

## Development of Numeracy Assessment Based on Ethnomathematics in the Merdeka Curriculum Phase B

Midya Yuli Amreta <sup>1</sup>

midyaamreta2@gmail.com

**Abstract:** *The independent curriculum develops learning according to the interests, learning styles, and abilities of students, which are connected to teacher competencies. The phases of the independent curriculum in elementary school are Phase A, Phase B, and Phase C. In the independent curriculum, there is a Minimum Competency Assessment (MCA), which contains numeracy literacy. This research aims to produce a numeracy assessment product for the phase-B independent curriculum that contains Ethnomathematics. Ethnomathematics is the integration of curriculum, pedagogy, mathematics, and local wisdom. Local wisdom used as ethnomathematics integration makes students trained and able to explore mathematical concepts around the environment. This research method is Research And Development (R&D) with the 4D model (Define, Design, Develop, and Disseminate). The results of material validation are 4.9 with a score of 98% conclusion worth using, the results of language validation are an average of 4.6 with a score of 92% conclusion worth using, and the results of material validation 4.7 with a score of 94% conclusion worth using. The average pretest result of trial-1 was 61, and trial-2 was 62.5. The posttest results from trial-1 were 88.4, and trial-2 were 92. The N-Gain Score results obtained 0.715, which means high, with the interpretation of the effectiveness of N-Gain 71.5%, which means effective. Student response questionnaire results in 83% very satisfied category. It is concluded that the ethnomathematics-based numeracy assessment in the independent curriculum Phase B developed is feasible to use and effective in learning mathematics.*

**Keywords:** *Assessment Development, Numeracy, Ethnomathematics, Merdeka Curriculum*

**Abstrak:** *Kurikulum merdeka mengembangkan pembelajaran sesuai minat, gaya belajar, dan kemampuan peserta didik yang terhubung dengan kompetensi guru. Fase kurikulum merdeka dalam sekolah dasar yaitu Fase-A, Fase-B, Fase-C. Dalam kurikulum merdeka terdapat Asesmen Kompetensi Minimal (AKM) yang berisi literasi numerasi. Penelitian ini bertujuan untuk menghasilkan produk asesmen numerasi pada kurikulum merdeka fase-B yang memuat etnomatematika. Etonmatematika yaitu integrasi dari kurikulum, pedagogi, matematika, dan kearifan lokal. Kearifan lokal yang digunakan sebagai integrasi etnomatematika membuat peserta didik terlatih dan mampu menggali konsep matematika yang ada di sekitar lingkungan. Metode Penelitian ini adalah Research And Development (R&D) dengan model 4D (Define, Design, Develop, dan Disseminase). Hasil validasi materi 4,9 dengan skor 98% kesimpulan layak digunakan, hasil validasi bahasa adalah rata-rata 4,6 dengan skor 92% kesimpulan layak digunakan, dan*

---

<sup>1</sup> Universitas Nahdlatul Ulama Sunan Giri, Indonesia

*hasil validasi materi 4,7 dengan skor 94% kesimpulan layak digunakan. Hasil pretest dari ujicoba-1 rata-rata adalah 61 dan ujicoba-2 adalah 62,5. Hasil posttest dari ujicoba-1 yaitu 88,4 dan ujicoba-2 yaitu 92. Hasil N-Gain Score mendapatkan 0,715 yang artinya tinggi dengan tafsiran efektifitas N-Gain 71,5% yang artinya efektif. Angket respon siswa hasilnya 83% kategori sangat puas. Sehingga disimpulkan bahwa asesmen numerasi berbasis etnomatematika pada kurikulum merdeka Fase B yang dikembangkan layak digunakan dan efektif dalam pembelajaran matematika.*

**Kata Kunci:** Pengembangan Asesmen, Numerasi, Etnomatematika, Kurikulum Merdeka

## **Introduction**

The teaching and learning process in education takes place effectively. Education is a very important element in the dignity of social and state life (Susanto et al., 2022) (Krishna et al., 2020). When the Covid-19 pandemic took place, there were many problems in education (Nur, 2022) (Parid et al., 2021), especially the process of teaching and learning activities in schools. Hence, teachers use online and offline learning systems (Maula, 2022) (Mutia et al., 2022) (Ramadani., 2022). The transformation of education in Indonesia after COVID-19 has experienced quite significant changes. The change that has occurred is that there is a new curriculum, namely the Merdeka Learning curriculum (Maulinda, 2022).

