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Conceptual Design of Reading Literacy Mapping Instruments Competency-Based L1–L3 for Indonesian Language Learning

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Abstract

This research is a research to make a conceptual design of test instruments. The goal is none other than to map the cognitive level of reading literacy according to L1-L3 competencies. This departs from the importance of literacy skills for students. Schools need to map students' reading literacy skills, so that the profile data of the cognitive level of reading literacy. For this reason, schools can train students with questions that adapt the AKM and teachers can adjust learning to the cognitive level of each student. By using a qualitative design with a conceptual descriptive method, this study resulted in the construction of test instruments based on the AKM framework. The questions are in the form of objective and subjective tests in the form of multiple choice, complex multiple choice, and description. The question grid uses learning progression level 6 which is intended for grades XI and XII of high school. The rules for writing questions, materials, construction, language, and question score guidelines are also adapted from it. The questions were made as many as ten numbers with two texts as stimulus, namely informational texts and fictional texts.

The instrument is then validated by *expert judgment*. The validated person chosen is a learning evaluation expert, because the instrument is a learning evaluation that has its own concepts, principles, techniques, and procedures. The score uses the Likert scale and the questions are given scores of 3 and 4. For a score of 3, it can be interpreted that the question needs to be corrected according to the validator's note, but there is also a score of 4 that the researcher needs to revise the question. To maintain the quality of the question instruments similar to the AKM questions, the validator needs to validate each question in accordance with the AKM framework.

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1. Introduction

The government stipulates that Indonesian people need to master six basic literacies. One of them is language literacy. In the National Literacy Movement Guide by the Ministry of Education and Culture (2017), language literacy is defined as the knowledge and skills to read, write, search, trace, process, and understand information to analyze, respond, and use written texts to achieve goals, develop understanding and potential, and participate in the social environment^[1]. In fact, this is emphasized in SDG 4 by UNESCO, that literacy is the main indicator of educational success^[2].

However, the challenge faced by the government is the problem of low literacy of Indonesian students from the PISA test results. Not only that, students have difficulties in critical thinking and reasoning. This is known from the lack of students who can solve *higher order thinking skill* (HOTS) questions in UN questions. Therefore, the government conducts competency assessments for reading literacy and numeracy in all schools.

Science and cultural literacy assessments are included in the Minimum Competency Assessment (*Angka Ketuntasan Minimal/AKM*) test. These two literacies are also basic literacy of the six types that students must have. Science literacy is defined as scientific knowledge and skills to be able to identify questions, acquire new knowledge, explain scientific phenomena, and draw conclusions based on facts, understand the characteristics of science, build awareness of how science and technology shape the natural, intellectual and cultural environment, and increase the willingness to be involved and care about issues related learning.

related to science learning. Cultural literacy refers to the knowledge and skills required to understand and respond appropriately to Indonesian culture as the nation's identity. Based on this definition, literacy competence can be measured through reading-literacy questions situated in scientific and socio-cultural contexts.

Schools need to map students' literacy skills, because in AKM a mapping of the cognitive level of reading literacy competency L1-L3 is carried out. The three cognitive levels are: (L1) finding information (*access and retrieve*); L2:

interpret *and integrate*; and L3: evaluate *and reflect*. From this mapping, schools can find out the achievement of students' reading literacy. Schools can strive to improve and strengthen the cognitive level of reading literacy through reading literacy programs and literacy learning in the classroom by teachers.

One of the school's efforts to map students' literacy skills, teachers can create test instruments that adapt AKM questions. The results of the mapping became a profile of students' reading literacy competencies which then became differentiated learning. Teachers conduct literacy learning by facilitating each student's cognitive level group.

An important aspect in making these questions is the content in the form of the availability of reading texts as a stimulus. There are two types of texts used in AKM, namely informational texts and fictional texts. The context of texts in informational and fictional texts can be scientific, personal, and socio-cultural. The description of competencies and sub competencies in each cognitive level L1-L3 in the AKM framework is shown in table 1 below^[3].

