



## Analysis of Teacher and Student Understanding of Minimum Competence Assessment (AKM)

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Receive: 10/07/2023

Accepted: 18/08/2023

Published: 01/10/2023

### Abstract

*The aim of this research is to analyze the understanding of teachers and students towards the Minimum Competency Assessment (AKM) as one of the instruments of the National Assessment. The urgency of teachers' and students' understanding of the Minimum Competency Assessment will determine the success of the implementation of new policies in the field of learning evaluation. This research uses a quantitative descriptive approach with a survey method through the distribution of questionnaires in the form of a Google Form to teachers and students of 11th grade at State Senior High School 62 in East Jakarta about the essence, competencies, components, format, and number of questions in the AKM. The collected data is then analysed using descriptive statistical techniques in the form of percentages. The results of this research show that 64.7% of teachers have understood the AKM, while 35.5% of teachers have not understood it. Meanwhile, 66.4% of students have understood the AKM, while 33.3% of students have no understood yet.*

**Keywords:** Teacher, Student, Assessment, Competence, Minimum.

### Introduction

Education is conducted not only to develop character but also to cultivate the potential of learners. The presence of education is expected to equip learners with the skills of learning and innovation (Diah Rusmala Dewi, 2019), the ability to use and leverage technology, media, and information, and life skills to work and contribute to society as Indonesian citizens and global citizens (Lase, 2019).

The current state of education presents a challenge for the government and all education stakeholders, considering the uneven quality and standards of education at various levels across Indonesia (Kurniawati, 2022). Therefore, the government needs to undertake a comprehensive study and implement effective policies to improve the reality of the education system in Indonesia, which lags far behind the education systems of various countries worldwide.

The Ministry of Education and Culture's decision to replace the National Examination with the National Assessment in 2021 is claimed to be an appropriate policy in response to the realities of education and the needs of the job market in the digital era.

According to the results of the Programme for International Student Assessment (PISA) in 2018, published by the Organization for Economic and Cooperation Development (OECD) in 2019, involving 399 educational units with 12,098 students, Indonesia's education performance ranked 72nd out of 78 participating countries. In terms of literacy skills, Indonesian students scored an average of 371 out of the OECD's average score of 487. Meanwhile, in numeracy skills, they scored an average of 379 points out of the OECD's average score of 487. Additionally, in science proficiency, students scored an

average of 389 out of the OECD's average score of 489 (<https://www.kemdikbud.go.id>, 2019)

These findings reveal the undeniable fact that the reading, numeracy, and science literacy of Indonesian students are significantly below the world's average standards. Furthermore, the results of the Indonesia National Assessment Program-me that measures reading, mathematics, and science abilities of elementary school students also indicate concerning outcomes. Nationally, the percentage of students falling into the "below proficiency" category is 77.13% for mathematics, 46.83% for reading, and 73.61% for science (Kemendikbud: Tim Penyusun Renstra, 2014).

Innovation in learning evaluation has become a new policy, transforming the concept of the National Examination into the National Assessment, implemented to assess the input, process, and output of learning in all educational units. The implementation of the National Assessment is expected to provide diverse information about the quality of educational units. Although the National Assessment is "claimed" to be a better replacement for the National Examination, the reality is that many students, parents, teachers, and school principals still feel uneasy about the elimination of the National Examination due to a lack of understanding of the context of the National Assessment, replacing the National Examination, to measure their competence in reading and numeracy literacy.

Therefore, the understanding of teachers and students regarding the essence, types of competencies, various components, formats and number of questions, participants, and the timing of AKM is the key to the successful implementation of the new policy in the field of learning evaluation. Through a profound understanding of AKM, it is expected that the implementation of the National Assessment will be more effective, providing an accurate picture of the level of

literacy and numeracy competencies of students in Indonesia.

## Methods

This research utilizes a quantitative descriptive approach with a survey method through the distribution of questionnaires in the form of *Google Forms* to teachers and 11th-grade students from SMA N 62 in East Jakarta. The type of research is field research, employing a quantitative method to investigate a specific population or sample, namely the teachers and students of SMA N 62 in East Jakarta.

The population in this study consists of 30 teachers and 210 11th-grade students. *The data sample and primary data* source in this study include 17 teachers and 150 11th-grade students who responded and provided answers through the *Google Form*. Secondary data were obtained from literature review sources such as books, journals, articles, magazines, government regulations, and the internet, all related to AKM as one of the main instruments in the National Assessment.

The data collection technique used in this study is the questionnaire method, where respondents are provided with a list of questions, and the researcher expects them to respond to these questions.

In a research study on the readiness for the National Assessment in 2021, it was found that 46.6% of students understood the National Assessment, while 53.2% of students still had a poor understanding of it. This lack of understanding among students was attributed to the fact that educational units had not yet conducted sufficient socialization regarding the implementation of the National Assessment, which consists of three assessment instruments, namely the AKM, character survey, and learning environment survey. On the other hand, the research results for teachers showed that 75% of teachers understood the National Assessment, while 25% of teachers still had not grasped the concept of the National

Assessment (Supriyanto & Rustyawati, 2022).

Furthermore, the research conducted by Fauziah and her team indicated that not all teachers in junior high schools fully understood the AKM. Approximately 12.5% of teachers were unaware of the components of AKM, 62.5% of teachers believed that only reading and numeracy literacy were assessed in AKM questions, and 75% of teachers responded that there were 30 questions for each literacy and numeracy component (Fauziah et al.).

