SPEKTRA: Jurnal Kajian Pendidikan Sains
Vol. 11, No. 2, 2025, pp. 359-375
ISSN: 2548-642X, DOI: 10.32699/0zvzyy87

VALIDITY OF INTEGRATED SCIENCE MODULES BASED ON LOCAL WISDOM TO TRAIN SCIENCE LITERACY AND CULTURAL LITERACY

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Article Info

Article history:
Received 22/10/2025
Accepted 31/12/2025
Published 06/01/2026

Keywords:
Cultural Literacy;
Local Wisdom;
Science Literacy;
Science Module;
Teaching Materials

ABSTRACT

Students' science literacy and cultural literacy skills are still relatively low because the learning process generally relies on teaching materials that do not integrate scientific concepts with local wisdom. To address this issue, this study aims to develop an integrated science module based on Nglipoh pottery crafts and traditional spinning top games as an effort to train students' science and cultural literacy skills. This study uses the Research and Development (R&D) method with a 3-D model (define, design, develop) combined with the RIAS (Reading, Identification, Analysis, Self-reflection) learning model. Data were collected through unstructured interviews, literature reviews, and expert validation questionnaires. The validation instruments were given to four validators who assessed the content, presentation, language, and graphics of the module. The validation results showed that the module scored 90% in terms of graphics and 91.02% in terms of content, presentation, and language, thus falling into the highly valid category. Thus, the Nglipoh pottery-based integrated science module and traditional spinning top game are declared suitable for use as teaching materials to help train of science literacy and cultural literacy among junior high school students.

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1. INTRODUCTION

The results of the 2022 PISA survey published by the OECD (2023) show that Indonesian students' science literacy skills are still relatively low. The average science literacy score of 15-year-old students is only 383 points, still far below the OECD average of 485 points. This is due to students' inability to recognize, explain, and apply scientific concepts in complex real-life situations. Science literacy is an important skill that students must master in order to understand, assess, and apply scientific knowledge in their daily activities. Through science literacy, each student is trained to analyze deeply, find solutions, and be sensitive to various issues of social, environmental, and technological development so that they can become science-literate citizens and actively participate in a knowledge-based society. In addition, cultural literacy is also an important aspect of 21st century education. However, based on research by Annisa Dwi Hamdani

et al (2023) the level of cultural literacy among students in Indonesia is still low. (Giyartini et al., 2025) state that local culture is beginning to fade due to the tide of globalization. In line with this, Zenab et al (2023) emphasize that cultural values, messages, and meanings are beginning to be marginalized, especially among the younger generation. Cultural literacy can be defined as a person's ability to understand, appreciate, and integrate cultural values into their daily activities (Iskandar et al., 2024). Cultural literacy serves to strengthen national identity, preserve local wisdom, build tolerance, and bridge the gap between traditional and modern cultures, so that students are able to adapt in a global context without losing their identity, especially in education.

The relationship between scientific literacy and cultural literacy is actually very close. Strengthening both types of literacy is an important step in training students' meaningful understanding of science. One of the reasons for the low level of science literacy in Indonesia is that learning is often detached from the local cultural context. When science is taught in an abstract manner without linking it to the values, customs, and cultural practices surrounding students, learning becomes less relevant and difficult to understand in depth. Thus, low science literacy and cultural literacy are not two separate issues, but are interrelated and influence each other. Science learning that is not integrated with culture will hinder students' understanding of the application of scientific concepts in everyday life, while strong cultural literacy can foster curiosity, appreciation, and understanding of scientific concepts. Therefore, connecting science learning with local wisdom is an effective strategy to strengthen the connection between scientific knowledge and students' cultural identity. These findings are also in line with research, Silvi Dwi Utari & Suprapto (2024) which shows that science and local culture learning have similar goals, namely to encourage students to apply knowledge in real life, not just understand concepts theoretically.

