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Teachers' and Students' Understanding and Perception of the National Assessment in Indonesian Elementary Schools: Implications for Learning and Classroom Assessment

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Abstract. Indonesia has recently implemented the National Assessment (*Asesmen Nasional*/AN) to evaluate educational quality by measuring literacy, numeracy, students' character, and the learning environment, without impacting individual student outcomes. This study investigates elementary school teachers' and students' understanding and perception of AN and examines its implications for teaching and classroom-based assessment. A qualitative method with a phenomenological approach was adopted, using semi-structured interviews with 11 teachers and 21 fifth-grade students from six public elementary schools in South Jakarta. The findings indicate that while teachers have a foundational understanding of AN, their interpretations vary, especially regarding its components and objectives. Teachers recognize AN's potential to enhance educational quality but stress the need for adequate infrastructure and pedagogical support. Students show limited understanding and perceive the assessment as low-stakes. The implementation of AN has prompted shifts in instructional practices, particularly in literacy, numeracy, and digital integration. However, challenges include digital literacy gaps, limited device access, and difficulties with higher-order thinking questions. Effective AN implementation relies on stakeholders' readiness, infrastructure equity, and purposeful data utilization to inform learning.

Keywords: National Assessment; Minimum Competency Assessment; Learning; Classroom Assessment; Elementary Schools

1. Introduction

National assessments to evaluate student achievement in core competencies such as literacy and numeracy are a global practice. Even countries with decentralized education systems and high levels of teacher autonomy, such as Finland, have adopted such assessments (Juntunen, 2015). International assessments like the Programme for International Student Assessment (PISA) have further encouraged education systems worldwide to adjust policies and introduce national-level evaluations (Daliri-Ngametua et al., 2024; Imlig & Ender, 2018; Ninomiya, 2016).

In general, educational assessments, whether classroom-based or standardized national assessments, serve three primary functions: improving the quality of learning, evaluating individual student performance, and assessing educational programs (National Research Council, 2001). National assessment data can be utilized across multiple levels, from individual schools to broader policy formulation (Imlig & Ender, 2018). For instance, teachers may leverage national assessment results to enhance instructional strategies (Pitsia et al., 2021), while policymakers can use the data to monitor education system performance and implement reforms aimed at quality improvement (Paget et al., 2016).

Countries vary in how they utilize national assessment data. Some employ it solely for instructional improvement, while others apply it for multiple purposes. For example, Norway and Sweden use national assessment outcomes to improve classroom instruction and maintain education quality control, with Sweden also utilizing results for individual student evaluation (Tveit, 2018).

However, national assessments frequently generate public controversy, particularly when used for high-stakes purposes, potentially leading to unintended consequences like curriculum

narrowing and teaching to the test (Lee et al., 2023; Rose et al., 2018; Tveit, 2013). Indonesia has a long-standing tradition of national assessments, beginning with the End of School Exam (Ujian Penghabisan) from 1950 to 1964, followed by several changes, including the National Final Exam (Ujian Akhir Nasional/UAN) from 2003 and later renamed the National Exam in 2005 (Ujian Nasional/UN) (Center for Education and Policy Studies, 2024). According to the Government Regulation Number 19 of 2005 on National Education Standards, national exam results were used for multiple purposes, such as mapping program quality, student graduation, and school-level intervention. Thus, the results of the UN were used for multiple purposes.

The high-stakes nature of UN led to significant public concern, culminating in a citizen lawsuit filed by 58 individuals in 2006. Between 2015 and 2020, while UN no longer determined student graduation, it continued to be administered. In 2021, it was officially replaced by AN. According to the Regulation of the Minister of Education, Culture, Research, and Technology of the Republic of Indonesia Number 17 of 2021 concerning the National Assessment (Mendikbudristek, 2021), AN is a system-level evaluation tool targeting grades 5, 8, and 11. Unlike the national exam, which was administered at the end of an educational level to determine graduation, the AN is conducted in grades 5, 8, and 11 and does not have consequences for individual students (Center for Assessment and Learning, 2021).

1.1. Problem Statement

The success of national education policy implementation largely depends on its effective translation into classroom practices. For assessment data to meaningfully contribute to improved student learning, it must be appropriately utilized at both school and classroom levels (Schildkamp et al., 2016). Stakeholder perceptions—particularly those of principals, teachers, parents, and students—significantly influence how assessments impact the learning process (Imlig & Ender, 2018).

Teachers play a central role in translating assessment policies into instructional practice. Their understanding and perception of an assessment guide how results are interpreted and used to tailor instruction to student needs (Schildkamp et al., 2016). Similarly, student understanding and attitudes toward assessments can influence their engagement and learning strategies (Nieminen & Atjonen, 2022; Smith et al., 2011). For example, although Australia's NAPLAN is intended as a low-stakes assessment, some students perceive it as high-stakes, affecting their behavior and emotional responses (Howell, 2017).

Despite the policy shift in Indonesia, limited research has examined the implications of the AN for primary education, especially from the perspectives of teachers and students. This study seeks to fill that gap by exploring how teachers and students understand and perceive the AN and how its implementation affects learning and classroom assessment practices.

1.2. Related Research

Early research on the implementation of AN indicated varied understandings of AN among primary school teachers. Some teachers understood AKM, a component of AN, as a replacement for the UN (Nurhikmah et al., 2021; Sari & Sayekti, 2022). In the other hand, a school principal in a primary school in Peukan Pidie, Aceh Province viewed AKM as a policy to assess the national educational quality, not a replacement for the exam due to its different objectives (Iman et al., 2021). Based on interviews, teachers in two primary schools in Boyolali Regency had understood the components of AKM, such as literacy and numeracy and the indicators in the character survey (Kusumaningrum & Abduh, 2022).

Schools had made various efforts to prepare for the implementation of AN, such as organizing socialization activities for teachers (Nurhikmah et al., 2021; Putri et al., 2022), preparing teaching materials, questions, including those measuring higher-order thinking skills, and modules for students (Hanjani et al., 2023) and adjusting learning to the AKM assessment model by providing

teachers with supporting books aligned with AKM (Iman et al., 2021). In preparation for AN, schools also provided additional lessons for students selected to participate in AN by working on AKM questions (Hanjani et al., 2023; Iman et al., 2021; Kusumaningrum & Abduh, 2022; Muliasari et al., 2022). Special preparations for AN also included utilizing AKM questions via the pusmenjar website (Kusumaningrum & Abduh, 2022; Putri et al., 2022). Since not all students were familiar with using computers/laptops, some schools have specifically introduced students to computer operations (Hanjani et al., 2023).

In general, the implementation of AN in schools had proceeded smoothly. However, challenges remained related to the availability and use of information and communication technology, such as insufficient availability of computers/laptops (Berlianto & Pembangunan, 2023; Muliasari et al., 2022; Rigianti & Utomo, 2023), especially in 3T (remote, frontier, and outermost) areas (Kharismawati, 2022; Wuwur, 2023), problematic internet connections (Ahmad, 2022; Kusumaningrum & Abduh, 2022; Widiyanto & Desstya, 2023) , limited teacher and/or student skills in using technology (Iman et al., 2021; Kharismawati, 2022; Wuwur, 2023), and inadequate telecommunications networks in 3T areas, making it difficult to find locations to administer AN (Kharismawati, 2022). Other challenges included the lack of supporting books for AKM (Rigianti & Utomo, 2023), limited teacher ability to develop AKM-related questions (Rigianti & Utomo, 2023), and insufficient socialization (Iman et al., 2021).

Research examining the impact of AN on learning and assessments in primary schools is still relatively limited. The majority of these studies focused on the impact of AKM. For example, based on AKM results reported in educational reports, teachers in one primary school in Karas Subdistrict, Magetan Regency, began attending training sessions to improve the quality of learning (Putri et al., 2022). Teachers began presenting questions in the form of story problems that integrate several topics from the theme books, designed to stimulate critical thinking and problem-solving skills.

The concept of assessments are frequently oversimplified as a dichotomy between internal assessments conducted by educators and external assessments imposed by external bodies such as government agencies or international organizations. This binary perspective fails to acknowledge that assessments occupy a continuum, varying in their alignment with teaching and learning activities (Pellegrino, 2017).

The design of student achievement assessments is largely influenced by the educational framework of each country, as well as by prevailing global assessment trends (Imlig & Ender, 2018). As Baird et al. (2017) assert, while international assessments may not directly impact the manner in which students engage with the content, they do shape educational policy, which in turn dictates the curriculum and instructional methodologies employed in classrooms.

1.3. Research Objectives

This study aimed to explore teachers' and students' understanding and perceptions of the AN and the impact of the implementation of AN on learning and classroom assessments.

2. Theoretical Framework

2.1. Assessment and Learning

Educational assessments profoundly influence the teaching and learning process, playing a pivotal role in determining both the content delivered and the pedagogical approach employed (Baird et al., 2017). The nature of the assessments further shape students' learning approaches, potentially fostering either a surface approach—characterized by a minimalistic engagement aimed solely at fulfilling course requirements—or a deep approach, which is rooted in intrinsic motivation to achieve a comprehensive understanding of the material (Bloxham & Boyd, 2007).

Assessments that emphasize memorization of discrete facts or procedures tend to promote surface learning. In contrast, assessments that require students to synthesize information, recognize patterns, and draw conclusions foster deeper cognitive engagement and integrative understanding (Bloxham & Boyd, 2007). Therefore, the design and intent of assessment tasks have significant implications for learning outcomes.

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2.2. National Assessment in Several Countries

National assessments implemented by educational systems across various countries to collect data on student achievement serve multiple purposes, encompassing both high-stakes and low-stakes objectives. High-stakes assessments, such as graduation examinations at the end of an educational level, carry significant consequences, whereas low-stakes assessments are primarily utilized to enhance instructional practices within the classroom. On a broader scale, data derived from student achievement assessments can be employed to monitor and evaluate the effectiveness of a nation's education system.

Assessment frameworks vary significantly across countries. For instance, Australia conducts the National Assessment Program–Literacy and Numeracy (NAPLAN) annually for all students in grades 3, 5, 7, and 9, specifically to track proficiency in literacy and numeracy (National Assessment Program, 2025). Norway administers a national assessment to evaluate the competencies of students in grades 5 and 8 in English, reading, and mathematics, as well as grade 9 in reading and mathematics, which is mandatory for all students (Tveit, 2013). The United States implements the National Assessment of Educational Progress (NAEP) annually using representative samples of students in Grades 4, 8, and 12 across a broad array of subject (National Center for Education Statistics, 2019). Conversely, Brazil administers the Prova Brasil biennially to assess the achievement of students in grades 4 and 8 in mathematics and Portuguese (Paget et al., 2016).

NAPLAN results are provided to each student who participates in the assessment and may be utilized by parents to track their children's literacy progression and engage in discussions with educators regarding the outcomes (National Assessment Program, 2025)). Additionally, these results serve as supplementary information for teachers to assess students' literacy and numeracy competencies and monitor their academic progress. Education policymakers leverage these results to monitor and evaluate the performance of schools and the overall education system, guiding the development of literacy and numeracy skills and identifying schools requiring additional support. Similarly, Norway's national assessment results are reported on an individual basis, facilitating instructional improvements by educators. At an aggregate level, these results are utilized by policymakers across various levels to conduct comprehensive monitoring and evaluation (Tveit, 2013). In contrast, NAEP does not aim to assess individual student or school performance. Rather, it serves as a tool for tracking national and state-level educational progress (National Center for Education Statistics, 2019). Similarly, the results of Prova Brasil are not intended to assess individual student progress and are not disseminated to all test

participants. Instead, the Brazilian Ministry of Education uses the Prova Brasil results to monitor and evaluate the education system, enabling improvements through data-driven policymaking (Paget et al., 2016).

2.3. National Assessment in Indonesia

Article 2 of the Regulation of the Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia Number 17 of 2021 on National Assessment (Mendikbudristek, 2021) states that the purpose of AN is to measure cognitive learning outcomes, non-cognitive learning outcomes, and the quality of the learning environment in educational units. These are measured using the minimum competency assessment, character survey, and learning environment survey, respectively. During the implementation of AN, students will complete two instruments: the minimum competency assessment and the character survey, while the learning environment survey is completed by school principals and teachers.

The types of questions in AKM vary, including multiple choice, complex multiple choice, matching, short answer, and essay. The scoring for multiple choice, complex multiple choice, matching, and short answer/essay questions is done objectively. The components of AKM are displayed in the table below.

Table 1. The Component of AKM

Reading Literacy	Mathematical Literacy-Numeracy
Content	
Informational text Fictional text	Numbers Geometry Data and Uncertainty Algebra
Cognitive Process	
Finding information Interpreting and integrating Information Evaluating and reflecting on information	Knowing Applying Reasoning
Konteks	
Personal Socio-cultural Scientific	Personal Socio-cultural Scientific

Source: (Center for Assessment and Learning, 2020)

Another instrument is the character survey, which is designed to assess attitudes, values, beliefs, and habits reflecting students' character, based on the Pancasila Student Profile (*Profil Pelajar Pancasila*) (Center for Assessment and Learning, 2021). This profile includes six dimensions: 1) faith and devotion to God Almighty and noble character; 2) global diversity; 3) mutual cooperation; 4) critical thinking; 5) independence; and 6) creativity.

The learning environment survey is used to gather information about the quality of the learning process and the school climate that supports learning. This survey includes 9 dimensions: 1) students' socio-economic background; 2) the quality of classroom learning; 3) teacher reflection and improvement in teaching; 4) instructional leadership; 5) safety climate in educational units; 6) diversity climate in educational units; 7) gender equality climate; 8) inclusivity climate; and 9) parental and student support for the educational unit's programs (Center for Educational Assesment, 2022).

The results of the national assessment are subsequently used as part of the educational evaluation by the Minister of Education (Article 11 Paragraph (3)). The analysis of these results by the Ministry is then communicated to stakeholders at various levels to enhance the quality of learning in educational units and/or evaluate the performance of educational units in their regions (Article 11 Paragraph (4)).

In terms of cognitive learning outcomes, AN is similar to NAPLAN in Australia, as it measures literacy and numeracy competencies. These outcomes differ from the national assessments in Norway and Brazil, which focus on subject-specific competencies. In contrast to NAPLAN in Australia and the national assessment in Norway, which encompass all students within the specified grades, the AN is administered to a randomized sample of students at selected schools. Another notable distinction is that, unlike the assessments in Australia and Norway, the results of AN are not reported at the individual student level but rather at the school level, akin to the Prova Brasil. Despite these procedural differences in the administration of national assessments across the aforementioned countries, the data derived from these assessments, including AN results, are utilized by policymakers at various tiers to implement improvements aimed at enhancing the overall quality of education.

3. Method

3.1. Research Design

This study employed a qualitative method with a phenomenological approach. This approach was used to gather rich data by exploring the experiences, perspectives, and views of both teachers and students regarding AN.

3.2. Participant

The study involved 11 teachers and 21 fifth-grade students from six public elementary schools in Kebayoran Lama District, South Jakarta, who participated in the AN in 2021. The selection of teachers was based on their educational background, certification, and teaching experience. In contrast, the selection of students was based on their participation in the implementation of the AN. To maintain data confidentiality, schools were coded A, B, C, D, and E. Each teacher was assigned a code consisting of the word "Teacher" followed by a number from 1 to 11. The students were assigned a code consisting of the word "Student" followed by a number from 1 to 21.

The distribution of the informants at each school is shown in Table 2.

Tabel 2. Informants by School

School Code	The Number of Informants	
	Teacher	Student
A	2	4
B	2	4
C	1	3
D	2	5
E	2	2

F	2	3
Total	**11**	**21**

The backgrounds of the teachers and students involved were assessed through a questionnaire distributed using Google Forms, which contained information about the participants. The teachers' characteristics were categorized based on gender, age, years of teaching experience, educational background, and certification. The characteristics of the teachers are presented in Table 3.

Tabel 3. Teachers' Characteristics

Variable	Number	Percentage (%)
Gender		
Male	2	18,19%
Female	9	81,81%
Total	**11**	**100%**
Age		
≤ 30 years	-	-
31-40 years	7	63,64%
≤ 41 years	4	36,36%
Total	**11**	**100%**
Teaching Experience		
1-5 years	-	
6-10 years	3	27,28%
>10 tahun yers	8	72,72%
Total	**11**	**100%**
Educational Background		
Bachelor degree in primary teacher education	11	100%
Others	-	-
Total	**11**	**100%**
Teacher Certification		
Yes	11	100%
No	-	-
Total	**11**	**100%**

As presented in Table 3, the majority of the fifth-grade teachers were female, accounting for 81.81%. The largest group of teachers was aged between 31 and 40 years, making up 63.64%. Most teachers had over 10 years of teaching experience (72.72%) and held a bachelor's degree in Primary School Teacher Education (S1-PGSD), with all teachers being certified. The characteristics of the student participants were categorized based on gender, age, and academic achievement. The results of the data collection are shown in Table 4.

Tabel 4. Students' Characteristics

Variable	Number	Percentage (%)
Gender		
Male	13	61,90%
Female	8	38,10%
Total	**21**	**100%**

Age		
11 years	13	61,90%
12 years	8	38.10%
Total	**21**	**100%**

Based on Table 3, the majority of the student participants were male (61.90%), with the remaining 38.10% being female. The most common age among students was 11 years (61.90%), while the remaining students were 12 years old (38.10%).

3.3. Data Collection

Data were collected through semi-structured interviews using a prepared set of questions that were posed to both teachers and students. However, the researcher had the flexibility to explore additional responses from the participants. The questions were designed to investigate the participants' understanding of AN, the implementation of AN in schools, and the impact of AN on teaching and assessment.

Prior to the interviews, the researcher obtained permission from the Sub-District Education Office of South Jakarta to conduct research in several elementary schools. Subsequently, the researcher met with the school principals to schedule interviews with fifth-grade teachers. The interviews were scheduled so as not to disrupt classroom activities, with each session lasting between 30 and 60 minutes. The second author conducted the interviews with the assistance of a research assistant. During the interviews, the second author interviewed the teachers, while the research assistant interviewed the students. With written consent from the participants, the interviews were recorded while ensuring confidentiality.

3.4. Data Analysis

The researcher used Google Docs to transcribe the recorded interviews into written text. The data were then analyzed using typological analysis by categorizing the data based on predefined typologies (Hatch, 2002). For this study, the typology was based on the research questions, including teachers' and students' understanding and perspectives of the AN, its implementation, and its impact on classroom teaching and assessment. Data within each typology were then categorized based on emerging patterns. Data coding and categorization were performed by the first author, second author, and research assistant. The results of the coding and categorization were then discussed to formulate the themes that emerged.

3.5. Validity and Reliability

To ensure the quality of the research, the researcher adhered to alternative perspectives regarding validity and reliability in qualitative research, namely trustworthiness, which includes credibility, transferability, dependability, and confirmability (Daymon & Holloway, 2010). To ensure credibility, the researcher employed data triangulation by involving teachers and students from different schools—11 teachers and 21 students from six public elementary schools in Kebayoran Lama, South Jakarta. Additional efforts to ensure credibility were made through investigator triangulation, involving the first author, second author, and a research assistant in the data analysis process. The analysis results were then compared and discussed to reach a consensus on the identified patterns, categories, and themes. Transferability was achieved by providing a detailed description of the study and comparing it with other research on AN. To ensure consistency and accuracy (dependability), an audit trail was conducted by documenting each stage of the research process, including the participants' data with assigned codes, interview recordings, transcripts, coding, and categorization of data. To ensure that the findings and conclusions align with the study's objectives (confirmability), the researcher ensured that the findings and conclusions were derived from a thorough analysis of the collected data.

4. Findings

The data analysis resulted in five themes: teachers' understanding and perceptions of AN, students' understanding and perceptions of AN, the implementation of AN, the impact of AN on learning, and the impact of AN on classroom assessments.

4.1. Teachers' Understanding and Perceptions of AN

The interview results indicated that most teachers understood the concept of AN, although they used different terminology when defining it, such as "evaluation" and "assessment." Four teachers referred to it as an evaluation, while five teachers referred to it as an assessment. Additionally, two teachers directly linked AN to its perceived purpose, which they understood to be the assessment of students' abilities. Below are some definitions provided by the teachers who used the terms "evaluation" and "assessment":

> "National assessment is an evaluation program organized by the government to improve the quality of education and to capture the input and output of a school." (Teacher 3)

> "National assessment, as far as I know, is a type of assessment conducted by the Ministry of Education to assess the overall quality of an educational unit, both from the students and the learning environment." (Teacher 2)

Additionally, two teachers directly linked the AN's purpose to assessing students' abilities, with one teacher also mentioning its role in reflecting the condition of the school.

Interviews with the teachers also revealed that the majority had a basic understanding of the components of AN, such as AKM, character survey, and learning environment survey, as well as the grade levels involved and the timing of the assessment. However, one teacher only mentioned the components of AKM, specifically literacy and numeracy, without mentioning the character survey and learning environment survey. Another teacher did not know about the components of AN.

Regarding AKM, one of the three components of AN, three of the 11 interviewed teachers stated that AKM measures students' basic competencies in literacy, as illustrated in the following excerpt:

> "Assessment is conducted to measure students' basic competencies. The basic competencies in question are related to literacy, such as reading literacy and numeracy literacy." (Teacher 2)

Three other teachers referred to AKM as an assessment of the basic competencies students should master, without specifying the competencies being measured. Here is a statement representing this understanding:

> "Basic competencies assessment for students, which serves as a source of information to map and evaluate the quality of education in a region." (Teacher 5)

Two teachers only mentioned the acronym AKM without discussing the components of the assessment. One teacher did not specifically mention basic competency measurement but referred to general student learning outcomes. Another teacher stated that AKM requires students to engage in higher-order thinking. Additionally, one teacher linked AKM to its use in mapping school quality:

> "AKM is an assessment conducted to improve the quality of learning, implemented by the government to drive improvements in teaching and learning outcomes." (Teacher 1)

Ten of the 11 teachers interviewed strongly affirmed the necessity of AN. Reasons cited included improving the quality of education, measuring school quality as a basis for follow-up actions,

enhancing education in Indonesia, and evaluating student learning outcomes. Below are some of the teachers' statements:

"Yes, it is essential because national assessment can be used to measure the quality of an educational unit, which will then serve as a reference for follow-up actions to improve the unit's quality and ultimately improve education in Indonesia." (Teacher 2)

"In my opinion, it is necessary to measure, to assess, and to evaluate students' learning outcomes over time, because without AN, we wouldn't know where we stand. Moreover, since the national exams are said to no longer exist, this is crucial." (Teacher 7)

One teacher (Teacher 3) emphasized the importance of understanding the quality of a school compared to others, as this could motivate teachers and other stakeholders to improve learning quality. This view was shared by Teacher 7, who highlighted that AN results could inspire school-wide improvements.

Teacher 6 proposed the importance of implementing AN for all fifth-grade students in elementary schools so that each student has the experience of participating in the assessment. However, this teacher acknowledged that not all schools are equipped to implement AN for all students in the designated grades due to limitations in necessary facilities, such as computers and sufficient internet access.

A notable perspective was shared by Teacher 9, who did not directly express the need for AN but elaborated on the levels at which AN results would be used. In this teacher's view, the government needs AN to map educational quality. After results are obtained, schools can then use AN results to evaluate their performance and identify areas for improvement.

4.2. Students' Understanding and Perceptions of AN

According to the interviews, several students were able to state the full form of AN , the types of questions involved in AKM—literacy and numeracy—and the types of questions, such as multiple choice, complex multiple choice, and fill-in-the-blank. However, some students were unable to recall the full form of AN.

The majority of students viewed AN as an exercise in answering questions using a computer or laptop. Many students also noted that AKM questions were more challenging than those given by their teachers, especially the numeracy questions. However, some students also mentioned difficulties with the reading literacy questions.

When asked about their feelings toward participating in AN, some students expressed positive emotions:

"I'm happy because I received a national-level assessment." (Student 3)

Others were indifferent about their performance:

"If the results are poor, it's no big deal." (Student 13)

4.3. The Implementation of AN

Overall, the interviews indicated that the implementation of AN in the schools that participated in this study went smoothly. Teachers also prepared students for AN. One teacher shared:

"Yes, students were given training, such as special sessions. They were regularly trained with questions that followed the AKM format. The school also provided AKM-related books for students to study, both at home and in school." (Teacher 11)

However, there were some challenges during the process, particularly during the trial runs. The most frequently mentioned issue was related to internet connectivity and server problems.

"Thank God the actual implementation went smoothly, although during the try-out we faced some issues due to slow network speeds and occasional lag." (Teacher 3)

"Technical issues may arise, such as server problems from time to time." (Teacher 10)

"Sometimes there are difficulties. Also, when using computers, the login process can be very slow." (Student 20)

"There was a slow network when logging in, and I had to input a code, but it didn't work." (Student 21)

Another challenge involved students who were not accustomed to using computers or laptops, as not all students owned a laptop at home, and the selection of AN participants was random.

"Perhaps it's due to their learning environment, because not all of them have computers at home, making it a bit awkward. There were difficulties during the tasks since they are not used to using a mouse, and now they have to use one." (Teacher 6)

Teachers also highlighted issues with students' readiness to tackle AKM questions, both in terms of content and question format.

"...The main difficulty is the lack of deeper understanding of numeracy, according to the students. I've also surveyed them about AN, and they faced challenges, especially with numeracy, which involves more word problems." (Teacher 7)

The students also mentioned difficulties with the AKM's HOTS-based questions, especially in numeracy. However, some felt challenged by the complexity of the tasks.

"I feel challenged because the questions are more complex compared to the usual questions." (Student 2)

"I was confused about answering the numeracy questions." (Student 4)

"There were many difficulties, like the math and Indonesian questions, because they were hard to answer. So, I skipped them and then returned to them later." (Student 19

4.4. The Impact of AN on Learning

Although the results of AN had not been obtained at the time this research was conducted, the majority of the teachers participating in the study stated that the implementation of AN had motivated them to enhance literacy and numeracy skills.

"For example, if the learning activities are improved further, literacy—such as reading skills—should be enhanced, and numeracy requires more practice, so it takes more time. It's not just about reading; the students must also comprehend, understand reasoning, and use numeracy beyond simple addition and subtraction. It also needs to be applicable in real-life situations." (Teacher 5)

Most teachers also expressed that they were motivated to further improve the quality of teaching by utilizing student-centered teaching methods.