Based on the facts and findings above, it is evident that both teachers and students do not fully understand the AKM as part of the National Assessment. Teachers play a crucial role in the effective implementation of AKM. Their understanding and competence in AKM are vital to provide holistic understanding to students in participating in the assessment activities, especially in answering AKM-related questions

Meanwhile, students, as the subjects taking the AKM, need to be prepared and understand that AKM is part of the questions in the questionnaire are based on the indicators of the variables and are answered by choosing one of the provided multiple-choice alternatives. The researcher presents a set of questions accompanied by four answer options in the form of multiple-choice to measure the understanding of the respondents (teachers and 11th-grade students from SMA N 62 in East Jakarta) regarding AKM as one of the main instruments of the National Assessment. The questionnaire's scheme on the understanding of teachers and students is presented in Table 1 and Table 2 as follows:

Tabel 1. Teacher's understanding of AKM

No	Questions
1	What do you know about National Assessment?
2	Are you familiar with the participants of the National Assessment?

- 3 What do you know about the instruments used in the National Assessment?
- 4 What do you know about the competencies assessed in the AKM?
- 5 What do you know about Reading Literacy Competency?
- 6 What do you know about Numeracy Competency?
- 7 What do you know about the components of AKM?
- 8 What are the components of reading literacy content included in AKM that you know about?
- 9 What are the components of numeracy content included in AKM that you know about?
- 10 What are the components of reading and numeracy literacy context included in AKM that you know about?
- 11 What are the components of the cognitive level of literacy included in AKM that you know about?
- 12 What are the components of the cognitive level of numeracy included in AKM that you know about?
- 13 What do you know about the various forms of items used in AKM?
- 14 How many items are there in AKM for 11th-grade students, as far as you know?

Table 2. Students' understanding of AKM

No	Questions
1	What do you know about the National Assessment?
2	What instruments do you know of for the National Assessment?
3	What competencies are assessed in the AKM that you know of?
4	What do you know about Reading Literacy?
5	What do you know about Numeracy Competency?

The data obtained is analysed using descriptive statistical techniques to summarize and understand the data in a simpler and more easily understandable

statistical form. The data is organized, calculated, and presented in the form of tables using percentage formulations.

## Results and Discussion

Based on the data collected through the distribution of a *Google Form* regarding the understanding of AKM among teachers and 11th-grade students at SMA N 62 East Jakarta, findings were obtained for two groups: the teacher group and the student group.

In the teacher group, 14 questions related to AKM were presented, and the responses varied according to their understanding. Meanwhile, in the student group, 5 questions were presented with diverse answers reflecting their comprehension of AKM.

### Teacher's Group

In the the survey data on teachers' understanding of National Assessment revealed the following facts : 11.8% of the teachers chose answer A, which states that National Assessment is a program to evaluate the quality improvement of learning in all educational units. Another 11.8% of the teachers chose poin C, which states that National Assessment is a program to evaluate the quality improvement of learning in all educational units. The majority, 76.5% of the teachers, chose answer D, which states that National Assessment is a program to evaluate the quality improvement of education that refers to the input, process, and learning outcomes at all levels of education, as shown in figure 1.1 below:

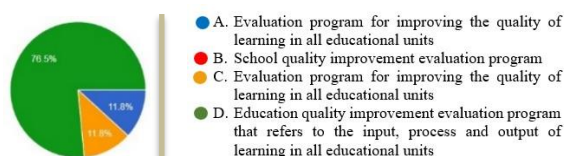


Figure 1.1. *Teacher's Understanding of National Assessment.*

The findings indicate that the majority of teachers have a holistic understanding of the national assessment as a program to evaluate

the improvement of learning quality and education quality, referring to the input, process, and learning outcomes at all levels of education, as reflected in option (D) selected by 13 individuals or 76.5% of the teachers. Meanwhile, 23.5% or 4 teachers are considered not to have a deep understanding.

Teachers understanding of the National Assessment is crucial as it serves as the gateway to understanding AKM. According to Pellegrino, assessment in the learning process is a crucial element to gather data and information related to the learning process (Pellegrino, 2014). Thus, assessment can be seen as a measuring tool used by educators to determine students' developmental levels during the learning process. Therefore, the assessment system should be well-designed to provide information and systematically map the progress of learning.

Kemendikbud on its official website explains that the National Assessment is an evaluation program conducted to improve the quality of education, focusing on the input, process, and learning outcomes in all educational units, including schools, madrasahs, and equivalency programs at the primary and secondary levels (Novita et al., 2021). Thus, an ideal national assessment system should be designed and implemented continuously, not merely to document students' abilities and what they can do but also to observe how the learning process unfolds to achieve the intended learning objectives.

The survey data on teachers' understanding of students who will participate in the AKM revealed the following facts: 17.6% of the teachers chose answer A, which includes students from grades 6, 9, and 12. Meanwhile, 70.6% of the teachers chose answer B, which includes students from grades 5, 8, and 11. Additionally, 11.8% of the teachers chose answer C, which includes students from grades 4, 8, and 11. These percentages are presented in Figure 1.2 below:

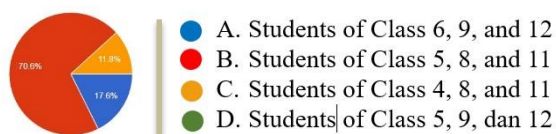


Figure 1.2. *Teacher's Understanding of National Assessment Participants.*

These findings show that 70.6% of the teachers correctly understand that the participants of the National Assessment are students from grades 5, 8, and 11. However, 11.8% of the teachers misunderstood the participants of the National Assessment by including students from grade 4 in their answer. Additionally, 17.6% of the teachers lacked accuracy in understanding the participants of the National Assessment, as they mentioned students from grades 6, 9, and 12, similar to the participants of the National Exam.

