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Development of a Science Literacy Test with a Socio-Scientific Issues (SSI) Context for Junior High School Students

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Abstract: This study aims to develop a scientific literacy test with an SSI context to measure the scientific literacy skills of junior high school students. This study refers to the design research model by Plomp and Nieven, consisting of preliminary research, development or prototyping phase, and evaluation phase. This research is limited to the development phase. In the preliminary study phase, needs analysis, context analysis, preparation of the initial test design, test item development, test validation, and revision were conducted. In the development phase, a limited trial was conducted to evaluate the test's practicality and a field trial to evaluate item validity, discriminatory power, distractor quality, and test reliability. The developed test is in the form of multiple-choice items with 4 answer options. The scientific literacy competencies measured in the test refer to the PISA 2025 framework. A total of 10 SSI issues relevant to the science material of phase D of the independent curriculum were used as question stimuli. Expert validation was analyzed using Gregory obtained a score of 1.00 indicating the test has very high validity in terms of content, construct, and language. The test is in the very practical category. The field trial involved 100 ninth-grade students. The item validity results showed 28 valid items and 2 invalid items. The discrimination index of all items met the good criteria. All distractors in each item were accepted and functional. The reliability of the test script was 0.911, which is in the very good category. These results indicate that the test can be used to measure the scientific literacy skills of junior high school students.

Keywords: Scientific literacy; Socio-scientific issues; SSI; Test instruments

Introduction

Scientific literacy is a crucial skill for students in the 21st century, as humanity faces an uncertain future (OECD, 2019). Scientific literacy plays a crucial role in creating high-quality human resources with a reliable grasp of science and technology, ready to compete in the global era (Hartono et al., 2022; Widodo et al., 2020). According to the OECD (2023), scientific literacy is characterized by the ability to interactively use scientific knowledge and information to engage with science-related issues and ideas and to use them for informed decision-making. When an individual can use scientific concepts and process skills to make decisions about others or the environment, understand the relationships between science, technology, society, and social and economic development, and produce useful scientific products, that individual is considered scientifically literate. However, in reality, students' scientific literacy skills remain weak. PISA is an international assessment program organized by the OECD to measure the scientific literacy, mathematical literacy, and reading literacy of 15-year-old students. The PISA 2022 scientific literacy assessment, which Indonesia last participated in, measures students' competencies in explaining phenomena scientifically, evaluating and designing scientific investigations, and interpreting data and

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evidence scientifically. The results of the PISA 2022 science assessment showed that Indonesia obtained an average score of 383 points.

This average decreased by 13 points compared to PISA 2018. This result is among Indonesia's lowest scores ever measured by PISA. This score is much lower than the average scientific literacy score of OECD countries, which is around 485 points. A preliminary study conducted at SMP Negeri 3 Mengwi on December 1, 2023 involving 147 students, showed that 3.40% of students had very satisfactory scientific literacy skills, 16.32% were in the satisfactory category, 51.02% of students were in the less satisfactory category, and 17.68% were in the very less satisfactory category. Various findings revealing students' low scientific literacy skills indicate that scientific literacy is a major problem in science learning. One way to address this issue is the integration of socioscientific issues (SSI) into science learning. (Valladares, 2021), stated that scientific literacy in the 21st century must be oriented towards social activities. Saija et al. (2022) and Zeidler et al. (2019), also stated that SSI is important to integrate into science education because it is relevant to everyday life, makes learning more meaningful, trains students in evaluating scientific data and information, and fosters moral sensitivity, caring, and empathy. SSI in science teaching can bridge science and society (Chen & Xiao, 2021).

Various studies have demonstrated the effectiveness of using SSI in science learning. Research by Dori et al. (2003) and Harris et al. (2005), showed that implementing SSI in learning has a positive impact on students' motivation and interest in learning science content in school and pursuing careers in science. Sadler (2004), also stated that SSI teaching contributes to student learning outcomes, fostering critical thinking skills, decision-making, reflective judgment, and moral development. Research by Ke et al. (2021) and Zeidler et al. (2005), indicates that science learning contextualized with social science issues (SSI) has been proven effective in improving scientific literacy. The learning process and assessment are inseparable. The quality of the learning process can be seen from the quality of the assessment system, and conversely, the quality of assessment can indicate the quality of learning (Rosnaeni, 2021). However, in practice, assessments are often found to be inconsistent with the learning process.