Low levels of science and cultural literacy among students are inseparable from the lack of learning resources that are relevant to their environment. (Fuadi et al., 2020) revealed that the teaching materials used by teachers are not yet in line with the context of students' lives, so their understanding of scientific concepts in real situations has not developed optimally. Textbooks generally only provide general illustrations without linking them to local wisdom (Saputra & Wahyuni, 2016), even though the integration of local contexts can help students see the concrete relationship between scientific concepts and their daily experiences. In addition, the surrounding socio-cultural environment has not been fully utilized as a learning resource, further weakening students' scientific and cultural literacy skills. This condition is exacerbated by the dominance of lecture methods and the limited availability of innovative teaching materials that integrate local cultural values. Murti & Handayani (2022) emphasize that most teachers have not been able to develop teaching materials based on local wisdom, so science learning tends to be abstract and detached from the local cultural context of students. To overcome low science and cultural literacy due to limited teaching materials, it is necessary to develop integrated science modules based on the local wisdom of Nglipoh pottery and traditional spinning top games. These modules are designed so that they can be used independently or with a teacher (Ketut Suastika & Rahmawati, 2019) The use of Nglipoh pottery and gasing as a learning context allows students to understand scientific concepts in a contextual manner while fostering an appreciation for local cultural values. Through the integration of local wisdom, these modules serve as a contextual learning resource that links scientific concepts to everyday life, training students' scientific literacy and cultural literacy through the integration of science and local culture.

The selection of these two examples of local wisdom was based on their relevance to scientific concepts and cultural values. The process of making pottery involves concepts such as changes in the form of matter, heat, pressure, and the properties of clay at various stages of production. Meanwhile, the spinning top game contains the concepts of force, motion, and balance, which are reflected in its shape, type of wood, and how it is played. The integration of these two cultural elements not only training students' understanding of scientific concepts in context but also fosters a sense of pride and responsibility for local cultural heritage. Thus, integrated science modules based on local wisdom become teaching materials that are able to connect abstract scientific concepts with the socio-cultural reality of students, making them suitable for use in learning and expected to training student's scientific and cultural literacy. Therefore, this study was conducted to develop integrated science modules based on local wisdom as an effort to help teachers training students' scientific and cultural literacy.

2. METHOD

Research Design

This research is a research and development study that produced a product in the form of an integrated science module based on local wisdom as teaching material to training students' scientific and cultural literacy in junior high school. The module developed utilizes the context of local wisdom in the form of Nglipoh pottery and the traditional game of gasing. This development research uses the 3D (Three-D) model, which is a modification of the 4D (Four-D) model proposed by Thiagarajan. The 3D model consists of three stages, namely (1) Define, (2) Design, and (3) Develop. According to Thiagarajan, the 4D model procedure actually includes four stages, but in this study, only the 3D stage was used. This limitation was imposed because the researchers had limited time to conduct the study, and the objective of this study was only to produce a teaching module product that was deemed suitable for use by expert validators. The researcher chose this research design because it was considered easier to understand and had clear and structured stages. The product developed in this study was compiled in accordance with validity standards based on the assessors' evaluations through expert validation sheets. The results of these assessments were used as a basis for revisions so that the final Integrated Science Module product would be improved and hopefully become useful teaching material for students in the learning process at school.
The 3D model development chart is shown in Figure 1 below:

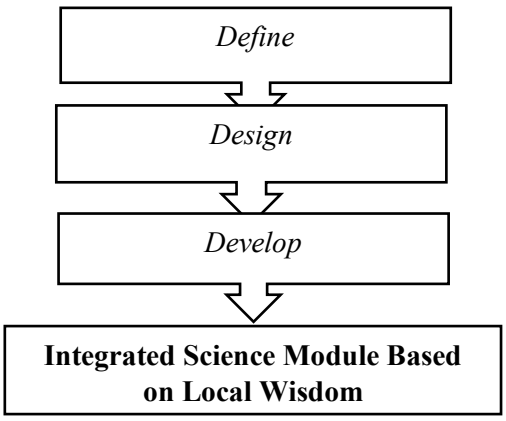

Figure 1. Research Chart for Developing a 3D Model

Development Procedure

Referring to the 3D development model used, the development process in this study only covers three stages, namely the definition stage, the design stage, and the development stage. The entire research series was carried out in accordance with the development flow of the Integrated Science Module based on local wisdom shown in Figure 2. The scheme illustrates that the development of the module in this study was limited to the validity test stage to ensure that the resulting module met the validity criteria as teaching material for students.