Learning in the Merdeka curriculum increases the creativity of students' interests, learning styles and abilities, which are connected to the competence of educators (Merta et al., 2022). In Merdeka curriculum learning in elementary schools, there are 3, namely Phase A, Phase, and Phase C. Implementing the Merdeka curriculum in Madrasah Ibtidaiyah will bring changes in effects for teachers, education staff, learning administration, learning strategies, learning methods, and learning evaluation (Rahimah, 2022). Curriculum changes occur with the aim of improving the quality of education. The aim of the Merdeka curriculum, apart from improving the quality of education, is also to produce a great generation of reliable candidates (Nurohmah et al., 2022). The Merdeka curriculum applies to primary and secondary education. In the merdeka curriculum, the Minimum Competency Assessment (AKM) is implemented by the government (Andikayana, 2021).

The urgency of the Minimum Competency Assessment (AKM), which the government has rolled out to replace the National Examination (U.N.) system, is a new experience for teachers, especially elementary school teachers. Numeracy assessment is one of the things assessed in the Minimum Competency Assessment (AKM) (Matondang et al., 2022).

This research focuses on developing an ethnomathematics-based numeracy assessment in the Merdeka curriculum phase B in elementary schools. Ethnomathematics is used as an integration of curriculum, pedagogy, and mathematics (Alanur et al., 2022) (Islam & Rahmat, 2023) . The use of local wisdom as integration makes students trained and able to explore mathematical concepts that exist in their cultural environment (Irwan et al., 2019) (Widiantari et al., 2022). Local wisdom will make it easier for students to learn because this culture exists in the students' environment (Suciawati et al., 2021) (Ditasona, 2018) (Oktiningrum, 2020) . In this research, the context is local wisdom in Tuban Regency, East Java. The use of numeracy assessments in learning has a big influence on students' learning achievements (Andy, 2017) (Khairiyah, 2019), especially in facing a Merdeka curriculum; Merdeka learning must be carried out (Nasution, 2021).

The novelty of this research lies in the ethnomathematics-based numeracy assessment. Ethnomathematics is needed because it makes it easier for students to understand mathematics in the context of local wisdom for a Merdeka curriculum. Ethnomathematics is information that combines mathematics with socio-cultural components; the type of relationship can be displayed in the section on the application of numerical ideas in regional local wisdom (Nurrettyo et al., 2022). Previous research that has been carried out regarding numeracy assessments in the Minimum Competition Assessment (AKM) was carried out with variables that are still common. The first research was entitled Development of ICT-Based Literacy and Numeracy Instruments for Elementary School Students which took place in class V of SDN Pamulang Barat, South Tangerang. The results of the research showed that the questions developed were very good. The questions are adapted to the context that is relevant to the students there (Andikayana, 2021). The second research is research entitled Development of a Level 2 Reading Literacy Minimum Competency Assessment Instrument (AKM) for Grade 4 Elementary School Students. This research

produced AKM reading literacy questions (Nuril et al., 2022). The third research is entitled Development of a Minimum Competency Assessment (AKM) Based Practice Book to Improve Students' Literacy and Numeracy Abilities at SDN Janti 02 Sidoarjo. The questions created have been validated and the results are good, and the questions are adapted to the Sidoarjo context (Permatasari et al., 2021).

These studies have not added Ethnomathematics. This is important because students are trained and able to explore mathematical concepts that exist in their cultural environment (France, 2021). This makes it easier for them to learn because this culture exists in the students' environment. Mathematics is a science that deals with the study of abstract structural forms. Studying mathematics requires an understanding of concepts (Syahputri, 2018). Thus, Ethnomathematics is needed in developing numeracy assessments.

Based on the description above, this research aims to develop an ethnomathematics-based numeracy assessment in the Merdeka curriculum phase B in elementary schools. The resulting ethnomathematics numeracy assessment will fulfil the validity or feasibility of the product.

## **Research Methods**

### **Development Model**

This research is Research and Development (R&D). Development is carried out using a 4-D model with the Define, Design, Develop and Disseminate stages.

#### **a. Define Stage (Definition)**

The define stage is carried out by field observation with curriculum analysis, student analysis, task analysis, concept analysis, and learning objectives.

#### **b. Design Stage (Designing)**

The design stage is carried out by selecting a design and format for an ethnomathematics-based numeracy assessment, which is prepared based on curriculum references, including the title, objectives and material presented in the form of assessments in the environment around the students.