Assessments only measure conceptual understanding, while science process skills and scientific literacy are poorly measured. A preliminary study of teachers at SMP Negeri 3 Mengwi showed that teachers did not begin preparing tests by creating a test outline. Instead, they tended to use tests available in enrichment textbooks or online. These tests are inherently flawed as measurement tools because they are not aligned with the learning they are conducting. Furthermore, interviews revealed that teachers were unfamiliar with scientific literacy assessments and were unfamiliar with the terms scientific literacy and PISA. Based on a review of lesson plans, teachers had presented contextual learning, problem-solving-based learning, and implemented inquiry-based learning. However, a review of the daily and end-of-semester test items revealed that the test items focused solely on memorization and cognitive understanding. The distribution of questions was predominantly at the C1 and C2 levels. The assessments employed only required lower-level thinking skills and were intended solely to measure students' understanding of the subject matter. These questions only addressed the scientific literacy competency of explaining phenomena scientifically.

Meanwhile, other competencies, such as constructing and evaluating designs for scientific investigations, critically interpreting scientific data and evidence, and researching, evaluating, and using scientific information for decision-making and action, have not been identified. Therefore, these questions do not meet the scientific literacy competency criteria established by PISA. This finding indicates that teachers' science learning is not aligned with the assessments implemented. Although teachers have implemented scientific literacy learning, an inappropriate assessment system may be a factor in students' suboptimal scientific literacy skills at SMP Negeri 3 Mengwi. This aligns with the findings of Lestari et al. (2021), who revealed that the questions implemented by the school do not focus on reasoning, critical thinking, and scientific literacy skills; rather, the questions predominantly focus on lower-order thinking. This indicates that assessment is not functioning as intended.

Assessment in science learning serves not only as a tool to measure learning achievement but also as a guide to improving the quality of learning. Appropriate assessment can provide meaningful feedback for students and teachers, diagnose learning needs, and foster higher-order thinking skills. Assessment influences what students consider important and their understanding of learning tasks. The design of the assessment system also influences the nature of students' cognitive processing activities and metacognitive regulation activities (Schellekens et al., 2021; Shekh-Abed, 2024). Reflecting on the results of the preliminary study, assessment implementation needs to be improved. Assessment should support the learning process. If the learning process is guided by the development of scientific literacy, then the assessment must also be based on scientific literacy. Given that decision-making skills related to SSI are a crucial aspect of scientific literacy, integrating SSI into scientific literacy assessments results in a more comprehensive measurement tool. Integrating SSI as a stimulus in the evaluation tool will clearly demonstrate the relationship between scientific concepts and real-life issues facing society. This will enable students to see science not merely as an abstract theory but as relevant to their daily lives.

Based on this thinking, it is necessary to develop a scientific literacy test using the SSI context, referring to the PISA assessment system for junior high school students. Several studies relevant to this research, conducted by Jufri et al. (2019) and Afnan et al. (2023), found that an instrument measuring integrated scientific literacy at the character level was valid and reliable and useful for science teachers in investigating students' scientific literacy development. Research by Ketut et al., (2022) and Azzarkasyi et al. (2025), found that the developed scientific literacy test can be used as an instrument in research and to measure the scientific literacy of elementary school students. Other research also found that a scientific literacy-based test on biodiversity for grade 10 is suitable for use in the learning process. Therefore, the purpose of this study is to produce a scientific literacy test with SSI as its context, developed for junior high school students.

Method

This research refers to the design research by Plomp et al. (2013), which consists of three stages: preliminary research, development or prototyping, and evaluation. This research was limited to the development phase, as shown in Figure 1. The preliminary research phase included needs analysis, context analysis, initial test design development, test item development, test validation, and revision. The validators consisted of two experts. The development or prototyping phase encompassed the cycles of analysis, design and development, formative evaluation, and revision to improve quality and refine implementation. Activities included a limited trial to evaluate the test's practicality and a field trial to evaluate item validity, discriminatory power, distractor quality, and reliability. Revisions were then made to obtain the final design. Subjects for the limited trial consisted of three science teachers and six students.