"The implementation of the national assessment has personally motivated me as a teacher to reintroduce student-centered learning models, which encourage students to be active in learning and stimulate critical thinking throughout the process." (Teacher 2)

Students had varied responses when asked about the differences in learning before and after the implementation of AN. Here are a few student statements:

"There's no difference, it's the same before and after AN." (Student 2)

"It's the same, like speaking in front of the class or being asked to bring a phone and fill out a quiz on Google Forms at school." (Student 9)

"There's no difference, teaching is the same. Some use Quizizz in school." (Student 12)

"We've had practice exercises in class similar to AKM, and they were easier." (Student 8)

Furthermore, teachers began to use technology more frequently in teaching and trained students to use it, such as with mobile phones and laptops.

"There's been a significant change in the use of information technology. Previously, its use was limited, but now we have significantly increased its usage. The percentage of information technology usage has increased from about 40% to 70-80%." (Teacher 3)

"Yes, it has had a significant impact, especially because we now use computers. So the students have no choice but to learn how to use computers themselves, which is now part of the learning process. We're teaching them to use technology, integrating it into learning, not just using textbooks or classroom teaching but also based on technology." (Teacher 4)

Students also stated that their teachers had started incorporating information and communication technology into lessons:

"Usually, we are asked to bring our phones to answer questions using Quizizz or complete tasks on Google Forms." (Student 20)

However, some teachers noted that there was little or no change in their teaching methods. The reasons provided included the fact that AN results had not yet been obtained or that the teaching methods needed for developing literacy and numeracy had already been implemented.

4.6. The Impact of AN on Classroom Assessments

Teachers provided varied responses regarding the impact of AN on classroom assessments. Generally, the changes were moderate, with some teachers stating that there was little or no change at all. Nevertheless, the implementation of the AN has led teachers to reflect on the classroom assessments they conduct and begin making necessary adjustments. For instance, some teachers, after the implementation of AN, focused more on authentic assessments through performance-based evaluations.

"Yes, in assessments, I've made developments and changes because of the national assessment. The assessments I conduct are now more authentic and involve more student performance; it's not just about using textbooks but also evaluating their performance." (Teacher 2)

Teachers also started including questions aligned with AKM standards, both in terms of content that integrates literacy and numeracy and in terms of question format, such as moving beyond simple multiple-choice questions to include complex multiple-choice, fill-in-the-blank, matching, and question creation.

"Now, in the assessment system, when creating questions, we prioritize literacy, and we have modified our questions. We are now more inclined towards HOTS." (Teacher 3)

"When I administered the midterm exam, I included some questions on literacy and numeracy that align with AKM. There were challenges because the students didn't understand the structure of the sentences. I told them that this is part of AKM and they will encounter it later, especially for students who have never participated in AKM. These students had more difficulties, particularly in understanding reading or literacy questions." (Teacher 6)

One teacher also explained the impact of AN through an assessment of attitudes, mentioning that attitude assessment techniques had been added, though they were still in the planning stage.

When asked about changes in the way teachers assess students after the implementation of the national assessment, all the student participants responded that there had been no changes or that things were the same.

> "There's no difference, it's the same." (Student 3, Student 4, Student 8, Student 21)

> "They didn't give questions like the ones in AKM." (Student 5)

5. Discussion

5.1. Teachers' Understanding and Perceptions of AN

The achievement of educational policy goals and programs established by the government in the field of education is also determined by how these policies and programs are understood and interpreted by stakeholders, including teachers and students. In the context of AN, teachers' understanding and attitudes are crucial because they will determine the success of AN in improving education quality in Indonesia through classroom teaching and assessment. According to (Fulmer et al., 2015), the assessment practices employed by teachers in the classroom are influenced by contextual factors at macro, meso, and micro levels. National assessments can be categorized as a macro-level factor influencing meso-level factors, such as education offices and school leaders, which ultimately influence teachers, both directly and indirectly. How teachers interpret the goals of the national assessment will be shaped by micro-level factors, such as their understanding and views of AN, as well as their interactions with students during assessments and teaching.

Interviews with teachers in this study revealed that, in general, teachers possessed basic knowledge about the AN, including its definition, the instruments used (AKM, Character Survey, and Learning Environment Survey), the types of AKM questions, the grade levels involved, and the timing of the assessment. However, teachers' understanding of one component of the AN, namely AKM, varied, with some teachers only able to state its full form. This finding confirms previous research indicating that teachers still lack sufficient understanding of AKM (Kusumaningrum & Abduh, 2022).

The majority of teachers understood that the results of AN are not intended to measure individual student competence but are used to map the quality of schools, which can then be used to improve teaching and learning. This understanding aligns with the explanations in various documents released by the Ministry of Education and Culture regarding the AN (Center for Assessment and Learning, 2021).

The difference in terminology used to define AN, namely "evaluation" and "assessment," is understandable given the close relationship between these concepts, which is why these terms are often used interchangeably (Meylani, 2024). Article 1, Paragraph 1 of the Ministry of Education, Culture, Research, and Technology Regulation Number 17 of 2021 on National Assessment (Mendikbudristek, 2021) states that "one form of evaluation of the education system by the Ministry at the primary and secondary education levels." This definition seems to refer to one of the uses of assessment results, which is for evaluation purposes.

Teachers displayed a positive attitude toward AN, viewing it as necessary for improving education quality, including enhancing classroom teaching. This positive attitude indicates that teachers believe the results of the national assessment can be applied at various levels, from the education system to the classroom. This belief aligns with what is stated in the Ministry of Education, Culture, Research, and Technology Regulation Number 17 of 2021, where the analysis of AN results, as part of the evaluation of the education system by the Minister, will be used by other stakeholders to improve teaching quality and/or evaluate the performance of educational units. This positive attitude corroborates previous research (Kusumaningrum &

Abduh, 2022) showing that teachers are interested in using AKM and character survey results to evaluate the learning process.

5.2. Students' Understanding and Perceptions of AN

Students who participated in this study tend to view the AN as a low-stakes test, as it carries no direct consequences for them. Consequently, many students expressed indifference if they did not achieve favorable results, with some even feeling pleased to have the opportunity to be assessed at a national level. The messages conveyed by the Ministry of Education, Culture, Research, and Technology regarding the purpose of the assessment through various socialization efforts seem to have reached the students. This finding contrasts with a study involving students in grades 3, 5, and 7 in Australia who participated in NAPLAN (Howell, 2017). Although NAPLAN was designed as a low-stakes assessment by policymakers, some students viewed it as a high-stakes test, one that impacted their opportunities to pursue education at their desired schools. Additionally, some students expressed concerns that their assessment results would be compared to those of their peers. The perception among some students that NAPLAN is a high-stakes test appears to be influenced by inconsistencies in the messaging, both from the government, which uses NAPLAN results for accountability purposes, and the media, which often emphasize rankings based on NAPLAN results (Howell, 2017).

5.3. The Implementation of AN

Overall, the findings from the five schools involved in the study, all located in South Jakarta, indicate that the implementation of the AN proceeded smoothly. The readiness of essential infrastructure, such as the availability of laptops/computers and internet access, significantly supported the successful execution of the AN, similar to the implementation in elementary schools in Cluster 7, Tambun District, Bekasi Regency (Kartanti et al., 2024). However, challenges were still encountered due to technical issues, such as slow internet connections or server outages, as seen in other schools (Ahmad, 2022; Putri et al., 2022; Widiyanto & Desstya, 2023)). This contrasts with findings from schools that lacked adequate infrastructure, such as in Tasikmalaya, where some students attended the AN at other, better-equipped schools, or where schools had to purchase additional laptops (Muliasari et al., 2022) Another measure taken to address insufficient laptop availability was for teachers to lend their personal laptops to students to participate in the AN (Berlianto & Pembangunan, 2023). The lack of necessary infrastructure for AN is particularly felt by teachers and students in 3T (remote, frontier, and outermost) areas (Kharismawati, 2022; Wuwur, 2023).

Another issue identified was that some students were not accustomed to using laptops or computers, particularly those from families without access to such devices, which hindered their performance. This phenomenon of students who are unfamiliar with, or have never used, computers or laptops is not exclusive to 3T areas (Kharismawati, 2022; Wuwur, 2023) but is also found in urban schools (Hanjani et al., 2023; Muliasari et al., 2022)). To address this issue, some schools specifically trained students to use these devices (Berlianto & Pembangunan, 2023; Hanjani et al., 2023).

Although AN was designed as a low-stakes test, some schools still prepared students by having them practice with AKM-style questions. This trend was also observed in other schools, where additional study hours were provided (Kusumaningrum & Abduh, 2022; Muliasari et al., 2022; Putri et al., 2022). The Ministry of Education and Culture emphasized through various forums and media that students need not be specially prepared to practice AKM questions, except for basic technical preparations. Furthermore, there are no individual scores for students, teachers, or school principals, nor are there rankings.

Some students in this study encountered difficulties with both literacy and numeracy AKM questions. These findings confirm previous research (Berlianto & Pembangunan, 2023; Sari & Sayekti, 2022) highlighting students' struggles with AKM questions, which were considered

complex and challenging. One reason mentioned by students was the lengthy reading passages (Berlianto & Pembangunan, 2023; Rohmah et al., 2022). AKM questions are designed to assess students' ability to engage in higher-order thinking, making them more complex than typical questions that only measure content mastery. One factor contributing to students' difficulties with higher-order thinking questions is their limited reading comprehension skills (Driana et al., 2021; Nurmawati et al., 2020; Schulz & FitzPatrick, 2016). For example, numeracy questions in AKM contain introductory materials in text and image formats, requiring students to process and interpret information, and to reason using mathematical concepts learned to solve real-world problems in various contexts (Pusat Asesmen dan Pembelajaran, 2020). Many students are still unable to think at the required higher cognitive level, which results in difficulty with numeracy problems designed for the AKM (Rohmah et al., 2022).

5.4. The Impact of AN on Learning

At the time this study was conducted, the teachers involved had not yet received the AN results. However, the implementation of the AN has further raised awareness among the teachers in this study about the importance of developing reading literacy and numeracy. This finding aligns with the research conducted by Kartanti et al. (2024). To enhance students' reading skills, teachers in an elementary school in Boyolali Regency assigned reading homework and summary exercises (Kusumaningrum & Abduh, 2022). Teachers also taught students how to highlight key points in texts.

Teachers also made efforts to improve the quality of their teaching, including by using student-centered learning and employing more diverse teaching methods, such as project-based learning. However, these changes have not yet been fully felt by students, as they are still in the early stages. Teachers' awareness and motivation align with the goal of the AN to provide feedback to educational units for use in improving teaching processes, ultimately aiming to enhance students' character and competencies (Center for Assessment and Learning, 2020).

Another notable outcome observed after the implementation of AN, confirmed by the students, is that teachers have increasingly utilized technology in their teaching, including training students to use it. The five schools in South Jakarta were generally well-equipped with the necessary infrastructure for integrating information and communication technology (ICT) into teaching, although some students from disadvantaged families did not yet have the required devices. The digital divide remains a barrier to the effective use of technology in education (Heeks, 2022; Rodiyah et al., 2023). Furthermore, teachers need to possess digital competencies to appropriately integrate technology into their teaching (Fernández-Batanero et al., 2020) .

Thus far, the message conveyed by the Ministry in various socializations about AN, which is not designed for high-stakes purposes but rather to improve teaching quality, appears to have been well received. Ensuring that AN remains treated as a low-stakes test, with a focus on improving the quality of teaching, must continue to be upheld to avoid the negative consequences observed with large-scale standardized tests in other countries. For example, the shift in teachers' and students' understanding of standardized assessments from being designed as low-stakes tests to high-stakes tests, as seen in Australia, can lead to undesirable consequences, such as curriculum narrowing, with a focus on preparing for NAPLAN through practice questions (Ragusa & Bousfield, 2015).

Furthermore, to ensure that AN contributes to improving classroom learning, teachers must make appropriate use of AN results. Research conducted in Ireland (Pitsia et al., 2021)shows that teachers who have a positive attitude toward standardized testing and have participated in training related to standardized tests are more likely to use the test results to enhance classroom learning. The success of using assessment results to improve teaching quality is also influenced by school characteristics, the teachers' data usage skills, and collaboration (Schildkamp et al., 2016).

5.5. The Impact of AN on Classroom Assessments

Following the implementation of AN, teachers expressed a desire to make changes to classroom assessments by incorporating questions that measure literacy and numeracy, assess higher-order thinking skills, and adopt various question formats, though the degree of implementation varies. For instance, teachers in an elementary school in Boyolali Regency followed up the AN with exercises on multiplication, addition, and division to train students in using mathematical operations, which they completed directly before school ended (Kusumaningrum & Abduh, 2022). However, these questions were not presented in a format that requires reasoning to solve real-world problems using the mathematical concepts learned, which is essential for developing numeracy. Research by Hindriana et al. (2023) involving teachers from elementary and junior high schools in Kuningan Regency showed that teachers still face challenges in creating literacy and numeracy questions and that they are supported through training to develop such questions. As part of the follow-up to AKM results, teachers in an elementary school in Magetan Regency, for example, participated in training to develop literacy and numeracy questions (Putri et al., 2022). Students in that school began to notice changes in the types of questions their teachers gave, which increasingly focused on reasoning to solve every day problems.

In addition to the impact on cognitive assessments, some teachers indicated that they would continue to assess students' attitudes through observation during the learning process as an effort to develop students' character. The AN not only focuses on assessing cognitive aspects through AKM but also evaluates students' character through the character survey and learning environment survey.

6. Conclusion

A proper understanding of the purposes of AN by teachers and students will play a crucial role in achieving AN goals of improving the quality of learning. Moreover, the perception among teachers and students that AN is a low-stakes assessment is a critical foundation that policymakers must maintain to ensure that the results of AN genuinely reflect students' competencies and character, free from manipulation, such as excessive test practice that does not contribute to improving teaching quality. Additionally, the smooth implementation of the AN requires adequate infrastructure, particularly information technology, which must be readily available. Both teachers and students must be equipped with the necessary skills to use these technological tools. To ensure that the results of the AN are effectively utilized, teachers must also be trained to interpret the assessment outcomes and apply them to enhance the quality of teaching and classroom assessment.

Limitation

This study was conducted before the results of AN were announced, meaning that the participating teachers had not yet had the opportunity to use AN results to plan their teaching and assessments. Therefore, the impact of AN on teaching and assessment practices was based solely on the teachers' knowledge and experience of AN. This study also did not explore the affective aspects in greater depth, such as the motivation of teachers and students before and during the implementation of AN.

Recommendation

Further research is needed to understand how schools and teachers utilize AN results to improve the quality of teaching after four years of implementing the AN. Additionally, research should explore the affective aspects of teachers' and students' experiences related to the administration of the AN.

The smooth implementation of AN should be supported by the availability of necessary infrastructure. Moreover, improving teaching quality also requires adequate supporting resources and facilities.

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Conflict of Interest

The Authors declare that there is no conflict of interest.

Declaration of Generative AI-assisted Technologies

This manuscript was prepared with the assistance of Generative AI: ChatGPT, Grammarly, and Turnitin. ChatGPT was utilized to translate well-structured texts from Indonesian into English and to refine the translated content. Grammarly was employed to ensure grammatical accuracy and the overall quality of the texts, while Turnitin was used to assess the level of textual similarity and potential plagiarism. All intellectual contributions, critical analyses, and final revisions were conducted by the authors. The authors take full responsibility for the accuracy, originality, and integrity of the content presented in this work.

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Bukti konfirmasi artikel sudah dikirimkan pada reviewer untuk direview

(28 Maret 2025)

Uhamka
UNIVERSITAS MUHAMMADIYAH PROF. DR. HAMKA

Elin Driana <elin.driana@uhamka.ac.id>

Your submission has been sent for review

Aah Ahmad Syahid <aahpecintajurnal@gmail.com>   Fri, Mar 28, 2025 at 6:59 PM
To: Elin Driana <elin.driana@uhamka.ac.id>

Dear Elin Driana,

I am pleased to inform you that an editor has reviewed your submission, Teachers' and Students' Understanding and Perception of the National Assessment in Indonesian Elementary Schools: Implications for Learning and Classroom Assessment, and has decided to send it for peer review. An editor will identify qualified reviewers who will provide feedback on your submission.

This journal conducts double-anonymous peer review. The reviewers will not see any identifying information about you or your co-authors. Similarly, you will not know who reviewed your submission, and you will not hear from the reviewers directly. You will hear from us with feedback from the reviewers and information about the next steps.

We will consider the reviewers' recommendations before deciding to accept the submission for publication. You may be asked to make revisions and respond to the reviewers' comments before a final decision is made.

Aah Ahmad Syahid

3. Bukti konfirmasi review dan hasil review (20 April 2025)

Uhamka
UNIVERSITAS MUHAMMADIYAH PROF. DR. HAMKA

Elin Driana <elin.driana@uhamka.ac.id>

Your submission has been reviewed and we encourage you to submit revisions

Aah Ahmad Syahid <aahpecintajurnal@gmail.com>   Sun, Apr 20, 2025 at 7:50 AM
To: Elin Driana <elin.driana@uhamka.ac.id>

Dear Elin Driana,

Your submission Teachers' and Students' Understanding and Perception of the National Assessment in Indonesian Elementary Schools: Implications for Learning and Classroom Assessment has been reviewed and we would like to encourage you to submit revisions that address the editor and reviewers' comments. An editor will review these revisions and if they address the concerns adequately, your submission may be accepted for publication.

The reviewers' comments are included in the discussion section. Please respond to each point in the reviewers' comments and identify what changes you have made. If you find any of the reviewer's comments to be unjustified or inappropriate, please explain your perspective.

When you have completed your revisions, you can upload revised documents along with your response to the reviewers' comments at your submission dashboard. If you have been logged out, you can login again with the username elindriana.

We look forward to receiving your revised submission.

Kind regards,

Aah Ahmad Syahid

The following comments were received from reviewers.

Reviewer 1:
Recommendation: Revisions Required

This article contains nearly 10,000 words and spans 22 pages; the author needs to reduce the word count to a maximum of 20 pages, including references.

Reviewer 2:
Recommendation: Revisions Required

MSD MANUSCRIPT REVIEW FORM 2025

Give your rating based on a 1-3 value scale:
1 = No
2 = Inadequate
3 = Yes

Manuscript ID:	190		Date:	12/04/2025
Manuscript Title:	Teachers' and Students' Understanding and Perception of the National Assessment in Indonesian Elementary Schools: Implications for Learning and Classroom Assessment			

ABOUT MANUSCRIPT (Mark with "X" one of the options)	Yes	Inadequate	No
Section 1:			
Title specific, informative, and reflects the contents of the paper.	☒	☐	☐

Number	Suggestions
Etc	

Section 2:	Yes	Inadequate	No
Abstracts clearly presented and contain problems, goals, methods, results, and conclusions. Keywords at least five and represent content.	☐	☒	☐

Number	Suggestions
1	Clarity and Specificity: The abstract effectively summarizes the study, but it could benefit from more specific details regarding the findings. Including key statistics or qualitative insights would enhance its impact.
2	Methodological Insight: Briefly mentioning the qualitative approach and the participant demographics would provide context for the study's scope.
3	Explain the contribution of this research in 1-2 sentences
Etc	

Section 3:	Yes	Inadequate	No
Introduction complemented by the presentation of the research problem, previous research, and research objectives. The literature review well presented to justify the novelty.	☐	☒	☐

Number	Suggestions
4.	**The author needs to emphasize the developments in current research and then explain the differentiation between existing research and the research being conducted.** Rearrange the editorial in drafting the problem statement.

	What is ideal..................however............. Add the impact of the problem if left unchecked, as well as the urgency of the importance of the problem in exploration.
5	The author needs to emphasize the latest developments in research and then explain the differentiation between existing studies and the research conducted.
Etc	

Section 4:	Yes	Inadequate	No
Theoretical framework clearly presented and the theory used sufficient and relevant to the topic discussed.	☒	☐	☐

Number	Suggestions
6	
7	
Etc	

Section 5:	Yes	Inadequate	No
Methodology written in sufficient detail to make it possible to be repeated. The research design appropriate and exemplary.	☒	☐	☐

Number	Suggestions
6	Detailed Participant Selection: Providing more detail on how participants were selected, including any criteria for inclusion or exclusion, would enhance the transparency of the methodology. Data Collection Techniques: A more thorough explanation of the semi-structured interview process, including how questions were formulated and the rationale behind them, would strengthen the methodology section.
Etc	

Section 6:	Yes	Inadequate	No
Data used sufficient to support conclusions, and the findings presented clearly.	☒	☐	☐

Number	Suggestions
7	Depth of Analysis: Expanding on the implications of the findings for both teachers and students would provide a more comprehensive understanding of the results.
8	
10	
Etc	

Section 7:	Yes	Inadequate	No
Discussion is presented separately, and findings discussed used adequate and relevant theories.	☒	☐	☐

Number	Suggestions
	Linking Findings to Theory: The discussion could benefit from a stronger connection between the findings and the theoretical framework. Explicitly referencing how results align or contrast with existing literature would enhance the academic rigor. Practical Recommendations: Offering specific recommendations for educators and policymakers based on the findings would provide actionable insights and enhance the practical relevance of the study.
Etc	

Section 8:	Yes	Inadequate	No
Conclusions and the generalizations effective, based on the findings and research objectives.	☐	☒	☐

Number	Suggestions

Section 9:	Yes	Inadequate	No
Limitations, recommendations, acknowledgments, and conflict of interest statements presented clearly and well.	☒	☐	☐

Number	Suggestions

Section 10:	Yes	Inadequate	No
Citations and references using international sources, up-to-date, and written in the APA 7th style.	☐	☒	☐

Number	Suggestions
10	

GENERAL REMARKS AND RECOMMENDATIONS TO THE AUTHOR

THE DECISION (Mark with "X" one of the options)

	Mark here
Minor Revision	
Major Revision	X
Decline	

Teachers' and Students' Understanding and Perception of the National Assessment in Indonesian Elementary Schools: Implications for Learning and Classroom Assessment

Abstract. Indonesia has recently implemented the National Assessment (*Asesmen Nasional*/AN) to evaluate educational quality by measuring literacy, numeracy, students' character, and the learning environment, without impacting individual student outcomes. This study investigates elementary school teachers' and students' understanding and perception of AN and examines its implications for teaching and classroom-based assessment. A qualitative method with a phenomenological approach was adopted, using semi-structured interviews with 11 teachers and 21 fifth-grade students from six public elementary schools in South Jakarta. The findings indicate that while teachers have a foundational understanding of AN, their interpretations vary, especially regarding its components and objectives. Teachers recognize AN's potential to enhance educational quality but stress the need for adequate infrastructure and pedagogical support. Students show limited understanding and perceive the assessment as low-stakes. The implementation of AN has prompted shifts in instructional practices, particularly in literacy, numeracy, and digital integration. However, challenges include digital literacy gaps, limited device access, and difficulties with higher-order thinking questions. Effective AN implementation relies on stakeholders' readiness, infrastructure equity, and purposeful data utilization to inform learning.

Keywords: National Assessment; Minimum Competency Assessment; Learning; Classroom Assessment; Elementary Schools

1. Introduction

National assessments to evaluate student achievement in core competencies such as literacy and numeracy are a global practice. Even countries with decentralized education systems and high levels of teacher autonomy, such as Finland, have adopted such assessments (Juntunen, 2015). International assessments like the Programme for International Student Assessment (PISA) have further encouraged education systems worldwide to adjust policies and introduce national-level evaluations (Daliri-Ngametua et al., 2024; Imlig & Ender, 2018; Ninomiya, 2016).

In general, educational assessments, whether classroom-based or standardized national assessments, serve three primary functions: improving the quality of learning, evaluating individual student performance, and assessing educational programs (National Research Council, 2001). National assessment data can be utilized across multiple levels, from individual schools to broader policy formulation (Imlig & Ender, 2018). For instance, teachers may leverage national assessment results to enhance instructional strategies (Pitsia et al., 2021), while policymakers can use the data to monitor education system performance and implement reforms aimed at quality improvement (Paget et al., 2016).

Countries vary in how they utilize national assessment data. Some employ it solely for instructional improvement, while others apply it for multiple purposes. For example, Norway and Sweden use national assessment outcomes to improve classroom instruction and maintain education quality control, with Sweden also utilizing results for individual student evaluation (Tveit, 2018).

However, national assessments frequently generate public controversy, particularly when used for high-stakes purposes, potentially leading to unintended consequences like curriculum narrowing and teaching to the test (Lee et al., 2023; Rose et al., 2018; Tveit, 2013). Indonesia has a long-standing tradition of national assessments, beginning with the End of School Exam (Ujian Penghabisan) from 1950 to 1964, followed by several changes, including the National Final Exam (Ujian Akhir Nasional/UAN) from 2003 and later renamed the National Exam in 2005 (Ujian Nasional/UN) (Center for Education and Policy Studies, 2024). According to the Government Regulation Number 19 of 2005 on National Education Standards, national exam results were used

for multiple purposes, such as mapping program quality, student graduation, and school-level intervention. Thus, the results of the UN were used for multiple purposes.

The high-stakes nature of UN led to significant public concern, culminating in a citizen lawsuit filed by 58 individuals in 2006. Between 2015 and 2020, while UN no longer determined student graduation, it continued to be administered. In 2021, it was officially replaced by AN. According to the Regulation of the Minister of Education, Culture, Research, and Technology of the Republic of Indonesia Number 17 of 2021 concerning the National Assessment (Mendikbudristek, 2021), AN is a system-level evaluation tool targeting grades 5, 8, and 11. Unlike the national exam, which was administered at the end of an educational level to determine graduation, the AN is conducted in grades 5, 8, and 11 and does not have consequences for individual students (Center for Assessment and Learning, 2021).

1.1. Problem Statement

The success of national education policy implementation largely depends on its effective translation into classroom practices. For assessment data to meaningfully contribute to improved student learning, it must be appropriately utilized at both school and classroom levels (Schildkamp et al., 2016). Stakeholder perceptions—particularly those of principals, teachers, parents, and students—significantly influence how assessments impact the learning process (Imlig & Ender, 2018).

Teachers play a central role in translating assessment policies into instructional practice. Their understanding and perception of an assessment guide how results are interpreted and used to tailor instruction to student needs (Schildkamp et al., 2016). Similarly, student understanding and attitudes toward assessments can influence their engagement and learning strategies (Nieminen & Atjonen, 2022; Smith et al., 2011). For example, although Australia's NAPLAN is intended as a low-stakes assessment, some students perceive it as high-stakes, affecting their behavior and emotional responses (Howell, 2017).

Despite the policy shift in Indonesia, limited research has examined the implications of the AN for primary education, especially from the perspectives of teachers and students. This study seeks to fill that gap by exploring how teachers and students understand and perceive the AN and how its implementation affects learning and classroom assessment practices.

