

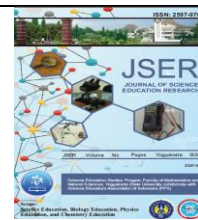


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“Dingklik Oglak Aglik” Traditional Games Integration in Science Teaching Module to Promote Global Diversity

 S. Primaharani^{1*},  Y. Widiyawati²,  D. S. Sari³

^{1,2,3} Department of Science Education, Faculty of Science and Technology, Universitas Ivet

*Corresponding Author. Email: septyprimhrni11@gmail.com

Keywords

Traditional games, dingklik oglak aglik, teaching modules, merdeka curriculum, global diversity

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Phone*:
+6287755666803

Abstract

Teaching modules can help students effectively participate in learning and achieve successful learning outcomes through the merdeka curriculum. Developing games that are appropriate to science learning, one of which is traditional games. This research aims to test the feasibility of an integrated teaching module for the traditional game dingklik oglak aglik to promote global diversity so that it is suitable for use in schools at the junior high school. This research method is quantitative descriptive research. The data collection instrument used is an instrument for assessing the quality of teaching modules which is seen from 3 criteria, namely didactic, construction, and technical. The research results of the science teaching module integrated with the traditional game dingklik oglak aglik to promote global diversity showed very high validity reaching 94%. Teachers consider this teaching module to be very practical and suitable for use. Therefore, it can be concluded that the science teaching module integrated with the traditional game dingklik oglak aglik to promote global diversity has a high level of validity and practicality so this teaching module is suitable for usability.

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INTRODUCTION

The curriculum is an important element in carrying out the learning process at all levels of education (Sunarni & Karyono, 2023). In Indonesia, the curriculum in education units often changes. Merdeka Curriculum is the current curriculum used to provide "Freedom to learn" in the form of freedom and convenience for learning implementers (Rahmadayanti & Hartoyo, 2022). According to Febriyanti & Ain (2021) in the curriculum 2013, learning tools are still general in nature so it is not able to facilitate students specifically. Therefore, it is necessary to develop learning tools that can support learning in the independent curriculum, one of which is teaching modules.

The use of teaching modules can help students effectively participate in learning and the success of learning outcomes through the merdeka

curriculum (Rakhmatullah et al., 2020). Teaching modules are learning tools applied to the merdeka curriculum (Maulida, 2022). The developed module gives student chance to develop their prior of knowledge, active participating in learning activity, and doing experiment learning which enrich their learning experience and learning knowledge (Pangestu et al., 2020). The teaching module for the merdeka curriculum is currently considered to be an important tool for the implementation of learning through new models and paradigms (Maipita et al., 2021). In compiling a teaching module, a learning model is needed as a basis for preparing learning steps and the flow of teaching materials so that the teacher's teaching techniques in the classroom become more effective and efficient (Maulida, 2022; Situmorang et al., 2022).

In the teaching module, there are several important aspects related to the merdeka curriculum, including readiness in the implementation of assessments, changes in the Learning Implementation Plan to the Teaching Module, and the Pancasila Student Profile Strengthening Project module (Fitriyah & Wardani, 2022). The Pancasila Student Profile Strengthening Project module is present to strengthen the character of the Pancasila student profile through project-based learning which makes learning more relevant, and interactive, and provides opportunities to be actively involved in supporting the development of the Pancasila student profile character (Rahmadayanti & Hartoyo, 2022; Ulandari & Rapita, 2023).

Critical reasoning and global diversity are part of the 6 aspects of the Pancasila learner profile (Irawati et al., 2022). Critical reasoning is the process of systematically analyzing problems and identifying information to plan problem-solving strategies (Ernawati & Rahmawati, 2022). In addition to instilling the character of critical reasoning, global diversity also needs to be emphasized in students because it is an attitude of tolerance toward other cultures and the locality of Indonesians (Wijayanti & Muthali'in, 2023).

The development of a global diversity character can create interesting and fun learning for students (Rohmah et al., 2023). This learning can be created in various ways, one of which is the development of games that are modified to be educational for students by utilizing local wisdom (Saputri & Katoningsih, 2023). Teachers are able to utilize local wisdom and integrate it into science learning (Yuliana et al., 2022). Development of local wisdom in the form of games that are appropriate to science learning, one of which is traditional games which are the nation's heritage. Traditional games are almost forgotten because of the times, even though they have symbolic meanings in them (Nunik et al., 2022).

One of the traditional games, namely the dingklik oglak aglik game, is related to science lessons on motion and force because it uses the balance of one foot (Khalifah, 2020). The dingklik oglak aglik is a game played in the Java region, precisely in Central Java Province, accompanied by singing folk songs using the balance of one foot for each player (Kristanto et al., 2023). But now the game is foreign and almost many do not know it. This happens because of globalization so traditional games are slowly forgotten (Riadi & Lestari, 2021).

The relationship between traditional games and motion and force material is that in motion material there is displacement when players make movements while singing by moving places, from

displacement there is also speed when several groups play together while walking from the start line to the finish line according to the game modifications listed in the teaching module. Then in the force material, there is Newton's law I when players in the dingklik oglak aglik game move straight ahead without any other influencing force, and in Newton's law III there is action and reaction that occurs while playing. The action force is when one of the feet of each player is superimposed and there is a reaction force in the form of a force to lift the other leg.

The game of dingklik oglak aglik turns out to have a lot to do with science learning material and one of the dimensions of the Pancasila student profile, namely global diversity. From this teaching module, there is a character of preserving the nation's culture and the relationship between motion and power material and the game "dingklik oglak aglik". Then based on the shortcomings of the teaching module, it turns out that there are still many schools, and educators who have not developed the character of the Pancasila student profile and students who do not know the traditional game "dingklik oglak aglik". The need for the development of science teaching modules integrated with traditional games "dingklik oglak aglik".

Previous research shows that educators do not fully understand the implementation of the merdeka curriculum, and rarely develop relevant learning tools (Barsihanor et al., 2020). Research conducted by Mawarni & Suyoso (2021) proved that teaching modules are feasible to use to increase students' understanding of the material and interest in learning. Other research conducted by Nurhayati et al. (2022) showed that teachers need practical assistance to complete learning tools that are relevant to the merdeka curriculum such as teaching modules. Variacion et al. (2021) in their research showed that they had developed teaching modules for the merdeka curriculum. According to Mutiara et al., (2022) they developed an electronic enrichment book by combining the value of the Pancasila student profile. However, no research has developed science teaching modules integrated with the traditional game "dingklik oglak aglik" to promote global diversity.

The teaching module developed as a product of this research is a traditional game-integrated science teaching module. This teaching module has advantages and disadvantages. The advantages of teaching modules that have been developed are the cultivation of character following the dimensions of the Pancasila student profile, the link between the material of motion and force of science subjects with traditional games, and the cultivation of character in preserving the nation's culture. At the same time,

the shortcomings in this teaching module are the lack of student understanding of traditional games during limited product testing, and differentiation that has not been seen.