Subjects for the field trial consisted of 100 ninth-grade students at SMPN 3 Mengwi. The instruments used included an interview questionnaire, a document analysis questionnaire, a practicality questionnaire, and a validation questionnaire. The types of data in this study are qualitative and quantitative data. The data analysis techniques used are qualitative and quantitative descriptive analysis. Qualitative descriptive analysis is used to process data from needs analysis and context analysis. Quantitative descriptive analysis is used to process data from expert validation and trials. Expert validation is calculated using the Gregory index. Trial data are analyzed using Microsoft Excel. Item validity is analyzed using the Product Moment Correlation formula, if the test item validity value is > 0.1966 (r table) then the item is declared valid. The reliability coefficient is calculated using the r21 formula.

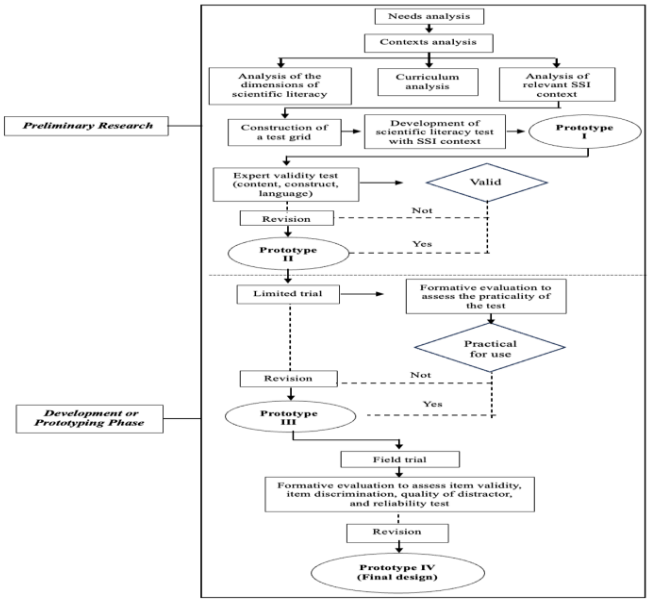


Figure 1. Design research stages

Result and Discussion

The preliminary research phase aims to determine the development needs and initial characteristics of the product to be developed. The needs analysis was conducted through interviews with science teachers and analysis of teaching module documents and assessment instruments adopted by teachers. Interviews revealed that teachers often develop tests without first developing a framework. Teachers tend to use tests readily available from textbooks and online sources. The analysis of teaching modules indicates that teachers have implemented learning that supports scientific literacy. Teachers employ innovative models such as Problem-Based Learning (PBL), Project-Based Learning (PjBL), discovery, and inquiry. They also employ contextual learning. The methods employed include observation, experimentation, and discussion. However, these learning processes do not align with the assessments used. Analysis of daily, midterm, and final assessment items indicates that the tests only require students to memorize facts and scientific material learned.

The tests tend to require students to think at lower levels, with C1 and C2 qualifications. No items requiring scientific literacy skills such as constructing and evaluating designs for scientific investigations, critically interpreting evidence, and researching, evaluating, and using scientific information for decision-making and action. Therefore, the test cannot be categorized as a test that supports the development of scientific literacy. However, scientific literacy tests can support improved learning. Appropriate learning assessments can determine the extent to which students are learning and are part of research to improve education (Rusilowati et al., 2018; Westbroek et al., 2020). Evaluation systems provide feedback to students, teachers, parents, policymakers, and the general public regarding the effectiveness of educational services (Žerovnik, 2024). Context analysis was obtained through a documentation study of the PISA 2025 framework, the science curriculum, and relevant SSI exploration.

The results of the PISA framework documentation study indicate that there are three dimensions used: scientific literacy competencies, knowledge, and context. The three scientific literacy competencies include: explaining phenomena scientifically; developing and evaluating designs for scientific investigations and critically interpreting data and evidence; and researching, evaluating, and using scientific information for decision-making and action. Scientific knowledge is the knowledge that students must possess to be able to demonstrate scientific literacy competency. This knowledge includes content, procedural, and epistemic knowledge. Content knowledge is knowledge related to scientific facts and concepts. Procedural knowledge relates to the procedures or steps in scientific investigations. Meanwhile, epistemic knowledge relates to beliefs in scientific theories and specific scientific claims.