Table 1: Description of Competencies and Sub competencies

Competencies	Sub competencies	
1. Access and retrieve	a.	Access and search for information in text
	b.	Search and select relevant information
2. Interpret and integrate	a.	Understanding text ideas
	b.	Compile inferences, make connections and predictions of both single and plural texts
3. Evaluate and reflect	a.	Assess the quality and credibility of content in single or plural informational texts
	b.	Assess the format of in-text presentation
	c.	Reflect on the content of the discourse for decision-making, establish choices, and relate the content of the text to personal experience

In addition to the L1-L3 cognitive level, there are provisions for using *learning progression* (LP) in making questions. The definition is a continuous sequence or stages of learning (*continuum*) that includes aspects of the characteristics, breadth, and depth of learning materials at each level of education. However, LP in AKM is related to the continuity between one level and the next. The continuity includes aspects of the content of the text, the level of cognitive (competence) measured, and the indicators that will be asked in the AKM questions. This means that the content and context of the reading must be different, the cognitive level, and the indicators being measured. Starting from the lowest level in elementary school students (level 1) to high school students at the highest level (level 6). This difference is shown by the complexity of the stimulus text. The description of LP at level 6 is for students in grades XI and XII of high school, namely *students who are able: (1) understand words that rarely appear related to new, complex, abstract themes with as little use as possible of visual aids and supporting sentence contexts; (2) develop text-related hypotheses that raise new, complex, and abstract topics; (3) use his or her understanding of the plural text to sort out relevant information to be used in assessing the accuracy of a text or solving a particular problem; and (4) using the synthesis of the plural text to construct new, complex, and even abstract conceptions of topics*^[3].

Test instruments are in the form of learning evaluation questions that are commonly used for formative, summative, diagnostic, and placement. Formative function means a test to find out the learning outcomes of students after completing

the program at school, while summative to find out the learning outcomes of students after completing learning at the end of the semester or the end of the year. Diagnostic function that assesses the results of the analysis of difficulties or obstacles experienced by students during learning. Lastly, the placement function is to assess the student's personality for the sake of appropriate placement in the learning situation^[4]. The function of the test instrument as an effort to map students' reading literacy skills based on their cognitive level is placement. Furthermore, the reading literacy profile of each student will be known that can be fostered in an ongoing manner.

In this case, the researcher made a design of test instruments in the form of questions that adapted from the AKM framework. It is none other than that the test instruments made will have similarities with the AKM questions and it is hoped that the results can represent the achievement of L1-L3 cognitive levels in students' reading literacy. So far, there has been no instrument based on competency level and contextual with Indonesian language learning, in addition to the AKM questions made by the government.

The purpose of writing this article is to design the concept of test instruments in the form of questions that adapt AKM and contextual in learning Indonesian language. The test instruments are adjusted to the LP and the rules of the questions along with the score guidelines for these questions. Furthermore, the designed instrument will be validated by learning evaluation experts to be used as a research instrument at the data collection stage.

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students with a test trial in the form of questions similar to AKM^[5]. Another study aims to improve the reading literacy skills of junior high school students, as well as strengthen reading motivation with the cultural context of West Nusa Tenggara. Research on the development of this instrument uses texts that are relevant to its cultural identity. The structure of reading literacy instruments uses a multidimensional approach with literal, inferential, critical, and visual processing components^[6].

The government document that is used as literature is the framework of the AKM. From here, the researcher obtained guidelines for AKM questions in the form of objective and subjective tests, question grids in LP, question rules, and guidelines for giving question scores.

2. Data evaluation

The researcher evaluates the concept of instruments in the

form of questions in the form of objective and subjective tests, using learning evaluation principles, techniques, and procedures. This is because AKM questions are learning evaluation tests that have theoretical provisions. Next, the researcher will study the results of the concept validation instruments of learning evaluation experts. If there is a note in the form of suggestions, the researcher will revise it.

3. Analytical Techniques

Data were analyzed using conceptual qualitative analysis techniques to identify reading literacy constructs, L1–L3 competency indicators, and formulate mapping instrument designs that are in accordance with AKM and the Indonesian language learning context.

4. Results and Discussion

The concept of construction of test instruments that adapt to the AKM is adjusted to the AKM framework. As with the requirements for making instruments, a grid is needed as the basis for making it. For the instrument grid taken from LP for grade XI of high school at level 6. The following LP in the AKM Framework is in table 2.