According to the regulations from the Kemendikbud, the implementation of the National Assessment is carried out in the middle stages of education, involving students from grade 5 in elementary schools (SD/MI), grade 8 in junior high schools (SMP/MTs), and grade 11 in senior high schools (SMA/SMK/MA), randomly selected.

Not all students at these grade levels participate in this assessment, unlike the National Exam, which is taken by all students and conducted at the end of their respective education stages. This approach is implemented to provide time and opportunities for schools and teachers to make improvements before students graduate, without using it as a selection tool for students. This helps to reduce psychological and mental pressures on children and parents that often arise during the National Exam implementation.

The survey data on teachers' understanding of the instruments used in the National Assessment reveals the following: 11.8% or 2 teachers chose answer A, which includes AKM and Learning Environment Survey. Meanwhile, 88.2% or 15 teachers chose answer D, which includes AKM,

Character Survey, and Learning Environment Survey. These percentages are presented in Figure 1.3 below:

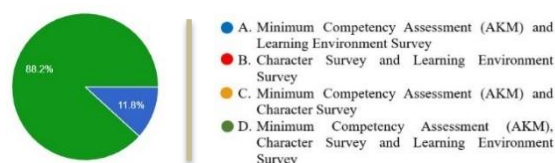


Figure 1.3. *Teacher's Understanding of National Assessment Instruments.*

The survey findings depict that a significant number of teachers, 88.2%, have understood the question correctly by selecting the appropriate answer in option D, which includes AKM, Character Survey, and Learning Environment Survey as the main instruments of the National Assessment. However, 11.8% of the teachers have not fully grasped the main instruments of the National Assessment and perceive it only as AKM and the Learning Environment Survey.

The existence of the National Assessment is closely tied to the AKM, which is one of the forms of instruments used in the National Assessment, replacing the National Exam (Heti Aisah et al., 2021). The Ministry of Education and Culture states that the national assessment serves as a means to obtain information about the quality of educational units through three main assessment instruments as follows:

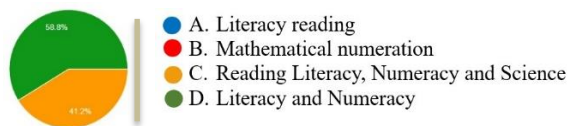
1. *AKM*, which measures competencies based on reading literacy and numeracy of students.
2. *Character Survey*, which measures students' attitudes, values, beliefs, and habits, reflecting their character. The Character Survey is used to assess emotional learning outcomes embodied in the Pancasila Student Profile, ensuring that Indonesian students have global competencies and behave in accordance

with Pancasila values (Kiriana & Widiasih, 2023).

3. *Learning Environment Survey*, which measures the quality of various aspects of inputs and learning processes at both classroom and school levels. The Learning Environment Survey involves all educational stakeholders, including school principals, teachers, and students. It aims to gather information about the actual condition of the school (Pusat Asesmen dan Pembelajaran Kemendikbud, 2020).

The survey data on teachers' understanding of the competencies assessed in the AKM reveals the following: 41.2% of the teachers chose answer C, which includes reading literacy, numeracy, and science as the competencies assessed in AKM. Meanwhile, 58.8% of the teachers chose answer D, which includes reading literacy and numeracy as the competencies assessed in AKM.

These percentages are presented in Figure 1.4 below:



Picture 1.4. *The teachers' understanding of the competencies assessed in the AKM*

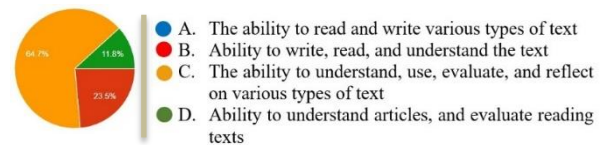
The findings depict that the teachers' understanding of the competencies to be assessed in the AKM is not significantly widespread, with only 58.8% of teachers answering correctly. Meanwhile, 41.2% of teachers still have a limited understanding as they included "science" as a competency, which is not part of AKM.

AKM is a tool used to measure students' basic competencies. The subjects tested in AKM consist of language (literacy), mathematics (numeracy), and the strengthening of character education (Martiyono et al., 2021). The language (literacy) and mathematics (numeracy) questions in AKM are based on the Programme for International Student Assessment (PISA) (Hasanah et al., 2021), which is used to

measure cognitive learning outcomes, including reading literacy and numeracy literacy.

To ensure accurate assessment results and a clear understanding of the competencies to be measured, it is essential to provide teachers with proper guidance and training regarding the content and scope of AKM. This will enable educators to align their teaching strategies with the assessment objectives and better prepare students for the evaluation of their core competencies.