PISA assessment questions will not be limited to the context of science in schools. In the PISA 2025 science assessment, questions focus on situations related to oneself, family, and peer groups (personal), communities (local and national), and life worldwide (global) (Rausch et al., 2024; Pulkkinen & Rautopuro, 2022). This research will use junior high school science material as the context, linking it to relevant SSIs. The science curriculum document study was conducted based on Decree of the Head of the Education Standards, Curriculum, and Assessment Agency Number 032/H/KR/2024, which contains Learning Outcomes in Early Childhood Education, Primary Education, and Secondary Education. The results of this analysis include learning outcomes and science materials for junior high school students. Nine materials were selected based on the distribution of biology, physics, and chemistry branches and their relevance to interesting SSIs. The SSI analysis was conducted through exploration of scientific and non-scientific articles and various social media platforms. Ten SSIs were used as context for the stimulus questions. Each stimulus is assigned an SSI-LS code from 1 to 10. The relevant science topics and SSIs are presented in Table 1.

Table 1. Relevant Science and SSI Topics

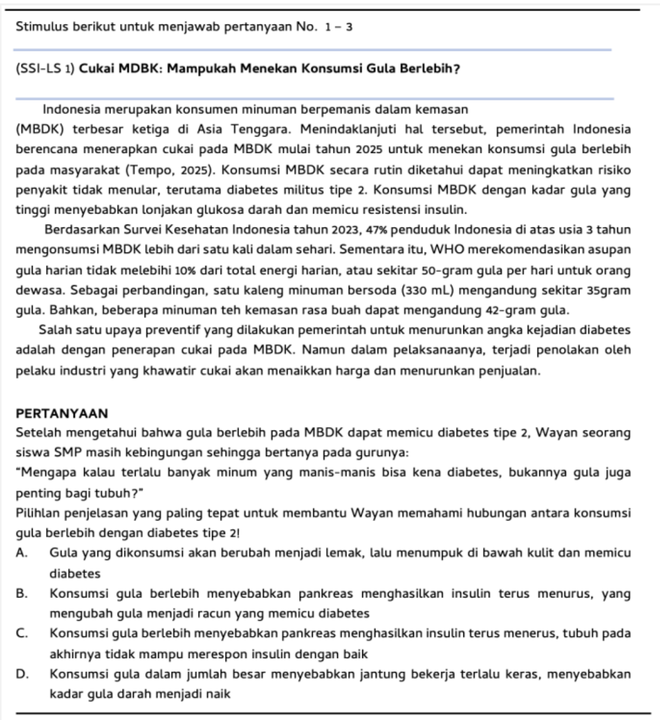
Science Topics	Relevant SSI
Ecology and Biodiversity	Controversy over the development of the new capital city
Matter and Its Changes	Pros and cons of lobster seed exports
Temperature, Heat, and Expansion	Controversy over the development of the new capital city
Structure and Function of Living Bodies	Impact of palm oil plantations
Work, Energy, and Simple Machines	Dilemma of implementing MBDK excise duties
Vibration, Waves, and Light	Benefits and impacts of dams
Elements, Compounds, and Mixtures	Pros and cons of zoos
Chemical Reactions and Their Dynamics	Pros and cons of nickel downstreaming
Inheritance and Biotechnology	Relevant SSI

The developed test design consists of 30 multiple-choice items with four answer options. The test will measure three scientific literacy competencies according to PISA 2025. Presenting scientific literacy-based questions according to PISA indicators can familiarize students with internationally standardized questions (Hasasiyah et al., 2020). The test outline is presented in Table 2.

Table 2. Test Grid

Scientific Literacy Competencies	Question Number	Number of Grains
Explain phenomena scientifically	1, 4, 7, 10, 13, 16, 19, 22, 25, 28	10
Develop and evaluate designs for scientific investigations and critically interpret data and evidence	2, 5, 8, 11, 14, 17, 20, 23, 26, 29	10
	3, 6, 24, 27, 30, 9, 12, 15, 18, 21	10
Total		30

The next step was to develop the test outline into scientific literacy test items within the SSI context. The test layout, test instructions, answer sheets, and scoring guidelines were also determined. The test was developed using Microsoft Word software and then converted into a PDF file. The test was distributed via a QR code linked to the question. Figure 2 displays an example of a scientific literacy question within the SSI context that measures the ability to explain phenomena scientifically. Students are required to scientifically explain the relationship between MBDK consumption and type 2 diabetes. Students are required to possess content knowledge regarding disorders of the human body system. The SSI, concerning the dilemma of implementing the MBDK excise tax, is presented as the context in the question, coded as SSI-LS 1. Using SSI as a context in effective learning improves scientific literacy (Sari et al., 2025; Mukti, 2025). Figure 3 displays an example of a scientific literacy question within the SSI context that measures the ability to research, evaluate, and use scientific information for decision-making and action. This question requires students to use their epistemic knowledge to make judgments about the most credible scientific evidence in building an argument. The SSI regarding the pros and cons of nickel downstreaming is used as a stimulus question, coded with SSI-LS 3. The use of SSI as a stimulus in questions can lead students to see other perspectives and be open to various viewpoints so they can make wise decisions (Putra et al., 2023).