Table 2: Learning Progression Level 6

Text Type	Access and Retrieve	Interpret and integrate	Evaluate and reflect
Information	Accessing and finding information in text: - Finding information explicit (who, when, where, why, how) in the information text. Search and select relevant information: - Identify effective keywords to find relevant sources of information in the informational text.	Understanding the text literally: - Explain the main idea and some supporting ideas in the informational text. - Construct inferences, make connections and predictions of both single and plural texts: - Deduce the content or substance (facts/data, concepts, principles and procedures) in the information text. - Compile generalizations (general conclusions) from the results of inference to the ideas/themes contained in the informational text. - Compare the main points in the informational text (e.g. differences in events, procedures, characteristics of objects).	Evaluate the format of in-text presentations: - Assess the accuracy of visual or non-visual information in the information text. - Assess the accuracy of information sources (people/institutions/institutions) in the information text. - Assess the suitability of color selection, layout, and other visual supports (graphs, tables, etc.) in conveying the message/topic in the informational text. - Assess the effectiveness of data presentation formats (tables, graphs, bars, pie, curves) to support the main idea in the informational text. - Assess and identify biases in the writing of informational texts. Reflect on the content of the discourse for decision-making, establish choices, and relate the content of the text to personal experiences: - Reflect (contrast, combine, integrate etc.) the assumptions, ideologies, or values contained in the informational text to understand the author's point of view.
Fiction	Accessing and finding information in text: Find explicit information (who, when, where, why, how) in fictional texts.	Understanding the text literally: - Identify and explain changes to intrinsic elements (events/characters/settings/conflicts/storylines) in fictional texts. Construct inferences, make connections and predictions of both single and plural texts: - Deduce the feelings and traits of the characters as well as other intrinsic elements such as the setting of the story, the events in the story based on detailed information in the fictional text. - Compile inferences (conclusions) and predictions based on the supporting elements of the fictional text (intrinsic elements). - Compare the main points in the fictional text (e.g. characterization, conflict, and plot).	Assess the quality and credibility of content in single or plural informational texts: - Assess the creativity of depicting reality (the condition of society) through the intrinsic elements of fictional texts. Evaluate the format of in-text presentations: - Assess the appropriateness of color selection, layout, and other visual supports (graphs, tables, etc.) in conveying a message/topic in fictional text. - Assess the use of diction and majas (metaphors, analogies, personifications) in fictional texts. Reflect on the content of the discourse for decision-making, establish choices, and relate the content of the text to personal experiences: - Reflect (contrast, combine, integrate etc.) the assumptions, ideologies, or values contained in informational texts or fictional texts to understand the author's point of view.

In addition to these grids, there are rules for questions, question writing, and scoring. The researcher chose the form of multiple-choice questions (PG), complex multiple-choice

(PGK), and description. The researcher uses the rules, as follows in table 3.

Table 3: Question Rules and Score Guidelines

Question Form	Question Form	Material, Construction, Language	Score
Multiple choice (MC)	Subject matter with five answer choices and one correct answer	Material: 1. The concept must be correct 2. Only One Answer Key 3. The choice of answers must be homogeneous and logical.	Correct answer: 1 Incorrect answer: 0
PGK • Multiple Choice Multi Answer 1. True/False, Yes/No, or other categories	Subject matter with five statement options Four statement options	Construction: 1. The subject matter and answer choice must be clear and not give a double meaning. 2. The information written does not use the sentence "all the answers above are false/true"	Correct answer: 1 Incorrect answer: 0
Description	1. Requiring students to remember and express or express ideas in the form of written descriptions; 2. Students' answers are suspended according to the complexity of the answer	Language: Questions must meet the rules of the Indonesian language	Answers meet the criteria of the answer key: 2 Answers that do not meet the criteria for answer keys: 3 Incorrect answer: 0

The researcher also needs to pay attention to the terms of complexity consisting of words and sentences, story elements, the scope of cognitive development, genre, type of text, and the length of the discourse for the assessment. The following is the concept of test instruments that adapt the AKM:

Text 1: Argumentation Text

Iran's Perspective on the United States and Israel

The recent phenomenon of the US-Israel attack incident on Iran and Iran's counterattack on the two countries is not without basis. In addition to defending its country's sovereignty and avenging the death of Ayatollah Khamaeni, Iran has a bad historical history against the U.S. and Israel.

Iran sees America as *a greedy* country for several reasons. First, Iran believes that the U.S. has a long history of pursuing its own economic and strategic interests at the expense of other countries. Iran is no exception in this regard. For example, Iran sees a US policy of giving its support to Israel, sanctioning Iran, and conducting its military intervention in the Middle East.