Based on the results of interviews, observations, and FGD (Focus Group Discussion) activities that have been carried out at SMP Negeri 3 Ungaran with science educators, it turns out that not many educators have implemented global diversity characters in the Pancasila student profile listed in the teaching module. Factors that cause it has not been applied due to limited time in teaching because it has been cut by P5 activities (Pancasila Student Profile Strengthening Project). So the purpose of this study is to test the feasibility of integrated teaching modules of traditional games dingklik oglak aglik to promote global diversity to be suitable for schools at junior high school.

RESEARCH METOD

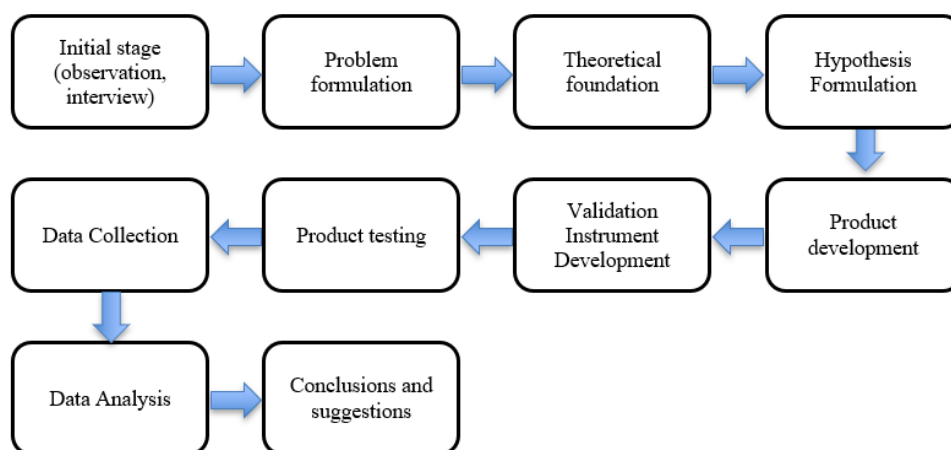


Figure 1. Research Procedure

The research procedure used is in the initial stages of conducting observations and interviews with educators in several schools, then formulating problems from the results of the questionnaire and Focus Group Discussion (FGD), compiling a theoretical basis, and formulating hypotheses. Then product development in the form of teaching modules with validation instruments from learning experts, and media experts. After that, there is product testing for educators and students through practical tests. Then data from the results of validation and practicality tests, and the data that has been collected is analyzed. After that, conclude and provide suggestions from the results of the research that has been done.

The instrument used to collect data in the form of a validation sheet is used to obtain information about the quality of the Student Worksheet in the teaching module based on the assessment of the validators. Questionnaires are used to obtain

This research is a quantitative descriptive study that aims to test the feasibility of a science teaching module integrated with traditional games (Rohmah et al., 2020). According to Sugiyono (2014), the quantitative descriptive method is defined as research that intends to objectively measure social phenomena, quantitative research is processed and analyzed with statistics. The product developed in this study is an early-stage design of research and development (R&D) activities (Rakhmatullah et al., 2020). The developed product was tested following the 4D development model adapted from (Thiagarajan, 1974). The model consists of four stages, namely defining, designing, developing, and disseminating. The process of developing this teaching module is only carried out up to the development stage, while dissemination is carried out gradually in the following year as shown in Figure 1 (Madani et al., 2023).

students' opinions about the Student Worksheet in the teaching module developed used to determine the level of readability of students on the Student Worksheet in the teaching module.

Validation of teaching module products is carried out by learning experts, and media experts. A practicality test was conducted on practitioners. Product analysis and revision were carried out based on the criticisms and suggestions given. The revised product was then tested in a limited trial for students. The limited trial was conducted on students of SMP Negeri 3 Ungaran as many as 12 randomly selected students. Data from the limited trial were used as input for improving the teaching module

The criteria assessed in the teaching module can be seen from the quality of the teaching module by fulfilling various requirements, namely didactic, construction and technical requirements. Didactic requirements regarding the use of teaching

modules. Construction requirements relate to language use, sentence structure, vocabulary, level of difficulty, and clarity of teaching modules. Technical requirements relate to the use of font

types, images and the appearance of teaching modules (Rohaeti et al., 2009). Learning expert validation criteria in Table 1.

Table 1. Learning Expert Validation Criteria

Criteria	Aspects	Assessment Points
Didactics	Assessment of learning outcomes	Measure students' comprehension ability
	Breadth of concept	Connecting natural science concepts with the traditional game “dingklik oglak oglik”
	Learner activities	Invite students to be actively involved in the learning process
Construction	Applicability	Suitability between learning objectives and Student Worksheet
	Clarity of sentences	The sentences used are easy to understand
	Linguistics	The language used is following Indonesia grammar and communicative
	Depth of concept	The depth of the material follows the Learning Outcomes and the Flow of Learning Objectives
	Correctness of science concepts	The correctness of the concept of science material presented in the teaching module
Technical	Enrichment	Optimally develop the knowledge potential of high-achieving learners
	Use of pictures/illustrations	Appropriateness of the use of images/illustrations of science material
	Physical appearance	The design (consistency, format) of the teaching module is attractive
	Correctness of the teaching module concept	Appropriateness of layout, spacing, space, and image settings Completeness of the arrangement of teaching module components (General information, Core components, Appendix)

The validation criteria carried out on learning experts are listed in Table 1 with assessment points

according to each criterion. Next media expert validation criteria are listed in Table 2.

Table 2. Media Expect Validation Criteria

Criteria	Aspects	Assessment Points
Didactics	Assessment of learner learning outcomes	Measuring the ability of students' understanding of the Pancasila learner profile (global diversity)
	Material suitability	The material presented is related to everyday life The material presented can motivate
Construction	Clarity of sentences	Sentences used are easy to understand Use of words following Indonesia grammar
	Linguistics	The language used is following Indonesia grammar and communicative
	Suitability of Student Worksheet	Suitability of learning objectives with activities in the Student Worksheet Clarity of Student Worksheet in Work Instructions
	Picture/illustration	Use of supporting images/illustrations
Technical	Module size	Appropriateness of margin and paper size in the module
	Display of module content	Suitability of module material with learning objectives Image suitability with text message (material)
	Physical appearance	The design (consistency, format) of the teaching module is attractive Appropriateness of layout, spacing, space, and image settings
	Correctness of the teaching module concept	Completeness of the arrangement of teaching module components (General information, Core components, Appendix)

The validation criteria carried out on media experts are listed in Table 2 with assessment points according to each criterion. Next, the criteria for the

practicality of teaching modules by practitioners are listed in Table 3.