Stimulus berikut untuk menjawab pertanyaan No. 1 – 3

(SSI-LS 1) **Cukai MDBK: Mampukah Menekan Konsumsi Gula Berlebih?**

Indonesia merupakan konsumen minuman berpemanis dalam kemasan (MBDK) terbesar ketiga di Asia Tenggara. Menindaklanjuti hal tersebut, pemerintah Indonesia berencana menerapkan cukai pada MBDK mulai tahun 2025 untuk menekan konsumsi gula berlebih pada masyarakat (Tempo, 2025). Konsumsi MBDK secara rutin diketahui dapat meningkatkan risiko penyakit tidak menular, terutama diabetes militus tipe 2. Konsumsi MBDK dengan kadar gula yang tinggi menyebabkan lonjakan glukosa darah dan memicu resistensi insulin.

Berdasarkan Survei Kesehatan Indonesia tahun 2023, 47% penduduk Indonesia di atas usia 3 tahun mengonsumsi MBDK lebih dari satu kali dalam sehari. Sementara itu, WHO merekomendasikan asupan gula harian tidak melebihi 10% dari total energi harian, atau sekitar 50-gram gula per hari untuk orang dewasa. Sebagai perbandingan, satu kaleng minuman bersoda (330 mL) mengandung sekitar 35gram gula. Bahkan, beberapa minuman teh kemasan rasa buah dapat mengandung 42-gram gula.

Salah satu upaya preventif yang dilakukan pemerintah untuk menurunkan angka kejadian diabetes adalah dengan penerapan cukai pada MBDK. Namun dalam pelaksanaanya, terjadi penolakan oleh pelaku industri yang khawatir cukai akan menaikkan harga dan menurunkan penjualan.

PERTANYAAN

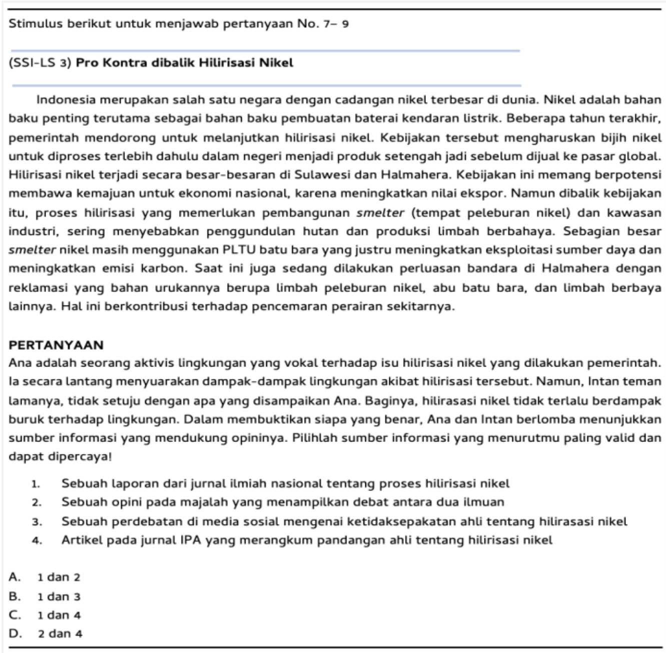
Setelah mengetahui bahwa gula berlebih pada MBDK dapat memicu diabetes tipe 2, Wayan seorang siswa SMP masih kebingungan sehingga bertanya pada gurunya:

"Mengapa kalau terlalu banyak minum yang manis-manis bisa kena diabetes, bukannya gula juga penting bagi tubuh?"

Pilihlan penjelasan yang paling tepat untuk membantu Wayan memahami hubungan antara konsumsi gula berlebih dengan diabetes tipe 2!