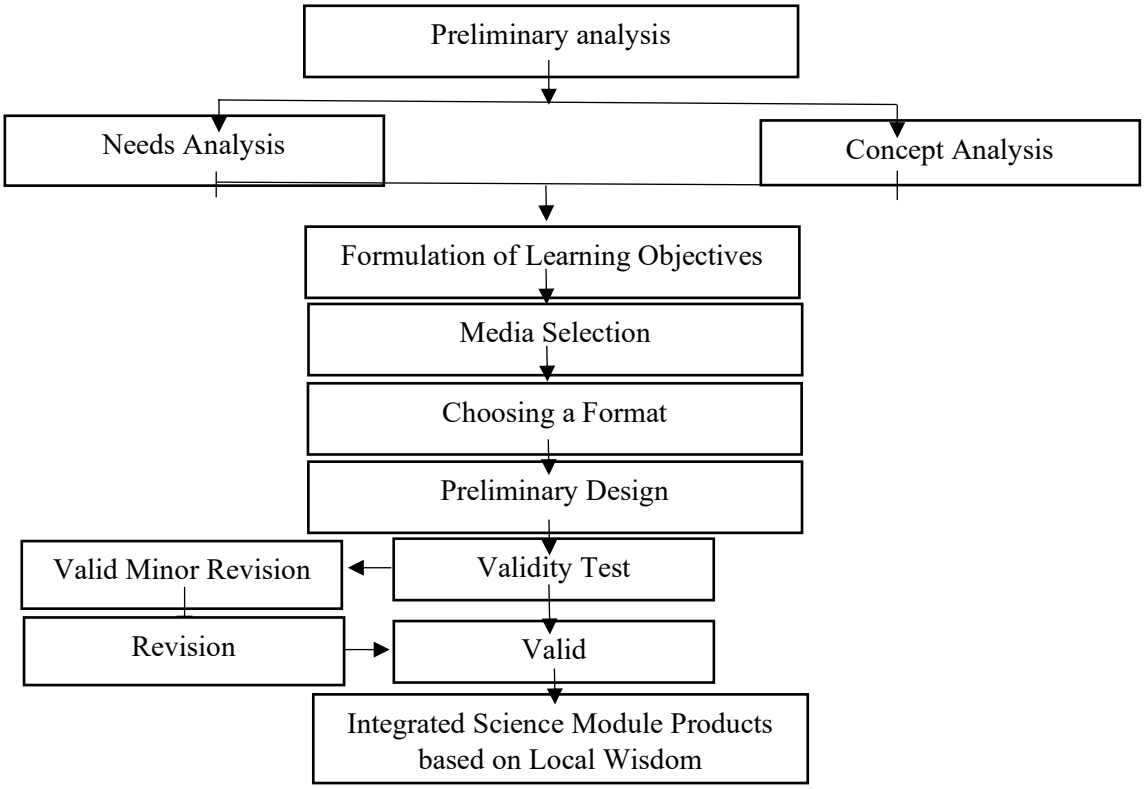

Figure 2. Product Development Scheme

Based on Figure 2, the process of developing an integrated science module based on local wisdom began with student analysis and ended with validity testing, with each stage building on the previous one. Development began with the definition stage, which included two main activities: needs analysis and concept analysis. In the needs analysis, data was obtained through interviews with science teachers, which showed that students' science and cultural literacy was still low, learning was still centered on library textbooks that did not link science concepts, and there were no teaching modules integrated with local wisdom. Next, a concept analysis was conducted to identify and compile concepts to be taught in a sequential and logical manner, resulting in a concept map that illustrates the interrelationships between parts of the integrated material structure. After the subject matter was determined and the Learning Outcomes were reviewed, the Learning Objectives (TP) and Learning Objective Flow (ATP) were compiled and then presented in Table 1.