Table 3. Criteria For Module Practicality

Criteria	Aspects	Assessment Points
Didactics	Assessment of learner learning outcomes	Measuring the ability of students' understanding of thePancasila learner profile (global diversity)
	Breadth of concept	Connecting natural science concepts with the traditionalgame dingklik oglak oglik
	Learner activities	Invite students to be actively involved in the learning process
Construction	Clarity of sentences	Sentences do not cause double meanings
	Linguistics	The language used is following Indonesia grammar and communicative
	Depth of concept	The depth of the material is following the LearningOutcomes and the Flow of Learning Objectives
	Correctness of science concepts	The correctness of the concept of science material presented in the teaching module The correctness of the science formulas presented in the teaching module
	Enrichment	Development of learners' knowledge potential
	Use of pictures/illustrations	Appropriateness of the use of images/illustrations of sciencematerial
Technical	Physical appearance	The design (consistency, format) of the teaching module is attractive
	Module size	Appropriateness of margin and paper size in the module
	Module design	Does not use many typeface combinations
	Module content design	Suitability of module material with learning objectives Image suitability with text message (material)

The criteria for practicality carried out on practitioners are listed in Table 3 with assessment points according to each criterion. Certain criteria that refer to the average questionnaire category score obtained by respondents are used to make it easier to describe the research variables. The use of category scores is used following the 4 score categories developed in the Likert scale and used in research (Rohmah et al., 2023). The score ranges are listed in Table 4.

Table 4. Teaching Module Criteria

Value Range	Criteria
1,00 ≤ X ≤ 1,75	Less
1,75 ≤ X ≤ 2,50	Simply
2,50 ≤ X ≤ 3,25	Good
3,25 ≤ X ≤ 4,00	Very good

Source: Rakhmatullah et al., 2020.

The feasibility of the science teaching module integrated with the traditional game dingklik oglak aglik to promote global diversity is measured based on the results of the validity test of learning experts, the validity of media experts, and the readability of the Student Worksheet. The validity assessment

percentage and the formula used are shown in Table 2.

$$Percentage = \frac{Total\ score\ in\ the\ instrument}{Assessment\ score} \times 100\%$$

Description:

Assessment score = highest score x number of validators.

Source: Shifa et al., 2020

Based on the percentage of the assessment obtained, a grouping is made based on the assessment criteria as shown in Table 5.

Table 5. Validity Assessment Percentage

Assessment Percentage	Criteria
24% ≤ X ≤ 43%	Less
43% ≤ X ≤ 62%	Simply
62% ≤ X ≤ 81%	Good
81% ≤ X ≤ 100%	Very Good

Source: Sari et al., 2022

Table 5 shows that the results obtained from the validator's assessment have been calculated through the feasibility percentage formula to get an

average (x) which can be categorized according to the validity test results table with interval-shaped criteria as a basis for making decisions to make revisions or not (Sari et al., 2022).

The reliability of the validation instrument in this study uses the Borich (2013) method, known as Percentage of Agreement (PA), which is the percentage of agreement between raters, which is a percentage of value agreement between the first rater and the second rater. The formula is as follows.

$$PA = \left(1 - \frac{A - B}{A + B}\right) \times 100\%$$

Description:

PA = percentage of agreement %

A = Maximum number of scores

B = Number of minimum scores

Based on the percentage of the assessment obtained, a grouping is made based on the assessment criteria as shown in Table 6.

Table 6. Percentage of Agreement Categories

Assessment Percentage	Criteria
21% ≤ X ≤ 40%	Less
41% ≤ X ≤ 60%	Simply
61% ≤ X ≤ 80%	Good
81% ≤ X ≤ 100%	Very good

Source: Citra et al., 2023

Teaching modules that have been validated are confirmed to meet the valid / very valid criteria, and then after that, a practicality test is carried out on the teaching module. The practicality test in this study was carried out by science teachers as practitioners. The percentage of practicality assessment of the science teaching module is formulated as follows.

$$Practicality\ Percentage = \frac{Total\ score\ in\ the\ instrument}{Total\ score} \times 100\%$$

Based on the percentage of the assessment obtained, grouping is carried out based on the assessment criteria for teaching module products as appropriate and can be seen in Table 7.

Table 7. Percentage of Practicality Assessment

Assessment Percentage	Criteria
24% ≤ X ≤ 43%	Less
43% ≤ X ≤ 62%	Simply
62% ≤ X ≤ 81%	Good
81% ≤ X ≤ 100%	Very good

Source: Citra et al., 2023

The Student Worksheet contained in the teaching module is tested for readability by students. The formula for calculating student readability test data is as follows.

$$PK = \frac{Total\ score\ of\ data\ collection}{the\ total\ value\ of\ the\ criteria\ scores} \times 100\%$$

Description:

PK = Readability Percentage (%)

The results of the readability test that the percentage is known can be categorized with the criteria according to (Millah et al., 2012) listed in Table 8.

Table 8. Readability Test Criteria

Assessment Percentage	Criteria
24% ≤ X ≤ 43%	Less
43% ≤ X ≤ 62%	Simply
62% ≤ X ≤ 81%	Good
81% ≤ X ≤ 100%	Very good

Source: Millah et al., (2012)

RESULTS AND DISCUSSION

This research produces products in the form of science teaching modules. The teaching module developed is a science teaching module integrated with traditional games. The purpose of developing teaching modules is to develop teaching tools that can facilitate students, especially in the aspect of student readiness (Madani et al., 2023). A good teaching module has a high level of validity so that it can be said to be feasible to apply to students, so it is necessary to conduct a validity test, practicality test, and readability test. In the development of teaching modules, there are several stages, namely the initial stage, problem formulation, theoretical basis, hypothesis formulation, product development, validation instrument development, product testing, data collection, data analysis, conclusions, and suggestions.

The initial stage of developing teaching modules is to conduct observations and interviews in several schools in Semarang with the result that each school has implemented an merdeka curriculum with different implementations. It turns out that in the implementation of the decentralized curriculum, there are several obstacles experienced in almost every school in the form of developing learning tools developed with the dimensions that exist in the Pancasila student profile. So it is necessary to develop teaching modules with the dimensions of the Pancasila student profile.

The next step was problem formulation. The formulation of the problem was obtained from the results of observations and interviews in several schools in Semarang. The problem formulation of this research is the obstacles faced by several schools when implementing the merdeka curriculum. Then the theoretical basis stage is in the form of collecting theories from the results of

research which are used as a theoretical framework to complete a study. After that, the hypothesis formulation stage is in the form of a temporary formulation of a study. From these stages to the product development stage in the form of preparing teaching module products.

The product development stage has been completed, then continued at the stage of developing validation instruments carried out on learning expert validators and media expert validators. After being validated, the teaching module product is then revised before proceeding to the next stage. After completing the revision of the teaching module product, the product will be tested in the form of practicality and readability tests for educators and students at school. The product test is complete then the product is revised again until the data collection stage results from validation instruments and practitioners. The data collection stage has been completed, continued at the stage of analyzing the data from the validation instrument and practitioners. Until the conclusion stage suggestions are needed to improve this research.

The following is the page of the science teaching module on motion and force integrated with the traditional game dingklik oglak aglik which has been developed with the 4D development model, listed in Figure 2.