A. Gula yang dikonsumsi akan berubah menjadi lemak, lalu menumpuk di bawah kulit dan memicu diabetes
B. Konsumsi gula berlebih menyebabkan pankreas menghasilkan insulin terus menurus, yang mengubah gula menjadi racun yang memicu diabetes
C. Konsumsi gula berlebih menyebabkan pankreas menghasilkan insulin terus menerus, tubuh pada akhirnya tidak mampu merespon insulin dengan baik
D. Konsumsi gula dalam jumlah besar menyebabkan jantung bekerja terlalu keras, menyebabkan kadar gula darah menjadi naik

Figure 2. Example 1 of a scientific literacy question in the context of SSI


Stimulus berikut untuk menjawab pertanyaan No. 7– 9

(SSI-LS 3) **Pro Kontra dibalik Hilirisasi Nikel**

Indonesia merupakan salah satu negara dengan cadangan nikel terbesar di dunia. Nikel adalah bahan baku penting terutama sebagai bahan baku pembuatan baterai kendaran listrik. Beberapa tahun terakhir, pemerintah mendorong untuk melanjutkan hilirisasi nikel. Kebijakan tersebut mengharuskan bijih nikel untuk diproses terlebih dahulu dalam negeri menjadi produk setengah jadi sebelum dijual ke pasar global. Hilirisasi nikel terjadi secara besar-besaran di Sulawesi dan Halmahera. Kebijakan ini memang berpotensi membawa kemajuan untuk ekonomi nasional, karena meningkatkan nilai ekspor. Namun dibalik kebijakan itu, proses hilirisasi yang memerlukan pembangunan *smelter* (tempat peleburan nikel) dan kawasan industri, sering menyebabkan penggundulan hutan dan produksi limbah berbahaya. Sebagian besar *smelter* nikel masih menggunakan PLTU batu bara yang justru meningkatkan eksploitasi sumber daya dan meningkatkan emisi karbon. Saat ini juga sedang dilakukan perluasan bandara di Halmahera dengan reklamasi yang bahan urukannya berupa limbah peleburan nikel, abu batu bara, dan limbah berbaya lainnya. Hal ini berkontribusi terhadap pencemaran perairan sekitarnya.

PERTANYAAN

Ana adalah seorang aktivis lingkungan yang vokal terhadap isu hilirisasi nikel yang dilakukan pemerintah. Ia secara lantang menyuarakan dampak-dampak lingkungan akibat hilirisasi tersebut. Namun, Intan teman lamanya, tidak setuju dengan apa yang disampaikan Ana. Baginya, hilirasasi nikel tidak terlalu berdampak buruk terhadap lingkungan. Dalam membuktikan siapa yang benar, Ana dan Intan berlomba menunjukkan sumber informasi yang mendukung opininya. Pilihlah sumber informasi yang menurutmu paling valid dan dapat dipercaya!

1. Sebuah laporan dari jurnal ilmiah nasional tentang proses hilirisasi nikel
2. Sebuah opini pada majalah yang menampilkan debat antara dua ilmuan
3. Sebuah perdebatan di media sosial mengenai ketidaksepakatan ahli tentang hilirasasi nikel
4. Artikel pada jurnal IPA yang merangkum pandangan ahli tentang hilirisasi nikel

A. 1 dan 2
B. 1 dan 3
C. 1 dan 4
D. 2 dan 4

Figure 3. Example 2 of scientific literacy questions in the SSI context

The draft science literacy test with the SSI context was then referred to as prototype I. Its content, construct, and language validity were then tested through expert validation. The expert validation results are presented in Table 3.

Table 3. Expert Validity Test Results

Validity Aspect	Average Value CV	Validity Category
Content	1.00	Very high
Construct	1.00	Very high
Language	1.00	Very high

The content, construct, and language validity scores for all test items were 1.00, which is considered very high. Based on these validity scores, the SSI-context science literacy test for junior high school students was declared valid in terms of content, construct, and language. Content validity means the SSI-context science literacy test items meet the scientific literacy indicators. Construct validity means the questions were clearly formulated and structured according to question development principles. In terms of language, the items met the criteria for communicativeness, standard language, and were free from multiple interpretations. To improve the design, improvements were made to all test items in accordance with expert advice. These improvements included the use of punctuation, capitalization, the addition of competency-appropriate KKO (Comprehensive Completion Methods), and the adjustment of distractors to approximate the correct answer. The revised test was then referred to as Prototype II. During the development or prototyping phase, Prototype II was tested on a limited basis. The results were then evaluated formatively to determine the test's practicality. The results of the formative evaluation of the practicality level of the test are presented in Table 4.