Second, Iran believes that the U.S. is putting its economic interests first without regard for the principles of fairness and honesty. Iran sees the US using its economic and military power to secure its interests at the expense of other countries. For example, Iran believes that U.S. sanctions against Iran are motivated by a desire to control Iran's oil resources and to undermine its independence and sovereignty. The U.S. has pursued economic interests to the detriment of Iran in several ways. One of the main ways is through economic sanctions. These sanctions have been imposed on Iran in response to its nuclear program, support for terrorist organizations, and human rights abuses.

Of course, these sanctions have a significant impact on the Iranian economy. According to a report from the US Congressional Research Service, the sanctions are in the form of reductions in Iran's oil exports and Iran's access to the global financial system, as well as increased economic difficulties in the country. The U.S. has also pursued broader economic interests in the Middle East that often hurt Iran,

such as U.S. support for Saudi Arabia and the United Arab Emirates. These two countries are Iranian rivals in the region. It is known that the US sells weapons to these countries. Not only that, the US provides military support, even helping them by building military bases in the region.

In line with that, American support for Israel is a concern for Iran (Andrew Harnik, 2020). The United States has a long history of providing significant support to Israel, both in terms of military and economic assistance. This support is motivated by a variety of factors, including strategic interests in the Middle East, a commitment to promoting democracy and human rights, and the shared values and culture between the two countries.

One of the main ways the US supports Israel is through military aid. According to the Congressional Research Service, the U.S. has provided more than \$146 billion in military aid to Israel since 1949. This assistance includes weapons, ammunition, and military technology, as well as funding for joint military exercises and training programs. In recent years, the U.S. has continued to provide significant military assistance to Israel, with a total of \$38 billion in military aid pledged by the U.S. government over the next ten years.

In addition to military aid, the US has also provided significant economic assistance to Israel. According to the U.S. Agency for International Development, more than \$38 billion has been in U.S. economic aid to Israel since 1949. This aid has been used to support a variety of programs, including education, healthcare, and economic development. This aid has helped Israel build a strong and modern economy and become a leader in many high-tech industries. The United States has also provided diplomatic support to Israel in the international community. For example, the US has used its veto power in the United Nations Security Council to block resolutions criticizing Israel. His support for Israel was included in peace negotiations with Palestine and other Arab countries.

There are several reasons why the U.S. has provided significant support to Israel over the years. One of the main reasons is its strategic importance in the Middle East. Israel

has been a key U.S. ally in the region, and the two countries have worked closely together on issues such as counterterrorism and regional stability.

(https://eprints.umm.ac.id/id/eprint/5547/1/SKRIPSI_201810360311142.pdf accessed on March 26, 2026 with adjustments).

Context	Socio-Cultural
Content/Domain	Information
Classes	Level 6 (Class XI)
Level Cognitive	Access and Retrieve
Question Form	Multiple choice (MC)
Competency Details	Find explicit information (who, when, where, why, how) in the information text

1. Iran considers the US to be a greedy country, because...
 - A. It pursues its own economic and strategic interests at the expense of other countries, including Iran.
 - B. America prefers Israel as its ally to Iran.
 - C. The U.S. continues to provide significant military assistance to Israel, with a total of \$38 billion in military assistance.
 - D. U.S. aid to Israel developed a strong economy and made Israel a leader in many high-tech industries.
 - E. The United States sanctions Iran in the form of reductions in Iranian oil exports and Iran's access to the global financial system, as well as increasing the country's economic difficulties.

Answer key: A

Context	Socio-cultural
Content/Domain	Information
Grade	Level 6 (Grade XI)
Cognitive Level	Access and Retrieve
Question Form	Multiple choice (MC)
Competency Details	Identify effective keywords to find relevant sources of information in an informational text.

2. The following forms of United States support for Israel are consistent with the text, except...
 - A. More than USD 146 billion in military aid has been provided to Israel since 1949, including weapons, ammunition, military technology, and funding for joint military exercises and training programs.
 - B. According to the U.S. Agency for International Development, more than USD 38 billion in U.S. economic aid has been provided to Israel since 1949 to support various programs, including education, healthcare, and economic development.
 - C. The United States is motivated by its strategic interests in the Middle East, and Israel is located in that region.
 - D. The United States has used its veto power in the United Nations Security Council to block resolutions criticizing Israel.
 - E. Israel has been a key U.S. ally in the Middle East and has worked closely with the United States on various issues, such as counterterrorism and regional stability.