The survey data on teachers' understanding of literacy competencies assessed in the AKM reveals the following: 23.5% of the teachers chose answer B, which includes the ability to write, read, and comprehend texts. 64.7% of the teachers chose answer C, which includes the ability to understand, use, evaluate, and reflect on various types of texts. 11.8% of the teachers chose answer D, which includes the ability to comprehend articles and evaluate reading texts. These percentages are presented in Figure 1.5 below:



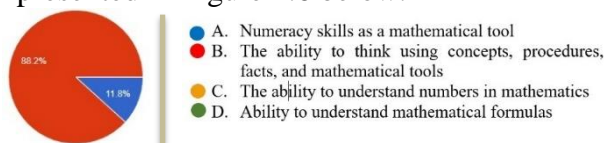
Picture 1.5. *The teachers' understanding of the Literacy*

The findings indicate that not all teachers have a comprehensive understanding of literacy competencies as the ability to understand, use, evaluate, and reflect on various types of texts, which was correctly chosen by 64.7% of the teachers. Meanwhile, 35.3% or 6 teachers still lack a complete understanding of this concept.

The Ministry of Education and Culture's Assessment and Learning Center explains that in the context of reading literacy, students are expected to have the ability to read, write, and process information, and the knowledge they possess should be applicable in their daily lives (Pusat Asesmen dan Pembelajaran Kemendikbud, 2020).

Literacy goes beyond mere reading and writing; it encompasses critical thinking skills and the ability to utilize various forms of knowledge sources, be it in print, visual, or digital formats (Rohim & Rahmawati, 2020). Based on the findings, it is evident that some teachers still understand literacy competencies as merely the ability to write and comprehend texts or articles.

The survey data on teachers' understanding of numeracy competencies assessed in the AKM reveals the following: 11.8% of the teachers chose answer A, which includes mathematical tools as the competency being assessed in AKM. Meanwhile, 88.2% of the teachers chose answer B, which includes the ability to think using mathematical concepts, procedures, facts, and tools as the competency being assessed in AKM. These percentages are presented in Figure 1.6 below:

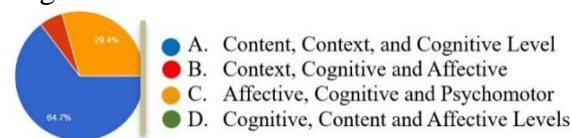


Picture 1.6. *The teachers' understanding of the Numeracy*

The findings indicate a significant number of teachers who understand the essence of numeracy competencies as the ability to think using mathematical concepts, procedures, facts, and tools, which accounts for 88.2% or 15 teachers. However, there is still a minority of 11.8% or 2 teachers who have not fully grasped the concept and perceive numeracy solely as the ability to perform calculations using mathematical tools.

Although numeracy is closely related to mathematics, it goes beyond simple calculations. It involves the ability to understand numbers and their applications. Numeracy competencies encompass the ability to think using mathematical concepts, procedures, facts, and tools to solve various complex problems that students encounter in their daily lives (Pusat Asesmen dan Pembelajaran Kemendikbud, 2020).

The survey data on teachers' understanding of the components of the AKM reveals the following: 64.7% of the teachers chose answer (A), which includes content, context, and cognitive level as the components of AKM. 5.9% of the teachers chose answer (B), which includes context, cognitive, and affective components. Meanwhile, 29.4% or 5 teachers chose answer (C), which includes affective, cognitive, and psychomotor components. No teachers chose answer (D) as shown in Figure 1.7 below:



Picture 1.7. *The teachers' understanding of Componen in the AKM*

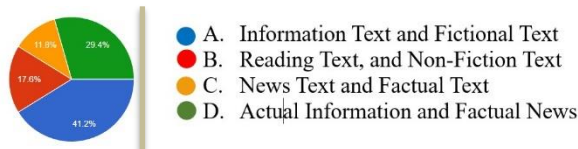
From the data, it can be observed that the majority of teachers (64.7%) correctly understand that the components of AKM include content, context, and cognitive level. However, there is a smaller percentage who identified other combinations of components as part of AKM, such as context, cognitive, and affective components (5.9%), and affective, cognitive, and psychomotor components (29.4%). No teachers chose answer (D) as a combination of components.

AKM consists of three essential components that represent the understanding of reading literacy and numeracy. These components of AKM are content, context, and cognitive level. Additionally, the questions used in AKM are expected to measure these components.

The inclusion of these components ensures a comprehensive assessment of students' reading literacy and numeracy skills. The content component focuses on the specific knowledge and skills related to reading and numeracy that students are expected to possess. The context component considers the real-life situations and contexts in which students apply their reading and numeracy abilities. Lastly, the cognitive level component delves into the depth of

thinking and understanding required to demonstrate proficiency in reading and numeracy.

The survey data on teachers' understanding of the content components of literacy in the AKM shows varied responses as follows: 41.2% of the teachers chose answer A, which includes information and fiction texts as the content components of literacy in AKM. 17.6% of the teachers chose answer B, which includes reading texts and non-fiction texts. 11.8% of the teachers chose answer C, which includes news texts and factual texts, 12.5% of the teachers chose answer D, which includes current information and factual news. These percentages are presented in Figure 1.8 below:



Picture 1.8. *The teachers' understanding of the Content Component of Literacy*

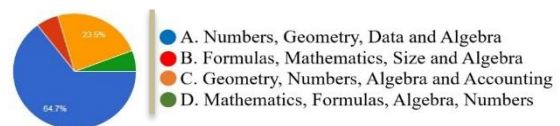
The findings from the survey provide valuable insights into the current reality of the lack of understanding among teachers regarding the content components of literacy in AKM. In fact, only 41.2% or 7 teachers correctly identified that the literacy component consists of information texts and fiction texts, indicating their understanding. On the other hand, a larger proportion of teachers, amounting to 58.8% or 10 teachers, still lack a comprehensive understanding of this aspect.