Figure 2. Front Page of the Science Teaching Module on Motion and Force Integrated with Traditional Games Dingklik Oglak Aglik

The front view of the teaching module is the initial cover of the teaching module product. The teaching module developed can later be used as a guide for educators in assisting the implementation of the merdeka curriculum. The merdeka curriculum teaching module has several important components, namely general information, core components, and attachments. General information includes school identity, initial components, Pancasila learner profile, facilities and infrastructure, target students, and the learning

model used. The core component consists of learning objectives, meaningful understanding, triggering questions, learning preparation, learning activities, assessment, enrichment, and remedial as well as learner and educator reflections. The last component is the appendix in the form of student worksheets, reading materials for educators and students, a glossary, and a bibliography.

Based on the important components in the preparation of the merdeka curriculum teaching module, it turns out that the preparation of the teaching module has advantages and disadvantages. The shortcomings in this teaching module are the lack of student understanding of traditional games during limited product testing, and differentiation that has not been seen. The advantages of the teaching modules that have been developed are the cultivation of character following the dimensions of the Pancasila student profile, the link between the motion and force material of science subjects with traditional games, and the cultivation of character in preserving the nation's culture.

Based on the integrated science teaching module of traditional games to promote global diversity, it turns out that the development of teaching modules is needed. Students need to learn following the merdeka curriculum, but every dimension of the Pancasila student profile needs to be raised. Each element in the Pancasila student profile has its function to build the character of the nation's students. Global diversity is one of the dimensions of the Pancasila student profile. Global diversity requires Pancasila students to recognize, appreciate culture, and interact well across cultures (Susilawati & Sarifuddin, 2021) In this traditional game-integrated science teaching module to promote global diversity, how to develop its dimensions by involving traditional games as a way to appreciate culture.

The profile of Pancasila students developed in the teaching module is the global diversity dimension. The dimension of global diversity is an attitude of tolerance for other cultures and the locality of the Indonesian nation (Wijayanti & Muthali`in, 2023). The development of global diversity characters can create interesting and enjoyable learning for students (Rohmah et al., 2023). This learning can be created in various ways, one of which is the development of modified games that are educative for students (Saputri & Katoningsih, 2023). The development of games that follow science learning is one of the traditional games that are the nation's heritage. The relationship between traditional games and science subjects is motion and force material.

The traditional game involved is the dingklik oglak aglik game. The meaning of the game "Oglak-Aglik" consists of two meanings, namely

kursi in Javanese which means short stool, "Dingklik Oglak-Aglik" which means rocking and the overall meaning is a short swinging chair. The meaning of this game teaches about leadership, cohesiveness, and resilience in a group (Shidqi, 2022). The traditional game involved is the dingklik oglak aglik game. The meaning of game "Oglak-Aglik" consists of two meanings, namely kursi in Javanese which means short stool, "Dingklik Oglak-Aglik" which means rocking and the overall meaning is a short swinging chair. The meaning of this game teaches about leadership, cohesiveness, and resilience in a group (Shidqi, 2022).

The relationship between traditional games and motion and force material is that in motion material there is displacement when players make movements while singing by moving places, from displacement there is also speed when several groups play together while walking from the start line to the finish line according to the game modifications listed in the teaching module. Then in

the force material, there is Newton's law I when players in the dingklik oglak aglik game move straight ahead without any other influencing force, and in Newton's law III there is action and reaction that occurs while playing. The action force is when one of the feet of each player is superimposed and there is a reaction force in the form of a force to lift the other leg.

The application of the modified traditional game dingklik oglak aglik is included in Student Worksheet. In the science teaching module integrated with traditional games to promote global diversity, there is one component of the teaching module, namely the Student Worksheet which has been integrated with traditional games. The Student Worksheet has been integrated with this traditional game to help students' thinking skills (Nuraini et al., 2023). The Student Worksheet in the teaching module is listed in Figure 3.

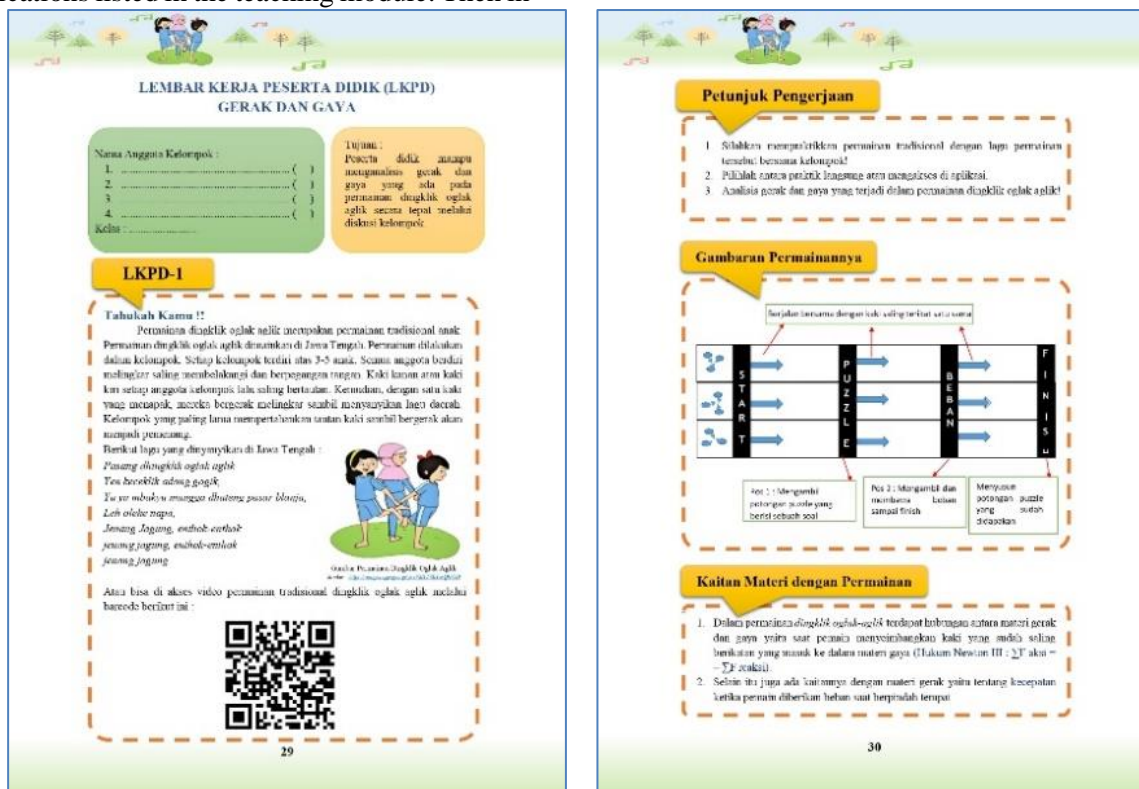


Figure 3. Learner worksheets in the traditional game-integrated science teaching module

This module is designed for teachers' handbooks in teaching junior high school / MTs class VIII phase D students. The feasibility of the science teaching module on motion and force integrated with the traditional game dingklik oglak aglik is measured based on the results of the learning validity test, the validity of the teaching module design, practicality, and readability of the Student Worksheet in the science teaching module. The purpose of this study was to test the feasibility of teaching modules integrated with

traditional games of dingklik oglak aglik to promote global diversity.

