 8-B, 8-C, 8-D, 8-E, 9-A, 9-B, 9-C, 9-D, 9-E, 10-A, 10-B, 10-C, 10-D, 10-E, 11-A, 11-C, 11-E, 12-A, 12-B, 12-C, 12-E, 13-A, 13-B, 13-C, 13-D, 13-E, 14-A, 14-B, 14-C, 14-D, 14-E, 15-B, 15-C, 15-D, 15-E, 16-B, 16-C, 16-D, 16-E, 17-A, 17-B, 17-C, 17-D, 18-A, 18-B, 18-C, 18-D, 18-E, 19-A, 19-B, 19-C, 19-D, 19-E, 20-A, 20-B, 20-C, 20-D, 20-E	93	93%
Do not work (< 5%)	11-B, 11-D, 12-D, 15-A, 16-A, 17-D, 17-E	7	7%

Based on the table, it can be seen that there are 93 (93%) options out of 100 options where the effectiveness of the distractors works well and 7 options (7%) where the effectiveness of the distractor does not work. From these data, the test items based on the effectiveness of the distractor are grouped as follows:

Table 17. Grouping the Effectiveness of the Multiple Choice Test Item Detractors

No.	Category	Test	Number	Percentage
1.	Accepted	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 18, 19, 20	15	75%
2.	Revised	11, 12, 15, 16, 17	5	25%

Based on the results of the grouping of the effectiveness of the multiple choice test instruments, it was found that 17 test items (75%) were

accepted or appropriate, and 5 test items (25%) were revised based on the distractor.

The results of the practicality analysis of the assessment instrument are shown in the following table:

Table 17. Results of the Practicality Analysis of Instruments

No.	Respondents	Practicality Index	Criteria
1.	Teacher	80%	Practical
2.	Students	82,91%	Very Practical

Analysis of teacher and student responses, suggests that instruments are said to be very practical for students with an 82.91% practical indexing percentage of teachers with 80% practical indexing percentages. Based on the analysis it can be known that the assessment instrument developed is stated to be practical and suitable for use an exercise instrument for developing student numeration literacy capability.

4. Disseminating Stage

At this stage, the activity carried out is to distribute numeracy literacy instruments that have been declared qualified to train students' numeracy literacy skills. Distribution activities are carried out on a limited basis by distributing the final product in the form of soft copies and hard copies to math teachers at SMA Negeri 8 Medan. Based on the results of field trials it is known that there are test items that do not meet the quality. Therefore, to produce the final form in the form of Draft III, the unqualified test items are not used as a numeracy literacy test instrument. The test items that must be eliminated are multiple-choice numbers 11, 12, 15, and 16. Meanwhile, other test items can be accepted as numeracy literacy test instruments with a total of 16 multiple-choice test items and 5 essay test items.

CONCLUSIONS

Based on the results of the study, it can be concluded that the Bataknese ethnomathematics based on numeracy test instrument that has been developed produces 16 multiple-choice test items and 5 descriptive test items that are valid, reliable and have good discriminating power and difficulty levels so that they can be accepted and used as a valid instrument. quality to train students' numeracy literacy skills. Students can use the final product of the instrument to practice numeracy literacy skills and teachers can use the final product of the instrument to determine the level of mastery and ability of students' numeracy literacy.

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