The content components in the context of reading literacy primarily encompass various types of texts used, namely: 1) Information texts, which aim to provide facts, data, and information, particularly for the development of insights and scientific knowledge; 2) Fiction texts, which aim to provide entertainment, stories, and reflections for readers.

This indicates that more efforts are needed to enhance teachers' understanding of the content components of literacy in AKM. Clear and targeted training programs

or professional development sessions may be beneficial to equip teachers with the necessary knowledge and skills to accurately assess students' literacy abilities across different types of texts. By improving teachers' comprehension, the AKM assessment process can become more effective in evaluating students' literacy competencies and supporting their overall learning progress.

The survey data on teachers' understanding of the content components of numeracy in the AKM shows the following results: 64.7% of the teachers chose answer A, which includes numbers, geometry, data, and algebra as the content components of numeracy in AKM. 5.9% of the teachers chose answer B, which includes formulas, mathematics, measurements, and algebra. 23.5% of the teachers chose answer C, which includes geometry, numbers, algebra, and accounting. 5.9% of the teachers chose answer D, which includes mathematics, formulas, algebra, and numbers. These percentages are presented in Figure 1.9 below:



Picture 1.9. *The teachers' understanding of the Content Component of Numeracy*

The findings from the questionnaire survey reveal that teachers still have varied understanding of the content components of numeracy in AKM. Out of the respondents, 11 teachers (64.7%) correctly identified the content components of numeracy, which include numbers, geometry, data, and algebra. However, there are still 6 teachers (35.3%) who have not fully grasped the content components of numeracy.

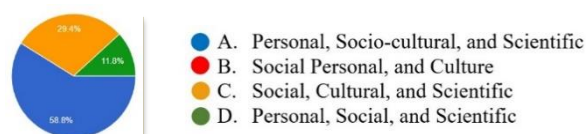
The content components of numeracy primarily emphasize the following skills: a) *Numbers*: This involves the ability to understand and work with various types of numbers, such as counting numbers, whole numbers, fractions, or decimals, including their representations and properties; b)



*Measurement and Geometry:* This encompasses the ability to recognize plane shapes, use volume and surface area in everyday life, and understand measurements of length, weight, time, volume, and area using standard units; c) *Data and Uncertainty:* This refers to the ability to comprehend, interpret, and present data as well as the concept of probability and uncertainty; and d) *Algebra:* This includes the ability to work with equations and inequalities, understand relations and functions (including number patterns), and solve problems involving ratios and proportions.

By understanding these specific content components, teachers can better design assessments that cover a comprehensive range of numeracy skills for students. Targeted professional development and training programs can help bridge the knowledge gap among teachers and ensure a more standardized approach to evaluating students' numeracy competencies in AKM. Ultimately, improving teachers' understanding of these components can lead to more accurate and meaningful assessments of students' mathematical abilities.

The data from the questionnaire on teachers' understanding of the context components of literacy and numeracy in AKM indicates that 58.8% of teachers chose answer A, which includes personal, social, cultural, and scientific contexts. Meanwhile, 29.4% of teachers selected answer C, which comprises social, cultural, and scientific contexts, and 11.8% of teachers chose answer D, which includes personal, social, and scientific contexts, as shown in figure 1.10 below:



Picture 1.10. *The teachers' understanding of the Context Component of Literacy and*

### Numeracy

The findings from this questionnaire indicate that the teachers' understanding of the context components of literacy and numeracy in AKM, which include personal, social, cultural, and scientific contexts, is not significantly high. Only 10 individuals (58.8%) provided the correct answers, while 7 individuals (41.2%) did not answer accurately, indicating a lack of understanding.

The context components of AKM are closely related to the aspects of life or situations relevant to the content being used. The context components for literacy and numeracy can be divided into three categories: personal, social-cultural, and scientific, as follows: a) *Personal context* is related to personal interests and concerns. b) *Social-cultural context* is associated with interpersonal interests, cultural aspects, and societal issues. c) *Scientific context* is connected to scientific issues, activities, and factual information, both past and futuristic.

Enhancing teachers' understanding of these context components can contribute to more effective and accurate assessments in AKM, as they will be better equipped to design assessments that align with real-life situations and contexts, leading to a more comprehensive evaluation of students' literacy and numeracy competencies.

The data from the questionnaire on teachers' understanding of the cognitive level components of literacy in AKM shows that 58.8% of teachers chose answer A, which includes finding information, interpretation, integration, evaluation, and reflection. Meanwhile, 29.4% of teachers selected answer B, which comprises finding information, providing interpretation, and conducting integration, and 11.8% of teachers chose answer C, which includes finding interpretation, being able to integrate, and conducting reflection. There were no teachers who chose answer D, as shown in Figure 1.11 below:



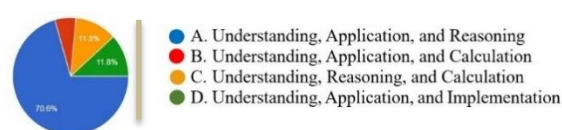
Picture 1.11. *The teachers' understanding of the cognitive level components of literacy*

The findings from the questionnaire indicate that teachers' understanding of the cognitive level components of literacy in AKM, which include finding information, interpretation, integration, evaluation, and reflection, is still not significant, as only 58.8% of teachers provided the correct answers. Meanwhile, almost half of the teachers, comprising 41.2%, provided varying responses, indicating that they have not fully grasped the concept. The cognitive level components are related to the thinking skills required by students to solve problems or answer questions. The cognitive level components of literacy can be divided into three levels, which are as follows: a) *Finding information*: This includes the ability to search for, access, and discover explicit information from discourse; b) *Interpretation and integration*: This involves the ability to comprehend implicit or explicit information, combine interpretations across different parts of the text to make inferences; and c) *Evaluation and reflection*: This encompasses the ability to assess the credibility, appropriateness, and reliability of the text and to connect the content of the text with external contexts.