1.2. Related Research

Early research on the implementation of AN indicated varied understandings of AN among primary school teachers. Some teachers understood AKM, a component of AN, as a replacement for the UN (Nurhikmah et al., 2021; Sari & Sayekti, 2022). In the other hand, a school principal in a primary school in Peukan Pidie, Aceh Province viewed AKM as a policy to assess the national educational quality, not a replacement for the exam due to its different objectives (Iman et al., 2021). Based on interviews, teachers in two primary schools in Boyolali Regency had understood the components of AKM, such as literacy and numeracy and the indicators in the character survey (Kusumaningrum & Abduh, 2022).

Schools had made various efforts to prepare for the implementation of AN, such as organizing socialization activities for teachers (Nurhikmah et al., 2021; Putri et al., 2022), preparing teaching materials, questions, including those measuring higher-order thinking skills, and modules for students (Hanjani et al., 2023) and adjusting learning to the AKM assessment model by providing teachers with supporting books aligned with AKM (Iman et al., 2021). In preparation for AN, schools also provided additional lessons for students selected to participate in AN by working on AKM questions (Hanjani et al., 2023; Iman et al., 2021; Kusumaningrum & Abduh, 2022; Muliasari et al., 2022). Special preparations for AN also included utilizing AKM questions via the pusmenjar website (Kusumaningrum & Abduh, 2022; Putri et al., 2022). Since not all students were familiar with using

Commented [TS4]: The author needs to emphasize the developments in current research and then explain the differentiation between existing research and the research being conducted.

computers/laptops, some schools have specifically introduced students to computer operations (Hanjani et al., 2023).

In general, the implementation of AN in schools had proceeded smoothly. However, challenges remained related to the availability and use of information and communication technology, such as insufficient availability of computers/laptops (Berlianto & Pembangunan, 2023; Muliasari et al., 2022; Rigianti & Utomo, 2023), especially in 3T (remote, frontier, and outermost) areas (Kharismawati, 2022; Wuwur, 2023), problematic internet connections (Ahmad, 2022; Kusumaningrum & Abduh, 2022; Widiyanto & Desstya, 2023), limited teacher and/or student skills in using technology (Iman et al., 2021; Kharismawati, 2022; Wuwur, 2023), and inadequate telecommunications networks in 3T areas, making it difficult to find locations to administer AN (Kharismawati, 2022). Other challenges included the lack of supporting books for AKM (Rigianti & Utomo, 2023), limited teacher ability to develop AKM-related questions (Rigianti & Utomo, 2023), and insufficient socialization (Iman et al., 2021).

Research examining the impact of AN on learning and assessments in primary schools is still relatively limited. The majority of these studies focused on the impact of AKM. For example, based on AKM results reported in educational reports, teachers in one primary school in Karas Subdistrict, Magetan Regency, began attending training sessions to improve the quality of learning (Putri et al., 2022). Teachers began presenting questions in the form of story problems that integrate several topics from the theme books, designed to stimulate critical thinking and problem-solving skills.

The concept of assessments are frequently oversimplified as a dichotomy between internal assessments conducted by educators and external assessments imposed by external bodies such as government agencies or international organizations. This binary perspective fails to acknowledge that assessments occupy a continuum, varying in their alignment with teaching and learning activities (Pellegrino, 2017).

The design of student achievement assessments is largely influenced by the educational framework of each country, as well as by prevailing global assessment trends (Imlig & Ender, 2018). As Baird et al. (2017) assert, while international assessments may not directly impact the manner in which students engage with the content, they do shape educational policy, which in turn dictates the curriculum and instructional methodologies employed in classrooms.

> **Commented [TS5]:** The author needs to emphasize the latest developments in research and then explain the differentiation between existing studies and the research conducted.

1.3. Research Objectives

This study aimed to explore teachers' and students' understanding and perceptions of the AN and the impact of the implementation of AN on learning and classroom assessments.

2. Theoretical Framework

2.1. Assessment and Learning

Educational assessments profoundly influence the teaching and learning process, playing a pivotal role in determining both the content delivered and the pedagogical approach employed (Baird et al., 2017). The nature of the assessments further shape students' learning approaches, potentially fostering either a surface approach—characterized by a minimalistic engagement aimed solely at fulfilling course requirements—or a deep approach, which is rooted in intrinsic motivation to achieve a comprehensive understanding of the material (Bloxham & Boyd, 2007).

Assessments that emphasize memorization of discrete facts or procedures tend to promote surface learning. In contrast, assessments that require students to synthesize information, recognize patterns, and draw conclusions foster deeper cognitive engagement and integrative understanding (Bloxham & Boyd, 2007). Therefore, the design and intent of assessment tasks have significant implications for learning outcomes.

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2.2. National Assessment in Several Countries

National assessments implemented by educational systems across various countries to collect data on student achievement serve multiple purposes, encompassing both high-stakes and low-stakes objectives. High-stakes assessments, such as graduation examinations at the end of an educational level, carry significant consequences, whereas low-stakes assessments are primarily utilized to enhance instructional practices within the classroom. On a broader scale, data derived from student achievement assessments can be employed to monitor and evaluate the effectiveness of a nation's education system.

Assessment frameworks vary significantly across countries. For instance, Australia conducts the National Assessment Program–Literacy and Numeracy (NAPLAN) annually for all students in grades 3, 5, 7, and 9, specifically to track proficiency in literacy and numeracy (National Assessment Program, 2025). Norway administers a national assessment to evaluate the competencies of students in grades 5 and 8 in English, reading, and mathematics, as well as grade 9 in reading and mathematics, which is mandatory for all students (Tveit, 2013). The United States implements the National Assessment of Educational Progress (NAEP) annually using representative samples of students in Grades 4, 8, and 12 across a broad array of subject (National Center for Education Statistics, 2019). Conversely, Brazil administers the Prova Brasil biennially to assess the achievement of students in grades 4 and 8 in mathematics and Portuguese (Paget et al., 2016).

NAPLAN results are provided to each student who participates in the assessment and may be utilized by parents to track their children's literacy progression and engage in discussions with educators regarding the outcomes (National Assessment Program, 2025)). Additionally, these results serve as supplementary information for teachers to assess students' literacy and numeracy competencies and monitor their academic progress. Education policymakers leverage these results to monitor and evaluate the performance of schools and the overall education system, guiding the development of literacy and numeracy skills and identifying schools requiring additional support. Similarly, Norway's national assessment results are reported on an individual basis, facilitating instructional improvements by educators. At an aggregate level, these results are utilized by policymakers across various levels to conduct comprehensive monitoring and evaluation (Tveit, 2013). In contrast, NAEP does not aim to assess individual student or school performance. Rather, it serves as a tool for tracking national and state-level educational progress (National Center for Education Statistics, 2019). Similarly, the results of Prova Brasil are not intended to assess individual student progress and are not disseminated to all test participants. Instead, the Brazilian Ministry of Education uses the Prova Brasil results to monitor and evaluate the education system, enabling improvements through data-driven policymaking (Paget et al., 2016).

2.3. National Assessment in Indonesia

Article 2 of the Regulation of the Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia Number 17 of 2021 on National Assessment (Mendikbudristek, 2021) states

that the purpose of AN is to measure cognitive learning outcomes, non-cognitive learning outcomes, and the quality of the learning environment in educational units. These are measured using the minimum competency assessment, character survey, and learning environment survey, respectively. During the implementation of AN, students will complete two instruments: the minimum competency assessment and the character survey, while the learning environment survey is completed by school principals and teachers.

The types of questions in AKM vary, including multiple choice, complex multiple choice, matching, short answer, and essay. The scoring for multiple choice, complex multiple choice, matching, and short answer/essay questions is done objectively. The components of AKM are displayed in the table below.

Table 1. The Component of AKM

Reading Literacy	Mathematical Literacy-Numeracy
Content	
	Numbers
Informational text	Geometry
Fictional text	Data and Uncertainty
	Algebra
Cognitive Process	
Finding information	
Interpreting	Knowing
and integrating Information	Applying
Evaluating and reflecting on information	Reasoning
Konteks	
Personal	Personal
Socio-cultural	Socio-cultural
Scientific	Scientific

Source: (Center for Assessment and Learning, 2020)

Another instrument is the character survey, which is designed to assess attitudes, values, beliefs, and habits reflecting students' character, based on the Pancasila Student Profile (*Profil Pelajar Pancasila*) (Center for Assessment and Learning, 2021). This profile includes six dimensions: 1) faith and devotion to God Almighty and noble character; 2) global diversity; 3) mutual cooperation; 4) critical thinking; 5) independence; and 6) creativity.

The learning environment survey is used to gather information about the quality of the learning process and the school climate that supports learning. This survey includes 9 dimensions: 1) students' socio-economic background; 2) the quality of classroom learning; 3) teacher reflection and improvement in teaching; 4) instructional leadership; 5) safety climate in educational units; 6) diversity climate in educational units; 7) gender equality climate; 8) inclusivity climate; and 9) parental and student support for the educational unit's programs (Center for Educational Assesment, 2022).

The results of the national assessment are subsequently used as part of the educational evaluation by the Minister of Education (Article 11 Paragraph (3)). The analysis of these results by the Ministry is then communicated to stakeholders at various levels to enhance the quality of learning in educational units and/or evaluate the performance of educational units in their regions (Article 11 Paragraph (4)).

In terms of cognitive learning outcomes, AN is similar to NAPLAN in Australia, as it measures literacy and numeracy competencies. These outcomes differ from the national assessments in Norway

and Brazil, which focus on subject-specific competencies. In contrast to NAPLAN in Australia and the national assessment in Norway, which encompass all students within the specified grades, the AN is administered to a randomized sample of students at selected schools. Another notable distinction is that, unlike the assessments in Australia and Norway, the results of AN are not reported at the individual student level but rather at the school level, akin to the Prova Brasil. Despite these procedural differences in the administration of national assessments across the aforementioned countries, the data derived from these assessments, including AN results, are utilized by policymakers at various tiers to implement improvements aimed at enhancing the overall quality of education.

3. Method

3.1. Research Design

This study employed a qualitative method with a phenomenological approach. This approach was used to gather rich data by exploring the experiences, perspectives, and views of both teachers and students regarding AN.

3.2. Participant

The study involved 11 teachers and 21 fifth-grade students from six public elementary schools in Kebayoran Lama District, South Jakarta, who participated in the AN in 2021. The selection of teachers was based on their educational background, certification, and teaching experience. In contrast, the selection of students was based on their participation in the implementation of the AN. To maintain data confidentiality, schools were coded A, B, C, D, and E. Each teacher was assigned a code consisting of the word "Teacher" followed by a number from 1 to 11. The students were assigned a code consisting of the word "Student" followed by a number from 1 to 21.

The distribution of the informants at each school is shown in Table 2.

Tabel 2. Informants by School

School Code	The Number of Informants	
	Teacher	**Student**
A	2	4
B	2	4
C	1	3
D	2	5
E	2	2
F	2	3
Total	**11**	**21**

The backgrounds of the teachers and students involved were assessed through a questionnaire distributed using Google Forms, which contained information about the participants. The teachers' characteristics were categorized based on gender, age, years of teaching experience, educational background, and certification. The characteristics of the teachers are presented in Table 3.

Tabel 3. Teachers' Characteristics

Variable	Number	Percentage (%)
Gender		
Male	2	18,19%
Female	9	81,81%

Total	**11**	**100%**
Age		
≤ 30 years	-	-
31-40 years	7	63,64%
≤ 41 years	4	36,36%
Total	**11**	**100%**
Teaching Experience		
1-5 years	-	
6-10 years	3	27,28%
>10 tahun yers	8	72,72%
Total	**11**	**100%**
Educational Background		
Bachelor degree in primary teacher education	11	100%
Others	-	-
Total	**11**	**100%**
Teacher Certification		
Yes	11	100%
No	-	-
Total	**11**	**100%**

As presented in Table 3, the majority of the fifth-grade teachers were female, accounting for 81.81%. The largest group of teachers was aged between 31 and 40 years, making up 63.64%. Most teachers had over 10 years of teaching experience (72.72%) and held a bachelor's degree in Primary School Teacher Education (S1-PGSD), with all teachers being certified. The characteristics of the student participants were categorized based on gender, age, and academic achievement. The results of the data collection are shown in Table 4.

Tabel 4. Students' Characteristics

Variable	Number	Percentage (%)
Gender		
Male	13	61,90%
Female	8	38,10%
Total	**21**	**100%**
Age		
11 years	13	61,90%
12 years	8	38.10%
Total	**21**	**100%**

Based on Table 3, the majority of the student participants were male (61.90%), with the remaining 38.10% being female. The most common age among students was 11 years (61.90%), while the remaining students were 12 years old (38.10%).

3.3. Data Collection

Data were collected through semi-structured interviews using a prepared set of questions that were posed to both teachers and students. However, the researcher had the flexibility to explore additional responses from the participants. The questions were designed to investigate the participants' understanding of AN, the implementation of AN in schools, and the impact of AN on teaching and assessment.

Prior to the interviews, the researcher obtained permission from the Sub-District Education Office of South Jakarta to conduct research in several elementary schools. Subsequently, the researcher met with the school principals to schedule interviews with fifth-grade teachers. The interviews were scheduled so as not to disrupt classroom activities, with each session lasting between 30 and 60 minutes. The second author conducted the interviews with the assistance of a research assistant. During the interviews, the second author interviewed the teachers, while the research assistant interviewed the students. With written consent from the participants, the interviews were recorded while ensuring confidentiality.

3.4. Data Analysis

The researcher used Google Docs to transcribe the recorded interviews into written text. The data were then analyzed using typological analysis by categorizing the data based on predefined typologies (Hatch, 2002). For this study, the typology was based on the research questions, including teachers' and students' understanding and perspectives of the AN, its implementation, and its impact on classroom teaching and assessment. Data within each typology were then categorized based on emerging patterns. Data coding and categorization were performed by the first author, second author, and research assistant. The results of the coding and categorization were then discussed to formulate the themes that emerged.

3.5. Validity and Reliability

To ensure the quality of the research, the researcher adhered to alternative perspectives regarding validity and reliability in qualitative research, namely trustworthiness, which includes credibility, transferability, dependability, and confirmability (Daymon & Holloway, 2010). To ensure credibility, the researcher employed data triangulation by involving teachers and students from different schools—11 teachers and 21 students from six public elementary schools in Kebayoran Lama, South Jakarta. Additional efforts to ensure credibility were made through investigator triangulation, involving the first author, second author, and a research assistant in the data analysis process. The analysis results were then compared and discussed to reach a consensus on the identified patterns, categories, and themes. Transferability was achieved by providing a detailed description of the study and comparing it with other research on AN. To ensure consistency and accuracy (dependability), an audit trail was conducted by documenting each stage of the research process, including the participants' data with assigned codes, interview recordings, transcripts, coding, and categorization of data. To ensure that the findings and conclusions align with the study's objectives (confirmability), the researcher ensured that the findings and conclusions were derived from a thorough analysis of the collected data.

4. Findings

The data analysis resulted in five themes: teachers' understanding and perceptions of AN, students' understanding and perceptions of AN, the implementation of AN, the impact of AN on learning, and the impact of AN on classroom assessments.

> **Commented [TS7]:** Depth of Analysis: Expanding on the implications of the findings for both teachers and students would provide a more comprehensive understanding of the results.

4.1. Teachers' Understanding and Perceptions of AN

The interview results indicated that most teachers understood the concept of AN, although they used different terminology when defining it, such as "evaluation" and "assessment." Four teachers referred to it as an evaluation, while five teachers referred to it as an assessment. Additionally, two teachers directly linked AN to its perceived purpose, which they understood to be the assessment of students' abilities. Below are some definitions provided by the teachers who used the terms "evaluation" and "assessment":

> "National assessment is an evaluation program organized by the government to improve the quality of education and to capture the input and output of a school." (Teacher 3)

> "National assessment, as far as I know, is a type of assessment conducted by the Ministry of Education to assess the overall quality of an educational unit, both from the students and the learning environment." (Teacher 2)

Additionally, two teachers directly linked the AN's purpose to assessing students' abilities, with one teacher also mentioning its role in reflecting the condition of the school.

Interviews with the teachers also revealed that the majority had a basic understanding of the components of AN, such as AKM, character survey, and learning environment survey, as well as the grade levels involved and the timing of the assessment. However, one teacher only mentioned the components of AKM, specifically literacy and numeracy, without mentioning the character survey and learning environment survey. Another teacher did not know about the components of AN.

Regarding AKM, one of the three components of AN, three of the 11 interviewed teachers stated that AKM measures students' basic competencies in literacy, as illustrated in the following excerpt:

> "Assessment is conducted to measure students' basic competencies. The basic competencies in question are related to literacy, such as reading literacy and numeracy literacy." (Teacher 2)

Three other teachers referred to AKM as an assessment of the basic competencies students should master, without specifying the competencies being measured. Here is a statement representing this understanding:

> "Basic competencies assessment for students, which serves as a source of information to map and evaluate the quality of education in a region." (Teacher 5)

Two teachers only mentioned the acronym AKM without discussing the components of the assessment. One teacher did not specifically mention basic competency measurement but referred to general student learning outcomes. Another teacher stated that AKM requires students to engage in higher-order thinking. Additionally, one teacher linked AKM to its use in mapping school quality:

> "AKM is an assessment conducted to improve the quality of learning, implemented by the government to drive improvements in teaching and learning outcomes." (Teacher 1)

Ten of the 11 teachers interviewed strongly affirmed the necessity of AN. Reasons cited included improving the quality of education, measuring school quality as a basis for follow-up actions, enhancing education in Indonesia, and evaluating student learning outcomes. Below are some of the teachers' statements:

> "Yes, it is essential because national assessment can be used to measure the quality of an educational unit, which will then serve as a reference for follow-up actions to improve the unit's quality and ultimately improve education in Indonesia." (Teacher 2)

"In my opinion, it is necessary to measure, to assess, and to evaluate students' learning outcomes over time, because without AN, we wouldn't know where we stand. Moreover, since the national exams are said to no longer exist, this is crucial." (Teacher 7)

One teacher (Teacher 3) emphasized the importance of understanding the quality of a school compared to others, as this could motivate teachers and other stakeholders to improve learning quality. This view was shared by Teacher 7, who highlighted that AN results could inspire school-wide improvements.

Teacher 6 proposed the importance of implementing AN for all fifth-grade students in elementary schools so that each student has the experience of participating in the assessment. However, this teacher acknowledged that not all schools are equipped to implement AN for all students in the designated grades due to limitations in necessary facilities, such as computers and sufficient internet access.

A notable perspective was shared by Teacher 9, who did not directly express the need for AN but elaborated on the levels at which AN results would be used. In this teacher's view, the government needs AN to map educational quality. After results are obtained, schools can then use AN results to evaluate their performance and identify areas for improvement.

4.2. Students' Understanding and Perceptions of AN

According to the interviews, several students were able to state the full form of AN , the types of questions involved in AKM—literacy and numeracy—and the types of questions, such as multiple choice, complex multiple choice, and fill-in-the-blank. However, some students were unable to recall the full form of AN.

The majority of students viewed AN as an exercise in answering questions using a computer or laptop. Many students also noted that AKM questions were more challenging than those given by their teachers, especially the numeracy questions. However, some students also mentioned difficulties with the reading literacy questions.

When asked about their feelings toward participating in AN, some students expressed positive emotions:

"I'm happy because I received a national-level assessment." (Student 3)

Others were indifferent about their performance:

"If the results are poor, it's no big deal." (Student 13)

4.3. The Implementation of AN

Overall, the interviews indicated that the implementation of AN in the schools that participated in this study went smoothly. Teachers also prepared students for AN. One teacher shared:

"Yes, students were given training, such as special sessions. They were regularly trained with questions that followed the AKM format. The school also provided AKM-related books for students to study, both at home and in school." (Teacher 11)

However, there were some challenges during the process, particularly during the trial runs. The most frequently mentioned issue was related to internet connectivity and server problems.

"Thank God the actual implementation went smoothly, although during the try-out we faced some issues due to slow network speeds and occasional lag." (Teacher 3)

"Technical issues may arise, such as server problems from time to time." (Teacher 10)

"Sometimes there are difficulties. Also, when using computers, the login process can be very slow." (Student 20)

"There was a slow network when logging in, and I had to input a code, but it didn't work." (Student 21)

Another challenge involved students who were not accustomed to using computers or laptops, as not all students owned a laptop at home, and the selection of AN participants was random.

"Perhaps it's due to their learning environment, because not all of them have computers at home, making it a bit awkward. There were difficulties during the tasks since they are not used to using a mouse, and now they have to use one." (Teacher 6)

Teachers also highlighted issues with students' readiness to tackle AKM questions, both in terms of content and question format.

"...The main difficulty is the lack of deeper understanding of numeracy, according to the students. I've also surveyed them about AN, and they faced challenges, especially with numeracy, which involves more word problems." (Teacher 7)

The students also mentioned difficulties with the AKM's HOTS-based questions, especially in numeracy. However, some felt challenged by the complexity of the tasks.

"I feel challenged because the questions are more complex compared to the usual questions." (Student 2)

"I was confused about answering the numeracy questions." (Student 4)

"There were many difficulties, like the math and Indonesian questions, because they were hard to answer. So, I skipped them and then returned to them later." (Student 19

4.4. The Impact of AN on Learning

Although the results of AN had not been obtained at the time this research was conducted, the majority of the teachers participating in the study stated that the implementation of AN had motivated them to enhance literacy and numeracy skills.

"For example, if the learning activities are improved further, literacy—such as reading skills—should be enhanced, and numeracy requires more practice, so it takes more time. It's not just about reading; the students must also comprehend, understand reasoning, and use numeracy beyond simple addition and subtraction. It also needs to be applicable in real-life situations." (Teacher 5)

Most teachers also expressed that they were motivated to further improve the quality of teaching by utilizing student-centered teaching methods.

"The implementation of the national assessment has personally motivated me as a teacher to reintroduce student-centered learning models, which encourage students to be active in learning and stimulate critical thinking throughout the process." (Teacher 2)

Students had varied responses when asked about the differences in learning before and after the implementation of AN. Here are a few student statements:

"There's no difference, it's the same before and after AN." (Student 2)

"It's the same, like speaking in front of the class or being asked to bring a phone and fill out a quiz on Google Forms at school." (Student 9)

"There's no difference, teaching is the same. Some use Quizizz in school." (Student 12)

"We've had practice exercises in class similar to AKM, and they were easier." (Student 8)

Furthermore, teachers began to use technology more frequently in teaching and trained students to use it, such as with mobile phones and laptops.

"There's been a significant change in the use of information technology. Previously, its use was limited, but now we have significantly increased its usage. The percentage of information technology usage has increased from about 40% to 70-80%." (Teacher 3)

"Yes, it has had a significant impact, especially because we now use computers. So the students have no choice but to learn how to use computers themselves, which is now part of the learning process. We're teaching them to use technology, integrating it into learning, not just using textbooks or classroom teaching but also based on technology." (Teacher 4)

Students also stated that their teachers had started incorporating information and communication technology into lessons:

"Usually, we are asked to bring our phones to answer questions using Quizizz or complete tasks on Google Forms." (Student 20)

However, some teachers noted that there was little or no change in their teaching methods. The reasons provided included the fact that AN results had not yet been obtained or that the teaching methods needed for developing literacy and numeracy had already been implemented.

4.6. The Impact of AN on Classroom Assessments

Teachers provided varied responses regarding the impact of AN on classroom assessments. Generally, the changes were moderate, with some teachers stating that there was little or no change at all. Nevertheless, the implementation of the AN has led teachers to reflect on the classroom assessments they conduct and begin making necessary adjustments. For instance, some teachers, after the implementation of AN, focused more on authentic assessments through performance-based evaluations.

"Yes, in assessments, I've made developments and changes because of the national assessment. The assessments I conduct are now more authentic and involve more student performance; it's not just about using textbooks but also evaluating their performance." (Teacher 2)

Teachers also started including questions aligned with AKM standards, both in terms of content that integrates literacy and numeracy and in terms of question format, such as moving beyond simple multiple-choice questions to include complex multiple-choice, fill-in-the-blank, matching, and question creation.

"Now, in the assessment system, when creating questions, we prioritize literacy, and we have modified our questions. We are now more inclined towards HOTS." (Teacher 3)

"When I administered the midterm exam, I included some questions on literacy and numeracy that align with AKM. There were challenges because the students didn't understand the structure of the sentences. I told them that this is part of AKM and they will encounter it later, especially for students who have never participated in AKM. These students had more difficulties, particularly in understanding reading or literacy questions." (Teacher 6)

One teacher also explained the impact of AN through an assessment of attitudes, mentioning that attitude assessment techniques had been added, though they were still in the planning stage.

When asked about changes in the way teachers assess students after the implementation of the national assessment, all the student participants responded that there had been no changes or that things were the same.

"There's no difference, it's the same." (Student 3, Student 4, Student 8, Student 21)

"They didn't give questions like the ones in AKM." (Student 5)

5. Discussion

5.1. Teachers' Understanding and Perceptions of AN

The achievement of educational policy goals and programs established by the government in the field of education is also determined by how these policies and programs are understood and interpreted by stakeholders, including teachers and students. In the context of AN, teachers' understanding and attitudes are crucial because they will determine the success of AN in improving education quality in Indonesia through classroom teaching and assessment. According to (Fulmer et al., 2015), the assessment practices employed by teachers in the classroom are influenced by contextual factors at macro, meso, and micro levels. National assessments can be categorized as a macro-level factor influencing meso-level factors, such as education offices and school leaders, which ultimately influence teachers, both directly and indirectly. How teachers interpret the goals of the national assessment will be shaped by micro-level factors, such as their understanding and views of AN, as well as their interactions with students during assessments and teaching.

Interviews with teachers in this study revealed that, in general, teachers possessed basic knowledge about the AN, including its definition, the instruments used (AKM, Character Survey, and Learning Environment Survey), the types of AKM questions, the grade levels involved, and the timing of the assessment. However, teachers' understanding of one component of the AN, namely AKM, varied, with some teachers only able to state its full form. This finding confirms previous research indicating that teachers still lack sufficient understanding of AKM (Kusumaningrum & Abduh, 2022).

The majority of teachers understood that the results of AN are not intended to measure individual student competence but are used to map the quality of schools, which can then be used to improve teaching and learning. This understanding aligns with the explanations in various documents released by the Ministry of Education and Culture regarding the AN (Center for Assessment and Learning, 2021).

The difference in terminology used to define AN, namely "evaluation" and "assessment," is understandable given the close relationship between these concepts, which is why these terms are often used interchangeably (Meylani, 2024). Article 1, Paragraph 1 of the Ministry of Education, Culture, Research, and Technology Regulation Number 17 of 2021 on National Assessment (Mendikbudristek, 2021) states that "one form of evaluation of the education system by the Ministry at the primary and secondary education levels." This definition seems to refer to one of the uses of assessment results, which is for evaluation purposes.