Answer key: C

Context	Socio-cultural
Content/Domain	Information
Grade	Level 6 (Grade XI)
Cognitive Level	<i>Interpret and Integrate</i>
Question Form	Complex multiple choice
Competency Details	Explain the main idea and several supporting ideas in an informational text.

3. The informational text explains that Iran believes its country has been sacrificed by the United States to pursue its own strategic interests. Which sentences in the text support this statement? (More than one answer is correct.)
 - A. U.S. policy provides support for Israel while imposing sanctions on Iran.
 - B. Iran believes that U.S. sanctions against Iran are motivated by a desire to control its oil resources and weaken its independence and sovereignty.
 - C. U.S. sanctions have reduced Iran's access to the global financial system, thereby increasing economic hardship in the country.
 - D. The United States sells weapons, provides military support, and has even built military bases in Saudi Arabia and the United Arab Emirates.
 - E. In addition to military aid, the United States has also provided significant economic assistance to Israel.

Answer key: A

Context	Socio-cultural
Content/Domain	Information
Grade	Level 6 (Grade XI)
Cognitive Level	Evaluate and reflect
Question Form	Essay
Competency Details	Assess the accuracy of information sources (individuals/agencies/institutions) in an informational text.

4. How accurate is the source of information in the informational text entitled "Iran's Perspective on the United States and Israel"?

Answer key: The source of information in the text is accurate because it is a thesis or scientific work based on various reliable supporting references and published by the author's university, Universitas Muhammadiyah Malang (UMM).

Context	Socio-cultural
Content/Domain	Information
Grade	Level 6 (Grade XI)
Cognitive Level	<i>Evaluate and reflect</i>
Question Form	Essay
Competency Details	Reflect on, contrast, combine, or integrate the assumptions, ideologies, or values contained in an informational text to understand the author's perspective.

5. In your opinion, can the first missile attack by the United States and Israel against Iran be linked to Iran's historical relations with the two countries? Explain.

Answer key: The missile attacks by the United States and Israel against Iran are related to the historical relationship between Iran and the United States, as well as Israel as a U.S. ally. The informational text explains that the United States has sacrificed Iran for its own interests, including its alignment with Saudi Arabia, the United Arab Emirates, and Israel, as well as the sanctions imposed on Iran that have contributed to Iran's economic decline.

Text 2: Fictional Narrative Text

Z Science (Part 1)

Everyone thought James was crazy. He was always conducting strange experiments. You might imagine him as a scientist wearing glasses with a very flat facial expression. When he first arrived on campus, he created a very ridiculous invention: a pill that could suppress both the smell and sound of flatulence. After that, his invention immediately became a campus sensation, and many students wanted it.

Today, he was preparing an experiment that he considered quite impressive. He wanted to create an injection to tame wild animals. A fierce lion could be transformed into an obedient dog that was loyal to its master, like Hachiko. He mixed blood from Hachiko's dog breed with several other chemicals. Now he was alone in the laboratory, busy working on his experiment. Suddenly, just as he was about to mix in the final chemical liquid, he felt stomach cramps, and a small explosion was heard: "bruut!"

"What did I eat this morning? Why does it smell so strange? Oh no, I have to go to the restroom again," James shouted as he ran straight to the restroom. On the way, he still managed to take his anti-flatulence pill. Ah, James's memory was truly remarkable.

After that, James stopped by the central laboratory. There, he was discussing something with someone. That person was Daniel, the most brilliant senior on campus. Daniel was also James's study partner. Despite his young age, he had already become the head of the biology laboratory. For the past month, James had been asking Daniel to help him with his experimental needs. They had become somewhat close by then.

Afterward, he returned to his laboratory to mix the final liquid into his concoction. However, he noticed that the smell was slightly different. Even so, he still mixed it in. "Turung..tung..tung..deng..turung..tung!" The class bell rang. It was now time for James to show his work to the class. His bag contained many items resembling medical equipment, one of which was a syringe to inject his creation....

<https://cerpenmu.com/cerpen-fantasi/z-science.html>(Source: <https://cerpenmu.com/cerpen-fantasi/z-science.html>, accessed on February 15, 2026)

Context	Scientific
Content/Domain	Fiction
Grade	Level 6 (Grade XI)
Cognitive Level	Access and Retrieve
Question Form	Multiple choice (MC)
Competency Details	Find explicit information (who, when, where, why, and how) in a fictional text.