To enhance teachers' understanding of these cognitive level components of literacy in AKM, targeted professional development and training sessions can be provided. By equipping teachers with accurate knowledge and insights into these components, the assessment process can become more effective in evaluating students' literacy competencies and ensuring a comprehensive evaluation of their thinking abilities in various aspects of literacy.

The data from the questionnaire on teachers' understanding of the cognitive level components of numeracy in AKM shows that 70.6% of teachers chose answer A, which includes understanding,

application, and reasoning as the cognitive level components of numeracy. Meanwhile, only 5.9% of teachers selected answer B, which includes understanding, application, and calculation. In addition, 11.8% of teachers chose answer C, which includes understanding, reasoning, and calculation, while another 11.8% of teachers chose answer D, which includes understanding, application, and reasoning, as shown in Figure 1.12 below:



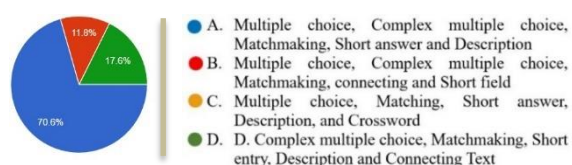
Picture 1.12. *Teachers' understanding of the cognitive level components of numeracy*

The findings of this questionnaire indicate a significant understanding among teachers, which is 70.6%. This means that 12 teachers have a good understanding of the cognitive level components of numeracy in AKM, as they provided the correct answer by choosing option A, which includes understanding, application, and reasoning. However, there are still 5 teachers (29.4%) who have not fully grasped the cognitive level components of numeracy accurately.

The cognitive level components of numeracy refer to the ability to comprehend, apply, and reason about mathematical concepts. The components in the cognitive level of numeracy consist of: a) Understanding, which involves the ability to comprehend facts, procedures, and mathematical tools; b) Application, which refers to the ability to apply mathematical concepts in real-life situations that are routine in nature; and c) Reasoning, which means reasoning with mathematical concepts to solve non-routine problems.

The data from the questionnaire regarding teachers' understanding of various types of test items in Classroom-Based Assessment (AKM) indicates that 70.6% of teachers chose option A, which includes multiple choice, complex multiple choice,

matching, short answer, and essay questions. 11.8% of teachers selected option B, which includes multiple choice, complex multiple choice, matching, connecting, and short answer questions. Meanwhile, 17.6% of teachers opted for option D, which consists of complex multiple choice, matching, short answer, essay, and text continuation, as shown in Figure 1.13 below.



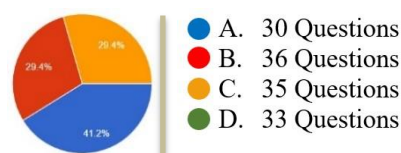
Picture 1.13. Teachers' understanding of various types of test items

The findings from this questionnaire show a significant number of 12 teachers (70.6%) who have understood the various types of test items in Classroom-Based Assessment (AKM) by selecting option (A), which includes multiple choice, complex multiple choice, matching, short answer, and essay questions. Meanwhile, there are 29.4% who have not yet fully grasped the concepts.

Classroom-Based Assessment (AKM) is one of the instruments used in the National Assessment, presented in the form of questions or items similar to those in the National Examination (UN). The types of test items in AKM are presented in five forms as follows: a) *Multiple Choice*: Participants can only choose one correct answer for each question; b) *Complex Multiple Choice*: Participants can select more than one correct answer for each question; c) *Matching*: Participants can answer by drawing lines from one point to another, matching the question with its corresponding answer; d) *Short Answer*: Participants can respond with numbers, words to name objects, places, or other definite answers; and e) *Essay*: Participants will answer questions with sentences,

providing explanations for their answers.

The data from the questionnaire regarding teachers' understanding of the number of test items in Classroom-Based Assessment (AKM) shows that 41.2% of teachers chose option (A) with 30 test items, 29.4% of teachers selected option (B) with 36 test items, and another 29.4% chose option (C) with 35 test items, as shown in Figure 1.14 below;



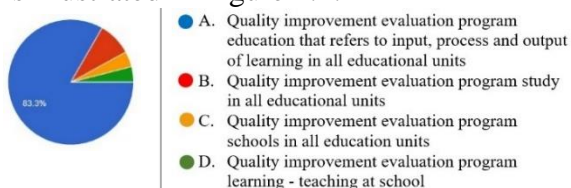
Picture 1.14. Teachers' understanding of the number of test items

The findings from this questionnaire indicate a lack of understanding among teachers regarding the number of test items in Classroom-Based Assessment (AKM) for 11th-grade students. Only 29.4% or 5 teachers chose the correct answer, which is 36 test items, while 70.6% or 12 teachers selected an incorrect answer, indicating a lack of comprehension.