Teachers displayed a positive attitude toward AN, viewing it as necessary for improving education quality, including enhancing classroom teaching. This positive attitude indicates that teachers believe the results of the national assessment can be applied at various levels, from the education system to the classroom. This belief aligns with what is stated in the Ministry of Education, Culture, Research, and Technology Regulation Number 17 of 2021, where the analysis of AN results, as part of the evaluation of the education system by the Minister, will be used by other stakeholders to improve teaching quality and/or evaluate the performance of educational units. This positive attitude corroborates previous research (Kusumaningrum & Abduh, 2022) showing that teachers are interested in using AKM and character survey results to evaluate the learning process.

5.2. Students' Understanding and Perceptions of AN

Students who participated in this study tend to view the AN as a low-stakes test, as it carries no direct consequences for them. Consequently, many students expressed indifference if they did not achieve favorable results, with some even feeling pleased to have the opportunity to be assessed at a national level. The messages conveyed by the Ministry of Education, Culture, Research, and Technology regarding the purpose of the assessment through various socialization

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Commented [TS8]: Linking Findings to Theory: The discussion could benefit from a stronger connection between the findings and the theoretical framework. Explicitly referencing how results align or contrast with existing literature would enhance the academic rigor.

Practical Recommendations: Offering specific recommendations for educators and policymakers based on the findings would provide actionable insights and enhance the practical relevance of the study.

efforts seem to have reached the students. This finding contrasts with a study involving students in grades 3, 5, and 7 in Australia who participated in NAPLAN (Howell, 2017). Although NAPLAN was designed as a low-stakes assessment by policymakers, some students viewed it as a high-stakes test, one that impacted their opportunities to pursue education at their desired schools. Additionally, some students expressed concerns that their assessment results would be compared to those of their peers. The perception among some students that NAPLAN is a high-stakes test appears to be influenced by inconsistencies in the messaging, both from the government, which uses NAPLAN results for accountability purposes, and the media, which often emphasize rankings based on NAPLAN results (Howell, 2017).

5.3. The Implementation of AN

Overall, the findings from the five schools involved in the study, all located in South Jakarta, indicate that the implementation of the AN proceeded smoothly. The readiness of essential infrastructure, such as the availability of laptops/computers and internet access, significantly supported the successful execution of the AN, similar to the implementation in elementary schools in Cluster 7, Tambun District, Bekasi Regency (Kartanti et al., 2024). However, challenges were still encountered due to technical issues, such as slow internet connections or server outages, as seen in other schools (Ahmad, 2022; Putri et al., 2022; Widiyanto & Desstya, 2023)). This contrasts with findings from schools that lacked adequate infrastructure, such as in Tasikmalaya, where some students attended the AN at other, better-equipped schools, or where schools had to purchase additional laptops (Muliasari et al., 2022) Another measure taken to address insufficient laptop availability was for teachers to lend their personal laptops to students to participate in the AN (Berlianto & Pembangunan, 2023). The lack of necessary infrastructure for AN is particularly felt by teachers and students in 3T (remote, frontier, and outermost) areas (Kharismawati, 2022; Wuwur, 2023).

Another issue identified was that some students were not accustomed to using laptops or computers, particularly those from families without access to such devices, which hindered their performance. This phenomenon of students who are unfamiliar with, or have never used, computers or laptops is not exclusive to 3T areas (Kharismawati, 2022; Wuwur, 2023) but is also found in urban schools (Hanjani et al., 2023; Muliasari et al., 2022)). To address this issue, some schools specifically trained students to use these devices (Berlianto & Pembangunan, 2023; Hanjani et al., 2023).

Although AN was designed as a low-stakes test, some schools still prepared students by having them practice with AKM-style questions. This trend was also observed in other schools, where additional study hours were provided (Kusumaningrum & Abduh, 2022; Muliasari et al., 2022; Putri et al., 2022). The Ministry of Education and Culture emphasized through various forums and media that students need not be specially prepared to practice AKM questions, except for basic technical preparations. Furthermore, there are no individual scores for students, teachers, or school principals, nor are there rankings.

Some students in this study encountered difficulties with both literacy and numeracy AKM questions. These findings confirm previous research (Berlianto & Pembangunan, 2023; Sari & Sayekti, 2022) highlighting students' struggles with AKM questions, which were considered complex and challenging. One reason mentioned by students was the lengthy reading passages (Berlianto & Pembangunan, 2023; Rohmah et al., 2022). AKM questions are designed to assess students' ability to engage in higher-order thinking, making them more complex than typical questions that only measure content mastery. One factor contributing to students' difficulties with higher-order thinking questions is their limited reading comprehension skills (Driana et al., 2021; Nurmawati et al., 2020; Schulz & FitzPatrick, 2016). For example, numeracy questions in AKM contain introductory materials in text and image formats, requiring students to process and interpret information, and to reason using mathematical concepts learned to solve real-world problems in various contexts (Pusat Asesmen dan Pembelajaran, 2020). Many students are still unable to think at the required

higher cognitive level, which results in difficulty with numeracy problems designed for the AKM (Rohmah et al., 2022).

5.4. The Impact of AN on Learning

At the time this study was conducted, the teachers involved had not yet received the AN results. However, the implementation of the AN has further raised awareness among the teachers in this study about the importance of developing reading literacy and numeracy. This finding aligns with the research conducted by Kartanti et al. (2024). To enhance students' reading skills, teachers in an elementary school in Boyolali Regency assigned reading homework and summary exercises (Kusumaningrum & Abduh, 2022). Teachers also taught students how to highlight key points in texts.

Teachers also made efforts to improve the quality of their teaching, including by using student-centered learning and employing more diverse teaching methods, such as project-based learning. However, these changes have not yet been fully felt by students, as they are still in the early stages. Teachers' awareness and motivation align with the goal of the AN to provide feedback to educational units for use in improving teaching processes, ultimately aiming to enhance students' character and competencies (Center for Assessment and Learning, 2020).

Another notable outcome observed after the implementation of AN, confirmed by the students, is that teachers have increasingly utilized technology in their teaching, including training students to use it. The five schools in South Jakarta were generally well-equipped with the necessary infrastructure for integrating information and communication technology (ICT) into teaching, although some students from disadvantaged families did not yet have the required devices. The digital divide remains a barrier to the effective use of technology in education (Heeks, 2022; Rodiyah et al., 2023). Furthermore, teachers need to possess digital competencies to appropriately integrate technology into their teaching (Fernández-Batanero et al., 2020) .

Thus far, the message conveyed by the Ministry in various socializations about AN, which is not designed for high-stakes purposes but rather to improve teaching quality, appears to have been well received. Ensuring that AN remains treated as a low-stakes test, with a focus on improving the quality of teaching, must continue to be upheld to avoid the negative consequences observed with large-scale standardized tests in other countries. For example, the shift in teachers' and students' understanding of standardized assessments from being designed as low-stakes tests to high-stakes tests, as seen in Australia, can lead to undesirable consequences, such as curriculum narrowing, with a focus on preparing for NAPLAN through practice questions (Ragusa & Bousfield, 2015).

Furthermore, to ensure that AN contributes to improving classroom learning, teachers must make appropriate use of AN results. Research conducted in Ireland (Pitsia et al., 2021)shows that teachers who have a positive attitude toward standardized testing and have participated in training related to standardized tests are more likely to use the test results to enhance classroom learning. The success of using assessment results to improve teaching quality is also influenced by school characteristics, the teachers' data usage skills, and collaboration (Schildkamp et al., 2016).

5.5. The Impact of AN on Classroom Assessments

Following the implementation of AN, teachers expressed a desire to make changes to classroom assessments by incorporating questions that measure literacy and numeracy, assess higher-order thinking skills, and adopt various question formats, though the degree of implementation varies. For instance, teachers in an elementary school in Boyolali Regency followed up the AN with exercises on multiplication, addition, and division to train students in using mathematical operations, which they completed directly before school ended (Kusumaningrum & Abduh, 2022). However, these questions were not presented in a format that requires reasoning to solve real-world problems using the mathematical concepts learned, which is essential for developing

numeracy. Research by Hindriana et al. (2023) involving teachers from elementary and junior high schools in Kuningan Regency showed that teachers still face challenges in creating literacy and numeracy questions and that they are supported through training to develop such questions. As part of the follow-up to AKM results, teachers in an elementary school in Magetan Regency, for example, participated in training to develop literacy and numeracy questions (Putri et al., 2022). Students in that school began to notice changes in the types of questions their teachers gave, which increasingly focused on reasoning to solve every day problems.

In addition to the impact on cognitive assessments, some teachers indicated that they would continue to assess students' attitudes through observation during the learning process as an effort to develop students' character. The AN not only focuses on assessing cognitive aspects through AKM but also evaluates students' character through the character survey and learning environment survey.

6. Conclusion

A proper understanding of the purposes of AN by teachers and students will play a crucial role in achieving AN goals of improving the quality of learning. Moreover, the perception among teachers and students that AN is a low-stakes assessment is a critical foundation that policymakers must maintain to ensure that the results of AN genuinely reflect students' competencies and character, free from manipulation, such as excessive test practice that does not contribute to improving teaching quality. Additionally, the smooth implementation of the AN requires adequate infrastructure, particularly information technology, which must be readily available. Both teachers and students must be equipped with the necessary skills to use these technological tools. To ensure that the results of the AN are effectively utilized, teachers must also be trained to interpret the assessment outcomes and apply them to enhance the quality of teaching and classroom assessment.

Limitation

This study was conducted before the results of AN were announced, meaning that the participating teachers had not yet had the opportunity to use AN results to plan their teaching and assessments. Therefore, the impact of AN on teaching and assessment practices was based solely on the teachers' knowledge and experience of AN. This study also did not explore the affective aspects in greater depth, such as the motivation of teachers and students before and during the implementation of AN.

Recommendation

Further research is needed to understand how schools and teachers utilize AN results to improve the quality of teaching after four years of implementing the AN. Additionally, research should explore the affective aspects of teachers' and students' experiences related to the administration of the AN.

The smooth implementation of AN should be supported by the availability of necessary infrastructure. Moreover, improving teaching quality also requires adequate supporting resources and facilities.

Acknowledgments

Conflict of Interest

The Authors declare that there is no conflict of interest.

Declaration of Generative AI-assisted Technologies

This manuscript was prepared with the assistance of Generative AI: ChatGPT, Grammarly, and Turnitin. ChatGPT was utilized to translate well-structured texts from Indonesian into English and to refine the translated content. Grammarly was employed to ensure grammatical accuracy and the overall quality of the texts, while Turnitin was used to assess the level of textual similarity and potential plagiarism. All intellectual contributions, critical analyses, and final revisions were conducted by the authors. The authors take full responsibility for the accuracy, originality, and integrity of the content presented in this work.

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MSD MANUSCRIPT REVIEW FORM 2025

Give your rating based on a 1-3 value scale:
1 = No
2 = Inadequate
3 = Yes

Manuscript ID:	MSD - 190	Date:	15/04/2025
Manuscript Title:	Teachers' and Students' Understanding and Perception of the National Assessment in Indonesian Elementary Schools: Implications for Learning and Classroom Assessment		

ABOUT MANUSCRIPT **(Mark with "X" one of the options)**	Yes	Inadequate	No
Section 1:			
Title specific, informative, and reflects the contents of the paper.	☒	☐	☐

Number	Suggestions		
1	-		

Section 2:	Yes	Inadequate	No
Abstracts clearly presented and contain problems, goals, methods, results, and conclusions. Keywords at least five and represent content.	☒	☐	☐

Number	Suggestions		
2	Write alphabetically		

Section 3:	Yes	Inadequate	No
Introduction complemented by the presentation of the research problem, previous research, and research objectives. The literature review well presented to justify the novelty.	☐	☒	☐

Number	Suggestions
3	In justifying the originality or novelty, use the most updated reference of the last 5 years. Please check thoroughly for all references.
4	Describe the main problems faced by the researcher. Explain the causes and effects associated with the problems, what should be done to investigate them, and why they are important to investigate.
5	This statement is like the novelty of your research. You can include this in the final paragraph of Related Research.
6	What are the differences between the existing studies and this research? State the novelty or state of the art of this research.

Section 4:	Yes	Inadequate	No
Theoretical framework clearly presented and the theory used sufficient and relevant to the topic discussed.	☒	☐	☐

Number	Suggestions
7	-

Section 5:	Yes	Inadequate	No
Methodology written in sufficient detail to make it possible to be repeated. The research design appropriate and exemplary.	☐	☒	☐

Number	Suggestions
8	Describe the research method or approach (qualitative/quantitative/mixed) and the research design (case study/narrative/ethnographic/phenomenological/grounded theory/experimental/correlational/survey/participatory action research/developmental research/sequential mixed-method/etc.) that were used. You can add each stage of the research method and design that you use.

		Yes	Inadequate	No
	In addition, include the sources you use so that your writing is not just based on assumptions.			
Section 6:		**Yes**	**Inadequate**	**No**
Data used sufficient to support conclusions, and the findings presented clearly.		☒	☐	☐
Number	**Suggestions**			
9	-			
Section 7:		**Yes**	**Inadequate**	**No**
Discussion is presented separately, and findings discussed used adequate and relevant theories.		☒	☐	☐
Number	**Suggestions**			
10	-			
Section 8:		**Yes**	**Inadequate**	**No**
Conclusions and the generalizations effective, based on the findings and research objectives.		☒	☐	☐
Number	**Suggestions**			
10	-			
Section 9:		**Yes**	**Inadequate**	**No**

	Yes	Inadequate	No
Limitations, recommendations, acknowledgments, and conflict of interest statements presented clearly and well.	☒	☐	☐

Number	Suggestions
1 1	It would be better if the recommendation refers to the limitations of the research that you have to write about.

Section 10:	Yes	Inadequate	No
Citations and references using international sources, up-to-date, and written in the APA 7th style.	☒	☐	☐

Number	Suggestions
1 2	Please include the references in accordance with what is quoted in the body of the article, and vice versa

Please replace local sources with international journals/must be in English

In justifying the originality or novelty, use the most updated reference of the last 5 years. Please check thoroughly for all references

Complete all journals with DOI. If the DOI is not active, it can be replaced with the article URL.

For book sources, if available, please add the address in the online version (URL) |

GENERAL REMARKS AND RECOMMENDATIONS TO THE AUTHOR

This research needs some improvement, if the suggestions of the reviewer are responded to then this article is recommended to be accepted

THE DECISION (Mark with "X" one of the options)	
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Minor Revision	x
Major Revision	

Decline	

Teachers' and Students' Understanding and Perception of the National Assessment in Indonesian Elementary Schools: Implications for Learning and Classroom Assessment

Abstract. Indonesia has recently implemented the National Assessment (*Asesmen Nasional*/AN) to evaluate educational quality by measuring literacy, numeracy, students' character, and the learning environment, without impacting individual student outcomes. This study investigates elementary school teachers' and students' understanding and perception of AN and examines its implications for teaching and classroom-based assessment. A qualitative method with a phenomenological approach was adopted, using semi-structured interviews with 11 teachers and 21 fifth-grade students from six public elementary schools in South Jakarta. The findings indicate that while teachers have a foundational understanding of AN, their interpretations vary, especially regarding its components and objectives. Teachers recognize AN's potential to enhance educational quality but stress the need for adequate infrastructure and pedagogical support. Students show limited understanding and perceive the assessment as low-stakes. The implementation of AN has prompted shifts in instructional practices, particularly in literacy, numeracy, and digital integration. However, challenges include digital literacy gaps, limited device access, and difficulties with higher-order thinking questions. Effective AN implementation relies on stakeholders' readiness, infrastructure equity, and purposeful data utilization to inform learning.

Keywords: National Assessment; Minimum Competency Assessment; Learning; Classroom Assessment; Elementary Schools

1. Introduction

National assessments to evaluate student achievement in core competencies such as literacy and numeracy are a global practice. Even countries with decentralized education systems and high levels of teacher autonomy, such as Finland, have adopted such assessments (Juntunen, 2015). International assessments like the Programme for International Student Assessment (PISA) have further encouraged education systems worldwide to adjust policies and introduce national-level evaluations (Daliri-Ngametua et al., 2024; Imlig & Ender, 2018; Ninomiya, 2016).

In general, educational assessments, whether classroom-based or standardized national assessments, serve three primary functions: improving the quality of learning, evaluating individual student performance, and assessing educational programs (National Research Council, 2001). National assessment data can be utilized across multiple levels, from individual schools to broader policy formulation (Imlig & Ender, 2018). For instance, teachers may leverage national assessment results to enhance instructional strategies (Pitsia et al., 2021), while policymakers can use the data to monitor education system performance and implement reforms aimed at quality improvement (Paget et al., 2016).

Countries vary in how they utilize national assessment data. Some employ it solely for instructional improvement, while others apply it for multiple purposes. For example, Norway and Sweden use national assessment outcomes to improve classroom instruction and maintain education quality control, with Sweden also utilizing results for individual student evaluation (Tveit, 2018).

However, national assessments frequently generate public controversy, particularly when used for high-stakes purposes, potentially leading to unintended consequences like curriculum narrowing and teaching to the test (Lee et al., 2023; Rose et al., 2018; Tveit, 2013). Indonesia has a long-standing tradition of national assessments, beginning with the End of School Exam (Ujian Penghabisan) from 1950 to 1964, followed by several changes, including the National Final Exam (Ujian Akhir Nasional/UAN) from 2003 and later renamed the National Exam in 2005 (Ujian Nasional/UN) (Center for Education and Policy Studies, 2024). According to the Government Regulation Number 19 of 2005 on National Education Standards, national exam results were used

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for multiple purposes, such as mapping program quality, student graduation, and school-level intervention. Thus, the results of the UN were used for multiple purposes.

The high-stakes nature of UN led to significant public concern, culminating in a citizen lawsuit filed by 58 individuals in 2006. Between 2015 and 2020, while UN no longer determined student graduation, it continued to be administered. In 2021, it was officially replaced by AN. According to the Regulation of the Minister of Education, Culture, Research, and Technology of the Republic of Indonesia Number 17 of 2021 concerning the National Assessment (Mendikbudristek, 2021), AN is a system-level evaluation tool targeting grades 5, 8, and 11. Unlike the national exam, which was administered at the end of an educational level to determine graduation, the AN is conducted in grades 5, 8, and 11 and does not have consequences for individual students (Center for Assessment and Learning, 2021).

1.1. Problem Statement

The success of national education policy implementation largely depends on its effective translation into classroom practices. For assessment data to meaningfully contribute to improved student learning, it must be appropriately utilized at both school and classroom levels (Schildkamp et al., 2016). Stakeholder perceptions—particularly those of principals, teachers, parents, and students—significantly influence how assessments impact the learning process (Imlig & Ender, 2018).

Teachers play a central role in translating assessment policies into instructional practice. Their understanding and perception of an assessment guide how results are interpreted and used to tailor instruction to student needs (Schildkamp et al., 2016). Similarly, student understanding and attitudes toward assessments can influence their engagement and learning strategies (Nieminen & Atjonen, 2022; Smith et al., 2011). For example, although Australia's NAPLAN is intended as a low-stakes assessment, some students perceive it as high-stakes, affecting their behavior and emotional responses (Howell, 2017).

Despite the policy shift in Indonesia, limited research has examined the implications of the AN for primary education, especially from the perspectives of teachers and students. This study seeks to fill that gap by exploring how teachers and students understand and perceive the AN and how its implementation affects learning and classroom assessment practices.

1.2. Related Research

Early research on the implementation of AN indicated varied understandings of AN among primary school teachers. Some teachers understood AKM, a component of AN, as a replacement for the UN (Nurhikmah et al., 2021; Sari & Sayekti, 2022). In the other hand, a school principal in a primary school in Peukan Pidie, Aceh Province viewed AKM as a policy to assess the national educational quality, not a replacement for the exam due to its different objectives (Iman et al., 2021). Based on interviews, teachers in two primary schools in Boyolali Regency had understood the components of AKM, such as literacy and numeracy and the indicators in the character survey (Kusumaningrum & Abduh, 2022).

Schools had made various efforts to prepare for the implementation of AN, such as organizing socialization activities for teachers (Nurhikmah et al., 2021; Putri et al., 2022), preparing teaching materials, questions, including those measuring higher-order thinking skills, and modules for students (Hanjani et al., 2023) and adjusting learning to the AKM assessment model by providing teachers with supporting books aligned with AKM (Iman et al., 2021). In preparation for AN, schools also provided additional lessons for students selected to participate in AN by working on AKM questions (Hanjani et al., 2023; Iman et al., 2021; Kusumaningrum & Abduh, 2022; Muliasari et al., 2022). Special preparations for AN also included utilizing AKM questions via the pusmenjar website (Kusumaningrum & Abduh, 2022; Putri et al., 2022). Since not all students were familiar with using

computers/laptops, some schools have specifically introduced students to computer operations (Hanjani et al., 2023).

In general, the implementation of AN in schools had proceeded smoothly. However, challenges remained related to the availability and use of information and communication technology, such as insufficient availability of computers/laptops (Berlianto & Pembangunan, 2023; Muliasari et al., 2022; Rigianti & Utomo, 2023), especially in 3T (remote, frontier, and outermost) areas (Kharismawati, 2022; Wuwur, 2023), problematic internet connections (Ahmad, 2022; Kusumaningrum & Abduh, 2022; Widiyanto & Desstya, 2023) , limited teacher and/or student skills in using technology (Iman et al., 2021; Kharismawati, 2022; Wuwur, 2023), and inadequate telecommunications networks in 3T areas, making it difficult to find locations to administer AN (Kharismawati, 2022). Other challenges included the lack of supporting books for AKM (Rigianti & Utomo, 2023), limited teacher ability to develop AKM-related questions (Rigianti & Utomo, 2023), and insufficient socialization (Iman et al., 2021).

Research examining the impact of AN on learning and assessments in primary schools is still relatively limited. The majority of these studies focused on the impact of AKM. For example, based on AKM results reported in educational reports, teachers in one primary school in Karas Subdistrict, Magetan Regency, began attending training sessions to improve the quality of learning (Putri et al., 2022). Teachers began presenting questions in the form of story problems that integrate several topics from the theme books, designed to stimulate critical thinking and problem-solving skills.

The concept of assessments are frequently oversimplified as a dichotomy between internal assessments conducted by educators and external assessments imposed by external bodies such as government agencies or international organizations. This binary perspective fails to acknowledge that assessments occupy a continuum, varying in their alignment with teaching and learning activities (Pellegrino, 2017).

The design of student achievement assessments is largely influenced by the educational framework of each country, as well as by prevailing global assessment trends (Imlig & Ender, 2018). As Baird et al. (2017) assert, while international assessments may not directly impact the manner in which students engage with the content, they do shape educational policy, which in turn dictates the curriculum and instructional methodologies employed in classrooms.

1.3. Research Objectives

This study aimed to explore teachers' and students' understanding and perceptions of the AN and the impact of the implementation of AN on learning and classroom assessments.

2. Theoretical Framework

2.1. Assessment and Learning

Educational assessments profoundly influence the teaching and learning process, playing a pivotal role in determining both the content delivered and the pedagogical approach employed (Baird et al., 2017). The nature of the assessments further shape students' learning approaches, potentially fostering either a surface approach—characterized by a minimalistic engagement aimed solely at fulfilling course requirements—or a deep approach, which is rooted in intrinsic motivation to achieve a comprehensive understanding of the material (Bloxham & Boyd, 2007).

Assessments that emphasize memorization of discrete facts or procedures tend to promote surface learning. In contrast, assessments that require students to synthesize information, recognize patterns, and draw conclusions foster deeper cognitive engagement and integrative understanding (Bloxham & Boyd, 2007). Therefore, the design and intent of assessment tasks have significant implications for learning outcomes.

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2.2. National Assessment in Several Countries

National assessments implemented by educational systems across various countries to collect data on student achievement serve multiple purposes, encompassing both high-stakes and low-stakes objectives. High-stakes assessments, such as graduation examinations at the end of an educational level, carry significant consequences, whereas low-stakes assessments are primarily utilized to enhance instructional practices within the classroom. On a broader scale, data derived from student achievement assessments can be employed to monitor and evaluate the effectiveness of a nation's education system.

Assessment frameworks vary significantly across countries. For instance, Australia conducts the National Assessment Program–Literacy and Numeracy (NAPLAN) annually for all students in grades 3, 5, 7, and 9, specifically to track proficiency in literacy and numeracy (National Assessment Program, 2025). Norway administers a national assessment to evaluate the competencies of students in grades 5 and 8 in English, reading, and mathematics, as well as grade 9 in reading and mathematics, which is mandatory for all students (Tveit, 2013). The United States implements the National Assessment of Educational Progress (NAEP) annually using representative samples of students in Grades 4, 8, and 12 across a broad array of subject (National Center for Education Statistics, 2019). Conversely, Brazil administers the Prova Brasil biennially to assess the achievement of students in grades 4 and 8 in mathematics and Portuguese (Paget et al., 2016).

NAPLAN results are provided to each student who participates in the assessment and may be utilized by parents to track their children's literacy progression and engage in discussions with educators regarding the outcomes (National Assessment Program, 2025)). Additionally, these results serve as supplementary information for teachers to assess students' literacy and numeracy competencies and monitor their academic progress. Education policymakers leverage these results to monitor and evaluate the performance of schools and the overall education system, guiding the development of literacy and numeracy skills and identifying schools requiring additional support. Similarly, Norway's national assessment results are reported on an individual basis, facilitating instructional improvements by educators. At an aggregate level, these results are utilized by policymakers across various levels to conduct comprehensive monitoring and evaluation (Tveit, 2013). In contrast, NAEP does not aim to assess individual student or school performance. Rather, it serves as a tool for tracking national and state-level educational progress (National Center for Education Statistics, 2019). Similarly, the results of Prova Brasil are not intended to assess individual student progress and are not disseminated to all test participants. Instead, the Brazilian Ministry of Education uses the Prova Brasil results to monitor and evaluate the education system, enabling improvements through data-driven policymaking (Paget et al., 2016).

2.3. National Assessment in Indonesia

Article 2 of the Regulation of the Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia Number 17 of 2021 on National Assessment (Mendikbudristek, 2021) states

that the purpose of AN is to measure cognitive learning outcomes, non-cognitive learning outcomes, and the quality of the learning environment in educational units. These are measured using the minimum competency assessment, character survey, and learning environment survey, respectively. During the implementation of AN, students will complete two instruments: the minimum competency assessment and the character survey, while the learning environment survey is completed by school principals and teachers.

The types of questions in AKM vary, including multiple choice, complex multiple choice, matching, short answer, and essay. The scoring for multiple choice, complex multiple choice, matching, and short answer/essay questions is done objectively. The components of AKM are displayed in the table below.