The feasibility value of the science teaching module is obtained based on the validity test results by learning experts, media experts, practicality test results, and readability test results.

Feasibility of teaching modules

The validity test serves to measure the feasibility value of the teaching module developed. Validators assessed the validation of teaching modules and revisions were made based on the

results of several revisions and adjusted to the input and suggestions of validators (Wulandari et al., 2023). The validators of the teaching module validity test consisted of 2 learning experts, 2 media

experts, and 2 science educators as practitioners. The results of the validity test by learning experts can be seen in Table 9.

Table 9. Learning Expert Validity Test Results

Aspects	V (%)	Criteria
Didactic Requirements	86	Very Valid
Construction Requirements	82	Very Valid
Technical Requirements	90	Very Valid
Average	86	Very Valid

Description:

V (%) = Validity Value

Based on Table 9, the results of the learning expert validity test showed that the science teaching module integrated with the traditional game dingklik oglak aglik is included in the very valid criteria with an average percentage of 86%. This teaching module is in a very valid validity category

which includes 3 aspects, namely didactic requirements, construction requirements, and technical requirements. Each of these aspects obtained different validity values, with very valid criteria, namely 86% for didactic requirements, 82% for construction requirements, and 90% for technical requirements.

Table 10. Media Expert Validity Test Results

Aspects	V (%)	Criteria
Didactic Requirements	92	Very Valid
Construction Requirements	93	Very Valid
Technical Requirements	93	Very Valid
Average	93	Very Valid

Description:

V (%) = Validity Value

Based on Table 10, the results of the media expert validity test showed that the science teaching module integrated with the traditional game dingklik oglak aglik is included in the very valid criteria with an average percentage of 93%. This teaching module is in a very valid validity category which includes 3 aspects, namely didactic requirements, construction requirements, and technical requirements. Each of these aspects obtained different validity values, with very valid criteria, namely 92% for didactic requirements, 93% for construction requirements, and 93% for technical requirements.

Based on the results of the very valid category in each aspect, it can be said that the science teaching module integrated with traditional games of dingklik oglak aglik can be used by junior high school science educators (teachers) as a guide for implementing learning and Learner Worksheets Student Worksheet can be used by students. The learning process using science teaching modules integrated with traditional games dingklik oglak aglik makes it easier for educators to carry out learning according to the interests and potential of students and can help develop students' interest and learning activeness (Mustika et al., 2023).

The percentage results obtained from the validation of learning experts, validation media

experts, and practitioners (practicality) of science educators, it can be seen that the percentage of the feasibility of the integrated science teaching module of traditional games obtained an average percentage of the validity of the teaching module of 91% with a very feasible category. These results explain that the teaching module developed can be used in science learning as a guide for educators in teaching the learning process on the material of motion and force for students in class VIII SMP Phase D.

Judging from the overall validation process of the integrated science teaching module of traditional games based on the assessment, suggestions, and input from each validator (learning experts, media experts, and practitioners "educators" of junior high school science), it shows that the integrated science teaching module of traditional games meets the criteria of validity very valid. The validity of the module is indicated by the fulfillment of all aspects of the validation assessment, including didactic requirements, construction requirements, and technical requirements, all of which are included in the very valid criteria. So that the integrated science teaching module of traditional games can be said to meet the validity criteria after carrying out the validation process by lecturers (experts) in their fields and practitioners (educators) of junior high school

science. This teaching module meets the validity criteria to be implemented in the learning process so that it is feasible or valid to use (Yudha et al., 2021).

Instrument Reliability

Reliability is the consistency or fixity of an instrument in its measurement. The reliability of

instrument validation results is based on the level of reliability by two validators (Januarti et al., 2023). Reliability test validators consist of 2 learning expert lecturers, 2 media expert lecturers, and 2 science educators as practitioners. The results of the reliability test by learning experts can be seen in Table 11.

Table 11. Instrument Reliability Test Results

Terms	PA (%)			Average LearningExpert Validation	Criteria MediaExpert Validation
	LearningExpert Validation	MediaExpert Validation	Practitioner Validation		
Didactic Requirements	92	96	97	95	Very High
Construction Requirements	90	96	96	94	Very High
Technical Requirements	95	96	98	96	Very High
Average score from validators				95	Very High

Based on Table 11, the results of the reliability analysis, the assessment by the validator found that the instrument developed obtained a percentage of 95%, the instrument is categorized as very high with the average results obtained after the calculation, it can be concluded that the instrument developed is very good. Percentage of Agreement with the overall instrument developed obtained an overall validator assessment consistency value of 95% with very high criteria, which means that each aspect of the instrument assessment has very high reliability.

Practicality of Teaching Module

After the teaching module is validated and meets the criteria for high validity, the next step is to test the practicality of the teaching module to science educators (Citra, 2023). (Lufiah et al., 2022) argue that two things are reviewed in knowing the practicality of teaching materials, namely the implementation of teaching modules and students' responses to teaching modules. In addition, (Masita et al., 2022) in their book state the

steps used to determine the level of practicality of teaching modules, one of which is based on the educator's response based on the practicality questionnaire sheet. Therefore, the practicality test of the science teaching module integrated with traditional games in this study was carried out through a questionnaire assessment of science educators as users of teaching modules. During the trial, a practicality questionnaire sheet was given to see the response of science educators as users of the traditional game-integrated science teaching module which contained several components following the components in the practicality questionnaire. The practicality test of the teaching module aims to determine the practicality of the teaching module used to guide educators in the learning process for students in class VIII SMP / MTs Phase D. The teaching module practicality test validators consisted of 2 science practitioners (educators). The results of the practicality test by expert practitioners (educators) of science teaching modules can be seen in Table 12.

Table 12. Practitioner (Educator) Practicality Test Results

Aspects	P (%)	Criteria
Didactic Requirements	95	Very Practical
Construction Requirements	92	Very Practical
Technical Requirements	96	Very Practical
Average	94	Very Practical

Description:

P (%) = Practitioner Score

According to Table 12, it shows that the results of the practicality test conducted by science practitioners (educators) on the teaching module

obtained an average percentage of 94% which indicates that the teaching module is classified as very practical. Each of these aspects obtained

different practicality values, with very practical criteria, namely 95% for didactic requirements, 92% for construction requirements, and 96% for technical requirements. Based on the questions contained in the questionnaire sheet for the practicality test of science practitioners (educators), the teaching module as a whole is considered very practical to be applied in the learning process. This research is almost the same as previous research, which shows that teaching modules are considered very practical by science practitioners (educators) if they obtain an average of practical test results in very practical criteria (Sari et al., 2022).