In reality, the number of test items in AKM varies based on the educational level or grade. For 5th-grade elementary students, there are 30 test items, including literacy and numeracy questions. Meanwhile, for 8th-grade and 11th-grade students, there are 36 test items that are administered adaptively, meaning they are adjusted according to each student's ability. This adaptive approach ensures that each student receives questions suitable for their level of proficiency. If a student struggles with a particular question, easier questions will be given, and if they answer correctly, more complex questions will follow. The progressive difficulty levels in AKM questions are designed to engage and provide an enjoyable assessment experience for the students.

### The Group of Students

The data from the questionnaire regarding students' understanding of the National Assessment indicates that: 83.3% of students chose option A, which states that the National Assessment is a program for evaluating the quality improvement of education that refers to the input, process, and learning output in all educational units; 8.7% of students chose option B, which states that the National Assessment is a program for evaluating the improvement of learning quality in all educational units; and 4% of students chose option C, which states that the National Assessment is a program for evaluating the improvement of school quality in all educational units; 4% of students chose option D, which states that the National Assessment is a program for evaluating the improvement of teaching and learning quality in schools. The information is illustrated in Figure 2.1.



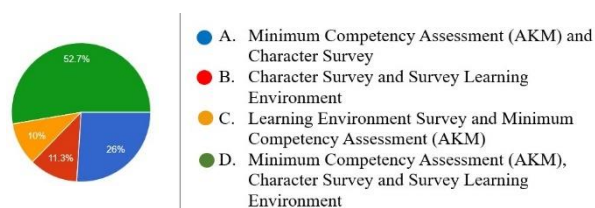
Picture 2.1. *The Students' understanding toward National Assessment*

Based on the findings from the questionnaire on students' understanding of the National Assessment, it is evident that a significant number of students have a good grasp of the concept. Approximately 83.3% or 125 students have demonstrated an understanding of the National Assessment as a program for evaluating the quality improvement of education, focusing on input, process, and learning output in all educational units. On the other hand, 16.7% or 25 students are considered to have not yet fully understood the concept of the National Assessment.

The National Assessment serves as an essential tool for measuring the quality of learning that students have undergone. The

data obtained from this assessment can be used to make decisions about teaching content and methods, classroom atmosphere, and grading (Brown, 2019). According to Wiliam and Baird, assessments should measure students' progress over time, and to provide a complete picture of their progress, observations over time must be conceptually connected so that changes can be observed and interpreted (Baird et al., 2017), (Wiliam, 2011). In summary, the National Assessment is a crucial tool in educational evaluation, helping educators make informed decisions to improve the overall quality of education.

The data from the questionnaire regarding students' understanding of the main instruments in the National Assessment indicates the following: 26% of students chose option A, which includes AKM (Classroom-Based Assessment) and character surveys; 11.3% of students chose option B, which includes character surveys and learning environment surveys; 10% of students chose option C, which includes learning environment surveys and AKM (Classroom-Based Assessment); and 52.7% of students chose option D, which includes all three instruments: AKM (Classroom-Based Assessment), character surveys, and learning environment surveys. The information is illustrated in Figure 2.2.



Picture 2.2. *Students' understanding of the instruments in the National Assessment*

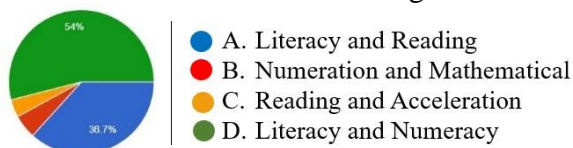
The findings from the questionnaire on students' understanding of the instruments in the National Assessment depict a diversity in students' comprehension. Only 52.7% or 79 students fully understood the main instruments, while 47.3% or 71 students did not have a complete understanding of the instruments used in the National

### Assessment.

AKM organized by the government through the Ministry of Education and Culture, aims to enhance students' knowledge by fostering problem-solving skills through reasoning methods, rather than mere rote memorization. Additionally, AKM encourages innovative learning processes to improve students' reasoning abilities, emphasizing literacy and numeracy competencies. The assessment also serves to gather information for evaluating the quality of education in a particular region (Pusat Asesmen dan Pembelajaran Kemendikbud, 2020).

The fact that a considerable portion of students has not fully grasped the main instruments in the National Assessment highlights the importance of continuous efforts to improve communication and understanding regarding the assessment process. It also underscores the significance of implementing innovative and comprehensive educational approaches to foster a deeper comprehension of the assessment's objectives and benefits for students' learning and development.

The data from the questionnaire regarding students' understanding of the competencies assessed in AKM indicates the following: 36.7% of students chose option A, which includes literacy and reading skills; 53.3% of students chose option B, which includes numeracy and mathematics skills; 4% of students chose option C, which includes reading skills and acceleration; and 54% of students chose option D, which includes literacy and numeracy skills. The information is illustrated in Figure 2.3.



Picture 2.3. *Students' understanding of the competencies assessed in AKM*

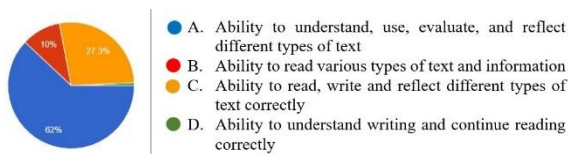
The findings from the questionnaire on students' understanding of the competencies assessed in AKM reveal that there is still a lack of significant understanding among students. Only 54% or 81 students provided the correct answer by choosing option D, which includes both literacy and numeracy. On the other hand, 46% of students still do not fully understand the assessed competencies.