#### **c. Development Stage (Development)**

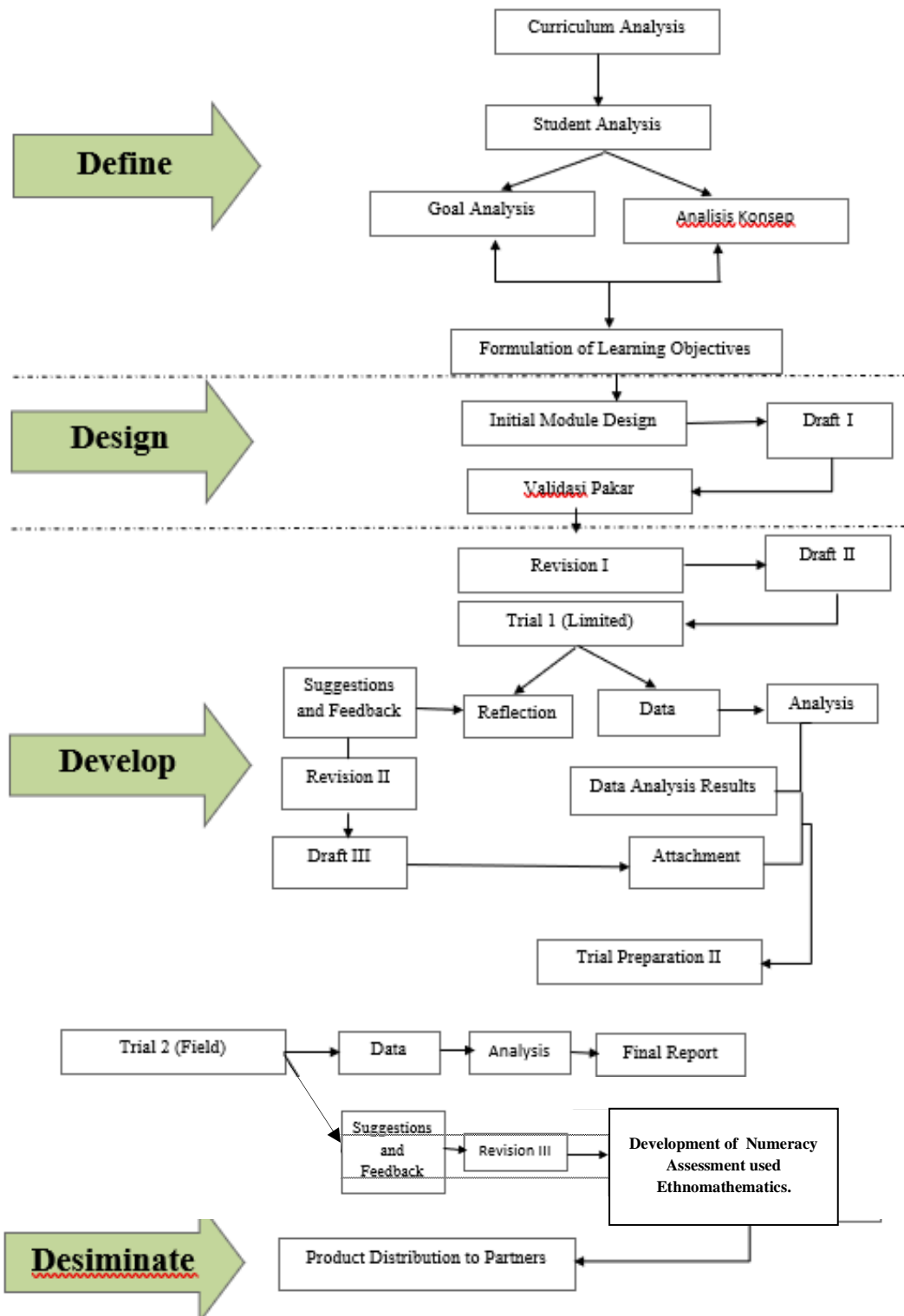
This development stage aims to find a product, namely an ethnomathematics-based numeracy assessment that has been revised and improved based on expert input and the results of trial 1 (limited) and trial 2 (field).

d. Dessiminase Stage (Dissemination)

This dissemination stage aims to disseminate the final research product—products developed and tested for use by others.