Table 1. The Component of AKM

Reading Literacy	Mathematical Literacy-Numeracy
Content	
	Numbers
Informational text	Geometry
Fictional text	Data and Uncertainty
	Algebra
Cognitive Process	
Finding information	
Interpreting	Knowing
and integrating Information	Applying
Evaluating and reflecting on information	Reasoning
Konteks	
Personal	Personal
Socio-cultural	Socio-cultural
Scientific	Scientific

Source: (Center for Assessment and Learning, 2020)

Another instrument is the character survey, which is designed to assess attitudes, values, beliefs, and habits reflecting students' character, based on the Pancasila Student Profile (*Profil Pelajar Pancasila*) (Center for Assessment and Learning, 2021). This profile includes six dimensions: 1) faith and devotion to God Almighty and noble character; 2) global diversity; 3) mutual cooperation; 4) critical thinking; 5) independence; and 6) creativity.

The learning environment survey is used to gather information about the quality of the learning process and the school climate that supports learning. This survey includes 9 dimensions: 1) students' socio-economic background; 2) the quality of classroom learning; 3) teacher reflection and improvement in teaching; 4) instructional leadership; 5) safety climate in educational units; 6) diversity climate in educational units; 7) gender equality climate; 8) inclusivity climate; and 9) parental and student support for the educational unit's programs (Center for Educational Assesment, 2022).

The results of the national assessment are subsequently used as part of the educational evaluation by the Minister of Education (Article 11 Paragraph (3)). The analysis of these results by the Ministry is then communicated to stakeholders at various levels to enhance the quality of learning in educational units and/or evaluate the performance of educational units in their regions (Article 11 Paragraph (4)).

In terms of cognitive learning outcomes, AN is similar to NAPLAN in Australia, as it measures literacy and numeracy competencies. These outcomes differ from the national assessments in Norway and Brazil, which focus on subject-specific competencies. In contrast to NAPLAN in Australia and the national assessment in Norway, which encompass all students within the specified grades, the AN is administered to a randomized sample of students at selected schools. Another notable distinction is that, unlike the assessments in Australia and Norway, the results of AN are not reported at the individual student level but rather at the school level, akin to the Prova Brasil. Despite these procedural differences in the administration of national assessments across the aforementioned countries, the data derived from these assessments, including AN results, are utilized by policymakers at various tiers to implement improvements aimed at enhancing the overall quality of education.

3. Method

3.1. Research Design

This study employed a qualitative method with a phenomenological approach. This approach was used to gather rich data by exploring the experiences, perspectives, and views of both teachers and students regarding AN.

3.2. Participant

The study involved 11 teachers and 21 fifth-grade students from six public elementary schools in Kebayoran Lama District, South Jakarta, who participated in the AN in 2021. The selection of teachers was based on their educational background, certification, and teaching experience. In contrast, the selection of students was based on their participation in the implementation of the AN. To maintain data confidentiality, schools were coded A, B, C, D, and E. Each teacher was assigned a code consisting of the word "Teacher" followed by a number from 1 to 11. The students were assigned a code consisting of the word "Student" followed by a number from 1 to 21.

The distribution of the informants at each school is shown in Table 2.

Tabel 2. Informants by School

School Code	The Number of Informants	
	Teacher	Student
A	2	4
B	2	4
C	1	3
D	2	5
E	2	2
F	2	3
Total	**11**	**21**

The backgrounds of the teachers and students involved were assessed through a questionnaire distributed using Google Forms, which contained information about the participants. The teachers' characteristics were categorized based on gender, age, years of teaching experience, educational background, and certification. The characteristics of the teachers are presented in Table 3.

Tabel 3. Teachers' Characteristics

Variable	Number	Percentage (%)
Gender		

Male	2	18,19%
Female	9	81,81%
Total	**11**	**100%**
Age		
≤ 30 years	-	-
31-40 years	7	63,64%
≤ 41 years	4	36,36%
Total	**11**	**100%**
Teaching Experience		
1-5 years	-	
6-10 years	3	27,28%
>10 tahun yers	8	72,72%
Total	**11**	**100%**
Educational Background		
Bachelor degree in primary teacher education	11	100%
Others	-	-
Total	**11**	**100%**
Teacher Certification		
Yes	11	100%
No	-	-
Total	**11**	**100%**

As presented in Table 3, the majority of the fifth-grade teachers were female, accounting for 81.81%. The largest group of teachers was aged between 31 and 40 years, making up 63.64%. Most teachers had over 10 years of teaching experience (72.72%) and held a bachelor's degree in Primary School Teacher Education (S1-PGSD), with all teachers being certified. The characteristics of the student participants were categorized based on gender, age, and academic achievement. The results of the data collection are shown in Table 4.

Tabel 4. Students' Characteristics

Variable	Number	Percentage (%)
Gender		
Male	13	61,90%
Female	8	38,10%
Total	**21**	**100%**
Age		
11 years	13	61,90%
12 years	8	38.10%
Total	**21**	**100%**

Based on Table 3, the majority of the student participants were male (61.90%), with the remaining 38.10% being female. The most common age among students was 11 years (61.90%), while the remaining students were 12 years old (38.10%).

3.3. Data Collection

Data were collected through semi-structured interviews using a prepared set of questions that were posed to both teachers and students. However, the researcher had the flexibility to explore additional responses from the participants. The questions were designed to investigate the participants' understanding of AN, the implementation of AN in schools, and the impact of AN on teaching and assessment.

Prior to the interviews, the researcher obtained permission from the Sub-District Education Office of South Jakarta to conduct research in several elementary schools. Subsequently, the researcher met with the school principals to schedule interviews with fifth-grade teachers. The interviews were scheduled so as not to disrupt classroom activities, with each session lasting between 30 and 60 minutes. The second author conducted the interviews with the assistance of a research assistant. During the interviews, the second author interviewed the teachers, while the research assistant interviewed the students. With written consent from the participants, the interviews were recorded while ensuring confidentiality.

3.4. Data Analysis

The researcher used Google Docs to transcribe the recorded interviews into written text. The data were then analyzed using typological analysis by categorizing the data based on predefined typologies (Hatch, 2002). For this study, the typology was based on the research questions, including teachers' and students' understanding and perspectives of the AN, its implementation, and its impact on classroom teaching and assessment. Data within each typology were then categorized based on emerging patterns. Data coding and categorization were performed by the first author, second author, and research assistant. The results of the coding and categorization were then discussed to formulate the themes that emerged.

3.5. Validity and Reliability

To ensure the quality of the research, the researcher adhered to alternative perspectives regarding validity and reliability in qualitative research, namely trustworthiness, which includes credibility, transferability, dependability, and confirmability (Daymon & Holloway, 2010). To ensure credibility, the researcher employed data triangulation by involving teachers and students from different schools—11 teachers and 21 students from six public elementary schools in Kebayoran Lama, South Jakarta. Additional efforts to ensure credibility were made through investigator triangulation, involving the first author, second author, and a research assistant in the data analysis process. The analysis results were then compared and discussed to reach a consensus on the identified patterns, categories, and themes. Transferability was achieved by providing a detailed description of the study and comparing it with other research on AN. To ensure consistency and accuracy (dependability), an audit trail was conducted by documenting each stage of the research process, including the participants' data with assigned codes, interview recordings, transcripts, coding, and categorization of data. To ensure that the findings and conclusions align with the study's objectives (confirmability), the researcher ensured that the findings and conclusions were derived from a thorough analysis of the collected data.

4. Findings

The data analysis resulted in five themes: teachers' understanding and perceptions of AN, students' understanding and perceptions of AN, the implementation of AN, the impact of AN on learning, and the impact of AN on classroom assessments.

4.1. Teachers' Understanding and Perceptions of AN

The interview results indicated that most teachers understood the concept of AN, although they used different terminology when defining it, such as "evaluation" and "assessment." Four teachers referred to it as an evaluation, while five teachers referred to it as an assessment. Additionally, two teachers directly linked AN to its perceived purpose, which they understood to be the assessment of students' abilities. Below are some definitions provided by the teachers who used the terms "evaluation" and "assessment":

> "National assessment is an evaluation program organized by the government to improve the quality of education and to capture the input and output of a school." (Teacher 3)

> "National assessment, as far as I know, is a type of assessment conducted by the Ministry of Education to assess the overall quality of an educational unit, both from the students and the learning environment." (Teacher 2)

Additionally, two teachers directly linked the AN's purpose to assessing students' abilities, with one teacher also mentioning its role in reflecting the condition of the school.

Interviews with the teachers also revealed that the majority had a basic understanding of the components of AN, such as AKM, character survey, and learning environment survey, as well as the grade levels involved and the timing of the assessment. However, one teacher only mentioned the components of AKM, specifically literacy and numeracy, without mentioning the character survey and learning environment survey. Another teacher did not know about the components of AN.

Regarding AKM, one of the three components of AN, three of the 11 interviewed teachers stated that AKM measures students' basic competencies in literacy, as illustrated in the following excerpt:

> "Assessment is conducted to measure students' basic competencies. The basic competencies in question are related to literacy, such as reading literacy and numeracy literacy." (Teacher 2)

Three other teachers referred to AKM as an assessment of the basic competencies students should master, without specifying the competencies being measured. Here is a statement representing this understanding:

> "Basic competencies assessment for students, which serves as a source of information to map and evaluate the quality of education in a region." (Teacher 5)

Two teachers only mentioned the acronym AKM without discussing the components of the assessment. One teacher did not specifically mention basic competency measurement but referred to general student learning outcomes. Another teacher stated that AKM requires students to engage in higher-order thinking. Additionally, one teacher linked AKM to its use in mapping school quality:

> "AKM is an assessment conducted to improve the quality of learning, implemented by the government to drive improvements in teaching and learning outcomes." (Teacher 1)

Ten of the 11 teachers interviewed strongly affirmed the necessity of AN. Reasons cited included improving the quality of education, measuring school quality as a basis for follow-up actions, enhancing education in Indonesia, and evaluating student learning outcomes. Below are some of the teachers' statements:

> "Yes, it is essential because national assessment can be used to measure the quality of an educational unit, which will then serve as a reference for follow-up actions to improve the unit's quality and ultimately improve education in Indonesia." (Teacher 2)

"In my opinion, it is necessary to measure, to assess, and to evaluate students' learning outcomes over time, because without AN, we wouldn't know where we stand. Moreover, since the national exams are said to no longer exist, this is crucial." (Teacher 7)

One teacher (Teacher 3) emphasized the importance of understanding the quality of a school compared to others, as this could motivate teachers and other stakeholders to improve learning quality. This view was shared by Teacher 7, who highlighted that AN results could inspire school-wide improvements.

Teacher 6 proposed the importance of implementing AN for all fifth-grade students in elementary schools so that each student has the experience of participating in the assessment. However, this teacher acknowledged that not all schools are equipped to implement AN for all students in the designated grades due to limitations in necessary facilities, such as computers and sufficient internet access.

A notable perspective was shared by Teacher 9, who did not directly express the need for AN but elaborated on the levels at which AN results would be used. In this teacher's view, the government needs AN to map educational quality. After results are obtained, schools can then use AN results to evaluate their performance and identify areas for improvement.

4.2. Students' Understanding and Perceptions of AN

According to the interviews, several students were able to state the full form of AN , the types of questions involved in AKM—literacy and numeracy—and the types of questions, such as multiple choice, complex multiple choice, and fill-in-the-blank. However, some students were unable to recall the full form of AN.

The majority of students viewed AN as an exercise in answering questions using a computer or laptop. Many students also noted that AKM questions were more challenging than those given by their teachers, especially the numeracy questions. However, some students also mentioned difficulties with the reading literacy questions.

When asked about their feelings toward participating in AN, some students expressed positive emotions:

"I'm happy because I received a national-level assessment." (Student 3)

Others were indifferent about their performance:

"If the results are poor, it's no big deal." (Student 13)

4.3. The Implementation of AN

Overall, the interviews indicated that the implementation of AN in the schools that participated in this study went smoothly. Teachers also prepared students for AN. One teacher shared:

"Yes, students were given training, such as special sessions. They were regularly trained with questions that followed the AKM format. The school also provided AKM-related books for students to study, both at home and in school." (Teacher 11)

However, there were some challenges during the process, particularly during the trial runs. The most frequently mentioned issue was related to internet connectivity and server problems.

"Thank God the actual implementation went smoothly, although during the try-out we faced some issues due to slow network speeds and occasional lag." (Teacher 3)

"Technical issues may arise, such as server problems from time to time." (Teacher 10)

"Sometimes there are difficulties. Also, when using computers, the login process can be very slow." (Student 20)

"There was a slow network when logging in, and I had to input a code, but it didn't work." (Student 21)

Another challenge involved students who were not accustomed to using computers or laptops, as not all students owned a laptop at home, and the selection of AN participants was random.

"Perhaps it's due to their learning environment, because not all of them have computers at home, making it a bit awkward. There were difficulties during the tasks since they are not used to using a mouse, and now they have to use one." (Teacher 6)

Teachers also highlighted issues with students' readiness to tackle AKM questions, both in terms of content and question format.

"...The main difficulty is the lack of deeper understanding of numeracy, according to the students. I've also surveyed them about AN, and they faced challenges, especially with numeracy, which involves more word problems." (Teacher 7)

The students also mentioned difficulties with the AKM's HOTS-based questions, especially in numeracy. However, some felt challenged by the complexity of the tasks.

"I feel challenged because the questions are more complex compared to the usual questions." (Student 2)

"I was confused about answering the numeracy questions." (Student 4)

"There were many difficulties, like the math and Indonesian questions, because they were hard to answer. So, I skipped them and then returned to them later." (Student 19

4.4. The Impact of AN on Learning

Although the results of AN had not been obtained at the time this research was conducted, the majority of the teachers participating in the study stated that the implementation of AN had motivated them to enhance literacy and numeracy skills.

"For example, if the learning activities are improved further, literacy—such as reading skills—should be enhanced, and numeracy requires more practice, so it takes more time. It's not just about reading; the students must also comprehend, understand reasoning, and use numeracy beyond simple addition and subtraction. It also needs to be applicable in real-life situations." (Teacher 5)

Most teachers also expressed that they were motivated to further improve the quality of teaching by utilizing student-centered teaching methods.

"The implementation of the national assessment has personally motivated me as a teacher to reintroduce student-centered learning models, which encourage students to be active in learning and stimulate critical thinking throughout the process." (Teacher 2)

Students had varied responses when asked about the differences in learning before and after the implementation of AN. Here are a few student statements:

"There's no difference, it's the same before and after AN." (Student 2)

"It's the same, like speaking in front of the class or being asked to bring a phone and fill out a quiz on Google Forms at school." (Student 9)

"There's no difference, teaching is the same. Some use Quizizz in school." (Student 12)

"We've had practice exercises in class similar to AKM, and they were easier." (Student 8)

Furthermore, teachers began to use technology more frequently in teaching and trained students to use it, such as with mobile phones and laptops.

"There's been a significant change in the use of information technology. Previously, its use was limited, but now we have significantly increased its usage. The percentage of information technology usage has increased from about 40% to 70-80%." (Teacher 3)

"Yes, it has had a significant impact, especially because we now use computers. So the students have no choice but to learn how to use computers themselves, which is now part of the learning process. We're teaching them to use technology, integrating it into learning, not just using textbooks or classroom teaching but also based on technology." (Teacher 4)

Students also stated that their teachers had started incorporating information and communication technology into lessons:

"Usually, we are asked to bring our phones to answer questions using Quizizz or complete tasks on Google Forms." (Student 20)

However, some teachers noted that there was little or no change in their teaching methods. The reasons provided included the fact that AN results had not yet been obtained or that the teaching methods needed for developing literacy and numeracy had already been implemented.

4.6. The Impact of AN on Classroom Assessments

Teachers provided varied responses regarding the impact of AN on classroom assessments. Generally, the changes were moderate, with some teachers stating that there was little or no change at all. Nevertheless, the implementation of the AN has led teachers to reflect on the classroom assessments they conduct and begin making necessary adjustments. For instance, some teachers, after the implementation of AN, focused more on authentic assessments through performance-based evaluations.

"Yes, in assessments, I've made developments and changes because of the national assessment. The assessments I conduct are now more authentic and involve more student performance; it's not just about using textbooks but also evaluating their performance." (Teacher 2)

Teachers also started including questions aligned with AKM standards, both in terms of content that integrates literacy and numeracy and in terms of question format, such as moving beyond simple multiple-choice questions to include complex multiple-choice, fill-in-the-blank, matching, and question creation.

"Now, in the assessment system, when creating questions, we prioritize literacy, and we have modified our questions. We are now more inclined towards HOTS." (Teacher 3)

"When I administered the midterm exam, I included some questions on literacy and numeracy that align with AKM. There were challenges because the students didn't understand the structure of the sentences. I told them that this is part of AKM and they will encounter it later, especially for students who have never participated in AKM. These students had more difficulties, particularly in understanding reading or literacy questions." (Teacher 6)

One teacher also explained the impact of AN through an assessment of attitudes, mentioning that attitude assessment techniques had been added, though they were still in the planning stage.

When asked about changes in the way teachers assess students after the implementation of the national assessment, all the student participants responded that there had been no changes or that things were the same.

"There's no difference, it's the same." (Student 3, Student 4, Student 8, Student 21)

"They didn't give questions like the ones in AKM." (Student 5)

5. Discussion

5.1. Teachers' Understanding and Perceptions of AN

The achievement of educational policy goals and programs established by the government in the field of education is also determined by how these policies and programs are understood and interpreted by stakeholders, including teachers and students. In the context of AN, teachers' understanding and attitudes are crucial because they will determine the success of AN in improving education quality in Indonesia through classroom teaching and assessment. According to (Fulmer et al., 2015), the assessment practices employed by teachers in the classroom are influenced by contextual factors at macro, meso, and micro levels. National assessments can be categorized as a macro-level factor influencing meso-level factors, such as education offices and school leaders, which ultimately influence teachers, both directly and indirectly. How teachers interpret the goals of the national assessment will be shaped by micro-level factors, such as their understanding and views of AN, as well as their interactions with students during assessments and teaching.

Interviews with teachers in this study revealed that, in general, teachers possessed basic knowledge about the AN, including its definition, the instruments used (AKM, Character Survey, and Learning Environment Survey), the types of AKM questions, the grade levels involved, and the timing of the assessment. However, teachers' understanding of one component of the AN, namely AKM, varied, with some teachers only able to state its full form. This finding confirms previous research indicating that teachers still lack sufficient understanding of AKM (Kusumaningrum & Abduh, 2022).

The majority of teachers understood that the results of AN are not intended to measure individual student competence but are used to map the quality of schools, which can then be used to improve teaching and learning. This understanding aligns with the explanations in various documents released by the Ministry of Education and Culture regarding the AN (Center for Assessment and Learning, 2021).

The difference in terminology used to define AN, namely "evaluation" and "assessment," is understandable given the close relationship between these concepts, which is why these terms are often used interchangeably (Meylani, 2024). Article 1, Paragraph 1 of the Ministry of Education, Culture, Research, and Technology Regulation Number 17 of 2021 on National Assessment (Mendikbudristek, 2021) states that "one form of evaluation of the education system by the Ministry at the primary and secondary education levels." This definition seems to refer to one of the uses of assessment results, which is for evaluation purposes.

Teachers displayed a positive attitude toward AN, viewing it as necessary for improving education quality, including enhancing classroom teaching. This positive attitude indicates that teachers believe the results of the national assessment can be applied at various levels, from the education system to the classroom. This belief aligns with what is stated in the Ministry of Education, Culture, Research, and Technology Regulation Number 17 of 2021, where the analysis of AN results, as part of the evaluation of the education system by the Minister, will be used by other stakeholders to improve teaching quality and/or evaluate the performance of educational units. This positive attitude corroborates previous research (Kusumaningrum & Abduh, 2022) showing that teachers are interested in using AKM and character survey results to evaluate the learning process.

5.2. Students' Understanding and Perceptions of AN

Students who participated in this study tend to view the AN as a low-stakes test, as it carries no direct consequences for them. Consequently, many students expressed indifference if they did not achieve favorable results, with some even feeling pleased to have the opportunity to be assessed at a national level. The messages conveyed by the Ministry of Education, Culture, Research, and Technology regarding the purpose of the assessment through various socialization

efforts seem to have reached the students. This finding contrasts with a study involving students in grades 3, 5, and 7 in Australia who participated in NAPLAN (Howell, 2017). Although NAPLAN was designed as a low-stakes assessment by policymakers, some students viewed it as a high-stakes test, one that impacted their opportunities to pursue education at their desired schools. Additionally, some students expressed concerns that their assessment results would be compared to those of their peers. The perception among some students that NAPLAN is a high-stakes test appears to be influenced by inconsistencies in the messaging, both from the government, which uses NAPLAN results for accountability purposes, and the media, which often emphasize rankings based on NAPLAN results (Howell, 2017).

5.3. The Implementation of AN

Overall, the findings from the five schools involved in the study, all located in South Jakarta, indicate that the implementation of the AN proceeded smoothly. The readiness of essential infrastructure, such as the availability of laptops/computers and internet access, significantly supported the successful execution of the AN, similar to the implementation in elementary schools in Cluster 7, Tambun District, Bekasi Regency (Kartanti et al., 2024). However, challenges were still encountered due to technical issues, such as slow internet connections or server outages, as seen in other schools (Ahmad, 2022; Putri et al., 2022; Widiyanto & Desstya, 2023)). This contrasts with findings from schools that lacked adequate infrastructure, such as in Tasikmalaya, where some students attended the AN at other, better-equipped schools, or where schools had to purchase additional laptops (Muliasari et al., 2022) Another measure taken to address insufficient laptop availability was for teachers to lend their personal laptops to students to participate in the AN (Berlianto & Pembangunan, 2023). The lack of necessary infrastructure for AN is particularly felt by teachers and students in 3T (remote, frontier, and outermost) areas (Kharismawati, 2022; Wuwur, 2023).

Another issue identified was that some students were not accustomed to using laptops or computers, particularly those from families without access to such devices, which hindered their performance. This phenomenon of students who are unfamiliar with, or have never used, computers or laptops is not exclusive to 3T areas (Kharismawati, 2022; Wuwur, 2023) but is also found in urban schools (Hanjani et al., 2023; Muliasari et al., 2022)). To address this issue, some schools specifically trained students to use these devices (Berlianto & Pembangunan, 2023; Hanjani et al., 2023).

Although AN was designed as a low-stakes test, some schools still prepared students by having them practice with AKM-style questions. This trend was also observed in other schools, where additional study hours were provided (Kusumaningrum & Abduh, 2022; Muliasari et al., 2022; Putri et al., 2022). The Ministry of Education and Culture emphasized through various forums and media that students need not be specially prepared to practice AKM questions, except for basic technical preparations. Furthermore, there are no individual scores for students, teachers, or school principals, nor are there rankings.

Some students in this study encountered difficulties with both literacy and numeracy AKM questions. These findings confirm previous research (Berlianto & Pembangunan, 2023; Sari & Sayekti, 2022) highlighting students' struggles with AKM questions, which were considered complex and challenging. One reason mentioned by students was the lengthy reading passages (Berlianto & Pembangunan, 2023; Rohmah et al., 2022). AKM questions are designed to assess students' ability to engage in higher-order thinking, making them more complex than typical questions that only measure content mastery. One factor contributing to students' difficulties with higher-order thinking questions is their limited reading comprehension skills (Driana et al., 2021; Nurmawati et al., 2020; Schulz & FitzPatrick, 2016). For example, numeracy questions in AKM contain introductory materials in text and image formats, requiring students to process and interpret information, and to reason using mathematical concepts learned to solve real-world problems in various contexts (Pusat Asesmen dan Pembelajaran, 2020). Many students are still unable to think at the required

higher cognitive level, which results in difficulty with numeracy problems designed for the AKM (Rohmah et al., 2022).

5.4. The Impact of AN on Learning

At the time this study was conducted, the teachers involved had not yet received the AN results. However, the implementation of the AN has further raised awareness among the teachers in this study about the importance of developing reading literacy and numeracy. This finding aligns with the research conducted by Kartanti et al. (2024). To enhance students' reading skills, teachers in an elementary school in Boyolali Regency assigned reading homework and summary exercises (Kusumaningrum & Abduh, 2022). Teachers also taught students how to highlight key points in texts.

Teachers also made efforts to improve the quality of their teaching, including by using student-centered learning and employing more diverse teaching methods, such as project-based learning. However, these changes have not yet been fully felt by students, as they are still in the early stages. Teachers' awareness and motivation align with the goal of the AN to provide feedback to educational units for use in improving teaching processes, ultimately aiming to enhance students' character and competencies (Center for Assessment and Learning, 2020).

Another notable outcome observed after the implementation of AN, confirmed by the students, is that teachers have increasingly utilized technology in their teaching, including training students to use it. The five schools in South Jakarta were generally well-equipped with the necessary infrastructure for integrating information and communication technology (ICT) into teaching, although some students from disadvantaged families did not yet have the required devices. The digital divide remains a barrier to the effective use of technology in education (Heeks, 2022; Rodiyah et al., 2023). Furthermore, teachers need to possess digital competencies to appropriately integrate technology into their teaching (Fernández-Batanero et al., 2020) .

Thus far, the message conveyed by the Ministry in various socializations about AN, which is not designed for high-stakes purposes but rather to improve teaching quality, appears to have been well received. Ensuring that AN remains treated as a low-stakes test, with a focus on improving the quality of teaching, must continue to be upheld to avoid the negative consequences observed with large-scale standardized tests in other countries. For example, the shift in teachers' and students' understanding of standardized assessments from being designed as low-stakes tests to high-stakes tests, as seen in Australia, can lead to undesirable consequences, such as curriculum narrowing, with a focus on preparing for NAPLAN through practice questions (Ragusa & Bousfield, 2015).

Furthermore, to ensure that AN contributes to improving classroom learning, teachers must make appropriate use of AN results. Research conducted in Ireland (Pitsia et al., 2021)shows that teachers who have a positive attitude toward standardized testing and have participated in training related to standardized tests are more likely to use the test results to enhance classroom learning. The success of using assessment results to improve teaching quality is also influenced by school characteristics, the teachers' data usage skills, and collaboration (Schildkamp et al., 2016).