A noteworthy observation from the results is that a considerable number of students (36.7% or 55 students) are yet to comprehend the importance of literacy and reading skills, and 5.3% have not grasped the link between numeracy and mathematics. Additionally, 4% of students are considered not to understand the competencies assessed in AKM.

It is essential to emphasize that AKM specifically aims to enhance students' reasoning abilities by harnessing the power of literacy and numeracy, along with fostering character education. However, it should be noted that the results of AKM should not solely serve as a measure of individual student success (Sari & Sayekti, 2022), as AKM is also related to the overall quality of schools and education. The test items in AKM present problems in various contexts (Winata et al., 2021), which are expected to be successfully addressed by students using their literacy and numeracy skills.

Moreover, through the assessment of literacy and numeracy, AKM can also enhance High Order Thinking skills (HOTs) among students (Natsir & Manaf, 2023). This highlights the broader objective of AKM, which goes beyond merely assessing knowledge but also aims to develop critical thinking and problem-solving capabilities among students. To address the understanding gaps identified in the survey, it is crucial to provide appropriate support and interventions to ensure that students improve their comprehension of the assessed competencies in AKM.

The data from the questionnaire regarding students' understanding of the literacy competencies assessed in AKM indicates the following: 62% of students chose option A, which includes the ability to comprehend, use, evaluate, and reflect on various types of texts; 10% of students chose option B, which includes the ability to read various types of texts and information; 27.3% of students chose option C, which includes the ability to read, write, and reflect on various types of texts correctly; and 0.7% of students chose option D, which includes the ability to comprehend writings and connect readings correctly. The information is illustrated in Figure 2.4.



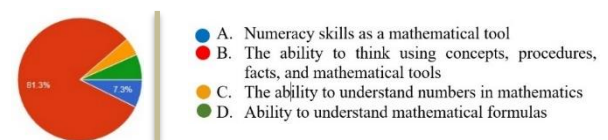
Picture 2.4. *Students' understanding of the literacy competencies*

Exactly, the findings demonstrate the diversity in students' understanding of literacy competencies. It is a factual observation that 62% or 93 students selected the correct option for point (A), which includes the ability to comprehend, use, evaluate, and reflect on various types of texts. However, 38% or 57 students still have misconceptions, perceiving literacy competencies as the ability to read various texts (10%) or 15 students, the ability to read, write, and reflect on readings (27.3%) or 41 students, and the ability to comprehend readings and connect them correctly (0.7%) or 1 student.

This highlights the importance of providing further guidance and clarification to students to ensure that they fully grasp the literacy competencies being assessed in AKM. Teachers and educators can use this information to design targeted interventions and support strategies to enhance students' understanding and preparation for the assessment. By addressing these

misconceptions and strengthening their literacy skills, students can perform better in AKM and develop essential capabilities for effective communication and critical thinking.

The data from the questionnaire regarding students' understanding of the numeracy competencies assessed in AKM indicates the following: 7.3% of students chose option A, which includes the ability to work with mathematical formulas; 81.3% of students chose option B, which includes the ability to think using mathematical concepts, procedures, facts, and tools; 4.7% of students chose option C, which includes the ability to quickly and accurately perform numerical calculations; and 6.7% of students chose option D, which includes the ability to read numbers correctly. The information is illustrated in Figure 2.5.



Picture 2.5. *Students' understanding of the numeracy competencies*

The findings depict a significant number of students (81.3% or 122 students) who have understood the essence of numeracy competencies as the ability to think using mathematical concepts, procedures, facts, and tools. However, there is still a portion of students (18.7% or 28 students) who have not fully grasped the concept, as evidenced by their varied understandings.

Among those who haven't fully understood, 7.3% see numeracy as the ability to work with mathematical formulas as tools, 4.7% or 7 students perceive it as the ability to quickly perform numerical calculations, and 6.7% see it as the ability to read numbers correctly. Both literacy and numeracy are fundamental competencies necessary for all students, from elementary to high school levels, to excel in their learning and contribute to society. Assessing literacy and numeracy can also encourage teachers to focus more on developing critical

thinking skills rather than merely content knowledge. Hence, the implementation of AKM becomes a means to evaluate individual students' achievements and learning outcomes, presenting various problems with different contexts that students are expected to tackle based on their literacy and numeracy skills.

This approach aims to improve the quality of literacy and numeracy among Indonesian students, allowing them to compete effectively with students from around the world in various fields of knowledge. By strengthening literacy and numeracy, students are better equipped to face challenges and excel in their academic journey and beyond

### Conclusion

Asesmen Kompetensi Minimum (AKM) is one of the instruments of National Assessment to measure literacy and numeracy competencies for students in grade 5 (elementary level), grade 8 (junior high level), and grade 11 (senior high level). Literacy competency is understood as the ability to process information and knowledge, while numeracy competency involves the ability to think using mathematical concepts, procedures, facts, and tools. Literacy competency is also interpreted as the ability to read and write.

The research findings revealed an interesting fact that the existence of AKM as a primary instrument in the National Assessment is not fully understood by teachers and grade 11 students at SMA N 62 East Jakarta. From all the questionnaire questions given to teachers and students, the average results showed that 64.7% of teachers have understood AKM, while 35.5% of teachers have not. Meanwhile, 66.4% of students have understood AKM, and 33.3% have not. Therefore, it is necessary to conduct intensive socialization through seminars, workshops, or training for teachers and students about the implementation of AKM.

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