The research development procedure can be seen in Table 1 as follows:

**Table. 1** 4D Research Flow



### Data and Data Sources

The data in this research is divided into two, namely qualitative and quantitative data. Qualitative data in the form of suggestions for improvement, criticism, comments provided by material experts, namely Suharti, SP.d, Gr who is also an elementary school civil servant teacher; then the design expert, namely Mr. Wahyu Arzaky, S.Pd who is also a civil servant teacher of art, design and skills; then a linguist, namely Mrs. Dina Sofiana, S.Pd who is also a mathematics practitioner at the Al Qudwah Foundation; then the students during the trial. Quantitative data is data obtained from questionnaires filled out by material experts, design experts, and language experts. In addition, quantitative data also takes the form of data derived from students' scores when taking pretest and posttest learning outcomes tests.

### Data Collection Techniques and Instruments

Data collection was carried out in three ways, namely questionnaires, interviews and tests. Questionnaires are used to collect data regarding the validity and practicality of the instrument. The questionnaire is addressed to materials, design experts, and language experts. Interviews were conducted with materials, design experts, language experts and teachers to obtain valid data. The tests used during trial one and trial two were conceptualized with Ethnomathematics.

### Data Analysis

The qualitative data obtained was analyzed through three stages, namely data condensation, data presentation, and data conclusion as follows:

$$\text{Percentage} = \frac{\text{(Achieved value)}}{\text{(The total value that must be achieved)}} \times 100 \%$$

After that, the average score is calculated using the following formula:

$$\text{Completeness} = \frac{\text{(Achieved value)}}{\text{(The total value that must be achieved)}} \times \text{Maximum score}$$

The validation eligibility criteria can be seen in Table 2 as follows:

**Table 2.** Validation Eligibility Criteria

Classification	Information
76 - 100 %	Valid / Eligible
51 - 75 %	Enough Valid / Decent Enough
26 - 50 %	Less Valid / Less Appropriate
0 - 25 %	Invalid / Ineligible

The division of N-Gain value acquisition categories can be seen in Table 3 as follows:

**Table 3 . Validation Eligibility Criteria**

<b>N-Gain Value</b>	<b>Categories</b>
$G > 0.7$	Tall
$0.3 \leq G \leq 0.7$	Currently
$G < 0.3$	Low

Then the categories for interpreting the effectiveness of N-Gain in percent (%) can be seen in table 4 as follows:

**Table 4 . Validation Eligibility Criteria**

<b>Percent ac e (%)</b>	<b>Categories</b>
< 40	Ineffective
40 - 55	Less effective
56-75	Effective enough
> 76	Effective

Then the categories for obtaining student response questionnaires can be seen in Table 5 as follows :

**Table 5. Student Response Questionnaire**

<b>Classification</b>	<b>Information</b>
76 - 100 %	Satisfied
51 - 75 %	Enough Satisfied
26 - 50 %	Less satisfied
0 - 25 %	Dissatisfied _

## Results and Discussion

The product was obtained with a feasibility value from the validator, namely 98% for material validation, 92% for language validation, and 94% for design validation. Thus, the average percentage value of 90.6% can be seen in Table 6 as follows:

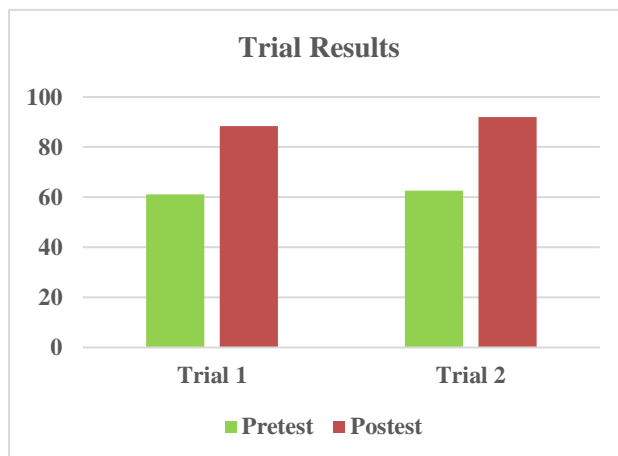
**Table 6. Validation Results**

<b>Validators</b>	<b>Results</b>
Material Validator	98 %
Language Validator	92 %
Design Validators	94 %
<b>Average</b>	<b>94.5 %</b>