5.5. The Impact of AN on Classroom Assessments

Following the implementation of AN, teachers expressed a desire to make changes to classroom assessments by incorporating questions that measure literacy and numeracy, assess higher-order thinking skills, and adopt various question formats, though the degree of implementation varies. For instance, teachers in an elementary school in Boyolali Regency followed up the AN with exercises on multiplication, addition, and division to train students in using mathematical operations, which they completed directly before school ended (Kusumaningrum & Abduh, 2022). However, these questions were not presented in a format that requires reasoning to solve real-world problems using the mathematical concepts learned, which is essential for developing numeracy. Research by Hindriana et al. (2023) involving teachers from elementary and junior high

schools in Kuningan Regency showed that teachers still face challenges in creating literacy and numeracy questions and that they are supported through training to develop such questions. As part of the follow-up to AKM results, teachers in an elementary school in Magetan Regency, for example, participated in training to develop literacy and numeracy questions (Putri et al., 2022). Students in that school began to notice changes in the types of questions their teachers gave, which increasingly focused on reasoning to solve every day problems.

In addition to the impact on cognitive assessments, some teachers indicated that they would continue to assess students' attitudes through observation during the learning process as an effort to develop students' character. The AN not only focuses on assessing cognitive aspects through AKM but also evaluates students' character through the character survey and learning environment survey.

6. Conclusion

A proper understanding of the purposes of AN by teachers and students will play a crucial role in achieving AN goals of improving the quality of learning. Moreover, the perception among teachers and students that AN is a low-stakes assessment is a critical foundation that policymakers must maintain to ensure that the results of AN genuinely reflect students' competencies and character, free from manipulation, such as excessive test practice that does not contribute to improving teaching quality. Additionally, the smooth implementation of the AN requires adequate infrastructure, particularly information technology, which must be readily available. Both teachers and students must be equipped with the necessary skills to use these technological tools. To ensure that the results of the AN are effectively utilized, teachers must also be trained to interpret the assessment outcomes and apply them to enhance the quality of teaching and classroom assessment.

Limitation

This study was conducted before the results of AN were announced, meaning that the participating teachers had not yet had the opportunity to use AN results to plan their teaching and assessments. Therefore, the impact of AN on teaching and assessment practices was based solely on the teachers' knowledge and experience of AN. This study also did not explore the affective aspects in greater depth, such as the motivation of teachers and students before and during the implementation of AN.

Recommendation

Further research is needed to understand how schools and teachers utilize AN results to improve the quality of teaching after four years of implementing the AN. Additionally, research should explore the affective aspects of teachers' and students' experiences related to the administration of the AN.

The smooth implementation of AN should be supported by the availability of necessary infrastructure. Moreover, improving teaching quality also requires adequate supporting resources and facilities.

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Acknowledgments

Conflict of Interest

The Authors declare that there is no conflict of interest.

Declaration of Generative AI-assisted Technologies

This manuscript was prepared with the assistance of Generative AI: ChatGPT, Grammarly, and Turnitin. ChatGPT was utilized to translate well-structured texts from Indonesian into English and to refine the translated content. Grammarly was employed to ensure grammatical accuracy and the overall quality of the texts, while Turnitin was used to assess the level of textual similarity and potential plagiarism. All intellectual contributions, critical analyses, and final revisions were conducted by the authors. The authors take full responsibility for the accuracy, originality, and integrity of the content presented in this work.

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MSD MANUSCRIPT REVIEW FORM

Give your rating based on a 1-3 value scale:
1 = No
2 = Inadequate
3 = Yes

Manuscript ID:		Date:	dd/mm/yyyyy
Manuscript Title:	Teachers' and Students' Understanding and Perception of the National Assessment in Indonesian Elementary Schools: Implications for Learning and Classroom Assessment		

ABOUT MANUSCRIPT (Mark with "X" one of the options)	Yes	Inadequate	No
Section 1:			
Title specific, informative, and reflects the contents of the paper.	☐	☒	☐

Number	Suggestions		
1	The title is too excessive, find more simple and short but content reflected title.		

Section 2:	Yes	Inadequate	No
Abstracts clearly presented and contain problems, goals, methods, results, and conclusions. Keywords at least five and represent content.	☐	☒	☐

Number	Suggestions		
2	Some of the reported statements are still in present. Consider changing them into past.		
2	What is your interview framework to dig in the research questions. Mention it		No
3	Must be alphabetical		

Section 3:	Yes	Inadequate	No
Introduction complemented by the presentation of the research problem, previous research, and research objectives. The literature review well presented to justify the novelty.	☐	☒	☐

Number	Suggestions		
4	The novelty of this research must be presented explicitly (I cannot find it here.) It must be compared with previous research and state your position toward the theories. Do not just take and write. Put it in the end of this related research		

Section 4:	Yes	Inadequate	No

Theoretical framework clearly presented and the theory used sufficient and relevant to the topic discussed.	☒	☐	☐

Number	**Suggestions**
5	All variables from the title must be presented as their current related theories here.
5	All the theories mentioned must be synthesized with your idea of your research, not just re-written from the sources. Do not intertwine with previous research.

Section 5:	**Yes**	**Inadequate**	**No**
Methodology written in sufficient detail to make it possible to be repeated. The research design appropriate and exemplary.	☐	☒	☐

Number	**Suggestions**
6	Elaborate the reasons why this approach is suitable for this research.
7	Mention only information related to your research since all this information must be explain further in the discussion.
8	Which framework that you used to generate the interview questions? Any supported theories for your questions? Any indicators or probes? Give detail information about the question items.
9	How did you code the interview? Is it pre-defined code based on theories, or you start from initial codes and developed them into codes and themes? If so, mention here the book of code you used.
10	Change the sub heading into trustworthiness
11	No need to state this.

Section 6:	**Yes**	**Inadequate**	**No**
Data used sufficient to support conclusions, and the findings presented clearly.	☐	☒	☐

Number	**Suggestions**
12	In qualitative research, re-stating the interview result and interpreted them is not enough. You have to code it first, make a theme, and interpreted them. so the result is not separated teacher by teacher but all generated data. Please check Braun & Clarke (2006)

Section 7:	**Yes**	**Inadequate**	**No**
Discussion is presented separately, and findings discussed used adequate and relevant theories.	☐	☒	☐

Number	**Suggestions**
13	This section will follow the findings. After you fix the finding, you can adapt the discussion. It is better for you to explicitly state the research questions in introduction

Section 8:	**Yes**	**Inadequate**	**No**

Conclusions and the generalizations effective, based on the findings and research objectives.	☒	☐	☐
Number	**Suggestions**		
	Comprehensive enough (adapt when findings have been fixed)		

Section 9:	**Yes**	**Inadequate**	**No**
Limitations, recommendations, acknowledgments, and conflict of interest statements presented clearly and well.	☐	☐	☒
Number	**Suggestions**		

Section 10:	**Yes**	**Inadequate**	**No**
Citations and references using international sources, up-to-date, and written in the APA 7th style.	☒	☐	☐
Number	**Suggestions**		
Etc			

GENERAL REMARKS AND RECOMMENDATIONS TO THE AUTHOR
Please revise as suggested

THE DECISION (Mark with "X" one of the options)	
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Minor Revision	
Major Revision	x
Decline	

Teachers' and Students' Understanding and Perception of the National Assessment in Indonesian Elementary Schools: Implications for Learning and Classroom Assessment

Abstract. Indonesia has recently implemented the National Assessment (*Asesmen Nasional*/AN) to evaluate educational quality by measuring literacy, numeracy, students' character, and the learning environment, without impacting individual student outcomes. This study investigates elementary school teachers' and students' understanding and perception of AN and examines its implications for teaching and classroom-based assessment. A qualitative method with a phenomenological approach was adopted, using semi-structured interviews with 11 teachers and 21 fifth-grade students from six public elementary schools in South Jakarta. The findings indicate that while teachers have a foundational understanding of AN, their interpretations vary, especially regarding its components and objectives. Teachers recognize AN's potential to enhance educational quality but stress the need for adequate infrastructure and pedagogical support. Students show limited understanding and perceive the assessment as low-stakes. The implementation of AN has prompted shifts in instructional practices, particularly in literacy, numeracy, and digital integration. However, challenges include digital literacy gaps, limited device access, and difficulties with higher-order thinking questions. Effective AN implementation relies on stakeholders' readiness, infrastructure equity, and purposeful data utilization to inform learning.

1. Introduction

National assessments to evaluate student achievement in core competencies such as literacy and numeracy are a global practice. Even countries with decentralized education systems and high levels of teacher autonomy, such as Finland, have adopted such assessments (Juntunen, 2015). International assessments like the Programme for International Student Assessment (PISA) have further encouraged education systems worldwide to adjust policies and introduce national-level evaluations (Daliri-Ngametua et al., 2024; Imlig & Ender, 2018; Ninomiya, 2016).

In general, educational assessments, whether classroom-based or standardized national assessments, serve three primary functions: improving the quality of learning, evaluating individual student performance, and assessing educational programs (National Research Council, 2001). National assessment data can be utilized across multiple levels, from individual schools to broader policy formulation (Imlig & Ender, 2018). For instance, teachers may leverage national assessment results to enhance instructional strategies (Pitsia et al., 2021), while policymakers can use the data to monitor education system performance and implement reforms aimed at quality improvement (Paget et al., 2016).

Countries vary in how they utilize national assessment data. Some employ it solely for instructional improvement, while others apply it for multiple purposes. For example, Norway and Sweden use national assessment outcomes to improve classroom instruction and maintain education quality control, with Sweden also utilizing results for individual student evaluation (Tveit, 2018).

However, national assessments frequently generate public controversy, particularly when used for high-stakes purposes, potentially leading to unintended consequences like curriculum narrowing and teaching to the test (Lee et al., 2023; Rose et al., 2018; Tveit, 2013). Indonesia has a long-standing tradition of national assessments, beginning with the End of School Exam (Ujian Penghabisan) from 1950 to 1964, followed by several changes, including the National Final Exam (Ujian Akhir Nasional/UAN) from 2003 and later renamed the National Exam in 2005 (Ujian Nasional/UN) (Center for Education and Policy Studies, 2024). According to the Government Regulation Number 19 of 2005 on National Education Standards, national exam results were used

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for multiple purposes, such as mapping program quality, student graduation, and school-level intervention. Thus, the results of the UN were used for multiple purposes.

The high-stakes nature of UN led to significant public concern, culminating in a citizen lawsuit filed by 58 individuals in 2006. Between 2015 and 2020, while UN no longer determined student graduation, it continued to be administered. In 2021, it was officially replaced by AN. According to the Regulation of the Minister of Education, Culture, Research, and Technology of the Republic of Indonesia Number 17 of 2021 concerning the National Assessment (Mendikbudristek, 2021), AN is a system-level evaluation tool targeting grades 5, 8, and 11. Unlike the national exam, which was administered at the end of an educational level to determine graduation, the AN is conducted in grades 5, 8, and 11 and does not have consequences for individual students (Center for Assessment and Learning, 2021).

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1.1. Problem Statement

The success of national education policy implementation largely depends on its effective translation into classroom practices. For assessment data to meaningfully contribute to improved student learning, it must be appropriately utilized at both school and classroom levels (Schildkamp et al., 2016). Stakeholder perceptions—particularly those of principals, teachers, parents, and students—significantly influence how assessments impact the learning process (Imlig & Ender, 2018).

Teachers play a central role in translating assessment policies into instructional practice. Their understanding and perception of an assessment guide how results are interpreted and used to tailor instruction to student needs (Schildkamp et al., 2016). Similarly, student understanding and attitudes toward assessments can influence their engagement and learning strategies (Nieminen & Atjonen, 2022; Smith et al., 2011). For example, although Australia's NAPLAN is intended as a low-stakes assessment, some students perceive it as high-stakes, affecting their behavior and emotional responses (Howell, 2017).

Despite the policy shift in Indonesia, limited research has examined the implications of the AN for primary education, especially from the perspectives of teachers and students. This study seeks to fill that gap by exploring how teachers and students understand and perceive the AN and how its implementation affects learning and classroom assessment practices.

1.2. Related Research

Early research on the implementation of AN indicated varied understandings of AN among primary school teachers. Some teachers understood AKM, a component of AN, as a replacement for the UN (Nurhikmah et al., 2021; Sari & Sayekti, 2022). In the other hand, a school principal in a primary school in Peukan Pidie, Aceh Province viewed AKM as a policy to assess the national educational quality, not a replacement for the exam due to its different objectives (Iman et al., 2021). Based on interviews, teachers in two primary schools in Boyolali Regency had understood the components of AKM, such as literacy and numeracy and the indicators in the character survey (Kusumaningrum & Abduh, 2022).

Schools had made various efforts to prepare for the implementation of AN, such as organizing socialization activities for teachers (Nurhikmah et al., 2021; Putri et al., 2022), preparing teaching materials, questions, including those measuring higher-order thinking skills, and modules for students (Hanjani et al., 2023) and adjusting learning to the AKM assessment model by providing teachers with supporting books aligned with AKM (Iman et al., 2021). In preparation for AN, schools also provided additional lessons for students selected to participate in AN by working on AKM questions (Hanjani et al., 2023; Iman et al., 2021; Kusumaningrum & Abduh, 2022; Muliasari et al., 2022). Special preparations for AN also included utilizing AKM questions via the pusmenjar website (Kusumaningrum & Abduh, 2022; Putri et al., 2022). Since not all students were familiar with using

computers/laptops, some schools have specifically introduced students to computer operations (Hanjani et al., 2023).

In general, the implementation of AN in schools had proceeded smoothly. However, challenges remained related to the availability and use of information and communication technology, such as insufficient availability of computers/laptops (Berlianto & Pembangunan, 2023; Muliasari et al., 2022; Rigianti & Utomo, 2023), especially in 3T (remote, frontier, and outermost) areas (Kharismawati, 2022; Wuwur, 2023), problematic internet connections (Ahmad, 2022; Kusumaningrum & Abduh, 2022; Widiyanto & Desstya, 2023) , limited teacher and/or student skills in using technology (Iman et al., 2021; Kharismawati, 2022; Wuwur, 2023), and inadequate telecommunications networks in 3T areas, making it difficult to find locations to administer AN (Kharismawati, 2022). Other challenges included the lack of supporting books for AKM (Rigianti & Utomo, 2023), limited teacher ability to develop AKM-related questions (Rigianti & Utomo, 2023), and insufficient socialization (Iman et al., 2021).

Research examining the impact of AN on learning and assessments in primary schools is still relatively limited. The majority of these studies focused on the impact of AKM. For example, based on AKM results reported in educational reports, teachers in one primary school in Karas Subdistrict, Magetan Regency, began attending training sessions to improve the quality of learning (Putri et al., 2022). Teachers began presenting questions in the form of story problems that integrate several topics from the theme books, designed to stimulate critical thinking and problem-solving skills.

The concept of assessments are frequently oversimplified as a dichotomy between internal assessments conducted by educators and external assessments imposed by external bodies such as government agencies or international organizations. This binary perspective fails to acknowledge that assessments occupy a continuum, varying in their alignment with teaching and learning activities (Pellegrino, 2017).

The design of student achievement assessments is largely influenced by the educational framework of each country, as well as by prevailing global assessment trends (Imlig & Ender, 2018). As Baird et al. (2017) assert, while international assessments may not directly impact the manner in which students engage with the content, they do shape educational policy, which in turn dictates the curriculum and instructional methodologies employed in classrooms.

1.3. Research Objectives

This study aimed to explore teachers' and students' understanding and perceptions of the AN and the impact of the implementation of AN on learning and classroom assessments.

2. Theoretical Framework

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2.1. Assessment and Learning

Educational assessments profoundly influence the teaching and learning process, playing a pivotal role in determining both the content delivered and the pedagogical approach employed (Baird et al., 2017). The nature of the assessments further shape students' learning approaches, potentially fostering either a surface approach—characterized by a minimalistic engagement aimed solely at fulfilling course requirements—or a deep approach, which is rooted in intrinsic motivation to achieve a comprehensive understanding of the material (Bloxham & Boyd, 2007).

Assessments that emphasize memorization of discrete facts or procedures tend to promote surface learning. In contrast, assessments that require students to synthesize information, recognize patterns, and draw conclusions foster deeper cognitive engagement and integrative understanding (Bloxham & Boyd, 2007). Therefore, the design and intent of assessment tasks have significant implications for learning outcomes.

The concept of assessments are frequently oversimplified as a dichotomy between internal assessments conducted by educators and external assessments imposed by external bodies such as government agencies or international organizations. This binary perspective fails to acknowledge that assessments occupy a continuum, varying in their alignment with teaching and learning activities (Pellegrino, 2017).

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2.2. National Assessment in Several Countries

National assessments implemented by educational systems across various countries to collect data on student achievement serve multiple purposes, encompassing both high-stakes and low-stakes objectives. High-stakes assessments, such as graduation examinations at the end of an educational level, carry significant consequences, whereas low-stakes assessments are primarily utilized to enhance instructional practices within the classroom. On a broader scale, data derived from student achievement assessments can be employed to monitor and evaluate the effectiveness of a nation's education system.

Assessment frameworks vary significantly across countries. For instance, Australia conducts the National Assessment Program–Literacy and Numeracy (NAPLAN) annually for all students in grades 3, 5, 7, and 9, specifically to track proficiency in literacy and numeracy (National Assessment Program, 2025). Norway administers a national assessment to evaluate the competencies of students in grades 5 and 8 in English, reading, and mathematics, as well as grade 9 in reading and mathematics, which is mandatory for all students (Tveit, 2013). The United States implements the National Assessment of Educational Progress (NAEP) annually using representative samples of students in Grades 4, 8, and 12 across a broad array of subject (National Center for Education Statistics, 2019). Conversely, Brazil administers the Prova Brasil biennially to assess the achievement of students in grades 4 and 8 in mathematics and Portuguese (Paget et al., 2016).

NAPLAN results are provided to each student who participates in the assessment and may be utilized by parents to track their children's literacy progression and engage in discussions with educators regarding the outcomes (National Assessment Program, 2025)). Additionally, these results serve as supplementary information for teachers to assess students' literacy and numeracy competencies and monitor their academic progress. Education policymakers leverage these results to monitor and evaluate the performance of schools and the overall education system, guiding the development of literacy and numeracy skills and identifying schools requiring additional support. Similarly, Norway's national assessment results are reported on an individual basis, facilitating instructional improvements by educators. At an aggregate level, these results are utilized by policymakers across various levels to conduct comprehensive monitoring and evaluation (Tveit, 2013). In contrast, NAEP does not aim to assess individual student or school performance. Rather, it serves as a tool for tracking national and state-level educational progress (National Center for Education Statistics, 2019). Similarly, the results of Prova Brasil are not intended to assess individual student progress and are not disseminated to all test participants. Instead, the Brazilian Ministry of Education uses the Prova Brasil results to monitor and evaluate the education system, enabling improvements through data-driven policymaking (Paget et al., 2016).

2.3. National Assessment in Indonesia

Article 2 of the Regulation of the Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia Number 17 of 2021 on National Assessment (Mendikbudristek, 2021) states

that the purpose of AN is to measure cognitive learning outcomes, non-cognitive learning outcomes, and the quality of the learning environment in educational units. These are measured using the minimum competency assessment, character survey, and learning environment survey, respectively. During the implementation of AN, students will complete two instruments: the minimum competency assessment and the character survey, while the learning environment survey is completed by school principals and teachers.

The types of questions in AKM vary, including multiple choice, complex multiple choice, matching, short answer, and essay. The scoring for multiple choice, complex multiple choice, matching, and short answer/essay questions is done objectively. The components of AKM are displayed in the table below.

Table 1. The Component of AKM

Reading Literacy	Mathematical Literacy-Numeracy
Content	
	Numbers
Informational text	Geometry
Fictional text	Data and Uncertainty
	Algebra
Cognitive Process	
Finding information	
Interpreting	Knowing
and integrating Information	Applying
Evaluating and reflecting on information	Reasoning
Konteks	
Personal	Personal
Socio-cultural	Socio-cultural
Scientific	Scientific

Source: (Center for Assessment and Learning, 2020)

Another instrument is the character survey, which is designed to assess attitudes, values, beliefs, and habits reflecting students' character, based on the Pancasila Student Profile (*Profil Pelajar Pancasila*) (Center for Assessment and Learning, 2021). This profile includes six dimensions: 1) faith and devotion to God Almighty and noble character; 2) global diversity; 3) mutual cooperation; 4) critical thinking; 5) independence; and 6) creativity.

The learning environment survey is used to gather information about the quality of the learning process and the school climate that supports learning. This survey includes 9 dimensions: 1) students' socio-economic background; 2) the quality of classroom learning; 3) teacher reflection and improvement in teaching; 4) instructional leadership; 5) safety climate in educational units; 6) diversity climate in educational units; 7) gender equality climate; 8) inclusivity climate; and 9) parental and student support for the educational unit's programs (Center for Educational Assesment, 2022).

The results of the national assessment are subsequently used as part of the educational evaluation by the Minister of Education (Article 11 Paragraph (3)). The analysis of these results by the Ministry is then communicated to stakeholders at various levels to enhance the quality of learning in educational units and/or evaluate the performance of educational units in their regions (Article 11 Paragraph (4)).

In terms of cognitive learning outcomes, AN is similar to NAPLAN in Australia, as it measures literacy and numeracy competencies. These outcomes differ from the national assessments in Norway and Brazil, which focus on subject-specific competencies. In contrast to NAPLAN in Australia and the national assessment in Norway, which encompass all students within the specified grades, the AN is administered to a randomized sample of students at selected schools. Another notable distinction is that, unlike the assessments in Australia and Norway, the results of AN are not reported at the individual student level but rather at the school level, akin to the Prova Brasil. Despite these procedural differences in the administration of national assessments across the aforementioned countries, the data derived from these assessments, including AN results, are utilized by policymakers at various tiers to implement improvements aimed at enhancing the overall quality of education.

3. Method

3.1. Research Design

This study employed a qualitative method with a phenomenological approach. This approach was used to gather rich data by exploring the experiences, perspectives, and views of both teachers and students regarding AN.

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3.2. Participant

The study involved 11 teachers and 21 fifth-grade students from six public elementary schools in Kebayoran Lama District, South Jakarta, who participated in the AN in 2021. The selection of teachers was based on their educational background, certification, and teaching experience. In contrast, the selection of students was based on their participation in the implementation of the AN. To maintain data confidentiality, schools were coded A, B, C, D, and E. Each teacher was assigned a code consisting of the word "Teacher" followed by a number from 1 to 11. The students were assigned a code consisting of the word "Student" followed by a number from 1 to 21.

The distribution of the informants at each school is shown in Table 2.

Tabel 2. Informants by School

School Code	The Number of Informants	
	Teacher	Student
A	2	4
B	2	4
C	1	3
D	2	5
E	2	2
F	2	3
Total	**11**	**21**

The backgrounds of the teachers and students involved were assessed through a questionnaire distributed using Google Forms, which contained information about the participants. The teachers' characteristics were categorized based on gender, age, years of teaching experience, educational background, and certification. The characteristics of the teachers are presented in Table 3.

Tabel 3. Teachers' Characteristics

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Variable	Number	Percentage (%)
Gender		

Variable	Number	Percentage (%)
Male	2	18,19%
Female	9	81,81%
Total	**11**	**100%**
Age		
≤ 30 years	-	-
31-40 years	7	63,64%
≤ 41 years	4	36,36%
Total	**11**	**100%**
Teaching Experience		
1-5 years	-	
6-10 years	3	27,28%
>10 tahun yers	8	72,72%
Total	**11**	**100%**
Educational Background		
Bachelor degree in primary teacher education	11	100%
Others	-	-
Total	**11**	**100%**
Teacher Certification		
Yes	11	100%
No	-	-
Total	**11**	**100%**

As presented in Table 3, the majority of the fifth-grade teachers were female, accounting for 81.81%. The largest group of teachers was aged between 31 and 40 years, making up 63.64%. Most teachers had over 10 years of teaching experience (72.72%) and held a bachelor's degree in Primary School Teacher Education (S1-PGSD), with all teachers being certified. The characteristics of the student participants were categorized based on gender, age, and academic achievement. The results of the data collection are shown in Table 4.

Tabel 4. Students' Characteristics

Variable	Number	Percentage (%)
Gender		
Male	13	61,90%
Female	8	38,10%
Total	**21**	**100%**
Age		
11 years	13	61,90%
12 years	8	38.10%
Total	**21**	**100%**

Based on Table 3, the majority of the student participants were male (61.90%), with the remaining 38.10% being female. The most common age among students was 11 years (61.90%), while the remaining students were 12 years old (38.10%).

3.3. Data Collection

Data were collected through semi-structured interviews using a prepared set of questions that were posed to both teachers and students. However, the researcher had the flexibility to explore additional responses from the participants. The questions were designed to investigate the participants' understanding of AN, the implementation of AN in schools, and the impact of AN on teaching and assessment.

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Prior to the interviews, the researcher obtained permission from the Sub-District Education Office of South Jakarta to conduct research in several elementary schools. Subsequently, the researcher met with the school principals to schedule interviews with fifth-grade teachers. The interviews were scheduled so as not to disrupt classroom activities, with each session lasting between 30 and 60 minutes. The second author conducted the interviews with the assistance of a research assistant. During the interviews, the second author interviewed the teachers, while the research assistant interviewed the students. With written consent from the participants, the interviews were recorded while ensuring confidentiality.

3.4. Data Analysis

The researcher used Google Docs to transcribe the recorded interviews into written text. The data were then analyzed using typological analysis by categorizing the data based on predefined typologies (Hatch, 2002). For this study, the typology was based on the research questions, including teachers' and students' understanding and perspectives of the AN, its implementation, and its impact on classroom teaching and assessment. Data within each typology were then categorized based on emerging patterns. Data coding and categorization were performed by the first author, second author, and research assistant. The results of the coding and categorization were then discussed to formulate the themes that emerged.

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3.5. Validity and Reliability

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To ensure the quality of the research, the researcher adhered to alternative perspectives regarding validity and reliability in qualitative research, namely trustworthiness, which includes credibility, transferability, dependability, and confirmability (Daymon & Holloway, 2010). To ensure credibility, the researcher employed data triangulation by involving teachers and students from different schools—11 teachers and 21 students from six public elementary schools in Kebayoran Lama, South Jakarta. Additional efforts to ensure credibility were made through investigator triangulation, involving the first author, second author, and a research assistant in the data analysis process. The analysis results were then compared and discussed to reach a consensus on the identified patterns, categories, and themes. Transferability was achieved by providing a detailed description of the study and comparing it with other research on AN. To ensure consistency and accuracy (dependability), an audit trail was conducted by documenting each stage of the research process, including the participants' data with assigned codes, interview recordings, transcripts, coding, and categorization of data. To ensure that the findings and conclusions align with the study's objectives (confirmability), the researcher ensured that the findings and conclusions were derived from a thorough analysis of the collected data.

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4. Findings

The data analysis resulted in five themes: teachers' understanding and perceptions of AN, students' understanding and perceptions of AN, the implementation of AN, the impact of AN on learning, and the impact of AN on classroom assessments.