The assessment of science practitioners (educators) on the practicality of science teaching modules integrated with traditional games can be concluded that the teaching modules meet the criteria of being very practical. Therefore, the teaching module is said to be suitable for use for differentiated learning integrated with traditional games. This is following the research of Sari et al.

(2022) that the teaching module is declared practical by educators, if the teaching module gets an average assessment in the very practical category, it can be used in the learning process, so that the learning process is more interesting and meaningful. Meaningful means that the case study presented in the teaching module can help students understand the concepts of the material they are learning through direct and real experiences related to problems that exist around the students' environment (Natali, et al. 2021). This explains that the teaching module developed can be applied to the science learning process as a guide for science educators in teaching motion and force material for students in class VIII junior high school Phase D. Validators provide suggestions and input in several parts of the teaching module. Suggestions from validators are used as a reference to improve the teaching modules developed (Irmawati et al., 2021).

Readability of the Student Worksheet

Table 13. Results of Student’s Readability Test of Student Worksheet

Readability Test	Readability Percentage (%)	Criteria
Learner Response	92	Very good

Based on Table 13, the average percentage of students' readability test results on the Student Worksheet that has been developed obtained a percentage of 92% which is included in the very good category. This shows that the Student Worksheet in the teaching module developed is

very good to be implemented for students in grade VIII Junior High School.

The following is the percentage of the feasibility of the science teaching module integrated with the traditional game of dingklik oglak aglik to promote global diversity, listed in Figure 4.

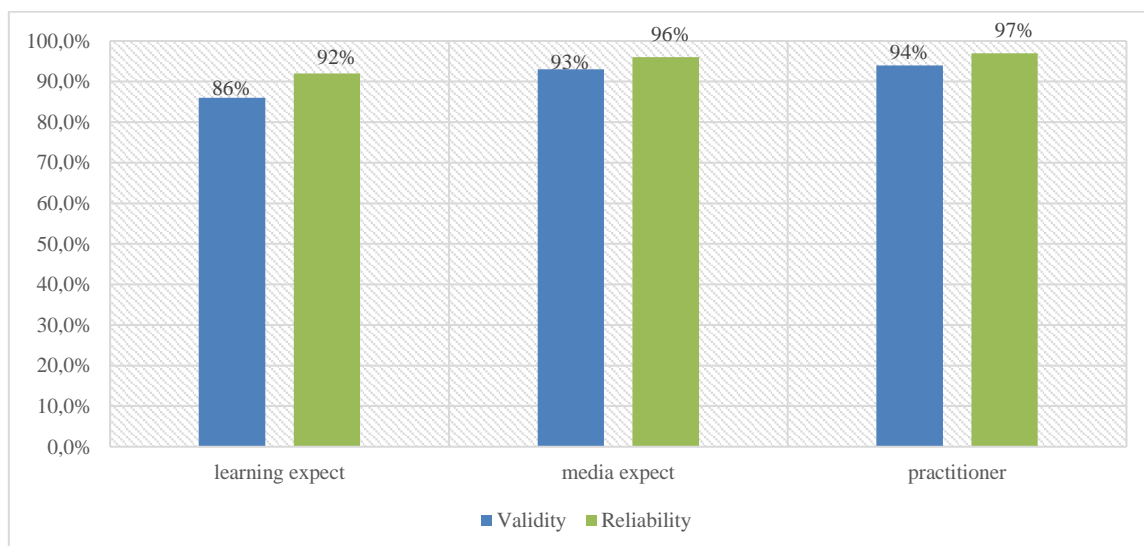


Figure 4. Percentage of feasibility test of a science teaching module

The overall results of the validation process of the integrated science teaching module of traditional games dingklik oglak aglik based on the assessment, suggestions, and input from each validator (learning experts, media experts, and practitioners (educators) of junior high school

science), show that the integrated science teaching module of traditional games dingklik oglak aglik meets the criteria of very valid validity and very good reliability. The validity of the module is indicated by the fulfillment of all aspects of the validation assessment, including didactic

requirements, construction requirements, and technical requirements, all of which are included in very valid criteria. So the science teaching module integrated with the traditional game dingklik oglak aglik can be said to meet the validity criteria after carrying out the validation process by lecturers (experts) in their fields and practitioners (educators) of junior high school science. This teaching module meets the validity criteria to be implemented in the learning process so that it is feasible or valid to use.

Based on the assessment of educators and students of SMPN 3 Ungaran about the practicality of the integrated science teaching module of traditional games dingklik oglak aglik, it can be concluded that the teaching module meets the criteria of being very practical. so that the teaching module is considered suitable for implementation as a traditional game-integrated science learning. This is following the research of [Sari et al. \(2022\)](#) that the teaching module is declared practical by educators, if the teaching module gets an average assessment in the practical / very practical category, it can be used in the learning process, so that the learning process is more interesting and meaningful. Meaningful means that the case studies presented in the module can help students understand the concepts of the material they are learning through direct and real experiences related to problems that exist around the students' environment ([Natali, et al 2021](#)). This is also supported by research by ([Aldo et al., 2021](#)) that the module is said to be very practical by teachers with an average score of 98.82%, while it is said to be very practical by a small group of 8 people at 88.97%.

According to [Nurhayati et al. \(2022\)](#) research on teaching modules and project modules for strengthening the profile of Pancasila students increased the preparation of learning tools so that the research shows that educators have been able to adjust the preparation of teaching modules in the merdeka curriculum after coordinating and socializing training programs for preparing learning tools. However, the research is still not effective for planning learning according to the conditions of students and the dimensions that exist in the project to strengthen the profile of Pancasila students (P5). So that a need for the development of learning tools in the form of teaching modules integrated with traditional games to promote the dimensions of global diversity.

The teaching modules developed in this study contain links between learning materials with traditional games and the dimensions of global diversity. With the development of this teaching module, educators can directly link the learning design with traditional games and the dimensions of the Pancasila student profile. The teaching modules

developed in the current study prioritize the relationship between learning materials and the dimensions in the Pancasila student profile. The dimension taken is global diversity. The dimension of global diversity is closely related to the culture that needs to be preserved, for example, traditional games. So that the teaching module developed is integrated with the traditional game dingklik oglak aglik to promote global diversity.

CONCLUSIONS

The science teaching module integrated with the traditional game dingklik oglak aglik to promote global diversity showed a very high validity of 94% and excellent reliability of 97%. Teachers consider this teaching module very practical. Therefore, it can be said that the science teaching module integrated with the traditional game dingklik oglak aglik to promote global diversity has high validity and suitability as a teaching module for science subjects.

Some of the limitations in this study are the data collection process in the form of information in developing teaching modules in the merdeka curriculum provided by educators during interviews and filling out questionnaires is slightly different, besides that the research object is quite far away, which is an inhibiting factor when conducting research. Another limitation is that the sample taken is not much because it has to adjust to the student's learning hours.