Table 1. Concept Analysis Result

Learning outcomes	Learning Objectives
Siswa Students can identify the properties of materials commonly encountered in everyday life.	Analyzing the characteristics of physical and chemical changes
Students can understand the relationship between work and energy, measure the temperature caused by the heat energy provided, and distinguish between insulators and conductors.	Analyzing the effect of heat energy on temperature change and its application to insulators and conductors in everyday life.
Students can understand motion, force, and pressure, including simple machines.	Applying the principles of simple machines to make human work easier
	Understanding the concept of force as a factor causing motion, including its types and resultant forces.
Students can measure the physical aspects they encounter	Understand the concept of measuring the physical aspects of objects they encounter
Students can understand the identification of organs related to the musculoskeletal system.	Identify the organs of the body related to the musculoskeletal system.

Based on Figure 1, in the design stage, researchers prepare preliminary module designs based on the results of analysis in the definition stage. Activities at this stage include selecting media, determining the format, and drafting the module. Print media was chosen because it is suitable for field conditions and easy for students to use, thereby supporting science and cultural literacy. The module format was designed to include text, tables, and images, as well as identification and analysis activities. The module was developed according to the criteria for a good module in terms of content, structure, and appearance. The module components include a cover, foreword, table of contents, introduction, instructions for use, concept map, learning activities, evaluation, answer key, glossary, and bibliography. This design stage produced a preliminary design for an integrated science module based on local wisdom in accordance with the needs and results of the previous analysis.

The development stage involves the preparation of learning tools to produce valid and usable integrated science modules based on local wisdom. The modules are prepared based on the initial design stage, and then the products are validated by experts. The results of the validators' assessments are analyzed to determine the level of validity and suitability of the modules as local wisdom-based science teaching materials for junior high school. This study is limited to the development stage, namely the process of validation by experts. The validation results are used as a basis for making improvements to perfect the developed product. The product validation results are used as a basis for improvements to perfect the developed modules.

Data source

The data sources in this development study were collected through interviews, and the results of the validation of the integrated science module based on local wisdom can be seen in Table 2:

Table 1. Development Data and Data Sources

Data	Data Source
Interview	Teacher, Owner of Nglipoh Art Pottery
Module Validity Results	Expert Validator

Data Collection Instrument

During the development stage, data collection was carried out using expert validation sheets to assess the validity of the integrated science module based on local wisdom. The validators assessed the modules based on the suitability of the material and media presented. The assessment covered four aspects, namely content, language, presentation, and graphics. This stage involved several expert validators, namely one science education lecturer, two science teachers, and one arts and culture teacher. The expert validation sheet grid can be seen in Table 3 below:

Table 3. Validation grid

No	Aspect	Indicator	No Item
1.	Content aspect	Material suitability	**1**
		Accuracy of Material	**2**
		Material Modernity	**3**
2.	Presentation aspect	Presentation Techniques	**4**
		Completeness of Presentation	**5**
		Coherence and consistency of thought	**6**
3.	Linguistic aspect	Straightforward and Communicative	**7**
		Dialogic and Interactive	**8**
		Appropriateness for Student Development	**9**
		Compliance with Language Rules	**10**
4.	Graphic Aspects	Module display	**11**
		Cover design	**12**
		Module content design	**13**

Data Collection Techniques

Data collection is an important step in research. In this study, researchers used several techniques to obtain data, namely interviews, literature reviews, and validation questionnaires. In unstructured interviews, researchers explored information freely without detailed guidelines, relying only on an outline of the issues. Interviews were conducted with science teachers at SMPN 1 Mertoyudan and the owner of Gerabah Nglipoh Art. Through literature review, researchers examined various sources relevant to the research topic, including references to the traditional game of gasing. Meanwhile, questionnaires were used to collect written data that produced descriptive information. This technique was aimed at expert validators. The validation questionnaire served to obtain an overview of the quality of teaching materials based on the

assessments of media experts and subject matter experts. The information obtained from these instruments was used as a basis for making revisions until a learning product suitable for use was produced.