The average pretest result from trial 1 was 61, then on trial 2, it was 63.75. Followed by the posttest results from trial 1, namely 88.4 and trial 2, namely 92. The following are the results from the trial stage:

**Chart 1.** Pretest and Posttest Results



After carrying out the pretest and posttest at the trial stage, the researcher calculated that the pretest average in trial 1 was 61 and the posttest average was 88.4. Then the N-Gain Score value is N-Gain trial 1, namely getting a score of 0.65, which means high and getting an N-Gain effectiveness interpretation of 64.7%, which means effective. This can be seen in table 7 as follows:

**Table 7.** N-Gain Score (Trial 1)

No.	STUDENT	Mark		Post-Pre	Ideal Score (100) - Pre	N - Gain Score	N - Gain Score Per cent
		Pre	Post				
1	A	68	92	24	32	0.75	75
2	B	48	100	52	52	1	100
3	C	66	82	16	34	0.47	47.05
4	D	72	82	10	28	0.35	35.71
5	E	54	70	16	46	0.34	34.78
6	F	48	92	44	52	0.84	84.61
7	G	46	100	54	54	1	100



8	H	78	82	4	22	0.18	18.18
9	I	64	82	18	36	0.5	50
10	J	58	94	36	42	0.85	85.71
11	K	58	100	42	42	1	100
12	L	72	92	20	28	0.71	71.42
13	m	54	100	46	46	1	100
14	N	48	82	34	52	0.65	65.38
15	O	78	82	4	22	0.18	18.18
16	P	64	82	18	36	0.5	50
<b>Amount</b>		<b>976</b>	<b>1414</b>	<b>438</b>	<b>624</b>	<b>10.36</b>	<b>1036.06</b>
<b>N - Gain Score (Overall) Trial 1</b>						<b>0.65</b>	<b>64.75</b>
<b>Average</b>		<b>61</b>	<b>88,375</b>				

Then, continue calculating, namely the pretest average in trial 2, namely 62.5 and the posttest average, namely 92. Then the N-Gain Score value, namely N-Gain trial 2, is getting a score of 0.78, which means high and getting an N-effectiveness interpretation. -Gain 78.5%, which means effective. This can be seen in Table 8 as follows:

**Table 8.** N-Gain Score (Trial 2)

No.	STUDENT	Mark		Post-Pre	Ideal Score (100) - Pre	N - Gain Score	N - Gain Score Percent
		Pre	Post				
1	A A	68	90	22	32	0.68	68.75
2	BB	52	100	48	48	1	100
3	CC	70	90	20	30	0.67	66.6 7
4	D.D.	76	100	24	24	1	100
5	E.E.	56	88	32	44	0.72	72.72
6	F.F.	52	100	48	48	1	100
7	G.G.	48	90	42	52	0.81	80.7 7
8	HH	78	100	22	22	1	100
9	II	48	68	20	52	0.38	38.46
10	JJ	66	100	34	34	1	100
11	K.K	76	92	16	24	0.67	66.6 7
12	L.L.	56	100	44	44	1	100
13	MM	52	82	30	48	0.63	62.5
14	N.N.	46	96	50	54	0.93	92.59
15	O.O.	78	90	12	22	0.54	54.54
16	PP	64	100	36	36	1	100

17	QQ	58	68	10	42	0.24	23.8 1
18	R.R.	64	100	36	36	1	100
19	S.S.	78	90	12	22	0.54	54.54
20	T.T.	64	96	32	36	0.81	88.8 9
<b>Amount</b>		<b>1250</b>	<b>1840</b>	<b>590</b>	<b>750</b>	<b>15.71</b>	<b>1570.92</b>
<b>N - Gain Score (Overall) Trial 2</b>						<b>0.78</b>	<b>78.55</b>
<b>Average</b>		<b>62.5</b>	<b>92</b>				

From the N-Gain values of Trial 1 and Trial 2, it can be concluded that the ethnomathematics-based numeracy assessment in the Phase B independent curriculum developed is effective in learning mathematics. Then, after using the numeracy assessment, students filled out the student response questionnaire and obtained presentation results of 83% in the very satisfied category. This can be seen in Table 9 as follows:

**Table 9.** Questionnaire Recapitulation (Students)

No	Statement	Score Obtained																			Jumlah	Rata-Rata	Presentase	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19				20
1	Statement-1	0	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	0,85	74%
2	Statement-2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20	1	87%
3	Statement-3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20	1	87%
4	Statement-4	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	19	0,95	83%
5	Statement-5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	19	0,95	83%
6	Statement-6	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	18	0,9	78%
7	Statement-7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20	1	87%
<b>TOTAL</b>		<b>6</b>	<b>6</b>	<b>7</b>	<b>7</b>	<b>6</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>6</b>	<b>7</b>	<b>6</b>	<b>6</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>6</b>			<b>578%</b>
<b>AVERAGE</b>		<b>0,9</b>	<b>0,9</b>	<b>1</b>	<b>1</b>	<b>0,9</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0,9</b>	<b>1</b>	<b>0,9</b>	<b>0,9</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0,9</b>			<b>83%</b>

### Conclusion

Based on the data presented above, it shows that it can be concluded that the ethnomathematics-based numeracy assessment in the Phase B Merdeka curriculum at Madrasah Ibtidaiyah that was developed is suitable for use and effective in learning mathematics. One of the areas for improvement in the research process for developing this project module was when it was tested on students. In carrying out this numeracy assessment research, several obstacles were experienced, namely adjusting the hours in activities carried out at school because it coincided with the End of Semester (SAS) and class meetings so that the appropriate schedule was prepared with the school and this could be handled well.

## REFERENCES

- Alanur SN, Nawing K, Septiwiharti D, Syuaib D, Jamaludin J. 2022. "Development of PPKn Teaching Materials Containing Pancasila Student Profile Values as Strengthening Students' Civic Character." *J Citizenship Educator*. 12(2):107.
- Andi Ahmad. 2017. "The Relationship between the Development of Teaching Materials and Learning Media and Student Learning Outcomes in Islamic Religious Education Subjects in State Elementary Schools in Sungai Kunjang District." *Shamil*. 5(1):59-73.
- Andikayana, DM, Dantes, N., & Kertih, IW 2021. "Development of a Level 2 Reading Literacy Minimum Competency Assessment Instrument (AKM) for Grade 4 Elementary School Students" *Ganesha Education University Basic Education Study Program*. 11(2), 81-92.
- Andikayana, DM, Dantes, N., & Kertih, IW 2021. "Development of a Level 2 Reading Literacy Minimum Competency Assessment Instrument (AKM) for Grade 4 Elementary School Students". *Ganesha Education University Basic Education Study Program*. 11(2):81-92.
- Ditasona C. 2018. "Ethnomathematics Exploration of the Toba Community: Elements of Geometry Transformation Contained in Gorga (Ornament on Bataks House)." *IOP Conf Ser Mater Sci Eng*. 335(1).
- Machaba, F., Dhlamini, J. (2021). Ethnomathematics as a Fundamental Teaching Approach. In: Luneta, K. (eds) *Mathematics Teaching and Professional Learning in sub-Sahara Africa*. Research in Mathematics Education. Springer, Cham. [https://doi.org/10.1007/978-3-030-82723-6\\_5](https://doi.org/10.1007/978-3-030-82723-6_5).
- Irawan A, Lestari M, Rahayu W, Wulan R. 2019. "Ethnomathematics of Bali island batik design." *J Phys Conf Ser*. 1338(1).
- Islam U, Rahmat R. 2023. "Development Of Akm Questions Containing Ethnomathematics Using Canva Media To Measure Numeration Literacy Capability". Raden Rahmat Islamic University Malang, Indonesia E-mail: Abstract. March.
- Khairiyah EA. 2019. "Development Of Teaching Materials Based On Ethnomathematics On Quarters And Triangles For Class VII SMP/MTs." *RepositoryUinjktAcId* [Internet]. Available from:

<https://repository.uinjkt.ac.id/dspace/handle/123456789/61562%0A>

<https://repository.uinjkt.ac.id/dspace/bitstream/123456789/61562/1/11170170>

000016 EVA AFIFAH KHAIRIYAH % 28watermark%29.pdf

Krisna D, Gunarhadi G, Winarno W. 2020. "Development of Educational Comic with Local Wisdom to Foster Morality of Elementary School Students: A Need Analysis." *Int J Educ Methodol.* 6(2):337-43.

Matondang, AR, Nasution, FS, & Setiawati, NA 2022. "Free Learning Minimum Competency Assessment from the Perspective of Elementary School Teachers." 1(1):159-165.