4.1. Teachers' Understanding and Perceptions of AN

The interview results indicated that most teachers understood the concept of AN, although they used different terminology when defining it, such as "evaluation" and "assessment." Four teachers referred to it as an evaluation, while five teachers referred to it as an assessment. Additionally, two teachers directly linked AN to its perceived purpose, which they understood to be the assessment of students' abilities. Below are some definitions provided by the teachers who used the terms "evaluation" and "assessment":

> "National assessment is an evaluation program organized by the government to improve the quality of education and to capture the input and output of a school." (Teacher 3)

> "National assessment, as far as I know, is a type of assessment conducted by the Ministry of Education to assess the overall quality of an educational unit, both from the students and the learning environment." (Teacher 2)

Additionally, two teachers directly linked the AN's purpose to assessing students' abilities, with one teacher also mentioning its role in reflecting the condition of the school.

Interviews with the teachers also revealed that the majority had a basic understanding of the components of AN, such as AKM, character survey, and learning environment survey, as well as the grade levels involved and the timing of the assessment. However, one teacher only mentioned the components of AKM, specifically literacy and numeracy, without mentioning the character survey and learning environment survey. Another teacher did not know about the components of AN.

Regarding AKM, one of the three components of AN, three of the 11 interviewed teachers stated that AKM measures students' basic competencies in literacy, as illustrated in the following excerpt:

> "Assessment is conducted to measure students' basic competencies. The basic competencies in question are related to literacy, such as reading literacy and numeracy literacy." (Teacher 2)

Three other teachers referred to AKM as an assessment of the basic competencies students should master, without specifying the competencies being measured. Here is a statement representing this understanding:

> "Basic competencies assessment for students, which serves as a source of information to map and evaluate the quality of education in a region." (Teacher 5)

Two teachers only mentioned the acronym AKM without discussing the components of the assessment. One teacher did not specifically mention basic competency measurement but referred to general student learning outcomes. Another teacher stated that AKM requires students to engage in higher-order thinking. Additionally, one teacher linked AKM to its use in mapping school quality:

> "AKM is an assessment conducted to improve the quality of learning, implemented by the government to drive improvements in teaching and learning outcomes." (Teacher 1)

Ten of the 11 teachers interviewed strongly affirmed the necessity of AN. Reasons cited included improving the quality of education, measuring school quality as a basis for follow-up actions, enhancing education in Indonesia, and evaluating student learning outcomes. Below are some of the teachers' statements:

> "Yes, it is essential because national assessment can be used to measure the quality of an educational unit, which will then serve as a reference for follow-up actions to improve the unit's quality and ultimately improve education in Indonesia." (Teacher 2)

> "In my opinion, it is necessary to measure, to assess, and to evaluate students' learning outcomes over time, because without AN, we wouldn't know where we stand. Moreover, since the national exams are said to no longer exist, this is crucial." (Teacher 7)

One teacher (Teacher 3) emphasized the importance of understanding the quality of a school compared to others, as this could motivate teachers and other stakeholders to improve learning quality. This view was shared by Teacher 7, who highlighted that AN results could inspire school-wide improvements.

Teacher 6 proposed the importance of implementing AN for all fifth-grade students in elementary schools so that each student has the experience of participating in the assessment. However, this teacher acknowledged that not all schools are equipped to implement AN for all students in the designated grades due to limitations in necessary facilities, such as computers and sufficient internet access.

A notable perspective was shared by Teacher 9, who did not directly express the need for AN but elaborated on the levels at which AN results would be used. In this teacher's view, the government needs AN to map educational quality. After results are obtained, schools can then use AN results to evaluate their performance and identify areas for improvement.

Commented [MOU13]: 12

4.2. Students' Understanding and Perceptions of AN

According to the interviews, several students were able to state the full form of AN , the types of questions involved in AKM—literacy and numeracy—and the types of questions, such as multiple choice, complex multiple choice, and fill-in-the-blank. However, some students were unable to recall the full form of AN.

The majority of students viewed AN as an exercise in answering questions using a computer or laptop. Many students also noted that AKM questions were more challenging than those given by their teachers, especially the numeracy questions. However, some students also mentioned difficulties with the reading literacy questions.

When asked about their feelings toward participating in AN, some students expressed positive emotions:

> "I'm happy because I received a national-level assessment." (Student 3)

Others were indifferent about their performance:

> "If the results are poor, it's no big deal." (Student 13)

Commented [MOU14]: 12

4.3. The Implementation of AN

Overall, the interviews indicated that the implementation of AN in the schools that participated in this study went smoothly. Teachers also prepared students for AN. One teacher shared:

> "Yes, students were given training, such as special sessions. They were regularly trained with questions that followed the AKM format. The school also provided AKM-related books for students to study, both at home and in school." (Teacher 11)

However, there were some challenges during the process, particularly during the trial runs. The most frequently mentioned issue was related to internet connectivity and server problems.

> "Thank God the actual implementation went smoothly, although during the try-out we faced some issues due to slow network speeds and occasional lag." (Teacher 3)

> "Technical issues may arise, such as server problems from time to time." (Teacher 10)

> "Sometimes there are difficulties. Also, when using computers, the login process can be very slow." (Student 20)

"There was a slow network when logging in, and I had to input a code, but it didn't work." (Student 21)

Another challenge involved students who were not accustomed to using computers or laptops, as not all students owned a laptop at home, and the selection of AN participants was random.

"Perhaps it's due to their learning environment, because not all of them have computers at home, making it a bit awkward. There were difficulties during the tasks since they are not used to using a mouse, and now they have to use one." (Teacher 6)

Teachers also highlighted issues with students' readiness to tackle AKM questions, both in terms of content and question format.

"...The main difficulty is the lack of deeper understanding of numeracy, according to the students. I've also surveyed them about AN, and they faced challenges, especially with numeracy, which involves more word problems." (Teacher 7)

The students also mentioned difficulties with the AKM's HOTS-based questions, especially in numeracy. However, some felt challenged by the complexity of the tasks.

"I feel challenged because the questions are more complex compared to the usual questions." (Student 2)

"I was confused about answering the numeracy questions." (Student 4)

"There were many difficulties, like the math and Indonesian questions, because they were hard to answer. So, I skipped them and then returned to them later." (Student 19

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4.4. The Impact of AN on Learning

Although the results of AN had not been obtained at the time this research was conducted, the majority of the teachers participating in the study stated that the implementation of AN had motivated them to enhance literacy and numeracy skills.

"For example, if the learning activities are improved further, literacy—such as reading skills—should be enhanced, and numeracy requires more practice, so it takes more time. It's not just about reading; the students must also comprehend, understand reasoning, and use numeracy beyond simple addition and subtraction. It also needs to be applicable in real-life situations." (Teacher 5)

Most teachers also expressed that they were motivated to further improve the quality of teaching by utilizing student-centered teaching methods.

"The implementation of the national assessment has personally motivated me as a teacher to reintroduce student-centered learning models, which encourage students to be active in learning and stimulate critical thinking throughout the process." (Teacher 2)

Students had varied responses when asked about the differences in learning before and after the implementation of AN. Here are a few student statements:

"There's no difference, it's the same before and after AN." (Student 2)

"It's the same, like speaking in front of the class or being asked to bring a phone and fill out a quiz on Google Forms at school." (Student 9)

"There's no difference, teaching is the same. Some use Quizizz in school." (Student 12)

"We've had practice exercises in class similar to AKM, and they were easier." (Student 8)

Furthermore, teachers began to use technology more frequently in teaching and trained students to use it, such as with mobile phones and laptops.

"There's been a significant change in the use of information technology. Previously, its use was limited, but now we have significantly increased its usage. The percentage of information technology usage has increased from about 40% to 70-80%." (Teacher 3)

"Yes, it has had a significant impact, especially because we now use computers. So the students have no choice but to learn how to use computers themselves, which is now part of the learning process. We're teaching them to use technology, integrating it into learning, not just using textbooks or classroom teaching but also based on technology." (Teacher 4)

Students also stated that their teachers had started incorporating information and communication technology into lessons:

"Usually, we are asked to bring our phones to answer questions using Quizizz or complete tasks on Google Forms." (Student 20)

However, some teachers noted that there was little or no change in their teaching methods. The reasons provided included the fact that AN results had not yet been obtained or that the teaching methods needed for developing literacy and numeracy had already been implemented.

4.6. The Impact of AN on Classroom Assessments

Teachers provided varied responses regarding the impact of AN on classroom assessments. Generally, the changes were moderate, with some teachers stating that there was little or no change at all. Nevertheless, the implementation of the AN has led teachers to reflect on the classroom assessments they conduct and begin making necessary adjustments. For instance, some teachers, after the implementation of AN, focused more on authentic assessments through performance-based evaluations.

"Yes, in assessments, I've made developments and changes because of the national assessment. The assessments I conduct are now more authentic and involve more student performance; it's not just about using textbooks but also evaluating their performance." (Teacher 2)

Teachers also started including questions aligned with AKM standards, both in terms of content that integrates literacy and numeracy and in terms of question format, such as moving beyond simple multiple-choice questions to include complex multiple-choice, fill-in-the-blank, matching, and question creation.

"Now, in the assessment system, when creating questions, we prioritize literacy, and we have modified our questions. We are now more inclined towards HOTS." (Teacher 3)

"When I administered the midterm exam, I included some questions on literacy and numeracy that align with AKM. There were challenges because the students didn't understand the structure of the sentences. I told them that this is part of AKM and they will encounter it later, especially for students who have never participated in AKM. These students had more difficulties, particularly in understanding reading or literacy questions." (Teacher 6)

One teacher also explained the impact of AN through an assessment of attitudes, mentioning that attitude assessment techniques had been added, though they were still in the planning stage.

When asked about changes in the way teachers assess students after the implementation of the national assessment, all the student participants responded that there had been no changes or that things were the same.

"There's no difference, it's the same." (Student 3, Student 4, Student 8, Student 21)

"They didn't give questions like the ones in AKM." (Student 5)

5. Discussion

5.1. Teachers' Understanding and Perceptions of AN

The achievement of educational policy goals and programs established by the government in the field of education is also determined by how these policies and programs are understood and interpreted by stakeholders, including teachers and students. In the context of AN, teachers' understanding and attitudes are crucial because they will determine the success of AN in improving education quality in Indonesia through classroom teaching and assessment. According to (Fulmer et al., 2015), the assessment practices employed by teachers in the classroom are influenced by contextual factors at macro, meso, and micro levels. National assessments can be categorized as a macro-level factor influencing meso-level factors, such as education offices and school leaders, which ultimately influence teachers, both directly and indirectly. How teachers interpret the goals of the national assessment will be shaped by micro-level factors, such as their understanding and views of AN, as well as their interactions with students during assessments and teaching.

Interviews with teachers in this study revealed that, in general, teachers possessed basic knowledge about the AN, including its definition, the instruments used (AKM, Character Survey, and Learning Environment Survey), the types of AKM questions, the grade levels involved, and the timing of the assessment. However, teachers' understanding of one component of the AN, namely AKM, varied, with some teachers only able to state its full form. This finding confirms previous research indicating that teachers still lack sufficient understanding of AKM (Kusumaningrum & Abduh, 2022).

The majority of teachers understood that the results of AN are not intended to measure individual student competence but are used to map the quality of schools, which can then be used to improve teaching and learning. This understanding aligns with the explanations in various documents released by the Ministry of Education and Culture regarding the AN (Center for Assessment and Learning, 2021).

The difference in terminology used to define AN, namely "evaluation" and "assessment," is understandable given the close relationship between these concepts, which is why these terms are often used interchangeably (Meylani, 2024). Article 1, Paragraph 1 of the Ministry of Education, Culture, Research, and Technology Regulation Number 17 of 2021 on National Assessment (Mendikbudristek, 2021) states that "one form of evaluation of the education system by the Ministry at the primary and secondary education levels." This definition seems to refer to one of the uses of assessment results, which is for evaluation purposes.

Teachers displayed a positive attitude toward AN, viewing it as necessary for improving education quality, including enhancing classroom teaching. This positive attitude indicates that teachers believe the results of the national assessment can be applied at various levels, from the education system to the classroom. This belief aligns with what is stated in the Ministry of Education, Culture, Research, and Technology Regulation Number 17 of 2021, where the analysis of AN results, as part of the evaluation of the education system by the Minister, will be used by other stakeholders to improve teaching quality and/or evaluate the performance of educational units. This positive attitude corroborates previous research (Kusumaningrum & Abduh, 2022) showing that teachers are interested in using AKM and character survey results to evaluate the learning process.

5.2. Students' Understanding and Perceptions of AN

Students who participated in this study tend to view the AN as a low-stakes test, as it carries no direct consequences for them. Consequently, many students expressed indifference if they did not achieve favorable results, with some even feeling pleased to have the opportunity to be assessed at a national level. The messages conveyed by the Ministry of Education, Culture, Research, and Technology regarding the purpose of the assessment through various socialization

efforts seem to have reached the students. This finding contrasts with a study involving students in grades 3, 5, and 7 in Australia who participated in NAPLAN (Howell, 2017). Although NAPLAN was designed as a low-stakes assessment by policymakers, some students viewed it as a high-stakes test, one that impacted their opportunities to pursue education at their desired schools. Additionally, some students expressed concerns that their assessment results would be compared to those of their peers. The perception among some students that NAPLAN is a high-stakes test appears to be influenced by inconsistencies in the messaging, both from the government, which uses NAPLAN results for accountability purposes, and the media, which often emphasize rankings based on NAPLAN results (Howell, 2017).

5.3. The Implementation of AN

Overall, the findings from the five schools involved in the study, all located in South Jakarta, indicate that the implementation of the AN proceeded smoothly. The readiness of essential infrastructure, such as the availability of laptops/computers and internet access, significantly supported the successful execution of the AN, similar to the implementation in elementary schools in Cluster 7, Tambun District, Bekasi Regency (Kartanti et al., 2024). However, challenges were still encountered due to technical issues, such as slow internet connections or server outages, as seen in other schools (Ahmad, 2022; Putri et al., 2022; Widiyanto & Desstya, 2023)). This contrasts with findings from schools that lacked adequate infrastructure, such as in Tasikmalaya, where some students attended the AN at other, better-equipped schools, or where schools had to purchase additional laptops (Muliasari et al., 2022) Another measure taken to address insufficient laptop availability was for teachers to lend their personal laptops to students to participate in the AN (Berlianto & Pembangunan, 2023). The lack of necessary infrastructure for AN is particularly felt by teachers and students in 3T (remote, frontier, and outermost) areas (Kharismawati, 2022; Wuwur, 2023).

Another issue identified was that some students were not accustomed to using laptops or computers, particularly those from families without access to such devices, which hindered their performance. This phenomenon of students who are unfamiliar with, or have never used, computers or laptops is not exclusive to 3T areas (Kharismawati, 2022; Wuwur, 2023) but is also found in urban schools (Hanjani et al., 2023; Muliasari et al., 2022)). To address this issue, some schools specifically trained students to use these devices (Berlianto & Pembangunan, 2023; Hanjani et al., 2023).

Although AN was designed as a low-stakes test, some schools still prepared students by having them practice with AKM-style questions. This trend was also observed in other schools, where additional study hours were provided (Kusumaningrum & Abduh, 2022; Muliasari et al., 2022; Putri et al., 2022). The Ministry of Education and Culture emphasized through various forums and media that students need not be specially prepared to practice AKM questions, except for basic technical preparations. Furthermore, there are no individual scores for students, teachers, or school principals, nor are there rankings.

Some students in this study encountered difficulties with both literacy and numeracy AKM questions. These findings confirm previous research (Berlianto & Pembangunan, 2023; Sari & Sayekti, 2022) highlighting students' struggles with AKM questions, which were considered complex and challenging. One reason mentioned by students was the lengthy reading passages (Berlianto & Pembangunan, 2023; Rohmah et al., 2022). AKM questions are designed to assess students' ability to engage in higher-order thinking, making them more complex than typical questions that only measure content mastery. One factor contributing to students' difficulties with higher-order thinking questions is their limited reading comprehension skills (Driana et al., 2021; Nurmawati et al., 2020; Schulz & FitzPatrick, 2016). For example, numeracy questions in AKM contain introductory materials in text and image formats, requiring students to process and interpret information, and to reason using mathematical concepts learned to solve real-world problems in various contexts (Pusat Asesmen dan Pembelajaran, 2020). Many students are still unable to think at the required

higher cognitive level, which results in difficulty with numeracy problems designed for the AKM (Rohmah et al., 2022).

5.4. The Impact of AN on Learning

At the time this study was conducted, the teachers involved had not yet received the AN results. However, the implementation of the AN has further raised awareness among the teachers in this study about the importance of developing reading literacy and numeracy. This finding aligns with the research conducted by Kartanti et al. (2024). To enhance students' reading skills, teachers in an elementary school in Boyolali Regency assigned reading homework and summary exercises (Kusumaningrum & Abduh, 2022). Teachers also taught students how to highlight key points in texts.

Teachers also made efforts to improve the quality of their teaching, including by using student-centered learning and employing more diverse teaching methods, such as project-based learning. However, these changes have not yet been fully felt by students, as they are still in the early stages. Teachers' awareness and motivation align with the goal of the AN to provide feedback to educational units for use in improving teaching processes, ultimately aiming to enhance students' character and competencies (Center for Assessment and Learning, 2020).

Another notable outcome observed after the implementation of AN, confirmed by the students, is that teachers have increasingly utilized technology in their teaching, including training students to use it. The five schools in South Jakarta were generally well-equipped with the necessary infrastructure for integrating information and communication technology (ICT) into teaching, although some students from disadvantaged families did not yet have the required devices. The digital divide remains a barrier to the effective use of technology in education (Heeks, 2022; Rodiyah et al., 2023). Furthermore, teachers need to possess digital competencies to appropriately integrate technology into their teaching (Fernández-Batanero et al., 2020) .

Thus far, the message conveyed by the Ministry in various socializations about AN, which is not designed for high-stakes purposes but rather to improve teaching quality, appears to have been well received. Ensuring that AN remains treated as a low-stakes test, with a focus on improving the quality of teaching, must continue to be upheld to avoid the negative consequences observed with large-scale standardized tests in other countries. For example, the shift in teachers' and students' understanding of standardized assessments from being designed as low-stakes tests to high-stakes tests, as seen in Australia, can lead to undesirable consequences, such as curriculum narrowing, with a focus on preparing for NAPLAN through practice questions (Ragusa & Bousfield, 2015).

Furthermore, to ensure that AN contributes to improving classroom learning, teachers must make appropriate use of AN results. Research conducted in Ireland (Pitsia et al., 2021)shows that teachers who have a positive attitude toward standardized testing and have participated in training related to standardized tests are more likely to use the test results to enhance classroom learning. The success of using assessment results to improve teaching quality is also influenced by school characteristics, the teachers' data usage skills, and collaboration (Schildkamp et al., 2016).

5.5. The Impact of AN on Classroom Assessments

Following the implementation of AN, teachers expressed a desire to make changes to classroom assessments by incorporating questions that measure literacy and numeracy, assess higher-order thinking skills, and adopt various question formats, though the degree of implementation varies. For instance, teachers in an elementary school in Boyolali Regency followed up the AN with exercises on multiplication, addition, and division to train students in using mathematical operations, which they completed directly before school ended (Kusumaningrum & Abduh, 2022). However, these questions were not presented in a format that requires reasoning to solve real-world problems using the mathematical concepts learned, which is essential for developing

numeracy. Research by Hindriana et al. (2023) involving teachers from elementary and junior high schools in Kuningan Regency showed that teachers still face challenges in creating literacy and numeracy questions and that they are supported through training to develop such questions. As part of the follow-up to AKM results, teachers in an elementary school in Magetan Regency, for example, participated in training to develop literacy and numeracy questions (Putri et al., 2022). Students in that school began to notice changes in the types of questions their teachers gave, which increasingly focused on reasoning to solve every day problems.

In addition to the impact on cognitive assessments, some teachers indicated that they would continue to assess students' attitudes through observation during the learning process as an effort to develop students' character. The AN not only focuses on assessing cognitive aspects through AKM but also evaluates students' character through the character survey and learning environment survey.

6. Conclusion

A proper understanding of the purposes of AN by teachers and students will play a crucial role in achieving AN goals of improving the quality of learning. Moreover, the perception among teachers and students that AN is a low-stakes assessment is a critical foundation that policymakers must maintain to ensure that the results of AN genuinely reflect students' competencies and character, free from manipulation, such as excessive test practice that does not contribute to improving teaching quality. Additionally, the smooth implementation of the AN requires adequate infrastructure, particularly information technology, which must be readily available. Both teachers and students must be equipped with the necessary skills to use these technological tools. To ensure that the results of the AN are effectively utilized, teachers must also be trained to interpret the assessment outcomes and apply them to enhance the quality of teaching and classroom assessment.

Limitation

This study was conducted before the results of AN were announced, meaning that the participating teachers had not yet had the opportunity to use AN results to plan their teaching and assessments. Therefore, the impact of AN on teaching and assessment practices was based solely on the teachers' knowledge and experience of AN. This study also did not explore the affective aspects in greater depth, such as the motivation of teachers and students before and during the implementation of AN.

Recommendation

Further research is needed to understand how schools and teachers utilize AN results to improve the quality of teaching after four years of implementing the AN. Additionally, research should explore the affective aspects of teachers' and students' experiences related to the administration of the AN.

The smooth implementation of AN should be supported by the availability of necessary infrastructure. Moreover, improving teaching quality also requires adequate supporting resources and facilities.

Acknowledgments

Conflict of Interest

The Authors declare that there is no conflict of interest.

Declaration of Generative AI-assisted Technologies

This manuscript was prepared with the assistance of Generative AI: ChatGPT, Grammarly, and Turnitin. ChatGPT was utilized to translate well-structured texts from Indonesian into English and to refine the translated content. Grammarly was employed to ensure grammatical accuracy and the overall quality of the texts, while Turnitin was used to assess the level of textual similarity and potential plagiarism. All intellectual contributions, critical analyses, and final revisions were conducted by the authors. The authors take full responsibility for the accuracy, originality, and integrity of the content presented in this work.

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4. Bukti catatan tambahan dari editor berdasarkan hasil review

(20 April 2025)

Uhamka
UNIVERSITAS MUHAMMADIYAH PROF. DR. HAMKA

Elin Driana <elin.driana@uhamka.ac.id>

Reviewer Attachments

Aah Ahmad Syahid <aahpecintajurnal@gmail.com>   Sun, Apr 20, 2025 at 7:49 AM
To: Elin Driana <elin.driana@uhamka.ac.id>

Kepada Yth. Penulis,

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1. Daftar pustaka harus menggunakan 100% sumber jurnal internasional. Sumber-sumber lokal termasuk buku akan dikembalikan.
2. Daftar pustaka harus lengkap (penulis, tahun, judul, terbitan, halaman, dan DOI/URL).
3. Lakukan revisi pada artikel Anda (berikan warna berbeda per reviewer).
4. Kirimkan hasil revisi dalam bahasa Inggris tanpa menggunakan istilah atau singkatan lokal.
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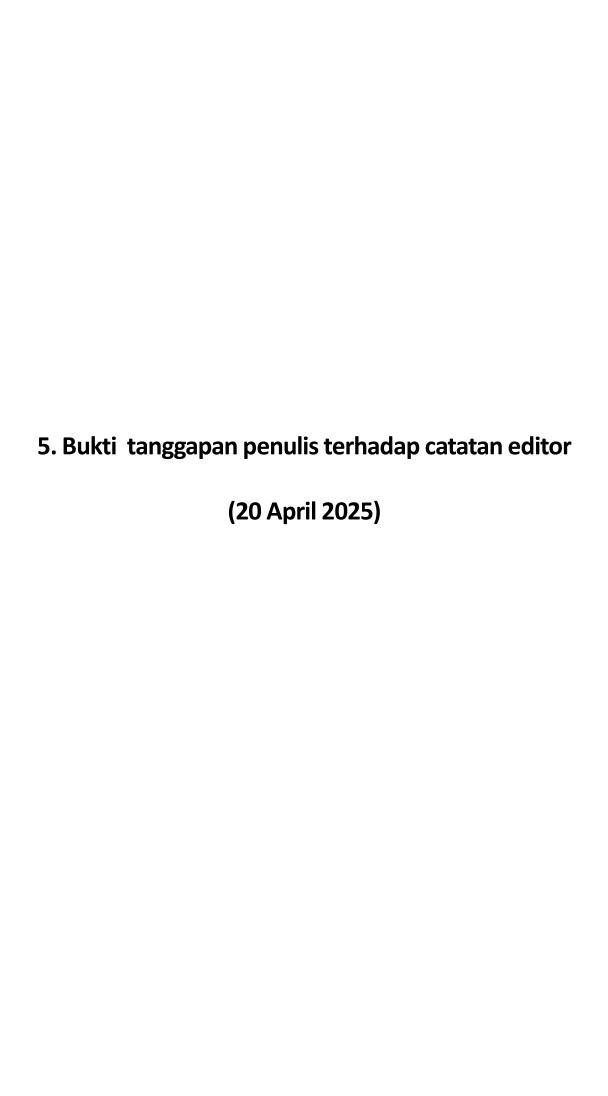
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5. Bukti tanggapan penulis terhadap catatan editor

(20 April 2025)

Elin Driana <elin.driana@uhamka.ac.id>

Reviewer Attachments

Elin Driana <elin.driana@uhamka.ac.id>
To: Aah Ahmad Syahid <aahpecintajurnal@gmail.com>

Sun, Apr 20, 2025 at 2:07 PM

Editor yang terhormat,

Terima kasih atas catatan-catatannya.

Mohon perkenannya untuk kami menyampaikan beberapa tanggapan berikut ini.

Untuk nomor 1, kami sulit memenuhi karena penelitian ini tentang asesmen nasional yang dilaksanakan di Indonesia sehingga mau tidak mau kami harus mereview penelitian-penelitian tentang asesmen nasional di Indonesia, termasuk dokumen-dokumen dari pemerintah. Mohon sarannya bagaiman sebaiknya apakah misalnya memang semua rujukan artikel dari jurnal nasional dan dokumen2 dari pemerintah dihapus. Selain itu, kami mohon klarifikasi maksud "sumber-sumber lokal termasuk buku akan dikembalikan."
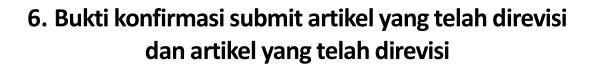Untuk nomor 2, akan kami cek kembali.
Untuk nomor 3, bagaimana bila ada catatan yang sama dari kedua reviewer? Pakai satu warna disertai catatan bahwa kedua reviewer memberikan masukan yang sama?
Untuk nomor 4, apakah singkatan seperti AN (menunjukkan asesesmen nasional) dituliskan secara lengkap dalam bahasa Inggris saja menjadi National Asesmen atau mungkin Indonesia National Assessment?
Untuk nomor 5, hasi pemeriksaan Tunitin kami yg sudah kami kirimkan ketika submit artikel menunjukkan kemiripan 13%.