Data Analysis Techniques

In this study, the data analysis technique used was the validity test of the Integrated Science module. The assessments of subject matter experts and media experts were analyzed quantitatively using a Likert scale to determine the level of suitability of the product produced.Penggunaan skala Likert bertujuan mengukur tanggapan atau persepsi individu terhadap suatu fenomena. The Likert scale was used to measure individuals' responses or perceptions of a phenomenon. The quantitative data obtained was then analyzed qualitatively to determine the suitability of the product (Sugiyono, 2018). In this study, the Likert scale was applied to calculate the scores given by respondents in Table 4.

Table 2. Validation Assessment Scale

	Assessment aspect	Score
1.	Very good	5
2.	Good	4
3.	Enough	3
4.	not good	2
5.	Very not good	1

Based on Table 4, the analysis process was carried out by calculating the scores of each component that had been assessed based on the available answer criteria to obtain score interpretations. The percentage of data collected was then calculated using the following formula (Riduwan & Akudon, 2015)

$$\% \text{ score interpretation} = \frac{\Sigma acquisition\ score}{\Sigma minimum\ score} \text{ x } 100\% \quad (1)$$

Dari hasil perhitungan menggunakan rumus tersebut, diperoleh nilai dalam bentuk persentase. Kriteria interpretasi skor dan persentase mengacu pada pendapat Arikunto (2013) yang disajikan pada Tabel 2.

Table 3. Criteria for Interpreting Likert Scale Scores

Score in percentage (%)	Eligibility Category
81% – 100%	Very Eligible
61% - 80%	Eligible
41% - 60%	Fairly Eligible
21% - 40%	Less Eligible
<21%	Not Eligible

Based on Table 5, the determination of module feasibility is based on the results of validation conducted by subject matter experts and media experts. A module is declared feasible if it obtains a percentage of more than 61%, referring to the criteria proposed by Arikunto (2013).

Therefore, revisions are made if the module still does not meet the feasibility criteria and requires further improvement.

3. RESULTS AND DISCUSSION

Based on this development research, a product was created in the form of an Integrated Science module that combines Nglipoh pottery crafts and traditional spinning top games. This module was developed not only to meet validity aspects, but also as teaching material that students can use to help training their science and cultural literacy. Through this module, students are expected to be able to relate science learning to local culture. The modules in this study were designed with reference to the pottery industry center in Nglipoh, Magelang Regency, as well as the results of a literature review on the traditional game of gasing. The stages of pottery making were then integrated into the context of junior high school science learning materials, and traditional gasing games, from how to play to the properties of the wood used, were also integrated into junior high school science materials. The results of the define stage were then developed into integrated science modules based on local wisdom, which underwent a series of validation processes carried out by expert validators. The instrument used for the validation process was an assessment sheet filled out by experts on the graphic aspect, with a total of 31 statements. The aspects assessed included the overall appearance of the module, the cover design, and the layout of the content. The results of the module validation in this study are presented in Table 6.

Table 4. Graphic Aspect Validation Results

No	Assessment Aspect	Average Validity
1.	Module Appearance	90%
2.	Module Cover Design	88,75%
3.	Module Content Design	91,25%
	Total Average =	270%
	Validity Percentage =	90%

Based on Table 6, the first aspect assessed was the graphic design of the module layout, cover design, and module content design. This aspect received an average score of 90%, which is categorized as highly valid, meaning that the module can be used without significant revisions. Overall, this module is considered attractive, with proportional font size and type, making it easy for participants to read. The color combination was also considered harmonious, with a balance between text, images, and background, making the module clearer and more informative. This finding is in line with (Rusmiati, 2017) opinion that the suitability of the base color and text color is very important to avoid boredom and remain easy for students to understand. The following is the content of the developed module:

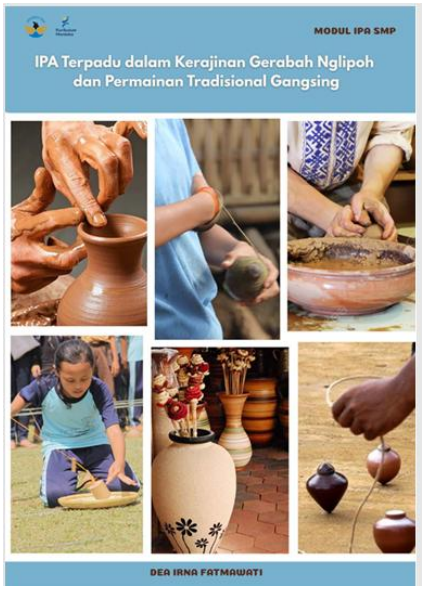

Figure 1. Front Cover Page

Figure 3. Module content example

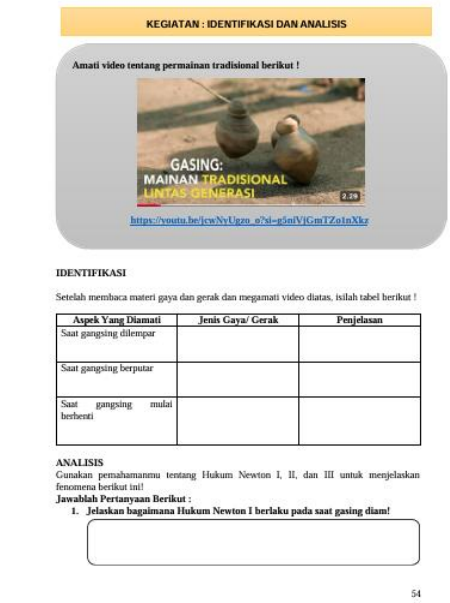

Figure 2. Module activity examples

Figure 4. Final Evaluation

Figure 3 shows the front cover of the module, which depicts the process of making pottery and the traditional game of gasing, packaged as an Integrated Science module based on local wisdom. Meanwhile, Figure 4 shows the contents of the module, which links pottery-making activities with science learning at the junior high school level. Figure 5 presents identification and analysis activities themed around the traditional game of gasing, which are combined with the material and concluded with self-reflection activities. Figures 4 and 5 also show the implementation of the RIAS learning model stages, which consist of reading, identification, analysis, and self-reflection activities. Figure 6 shows the final evaluation section, which contains multiple-choice and descriptive questions covering all module materials. The evaluation in the module aims to determine the extent to which students have mastered the material presented and to assess the suitability of the learning process with the expected objectives. In addition, this

evaluation section also serves to measure students' science literacy and cultural literacy skills after they have studied the module content (Magdalena et al., 2020). After going through the graphic aspect validation stage, this module was also validated in terms of content. Content validation in this study was carried out with reference to indicators set by the National Education Standards Agency (BSNP), which covered three main aspects: content, presentation, and use of language. The scores for each aspect are presented in Table 7.

Table 5. validated by experts

No	Assessment Aspect	Average Validity
1.	Content	92.5%
2.	Presentation	91,67%
3.	Language	88,88%
	Total average =	273,05%
	Validity Percentage =	91,02%

Based on Table 7, the content aspect received a score of 92.5%, indicating that the module has met the established standards and is categorized as highly valid. This assessment shows the suitability of the module with core competencies, basic competencies, and learning indicators relevant to students' cognitive abilities, thereby supporting the development of students' scientific and cultural literacy skills. This finding is in line with the findings of Wulandari & Purwanto (2017), which explain that content validity is influenced by the integration of competencies, learning objectives, and materials tailored to students. Furthermore, content suitability also includes the accuracy and depth of the material, clarity of presentation, use of illustrations and videos to support understanding, and the suitability of practice questions to the learning topics. The main characteristics of this integrated science module based on local wisdom further strengthen the validity of the content, because the module not only presents science material that is in line with basic competencies and learning objectives, but also integrates local cultural values through the context of Nglipoh pottery and the traditional game of gasing. This integration provides a platform to help train science literacy and cultural literacy skills accordingly. Nglipoh pottery and the traditional game of gasing can be integrated into science learning because both contain scientific concepts as well as local cultural values. This is in line with research (Valendra, 2020) that pottery can be used as a learning resource through related science concepts. The process of making pottery, from selecting clay, processing, shaping, drying, and firing, can be linked to science concepts such as changes in the form of substances, material properties, heat, and pressure, so that students not only understand science concepts but are also able to apply them in contextual situations. The traditional game of spinning tops can also be linked to science concepts. This is also supported by research by (Puri Rahayu & Kurnia Prahani, 2025) which states that the traditional game of spinning tops can be linked to science concepts to support