6. James's experiment related to flatulence was...

- A. A pill capable of suppressing both the smell and sound of flatulence.
- B. A flatulence-odor-suppressing pill that was considered

ridiculous.

- C. A flatulence-sound-suppressing pill that students liked.
- D. An injection that could suppress the smell and sound of flatulence.
- E. James was considered crazy because of his experiments.

Answer key: A

Context	Scientific
Content/Domain	Fiction
Grade	Level 6 (Grade XI)
Cognitive Level	Access and Retrieve
Question Form	Complex multiple choice
Competency Details	Find explicit information (who, when, where, why, and how) in a fictional text.

7. James intended to conduct an experiment in the form of an injection to tame wild animals. Which of the following statements from the text are consistent with James's latest experimental plan? (More than one answer is correct.)

No.	Statement	Appropriate	Not appropriate
1.	A wild-animal-taming injection that transforms a fierce lion into a dog that is obedient to its master.		
2.	James took blood from Hachiko's dog breed and mixed it with three chemicals.		
3.	If James's experiment succeeds, there will certainly be no more wild animals in the world.		
4.	James noticed something strange about the smell of his flatulence when he was about to mix the third chemical into his experimental concoction.		

Answer key: The correct statements are numbers (1) and (2).

Context	Scientific
Content/Domain	Fiction
Grade	Level 6 (Grade XI)
Cognitive Level	Interpret and Integrate
Question Form	Complex multiple choice
Competency Details	Infer characters' feelings and traits, as well as other intrinsic elements such as setting and events, based on detailed information in the fictional text.

8. The following statements describe James's character traits. (More than one answer is correct.)

- A. James is dedicated to his profession as a scientist who conducts experiments to produce inventions.
- B. His invention, a pill that suppresses both the smell and sound of flatulence, is liked by students even though it is considered ridiculous.
- C. James is considered crazy because his experiments always seem unclear, such as an injection to tame wild animals.
- D. James's stomach cramps and strange-smelling flatulence when he was about to mix the third chemical into the wild-animal-taming injection were caused by eating the wrong food.
- E. Daniel is James's study partner who helps with the wild-

animal-taming injection experiment.

Answer key:

- A. James is dedicated to his profession as a scientist who conducts experiments to produce inventions.
- B. His invention, a pill that suppresses both the smell and sound of flatulence, is liked by students even though it is considered ridiculous.
- C. James is considered crazy because his experiments always involve things that seem impossible, such as an injection to tame wild animals.
- D. Daniel is James's study partner who helps with the wild-animal-taming injection experiment.

Context	Scientific
Content/Domain	Fiction
Grade	Level 6 (Grade XI)
Cognitive Level	Evaluate and reflect
Question Form	Essay
Competency Details	Assess the use of diction and figurative language (metaphor, analogy, and personification) in a fictional text.

9. Suddenly, just as he was about to mix in the final chemical liquid, he felt stomach cramps, and a small explosion was heard: "bruut!"

The author uses the diction "explosion" to describe the sound of James's flatulence. In this case, the author is analogizing flatulence to an exploding object. Explain.

Answer key: The word "explosion" is commonly associated with a process in which an object is destroyed, produces a

loud sound, and causes harmful effects. Usually, the object is a bomb. The author uses the word "explosion" to compare James's flatulence to a bomb. It produces a very loud sound and has an effect in the form of a strange or unpleasant smell. Thus, analogy is used to describe how "powerful" James's flatulence was at that moment.

Context	Scientific
Content/Domain	Fiction
Grade	Level 6 (Grade XI)
Cognitive Level	Evaluate and reflect
Question Form	Essay
Competency Details	Reflect on, contrast, combine, or integrate the assumptions, ideologies, or values contained in a fictional text to understand the author's perspective.

10. In your opinion, what lesson can we learn from James for our lives?

Answer key: James's dedication as a scientist who continually strives to produce new inventions is worth emulating. Although his inventions may seem unclear, they may still be useful for human life. Moreover, James's perseverance and honesty in conducting experiments to create the work he desires deserve appreciation. He is not ashamed to ask for help from his friend when he faces difficulties.

Discussion

The concept of the test instrument designed by the researcher was subsequently validated by a learning-evaluation expert. Table 4 presents the validation results of the instrument.