Table 4. Results of the Practicality Test

Practicality	Average Teacher Rating	Average Student Rating
Writing Layout	88.33	90.00
Ease of Use	84.72	87.50
Average	86.52	88.75
Category	Very practical	Very practical

Referring to Table 4, the SSI-context science literacy test falls into the very practical category, with a practicality score of 87.62, based on its writing style and ease of administration. This confirms the effectiveness and suitability of the SSI-context science literacy test for adoption by teachers and students in the school environment (Suparya et al., 2024; Anggraini et al., 2020). Tests that meet the practicality criteria are then designated as prototype III. Prototype III was field-tested to determine test accuracy, including item validity, discriminant index, distractor quality, and test reliability. The results of the item validity and discriminant index analyses are presented in Table 5.

Of the 30 items in the initial design, two were invalid, items 2 and 12. These invalid items were discarded and not used. Valid items were deemed to measure what they were intended to measure (Opesemowo, 2025; Kirya et al., 2025). Based on the discriminant power test, two items had excellent discriminant power, 25 items were categorized as good, and one item was categorized as fair. Items with a good discriminant index are able to differentiate between high-ability and low-ability student groups. The results of the distractor quality test showed that all distractors selected for each item had a distractor level exceeding 5%, indicating that it was acceptable and functional. The SSI-context science literacy test had very high reliability with a score of 0.911. This result is similar to the science literacy instrument developed by Ketut et al. (2022), which had a reliability of 0.97, categorized as very high. A total of 28 test items that met accuracy criteria were developed to produce prototype IV, which was considered the final design. Scientific literacy skills are crucial. Scientific literacy fosters students' habituation to problem-solving, analysis, and the ability to propose alternative solutions (Sanjayanti et al., 2022; Selamat & Priyanka, 2024; Bramastia & Rahayu, 2023). Applying SSI to science learning guides students in thinking based on scientific evidence and integrating various aspects of life, such as science, social science, ethics, and morality (Eggert & Bögeholz, 2010). Teachers, as learning designers, should be competent in developing questions based on scientific literacy. Besides serving as a measuring tool for investigating scientific literacy skills, scientific literacy-based tests also train students to solve real-life problems by applying scientific knowledge (Martinah et al., 2022; Afrijal et al., 2023).

Table 5. Results of Item Validity and Discriminant Index

Item Validity	Category	Discriminant Index	Category
0.43	Valid	0.46	Good
0.15	Invalid	-	-
0.57	Valid	0.48	Good
0.49	Valid	0.46	Good
0.62	Valid	0.52	Good
0.55	Valid	0.42	Good
0.74	Valid	0.74	Very good
0.57	Valid	0.54	Good
0.42	Valid	0.46	Good
0.45	Valid	0.42	Good
0.56	Valid	0.50	Good
0.12	Invalid	-	-
0.56	Valid	0.56	Good
0.64	Valid	0.48	Good
0.66	Valid	0.50	Good
0.39	Valid	0.42	Good
0.70	Valid	0.56	Good
0.57	Valid	0.48	Good
0.55	Valid	0.52	Good
0.46	Valid	0.40	Good
0.56	Valid	0.50	Good
0.69	Valid	0.60	Good
0.61	Valid	0.52	Good
0.86	Valid	0.80	Good
0.68	Valid	0.64	Good
0.59	Valid	0.50	Good
0.53	Valid	0.44	Good
0.56	Valid	0.46	Good
0.53	Valid	0.52	Good
0.56	Valid	0.52	Good

Conclusion

Based on the description above, it can be concluded that the SSI-context science literacy test measures scientific literacy competencies in accordance with PISA 2025, using SSI as the context in the questions. Based on expert testing, this test was declared valid in terms of content, construct, and language. Based on the practicality test, this test is practical and applicable. Based on the field trial, a total of 28 test items were declared valid, able to differentiate student abilities, had a good level of distractors, and had a reliability of 0.911, categorized as very good. The SSI-context science literacy test can measure the scientific literacy abilities of junior high school students.

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Author Contributions

R. P. D: Conceptualization, methodology, formal analysis, investigation, resources, data curation, writing—original draft preparation, writing—review and editing. I N. T: Conceptualization, writing—review and editing, supervision. N. M. W: Conceptualization, methodology, formal analysis, writing—review and editing, supervision. All authors have read and agreed to the published version of the manuscript.

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Conflicts of Interest

The authors declare no conflict of interest.

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