Maula L.H. 2022. "Mathematics Learning During the Pandemic in Elementary Schools." *J Basicedu.* 6(5):7872-8.

Maulinda U. 2022. "Development of Merdeka Curriculum Based Teaching Modules." *Tarbawi.* 5(2):130-8.

Merta sari N komang lina, Widiratini NK, Anggendari MD. 2022. "Development of Embroidery Teaching Materials Based on Merdeka Learning at Merdeka Campus." *J BOSAPARIS Health Educator Kel.* 13(1):28-36.

Mutia A, Wulandari I, Afifah NR, Itsar PA, Nur Y, Sari F. 2022. "Effectiveness of Offline and Online Mathematics Learning Models During the Covid-19 Pandemic." *Orig Res.* (58):95-102.

Nasution SW. 2021. "Assessment of the Merdeka Learning Curriculum in Elementary Schools." *Prosding Semin Nas Basic Educators [Internet].* 1(1):135-42. Available from: <https://journal.mahesacenter.org/index.php/ppd/index>.

Nur Z. 2022. "Learning Effectiveness After the Covid-19 Pandemic at M.T.s Negeri 1 Makassar." *Educandum [Internet].* 8(1):121-8. Available from: <http://jurnal.stkipalmaksum.ac.id/index.php/Sintaksis/article/view/183/183>.

Nuril Nuzulia, and AG 2022. "Development of Minimum Competency Assessment (AKM) -Based Exercise Books to Improve Students' Literacy and Numeracy Ability at Sdn Janti 02 Sidoarjo. *Development of Based Exercise Books.*" 6(1), 1-10.

Nurohmah AN, Kartini D, Rustini T. 2023. "The Relevance of Merdeka Curriculum Policy to 21st Century Education in Social Studies Learning in Elementary

- Schools." *J Ilm Wahana Pendidikan*, February [Internet]. 9(3):24–35. Available from: <https://doi.org/10.5281/zenodo.7594483>.
- Nursetyo, KI, & Jakarta, UN 2022. "Development of Literacy and ICT-Based Instruments for Numeracy Elementary School Students." 05(02), 75–86.
- Oktiningrum W, Wardhani DAP. 2020. "Developing Hot Mathematics Task with Indonesian Heritage as Context to Assess Mathematical Literacy of Students in Primary School." *Int J Educ Vocat Stud*. 1(8):69.
- Parid M, Julrissani J. 2021. "The Impact of the Covid-19 Pandemic on the Learning Process of Elementary School Students." *VOX EDUCATION J Ilm Educator Science*. 12(1):114–21.
- Permatasari KT, Apriyani E, Fitriyana ZN, Studi P, Mathematics P, Mathematics F, et al. 2021. "Development of Mathematics Learning Media in the Form of Corner Clock Teaching Tools." *J Mat And Science Educator [Internet]*. 9(2):83–8. Available from: <http://journal.uny.ac.id/index.php/jpm>.
- Rahimah. 2022. "Increasing the Capacity of Tebingtinggi City 10 Public Middle School Teachers in Developing Merdeka Curriculum Teaching Modules through Mentoring Activities for the 2021/2022 Academic Year." *J ansiru PAI [Internet]*. 6(1):92–106. Available from: <http://jurnal.uinsu.ac.id/index.php/ansiru/article/view/12537/5670>.
- Ramadani MR. 2022. "Online Mathematics Learning During the Covid-19 Pandemic at Mts Negeri 1 Banyumas Class Ix a." *J Educator Mat Undiksha*. 12(2):55–62.
- Suciawati V, Jatisunda MG, Kania N. 2021. "How a Traditional Homemaker Predicts: An Ethnographic Study." *Malikussaleh J Math Learn*. 4(1):41.
- Susanto NCP, Hartati SJ, Setiawan W. 2022. "Learning Design to Improve Numeracy Literacy and Critical Thinking Character of Elementary School Students Based on Ethnomathematics." *Cent Educ J*. 3 (01):50–61.
- Syahputri N. 2018. "Design and Construction of Grade 1 Elementary School Mathematics Learning Media Using the Demonstration Method." *J Sist Inf Kaputama*. 2(1):89–95.
- Widiantari NKK, Suparta IN, Sariyasa S. 2022. "Improving Numeracy Literacy and Character Education with E-Modules Containing Ethnomathematics in the COVID-19 Pandemic Era." *JIPM Educator Science Journal Mat*. 10(2):331.