Science learning in schools. In the spinning top game, the concepts of force, motion, and friction can be linked, providing students with the experience of analyzing the factors that affect the spinning time of the top and making it more stable. Thus, Nglipoh pottery and traditional spinning top games are effective teaching materials to help train science literacy and cultural literacy in integrated science learning based on local wisdom. According to PISA (2022), science literacy encompasses four main indicators, namely understanding concepts, applying knowledge,

analyzing data and information, and solving problems contextually. This module not only train science literacy but also supports cultural literacy through the development of an understanding of cultural and civic complexity, an introduction to one's own culture, increased awareness of cultural preservation, and the cultivation of concern for local cultural heritage (Sulianto, 2024). In this module, science literacy indicators are implemented through several interrelated stages of learning. In the first indicator, namely conceptual understanding, students are guided to learn and master science material relevant to the context of local wisdom, such as the classification of materials, temperature and heat, force and motion, and simple machines. This understanding becomes the basis for students to see the connection between scientific theory and phenomena in their environment.

Next, in the knowledge application indicator, students are directed to implement their understanding in the context of everyday life. This is demonstrated, for example, through evaluation activities that require students to explain physical events in the process of making pottery or when spinning a top. In the data and information analysis indicator, students are guided to observe, interpret, and draw conclusions from relevant phenomena, such as changes in the properties of clay during firing or the effect of friction on the spinning time of a spinning top. This activity develops critical thinking skills through the review of empirically based information. Meanwhile, in the problem-solving indicator, students are trained to identify problems that arise during learning and design context-appropriate solutions, such as finding ways to prevent clay from cracking during firing or strategies to make spinning tops more durable. These four aspects enable students' science literacy to develop in an integrated manner through contextual and meaningful learning. The science literacy indicators are presented in Table 8.

Table 6. Science literacy indicators

No	Indicator	Description	Implementation in the Module
1.	Understanding the Concept	Students understand and master relevant basic science concepts.	Students learn concepts such as material classification, temperature and heat, force and motion, and simple machines through Nglipoh pottery crafts and spinning top games.
2.	Applying Knowledge	Students apply their science knowledge in real-life and contextual situations.	Students complete evaluation activities that connect theory and practice, such as explaining the physics involved in making pottery or spinning a top.
3.	Analyzing Data and Information	Students interpret information and draw conclusions from observed phenomena.	Students analyze changes in clay when fired or the effect of friction on spinning tops.
4.	Solving Problems	Students identify problems and design solutions based on scientific evidence.	Students look for ways to prevent clay from cracking during firing or how to make spinning tops more

			durable in each identification and analysis activity.

Based on Table 8, in addition, this module also develops cultural literacy through learning that combines scientific concepts with local wisdom. Strengthening cultural literacy is important to instill from an early age so that students become accustomed to having an attitude of respect for culture. The indicators of cultural and civic literacy cover four aspects, namely understanding the complexity of culture and citizenship, recognizing one's own culture, understanding civic obligations, and caring for culture (Lestari et al., 2022). In the first indicator, understanding the complexity of culture and citizenship is instilled through an introduction to the process of making Nglipoh pottery a heritage from the Borobudur era and the traditional game of gasing, which has various forms throughout Indonesia. Students not only learn about cultural elements as a legacy of the past, but also understand the values of togetherness, hard work, and technical skills that are passed down through these cultural practices. In the second indicator, understanding one's own culture is reinforced through detailed explanations of pottery-making techniques, from the procurement of raw materials to the firing process, as well as an introduction to various types and shapes of spinning tops from different regions in the archipelago. This activity fosters students' pride and identity in their national culture. Furthermore, the third indicator, namely understanding of civic obligations, is achieved by emphasizing that preserving local culture is the responsibility of the younger generation. This module also provides space for reflection so that students realize their role as citizens in preserving and utilizing local culture wisely. Finally, the fourth indicator, concern for culture, is fostered through activities that encourage students to appreciate cultural works, such as identification, analysis, and presentation of information in the module. The complete cultural literacy indicators are presented in Table 9.