Thus the article on this research, the researcher realizes that there are still many shortcomings in the research. Therefore, criticism and suggestions are needed for researchers to find out the mistakes and shortcomings in this research article. In addition, with criticism and suggestions to build the perfection of articles in the future. Hopefully, this article is useful for researchers, and readers.

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REFERENCES

- Aldo, N., Revita, R., & Nurdin, E. (2021). Pengembangan modul berbasis problem based learning pada materi statistika SMP Kelas

- VIII. *JRPM (Jurnal Review Pembelajaran Matematika)*, 6(2), 115–129. <https://doi.org/10.15642/jrpm.2021.6.2.115-129>
- Barsihanor, B., Hafiz, A., Nashrulah KMR, G., & Setya Budi, I. (2020). Pembuatan media pembelajaran pop up book bagi guru madrasah ibtidaiyah. *JMM (Jurnal Masyarakat Mandiri)*, 4(4), 588–594. <https://doi.org/10.31764/jmm.v4i4.2473>
- Borich, G. D. (2013). *Observation skills for effective teaching*. New York: Pearson Education. www.courses.maine.edu/orbylinkfromtheUMPIwebsite
- Citra, Y., Sary, C., Yulinda, R., & Putri, R. F. (2023). Pengembangan modul pembelajaran berbasis PBL pada materi interaksi makhluk hidup dengan lingkungan. *Journal On Teacher Education*, 4(4), 346–357.
- Ernawati, Y., & Rahmawati, F. P. (2022). Analisis profil pelajar pancasila elemen bernalar kritis dalam modul belajar siswa literasi dan numerasi jenjang sekolah dasar. *Jurnal Basicedu*, 6(4), 6132–6144. <https://doi.org/10.31004/basicedu.v6i4.3181>
- Febriyanti, D. A., & Ain, S. Q. (2021). Pengembangan modul matematika berbasis etnomatematika pada materi bangun datar di sekolah dasar. *Jurnal Basicedu*, 5(3), 1409–1417. <https://doi.org/10.31004/basicedu.v5i3.933>
- Fitriyah, C. Z., & Wardani, R. P. (2022). Paradigma kurikulum merdeka bagi guru sekolah dasar. *Scholaria: Jurnal Pendidikan Dan Kebudayaan*, 12(3), 236–243.
- Irawati, D., Iqbal, A. M., Hasanah, A., & Arifiin, B. S. (2022). Profil pelajar pancasila sebagai upaya mewujudkan karakter bangsa. *Edumaspul : Jurnal Pendidikan*, 6(1), 1224–1238.
- Irmawati, I., Syahmani, S., & Yulinda, R. (2021). Pengembangan modul IPA pada materi sistem organ dan organisme berbasis STEM-inkuiri untuk meningkatkan literasi sains. *Journal of Mathematics Science and Computer Education*, 1(2), 64–73. <https://doi.org/10.20527/jmscedu.v1i2.4048>
- Januarti, L., 'Ardhuha, J., Verawati, N. N. S. P., & Gunawan, G. (2023). Validitas perangkat pembelajaran berbasis model kooperatif tipe group investigation untuk meningkatkan hasil belajar fisika peserta didik. *Empiricism Journal*, 4(1), 1–7. <https://doi.org/10.36312/ej.v4i1.1107>
- Khalifah, N. (2020). Analisis nilai karakter pada buku tematik kelas V tema 8 lingkungan sahabat kita. *Purwokerto: Fakultas Tarbiyah Dan Ilmu Keguruan Institut Agama Islam Negeri Purwokerto*. www.iainpurwokerto.ac.id
- Kristanto, W., Azminah, S. N., & Citrasukmawati, A. (2023). Membangun pendidikan karakter pada anak usia dini melalui permainan dinklik oglak aglik. *JECIE*, 6(2), 254–262.
- Lufiah, S., Retno, R. S., & Dewi, C. (2022). Pengembangan modul literasi digital berbasis budaya lokal madiun untuk meningkatkan motivasi belajar siswa sekolah dasar. *Prosiding Konferensi Ilmiah Dasar*, 3. <http://prosiding.unipma.ac.id/index.php/KID>
- Madani, N., Sirait, J., & Oktavianty, E. (2023). Pengembangan modul ajar kinematika gerak lurus berbasis pembelajaran berdiferensiasi pada kurikulum merdeka belajar. *Jurnal pendidikan fisika*, 11(2), 2442–4838. <https://doi.org/10.24127/jpf.v11i2.8626>
- Maipita, I., Dalimunthe, M. B., & Hafiz Sagala, G. (2021). The development structure of the merdeka belajar curriculum in the industrial revolution era. *Proceedings of the International Conference on Strategic Issues of Economics, Business and, Education (ICoSIEBE 2020)*, 163, 145–151.
- Masita, A. N., Widyarti, M. T. H., Karyanti, T. D., & Putri, A. G. (2022). Comparative analysis of financial performance before and after the acquisition (study on the go public acquirors for the period of 2011-2019). *Ilomata International Journal of Management*, 3(3), 337–352. <https://doi.org/10.52728/ijjm.v3i3.479>
- Maulida, U. (2022). Pengembangan modul ajar berbasis kurikulum merdeka. *Tarbawi: Jurnal Pemikiran Dan Pendidikan Islam*, 5(2), 130–138. <https://stai-binamadani.ejournal.id/Tarbawi>
- Mawarni, R. S., & Suyoso, S. (2021). Pengembangan modul fisika berbasis gasing untuk meningkatkan penguasaan materi dan minat belajar peserta didik. *Journal of Physics: Conference Series*, 1835(1), 83–91. <https://doi.org/https://doi.org/10.1088/1742-6596/1835/1/012091>
- Millah, E., Budipramana, L. S., & Isnawati. (2012). Pengembangan buku ajar materi bioteknologi di KELAS XII SMA IPIEMS Surabaya berorientasi sains, teknologi, lingkungan, dan masyarakat (SETS). *Bioedu*, 1(1), 19–24.
- Mustika, D., Hidayat, B., Linggar, L. J., & Putra, R. F. A. (2023). Pembuatan modul ajar kurikulum merdeka bagi guru sekolah dasar kota Pekanbaru. *Jurnal Pengabdian Masyarakat*, 3(1), 109–115.
- Mutiara, A., Wagiran, W., & Pristiawati, R. (2022). Pengembangan buku pengayaan elektronik