Table 4: Validation of the Test Instrument

No.	Aspect Assessed	Indicator	Score	Notes
1.	Alignment with literacy competence	The item measures reading ability	3	The item measures reading ability by asking students to identify information explaining why the United States is perceived as a greedy country. Another note: the statement in answer option (C) regarding the amount of U.S. aid to Israel is not consistent with the information in the first paragraph of the text.
2.	Alignment with L1 level	Measures explicit information	4	The item measures L1 in the literacy framework. Another note: the wording of the keyed option (answer C) is shorter than the distractors (A, B, D, and E), which affects the homogeneity of the answer options.
3.	Alignment with L2 level	Measures inference/integration	3	Why were answer options 3 and 5 not selected as keys by the item developer? Are they not categorized as measuring interpretation and integration competence (L2)? Another note: as an alternative, items at the interpretation and integration level can be directed toward questions that ask test takers to draw conclusions.
4.	Alignment with L3 level	Measures evaluation/reflection	3	This item is categorized as evaluation/reflection. It is suggested that evaluation/reflection focus on the informational content so that the item more deeply measures higher-order thinking (HOT). If the question only asks about source and publication data, it may be less meaningful because the response could be based on assumptions.
5.	Clarity of the stimulus text	The text is clear and relevant	3	The stimulus is clear. However, according to common standards for reading materials in the learning process, the text should ideally avoid elements related to ethnic, religious, racial, intergroup, political, economic (advertising/product), and violence/bullying issues, commonly abbreviated as SARAPEK.
6.	Quality of item language	Not ambiguous	4	The word choices are formal, the spelling is appropriate, and the syntactic structure is logical.
7.	Alignment with item indicators	Aligned with the blueprint	3	Suggestion: item number 5 could measure students' ability to contrast or combine two pieces of information as a form of reflection competence.
8.	Context alignment	Contextualized for students	4	For high school students and Islamic schools, the selected informational text is considered appropriate.
9.	Distractors (answer options)	Function properly	3	Complex multiple-choice items that allow more than one correct answer should be reviewed to ensure that the distractors are not confusing.
10.	Difficulty level	Appropriate for the high school level	4	The topic, language difficulty, and context are appropriate for the high school level.

The validator was asked to assign scores using a Likert scale:

Score	Description
4	Highly appropriate
3	Appropriate
2	Less appropriate
1	Not appropriate

Based on the instrument validation results, items receiving a score of 3 require revision in accordance with the validator's suggestions. Once these revisions have been made, the researcher can proceed to the next stage of the study.

5. Conclusion

The researcher obtained validation results for the test instrument in the form of scores and comments. A score of 3 indicates that the item has not fully complied with the guidelines and needs to be revised based on the comments provided. However, the validation was not yet sufficiently detailed, as each test item should ideally be validated individually. The instrument concept also needs to be validated according to the AKM framework adapted by the researcher in developing the questions. This is necessary to maintain the quality of the items so that they are equivalent to AKM questions. Subsequently, the instrument can be used in the next stage of the study, enabling the research objective to be achieved, namely identifying students' L1–L3 cognitive-level profiles in reading literacy.

References

1. Sani RA. Pembelajaran berorientasi AKM. 1st ed. Jakarta Timur: PT Bumi Aksara; 2021.
2. UNESCO Institute for Statistics. SDG 4 indicators: Metadata and methodology. Montreal, Canada: UNESCO Institute for Statistics; 2019.
3. Tim Substansi Asesmen Akademik. Framework asesmen kompetensi minimum revisi tahun 2023. Jakarta: Pusat Asesmen Pendidikan; 2023. Available from: Repositori Kemendikdasmen
4. Ismail MI. Evaluasi pembelajaran: Konsep dasar, prinsip, teknik, dan prosedur. 1st ed. Depok: Rajawali Pers; 2022.
5. Andikayana IW, Dantes N, Kertih IW. Pengembangan instrumen asesmen kompetensi minimum (AKM) literasi membaca level 2 untuk siswa kelas 4 sekolah dasar. *Indones J Educ Res Eval*. 2021;11(2).
6. Gazali S, Munawir, Ningsih DP, Ardi. Pengembangan instrumen evaluasi literasi membaca siswa sekolah dasar berbasis konteks budaya Nusa Tenggara Barat. *Multidiscip Res J*. 2025;1(2):83–96. doi:10.70716/murej.v1i2.157.

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