Table 7. Cultural literacy indicators

No	Indicator	Description	Implementation in the Module
1.	Understanding Cultural Complexity and Citizenship	Students understand that culture has historical, social, and technical value that is passed down across generations.	Introducing the process of making Nglipoh pottery (a legacy of the Borobudur era), understanding the history of spinning tops from various regions, and examining the values contained therein, such as togetherness, hard work, and traditional skills**.**
2.	Getting to Know Your Own Culture	Students learn in detail about the forms, techniques, and variations of their nation's culture.	Explaining the stages of pottery making, from raw materials to firing; introducing various types, shapes, and techniques of spinning tops from various regions in Indonesia; fostering pride in local cultural identity.

3.	Understanding Civic Responsibilities	Students recognize their responsibility as citizens to preserve local culture.	Providing space for reflection on the importance of maintaining cultural sustainability; guiding students to understand that cultural preservation is the duty of the younger generation in preserving the heritage of their ancestors.
4.	Concern for Culture	Students demonstrate a caring and appreciative attitude toward cultural works and practices.	Guide students to identify and analyze cultural products such as pottery and spinning tops; provide information that encourages appreciation of cultural heritage; initiate activities that foster awareness of the sustainability of local culture.

Based on Table 9, the presentation aspect received a score of 91.67%, indicating that the systematic delivery of material in the module is highly valid and meets the standards of feasibility, including presentation techniques, material completeness, supporting components, and a coherent and integrated line of thinking. The language usage aspect also received a score of 88.88%, indicating that the module is easy to understand, uses simple and communicative sentences, is dialogical-interactive, appropriate for the development of students, and follows EYD and KBBI rules. This finding is in line with the opinion of Mulyani & Julianto (2018) who stated that a good module must be presented in simple language so that it is easy to understand. Overall, expert assessments of content, presentation, and language indicate that the Nglipoh pottery-based integrated science module and traditional spinning top game received an average score of 91.02%. These results confirm that the developed module is highly valid and does not require revision. This module is ready to be implemented in junior high school science education and not only serves as teaching material, but also as a means of introducing local wisdom to students. This is in line with the opinion of (Irman Selmawati, 2020), who states that validated modules can be used effectively in learning activities.

However, this study has limitations because it only covers the development stages (define, design, and develop) in the 3-D model and has not yet reached the dissemination stage. As a result, the effectiveness of the module in training students' science and cultural literacy cannot yet be empirically proven through its application in the classroom. Therefore, further research is recommended to continue the dissemination stage in order to test the effectiveness of the module on student learning outcomes and science and cultural literacy skills. In addition, the development of modules based on local wisdom can also be expanded by integrating various forms of other regional cultures in Indonesia to produce a more comprehensive, contextual, and socially and culturally diverse integrated science learning model.

4. CONCLUSION

Based on the assessment results from subject matter experts and media experts, the integrated science module based on local wisdom that combines Nglipoh pottery crafts and traditional spinning top games received an average score of 91.02% in terms of content, presentation, and language, and 90% in terms of graphics. Both results are considered highly valid, so the module is deemed suitable for use without the need for revision. The assessment covered content, construction, language, and graphic display, indicating that the module meets the criteria for good teaching materials and can be used effectively in junior high school science learning. In addition to serving as a learning resource for students, this module also serves as a guide for teachers to organize more contextual, interesting, and meaningful learning. The integration of local wisdom in the module not only helps train science literacy but also fosters cultural literacy, enabling students to connect science concepts with their daily experiences and appreciate their regional cultural heritage. Thus, this module is expected to contribute to improving the quality of science learning and help students prepare for global challenges by strengthening local cultural values.

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