- cerita fabel bermuatan profil pelajar pancasila elemen gotong royong sebagai media literasi membaca di sekolah dasar. *Jurnal Basicedu*, 6(2), 2419–2429. <https://doi.org/10.31004/basicedu.v6i2.2455>
- Natali, C., Chini, G., Totaro, M., Lora-Millán, J. S., Rocon, E., Beccai, L., Caldwell, D. G., Visentin, G., & Ortiz, J. (2021). Quasi-passive resistive exosuit for space activities: Proof of concept. *Applied Sciences (Switzerland)*, 11(8). <https://doi.org/10.3390/app11083576>
- Nunik, N. M., Chandra Dewi Sagala, A., & Karmila, M. (2022). Pengaruh permainan tradisional jamuran terhadap interaksi sosial anak down syndrome. *Murhum : Jurnal Pendidikan Anak Usia Dini*, 53–66. <https://doi.org/10.37985/murhum.v3i1.72>
- Nuraini, N. L. S., Cholifah, P. S., Rini, T. A., Aurelia, D., Sofirin, A., Huzaimah, C., & Nafisah, N. (2023). Pengembangan modul ajar kurikulum merdeka berbasis TPACK bagi guru kota Malang. *Jurnal Basicedu*, 7(6), 3466–3474.
- Nurhayati, P., Emilzoli, M., & Fu'adiyah, D. (2022). Peningkatan keterampilan penyusunan modul ajar dan modul proyek penguatan profil pelajar pancasila kurikulum merdeka pada guru madrasah ibtidaiyah. *JMM (Jurnal Masyarakat Mandiri)*, 6(5), 3602–3612. <https://doi.org/10.31764/jmm.v6i5.10047>
- Pangestu, H. D., Annur, S., & Sholahuddin, A. (2020). Development of integrated natural science module with local content in wetland environment to train science process skills for 8th grade students of SMP N 23 Banjarmasin. *Journal of Science Education Research*, 4(2), 81–94. <http://dx.doi.org/10.21831/jser.v4i2.35719>
- Rahmadayanti, D., & Hartoyo, A. (2022). Potret kurikulum merdeka, wujud merdeka belajar di sekolah dasar. *Jurnal Basicedu*, 6(4), 7174–7187. <https://doi.org/10.31004/basicedu.v6i4.3431>
- Rakhmatullah, R., Rapi, M., & Zulkarnaim, Z. (2020). Pengembangan modul pembelajaran biologi materi sistem reproduksi terintegrasi keilmuan islam untuk siswa kelas xi madrasah aliyah. *Jurnal Biotek*, 8(1).
- Riadi, F. S., & Lestari, T. (2021). Efektivitas permainan tradisional pada perkembangan sosial siswa sekolah dasar di era digital. *JKPD (Jurnal Kajian Pendidikan Dasar)*, 6(2), 122–129.
- Rohaeti, E., Widjajanti LFX, E., & Tutik Padmaningrum, R. (2009). Pengembangan lembar kerja siswa (LKS) mata pelajaran sains kimia untuk SMP. *Inovasi Pendidikan*, 10(1), 1–11.
- Rohmah, N. N., Markhamah, Sabar Narimo, & Choiriyah Widyasari. (2023). Strategi penguatan profil pelajar pancasila dimensi berkebhinekaan global di sekolah dasar. *Jurnal Elementaria Edukasia*, 6(3), 1254–1269. <https://doi.org/10.31949/jee.v6i3.6124>
- Saputri, P., & Katoningsih, S. (2023). Analisis pengaruh permainan tradisional dalam penguatan kebhinekaan global. *Murhum : Jurnal Pendidikan Anak Usia Dini*, 4(1), 392–405. <https://doi.org/10.37985/murhum.v4i1.230>
- Sari, N. R., Nayazik, A., & Wahyuni, A. (2022). Pengembangan e-modul berbasis ethno-stem pada materi volume benda putar integral. *JNPM (Jurnal Nasional Pendidikan Matematika)*, 6(3), 565. <https://doi.org/10.33603/jnpm.v6i3.7289>
- Shidqi, D. S. (2022). Children's social intelligence in the traditional game "dingklik oglak-aglik." *Jurnal Cikal Cendekia*, 03(01), 24–37.
- Shifa, N., Al-Mira Dan, ', & Hidayah, R. (2020). Validitas permainan element adventure berbasis android sebagai media pembelajaran kimia unsur validity of android based element adventure game as learning media chemical element. In *UNESA Journal of Chemical Education (Vol. 9, Issue 3)*.
- Situmorang, A., Sonya Simanjuntak, S., & Sari, E. (2022). Efektivitas model problem based learning (PBL) terhadap kemampuan berpikir kreatif matematis peserta didik pada pola bilangan di kelas VIII SMP Negeri 10 Medan. *Journal of Mathematics Education and Applied*. <https://doi.org/10.36655/sepren.v3i2>
- Sugiyono. (2014). Metode penelitian kuantitatif kualitatif dan R&D. CV : Alfabeta.
- Sunarni, S., & Karyono, H. (2023). Persepsi guru terhadap implementasi kurikulum merdeka belajar di sekolah dasar. *Journal on Education*, 5(2), 1613–1620. <http://jonedu.org/index.php/joe>
- Susilawati, E., & Sarifuddin, S. (2021). Internalisasi nilai pancasila dalam pembelajaran melalui penerapan profil pelajar pancasila berbantuan platform merdeka mengajar. *Jurnal Teknodik*, 25(2), 155–167.
- Thiagarajan, Sivasailam, & And Others. (1974). Instructional development for training teachers of exceptional children: a sourcebook. *National Center for Improvement Educational System*.
- Ulandari, S., & Rapita, D. D. (2023). Implementasi proyek penguatan profil pelajar pancasila sebagai upaya menguatkan karakter peserta didik. *Jurnal Moral Kemasyarakatan*, 8(2), 116–132. <https://doi.org/10.21067/jmk.v8i2.8309>

- Variacion, D. A., Salic-Hairulla, M., & Bagaloyos, J. (2021). Development of differentiated activities in teaching science: Educators' evaluation and self-reflection on differentiation and flexible learning. *Journal of Physics: Conference Series*, 1835(1), 1–11. <https://doi.org/10.1088/1742-6596/1835/1/012091>
- Wijayanti, D., & Muthali`in, A. (2023). Penguatan dimensi berkebinekaan global profil pelajar pancasila melalui pembelajaran pendidikan pancasila dan kewarganegaraan. *Educatio: Jurnal Ilmu Kependidikan*, 18(1), 172–184. <https://doi.org/10.29408/edc.v18i1.12518>
- Wulandari, A. P., Salsabila, A. A., Cahyani, K., Nurazizah, T. S., & Ulfiah, Z. (2023). Pentingnya media pembelajaran dalam proses belajar mengajar. *Journal on Education*, 05(02), 3928–3936.
- Yudha, S., Mellyzar, & Rahmi, A. (2021). Persepsi guru dan siswa terhadap modul kimia berbasis inkuiri terbimbing pada materi reaksi redoks dan tata nama senyawa. *Jurnal Pendidikan Dan Pembelajaran Sains*, 4(1), 81–89.
- Yuliana, Y., Nurwahidah, I., & Widiyawati, Y. (2023). Development of ethno-STEM learning module based on javanese gamelan. *Journal of science education research*, 7(2), 130-139. <http://dx.doi.org/10.21831/jser.v7i2.53056>