Terima kasih

Hormat kami,

Elin Driana
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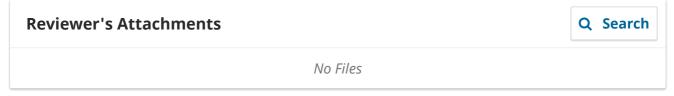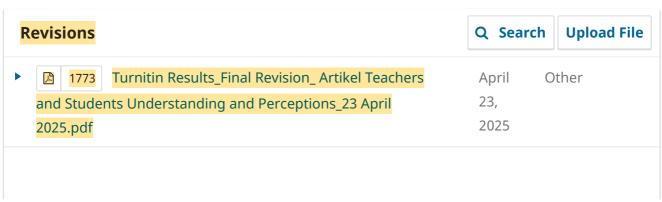**Submission** | Review | **Copyediting** | **Production**
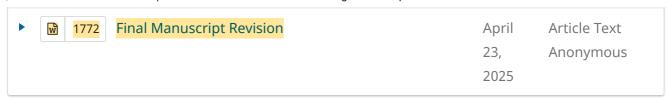
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Teachers' and Students' Understanding and Perception of the National Assessment in Indonesian Primary Schools: Implications for Learning and Classroom Assessment

Abstract. National assessments are essential tools for evaluating educational quality worldwide. In Indonesia, the National Assessment (NA) was introduced to assess literacy, numeracy, character, and the learning environment without direct consequences for individual students. This study was conducted to explore teachers' and students' understanding and perceptions of NA, as well as its implications for classroom learning and assessment. A qualitative method with phenomenological approach was used, involving semi-structured interviews with 11 teachers and 21 fifth-grade students from six public schools in South Jakarta. The findings revealed that most teachers had a basic understanding of NA, with varied interpretations of its purpose and components. Teachers viewed NA as necessary for improving education quality but emphasized the need for better infrastructure and pedagogical support. Students, on the other hand, perceived NA as a low-stakes test with limited impact on their learning. Despite these differing views, the implementation of NA motivated improvements in literacy and numeracy, and increased the use of technology in teaching. However, challenges such as digital literacy gaps and limited device access were noted. The study contributes valuable insights into the perceptions of teachers and students, highlighting the need for infrastructure, training, and the effective use of assessment data to improve educational quality.

Keywords: Classroom Assessment; Learning; Minimum Competency Assessment; National Assessment; Primary Schools

1. Introduction

National assessments to evaluate student achievement in core competencies such as literacy and numeracy are a global practice. Even countries with decentralized education systems and high levels of teacher autonomy, such as Finland, have adopted such assessments (Juntunen, 2015). International assessments like the Programme for International Student Assessment (PISA) have encouraged education systems worldwide to adjust policies and introduce national-level evaluations (Daliri-Ngametua et al., 2024; Imlig & Ender, 2018; Ninomiya, 2016).

In general, educational assessments, whether classroom-based or standardized national assessments, serve three primary functions: improving the quality of learning, evaluating individual student performance, and assessing educational programs (National Research Council, 2001). National assessment data can be utilized across multiple levels, from individual schools to broader policy formulation (Imlig & Ender, 2018). For instance, teachers may leverage national assessment results to enhance instructional strategies (Pitsia et al., 2021), while policymakers can use the data to monitor education system performance and implement reforms aimed at quality improvement (Paget et al., 2016).

Countries vary in how they utilize national assessment data. Some employ it solely for instructional improvement, while others apply it for multiple purposes. For example, Norway and Sweden use national assessment outcomes to improve classroom instruction and maintain education quality control, with Sweden also utilizing results for individual student evaluation (Tveit, 2018).

However, national assessments frequently generate public controversy, particularly when used for high-stakes purposes, potentially leading to unintended consequences like curriculum narrowing and teaching to the test (Lee et al., 2023; Rose et al., 2018; Tveit, 2013). Indonesia has a long-standing tradition of national assessments, beginning with the End of School Exam from 1950 to 1964, followed by several changes, including the National Final Exam from 2003 and later renamed the National Exam in 2005 (Center for Education and Policy Studies, 2024). According to Government Regulation Number 19 of 2005 on National Education Standards, national exam results served multiple purposes, such as mapping program quality, student graduation, and school-level intervention.

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The high-stakes nature of the National Exam led to significant public concern, culminating in a citizen lawsuit filed by 58 individuals in 2006. Between 2015 and 2020, while the National Exam no longer determined student graduation, it continued to be administered. In 2021, NA officially replaced the National Exam. According to the Regulation of the Minister of Education, Culture, Research, and Technology of the Republic of Indonesia Number 17 of 2021 concerning the National Assessment (Mendikbudristek, 2021), NA is a system-level evaluation tool targeting grades 5, 8, and 11. Unlike the national exam, which was administered at the end of an educational level to determine graduation, NA is conducted in grades 5, 8, and 11 and does not have consequences for individual students (Center for Assessment and Learning, 2021).

1.1. Problem Statement

The success of national education policy implementation largely depends on its effective translation into classroom practices. For assessment data to meaningfully contribute to improve student learning, it must be appropriately utilized at both school and classroom levels (Schildkamp et al., 2016). Stakeholder perceptions—particularly those of principals, teachers, parents, and students—significantly influence how assessments impact learning (Imlig & Ender, 2018).

Teachers play a central role in translating assessment policies into instructional practices. Their understanding and perception of an assessment guide how results are interpreted and used to tailor instruction to student needs (Schildkamp et al., 2016). Similarly, student understanding and attitudes toward assessments can influence their engagement and learning strategies (Nieminen & Atjonen, 2022; Smith et al., 2011). For example, although Australia's NAPLAN is intended as a low-stakes assessment, some students perceive it as high-stakes, affecting their behavior and emotional responses (Howell, 2017).

Previous research on NA in Indonesia has highlighted variation in teachers' understanding and readiness of NA (e.g., Iman et al., 2021; Nurhikmah et al., 2021; Sari & Sayekti, 2022), as well as the inadequacy of the infrastructure and resources necessary for effective implementation of NA (e.g., Berlianto & Pembangunan, 2023; Muliasari et al., 2022; Rigianti & Utomo, 2023). These factors contribute to the achievement of the intended goals of national assessments. Consequently, there is a need for further studies that investigate NA from the perspective of students, in addition to teachers, and assess its impact on learning outcomes and classroom assessment practices.

1.2. Related Research

Early research findings indicated varied understanding of NA among primary school teachers. Some teachers understood the Minimum Competency Asessment (MCA), a component of NA, as a replacement for the National Exam (Nurhikmah et al., 2021; Sari & Sayekti, 2022). Conversely, a school principal in a primary school in Peukan Pidie, Aceh Province viewed MCA as a policy to assess the national educational quality, not a replacement for the exam due to its different objectives (Iman et al., 2021). Based on interviews, teachers in two elementary schools in Boyolali Regency had understood the components of MCA, such as literacy and numeracy and the indicators in the character survey (Kusumaningrum & Abduh, 2022).

Schools had made various efforts to prepare for the implementation of NA, such as organizing socialization activities for teachers (Nurhikmah et al., 2021; Putri et al., 2022), preparing teaching materials, questions, including those measuring higher-order thinking skills, and modules for students (Hanjani et al., 2023) and adjusting learning to the MCA assessment model by providing teachers with supporting books aligned with MCA (Iman et al., 2021). In preparation for NA, schools also provided additional lessons for students selected to participate in NA by working on MCA questions (Hanjani et al., 2023; Iman et al., 2021; Kusumaningrum & Abduh, 2022; Muliasari et al., 2022). Special preparations for NA also included utilizing MCA questions via the website of Center for Assessment and Learning (Kusumaningrum & Abduh, 2022; Putri et al., 2022). Since not all students were familiar with using computers/laptops, some schools have specifically introduced students to computer operations (Hanjani et al., 2023).

In general, the implementation of NA in schools had proceeded smoothly. However, challenges remained related to the availability and use of information and communication

technology, such as insufficient availability of computers/laptops (Berlianto & Pembangunan, 2023; Muliasari et al., 2022; Rigianti & Utomo, 2023), especially in the remote, frontier, and outermost areas (Kharismawati, 2022; Wuwur, 2023), problematic internet connections (Ahmad, 2022; Kusumaningrum & Abduh, 2022; Widiyanto & Desstya, 2023), limited teacher and/or student skills in using technology (Iman et al., 2021; Kharismawati, 2022; Wuwur, 2023), and inadequate telecommunications networks in the remote, frontier, and outermost areas, making it difficult to find locations to administer NA (Kharismawati, 2022). Other challenges included the lack of supporting books for MCA (Rigianti & Utomo, 2023), limited teacher ability to develop MCA-related questions (Rigianti & Utomo, 2023), and insufficient socialization (Iman et al., 2021).

Research examining the impact of NA on learning and assessments in primary schools is still relatively limited. The majority of these studies focused on the impact of MCA. For example, based on MCA results reported in educational reports, teachers in a primary school in Karas Subdistrict, Magetan Regency, began attending training sessions to improve the quality of learning presenting questions in the form of story problems that integrate several topics from the theme books, designed to stimulate critical thinking and problem-solving skills (Putri et al., 2022).

Despite the policy shift in Indonesia, limited research has examined the implications of NA for primary education, especially from the perspectives of teachers and students. This study seeks to fill that gap by exploring how teachers and students understand and perceive NA and how its implementation affects learning and classroom assessment practices.

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1.3. Research Objectives

This study aimed to explore teachers' and students' understanding and perceptions of NA and the impact of the implementation of NA on learning and classroom assessments.

2. Theoretical Framework

2.1. Assessment and Learning

Educational assessments profoundly influence the teaching and learning process, playing a pivotal role in determining the content delivered and the pedagogical approach employed (Baird et al., 2017). The nature of the assessments further shape students' learning approaches, potentially fostering either a surface approach—characterized by a limited engagement aimed solely at fulfilling course requirements—or a deep approach, which is rooted in intrinsic motivation to achieve a comprehensive understanding of the material (Bloxham & Boyd, 2007).

Assessments emphasizing memorization of discrete facts or procedures tend to promote surface learning. In contrast, assessments that require students to synthesize information, recognize patterns, and draw conclusions foster deeper cognitive engagement and integrative understanding (Bloxham & Boyd, 2007). Therefore, the design and intent of assessment tasks have significant implications for learning outcomes. Assessments are frequently oversimplified as a dichotomy between internal assessments conducted by educators and external assessments imposed by external bodies such as government agencies or international organizations. This binary perspective fails to acknowledge that assessments occupy a continuum, varying in their alignment with teaching and learning activities (Pellegrino, 2017).

The design of student achievement assessments is largely influenced by each country's educational framework and prevailing global assessment trends (Imlig & Ender, 2018). As Baird et al. (2017) assert, while international assessments may not directly impact the manner in which students engage with the content, they do shape educational policy, which in turn dictates the curriculum and instructional methodologies employed in classrooms.

2.2. National Assessment in Several Countries

National assessments implemented by educational systems across various countries to collect data on student achievement serve multiple purposes, encompassing both high-stakes and

low-stakes objectives. High-stakes assessments, such as graduation examinations at the end of an educational level, carry significant consequences. In contrast, low-stakes assessments are primarily utilized to enhance instructional practices within the classroom. On a broader scale, data derived from student achievement assessments can be employed to monitor and evaluate the effectiveness of a nation's education system.

Assessment frameworks vary significantly across countries. For instance, Australia conducts the National Assessment Program–Literacy and Numeracy (NAPLAN) annually for all students in grades 3, 5, 7, and 9, specifically to track proficiency in literacy and numeracy (National Assessment Program, 2025). Norway administers a national assessment to evaluate the students' competencies in grades 5 and 8 in English, reading, and mathematics, as well as grade 9 in reading and mathematics, which is mandatory for all students (Tveit, 2013). The United States implements the National Assessment of Educational Progress (NAEP) annually using representative samples of students in Grades 4, 8, and 12 across a broad array of subject (National Center for Education Statistics, 2019). Conversely, Brazil administers the Prova Brasil biennially to assess students' achievement in grades 4 and 8 in mathematics and Portuguese (Paget et al., 2016).

Each student who participates in NAPLAN will receive the results, and and parents may use the results to track their children's literacy progression and engage in discussions with teachers about the results (National Assessment Program, 2025)). Additionally, these results serve as supplementary information for teachers to assess students' literacy and numeracy competencies and monitor their academic progress. Education policymakers leverage these results to monitor and evaluate the performance of schools and the overall education system, guiding the development of literacy and numeracy skills and identifying schools requiring additional support. Similarly, Norway's national assessment results are reported individually, facilitating instructional improvements by teachers. At an aggregate level, policymakers utilized these results across various levels to conduct comprehensive monitoring and evaluation (Tveit, 2013). In contrast, NAEP does not aim to assess individual student or school performance. Rather, it serves as a tool for tracking national and state-level educational progress (National Center for Education Statistics, 2019). Similarly, the results of Prova Brasil are not intended to assess individual student progress and are not disseminated to all students. Instead, the Brazilian Ministry of Education uses the Prova Brasil results to monitor and evaluate the education system, enabling improvements through data-driven policymaking (Paget et al., 2016).

2.3. National Assessment in Indonesia

Article 2 of the Regulation of the Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia Number 17 of 2021 on National Assessment (Mendikbudristek, 2021) states that the purpose of NA is to measure cognitive learning outcomes, non-cognitive learning outcomes, and the quality of the learning environment in educational units. These are measured using the minimum competency assessment, character survey, and learning environment survey, respectively. During the implementation of NA, students will complete two instruments: the minimum competency assessment and the character survey, while school principals and teachers complete the learning environment survey.

The types of questions in MCA vary, including multiple choice, complex multiple choice, matching, short answer, and essay. The scoring for multiple choice, complex multiple choice, matching, and short answer/essay questions is done objectively. The components of reading literacy are content (informational text and fictional text); cognitive process(finding information, interpreting and integrating Information, and evaluating and reflecting on information); and context (personal, socio-cultural, and scientific). Meanwhile, the component of numeracy are content (numbers, geomatry, data and uncertainty, and algebra), cognitive process (knowing, applying, and reasoning), and context (personal, socio cultural, scientific) (Center for Assessment and Learning, 2020).

Another instrument is the character survey, which is designed to assess attitudes, values, beliefs, and habits reflecting students' character, based on the Pancasila Student Profile (Center for Assessment and Learning, 2021). This profile includes six dimensions: 1) faith and devotion to

God Almighty and noble character; 2) global diversity; 3) mutual cooperation; 4) critical thinking; 5) independence; and 6) creativity.

The learning environment survey is used to gather information about the quality of the learning process and the school climate that supports learning. This survey includes nine dimensions: 1) students' socioeconomic background; 2) the quality of classroom learning; 3) teacher reflection and improvement in teaching; 4) instructional leadership; 5) safety climate in educational units; 6) diversity climate in educational units; 7) gender equality climate; 8) inclusivity climate; and 9) parental and student support for the educational unit's programs (Center for Educational Assesment, 2022).

The Minister of Education uses the results of NA as part of the educational evaluation by (Article 11 Paragraph (3)). The Ministry then communicate the analysis of these results to stakeholders at various levels to enhance the quality of learning in educational units and/or evaluate the performance of educational units in their regions (Article 11 Paragraph (4)).

In terms of cognitive learning outcomes, NA is similar to NAPLAN in Australia, as it measures literacy and numeracy competencies. These outcomes differ from the national assessments in Norway and Brazil, which focus on subject-specific competencies. In contrast to NAPLAN in Australia and the national assessment in Norway, which encompass all students within the specified grades, NA is administered to a randomized sample of students at each school. Another notable distinction is that, unlike the assessments in Australia and Norway, the results of NA are not reported at the individual student level but rather at the school level, akin to the Prova Brasil. Despite these procedural differences in the administration of national assessments across the aforementioned countries, the data derived from these assessments, including NA results, are utilized by policymakers at various tiers to implement improvements aimed at enhancing the overall quality of education.

3. Method

3.1. Research Design

This study employed a phenomenological approach, enabling the researchers to explore the informants' lived experiences and the meanings they attach to a phenomenon (Creswell & Poth, 2018). Therefore, this approach was used to gather rich data by exploring teachers' and students' the experiences, perspectives, and views regarding NA.

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3.2. Participant

The study involved 11 teachers and 21 fifth-grade students from six public primary schools in Kebayoran Lama District, South Jakarta, who participated in NA in 2021. The teachers were selected based on their educational background, certification, and teaching experience. Meanwhile, the students were selected based on their participation in NA. Schools were coded A, B, C, D, and E to maintain data confidentiality. Each teacher was assigned a code consisting of the word "Teacher" followed by a number from 1 to 11. The students were assigned a code consisting of the word "Student" followed by a number from 1 to 21.

The distribution of the informants at each school is shown in Table 1.

Tabel 1. Informants by School

School Code	The Number of Informants	
	Teacher	Student
A	2	4
B	2	4
C	1	3
D	2	5
E	2	2
F	2	3

[5]

Total	**11**	**21**

The backgrounds of the teachers and students were collected through a questionnaire distributed using Google Forms, which contained information about the participants. The teachers' characteristics were categorized based on gender, age, years of teaching experience, educational background, and certification. The characteristics of the teachers are presented in Table 2.

Tabel 2. Teachers' Characteristics

Variable	Number	Percentage (%)
Gender		
Male	2	18,19%
Female	9	81,81%
Total	**11**	**100%**
Age		
≤ 30 years	-	-
31-40 years	7	63,64%
≤ 41 years	4	36,36%
Total	**11**	**100%**
Teaching Experience		
1-5 years	-	
6-10 years	3	27,28%
>10 tahun yers	8	72,72%
Total	**11**	**100%**
Educational Background		
Bachelor degree in primary teacher education	11	100%
Others	-	-
Total	**11**	**100%**
Teacher Certification		
Yes	11	100%
No	-	-
Total	**11**	**100%**

As presented in Table 2, most fifth-grade teachers were female, accounting for 81.81%. The largest group of teachers was aged between 31 and 40 years, making up 63.64%. Most teachers had over 10 years of teaching experience (72.72%) and held a bachelor's degree in primary school teacher Education (S1-PGSD), with all teachers being certified. The student characteristics were categorized based on gender, age, and academic achievement. The results of the data collection are shown in Table 3.

Tabel 3. Students' Characteristics

Variable	Number	Percentage (%)
Gender		
Male	13	61,90%
Female	8	38,10%
Total	**21**	**100%**
Age		
11 years	13	61,90%
12 years	8	38.10%

[6]

Total	21	100%

Based on Table 3, most student were male (61.90%), with the remaining 38.10% being female. The most common age among students was 11 years (61.90%), while the remaining students were 12 years old (38.10%).

3.3. Data Collection

Data were collected through semi-structured interviews using a prepared set of questions that were posed to both teachers and students. However, the researchers had the flexibility to explore additional responses from the informants. The questions were designed to investigate the informants' understanding and perceptions of NA, the implementation of NA in schools, and the impact of NA on learning and assessment.

Prior to the interviews, the researchers obtained permission from the Sub-District Education Office of South Jakarta to conduct research in several primary schools. Subsequently, the researchers met with the school principals to schedule interviews with fifth-grade teachers. The interviews were scheduled so as not to disrupt classroom activities, with each session lasting between 30 and 60 minutes. The second author conducted the interviews with the assistance of a research assistant. With written consent from the participants, the interviews were recorded while ensuring confidentiality.

3.4. Data Analysis

The researchers used Google Docs to transcribe the recorded interviews into written text. The data were then analyzed using typological analysis by categorizing the data based on predefined typologies (Hatch, 2002). For this study, the typology was based on the research questions, including teachers' and students' understanding and perspectives of NA, its implementation, and its impact on classroom teaching and assessment. Data within each typology were then categorized based on emerging patterns. Data coding and categorization were performed by the first author, second author, and research assistant. The researchers used structural coding, referring to the research questions, to categorize the data (Saldaña, 2013). The results of the coding and categorization were then discussed to formulate the themes that emerged.

3.5. Trustworthiness

Trustworthiness of this study was addressed by ensuring credibility, transferability, dependability, and confirmability (Daymon & Holloway, 2010). To ensure credibility, the researchers employed data triangulation by involving teachers and students from different schools—11 teachers and 21 students from six public   primary schools in Kebayoran Lama, South Jakarta. Additional efforts to ensure credibility were made through investigator triangulation, involving the first author, second author, and a research assistant in the data analysis process. The analysis results were then compared and discussed to reach a consensus on the identified patterns, categories, and themes. Transferability was achieved by providing a detailed description of the study and comparing it with other research on NA. To ensure consistency and accuracy (dependability), an audit trail was conducted by documenting each stage of the research process, including the informants' data with assigned codes, interview recordings, transcripts, coding, and categorization of data. To ensure that the findings and conclusions aligned with the study's objectives (confirmability), the researcher ensured that the findings and conclusions were derived from a thorough analysis of the collected data.

4. Findings

The data analysis resulted in five themes: teachers' understanding and perceptions of NA, students' understanding and perceptions of NA, the implementation of NA, the impact of NA on learning, and the impact of NA on classroom assessments.

4.1. Teachers' Understanding and Perceptions of the National Assessment

The interview results indicated that most teachers understood the concept of NA, although they used different terminology, such as "evaluation" and "assessment." Four teachers referred to it as an evaluation, while five teachers referred to it as an assessment. Additionally, two teachers directly linked NA to its perceived purpose as the assessment of students' competencies. Below are some definitions provided by the teachers who used the terms "evaluation" and "assessment":

> "National assessment is an evaluation program organized by the government to improve the quality of education and to capture the input and output of a school." (Teacher 3)

> "National assessment, as far as I know, is a type of assessment conducted by the Ministry of Education to assess the overall quality of an educational unit, both from the students and the learning environment." (Teacher 2)

Additionally, two teachers directly linked the purpose of NA to assess students' competencies, with one teacher also mentioning its role in reflecting the condition of the school.

Interviews with the teachers also revealed that the majority had a basic understanding of the components of NA, such as MCA, character survey, and learning environment survey, as well as the grade levels involved and the timing of the assessment. However, one teacher only mentioned the components of MCA, specifically literacy and numeracy, without mentioning the character survey and the learning environment survey. Another teacher did not know about the components of NA.

Regarding MCA, three of the 11 interviewed teachers stated that MCA measures students' basic competencies in literacy. Three other teachers referred to MCA as an assessment of the basic competencies students should master, without specifying the competencies being measured. Here is a statement representing this understanding:

> "Assessment is conducted to measure students' basic competencies. The basic competencies in question are related to literacy, such as reading literacy and numeracy literacy." (Teacher 2)

Three other teachers referred to MCA as an assessment of the basic competencies students should master, without specifying the competencies being measured. Here is a statement representing this understanding:

> "Basic competencies assessment for students, which serves as a source of information to map and evaluate the quality of education in a region." (Teacher 5)

Two teachers only mentioned the acronym MCA without discussing the components of the assessment. One teacher did not specifically mention basic competency measurement but referred to general student learning outcomes. Another teacher stated that MCA requires students to engage in higher-order thinking. Additionally, one teacher linked MCA to its use in mapping school quality.

> "AKM is an assessment conducted to improve the quality of learning, implemented by the government to drive improvements in teaching and learning outcomes." (Teacher 1)

Ten of the 11 teachers strongly affirmed the necessity of NA. Reasons cited included improving the quality of education, measuring school quality as a basis for follow-up actions, enhancing education in Indonesia, and evaluating student learning outcomes. Below are some of the teachers' statements.

> "Yes, it is essential because national assessment can be used to measure the quality of an educational unit, which will then serve as a reference for follow-up actions to improve the unit's quality and ultimately improve education in Indonesia." (Teacher 2)

> "In my opinion, it is necessary to measure, to assess, and to evaluate students' learning outcomes over time, because without AN, we wouldn't know where we stand.

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Moreover, since the national exams are said to no longer exist, this is crucial." (Teacher 7)

One teacher (Teacher 3) emphasized the importance of understanding the quality of a school compared to others, as this could motivate teachers and other stakeholders to improve learning quality. This view was shared by Teacher 7, who highlighted that NA results could inspire school-wide improvements.

Teacher 6 proposed the importance of implementing NA for all fifth-grade students in primary schools so that each student has the experience of participating in the assessment. However, this teacher acknowledged that not all schools are equipped to implement NA for all students in the designated grades due to limitations in necessary facilities, such as computers and sufficient internet access.

Meanwhile, Teacher 9 shared a notable perspective, who did not directly express the need for NA but elaborated on the use of NA at various levels. In this teacher's view, the government needs NA to map educational quality. After results are obtained, schools can then use NA results to evaluate their performance and identify areas for improvement.

4.2. Students' Understanding and Perceptions of the National Assessment

According to the interviews, several students were able to state the full form of NA , the types of questions involved in MCA—literacy and numeracy—and the types of questions, such as multiple choice, complex multiple choice, and fill-in-the-blank. However, some students were unable to recall the full form of NA.

Most students viewed NA as answering questions using a computer or laptop. Many students also noted that MCA questions were more challenging than those given by their teachers, especially the numeracy questions. However, some students also mentioned difficulties with the reading literacy questions.

When asked about their feelings toward participating in NA, some students expressed positive emotions:

"I'm happy because I received a national-level assessment." (Student 3)

Others were indifferent about their performance:

"If the results are poor, it's no big deal." (Student 13)

4.3. The Implementation of the National Assessment

Overall, the interviews indicated that the implementation of NA in the schools that participated in this study went smoothly. Teachers also prepared students for NA.

"Yes, students were given training, such as special sessions. They were regularly trained with questions that followed the MCA format. The school also provided MCA-related books for students to study, both at home and in school." (Teacher 11)

However, there were some challenges during the process, particularly during the trial runs. The most frequently mentioned issue was related to internet connectivity and server problems.

"Technical issues may arise, such as server problems from time to time." (Teacher 10)

"Sometimes there are difficulties. Also, when using computers, the login process can be very slow." (Student 20)

"There was a slow network when logging in, and I had to input a code, but it didn't work." (Student 21)

Another challenge involved students who were not accustomed to using computers or laptops, as not all students owned a laptop at home.

"Perhaps it's due to their learning environment, because not all of them have computers at home, making it a bit awkward. There were difficulties during the tasks since they are not used to using a mouse, and now they have to use one." (Teacher 6)

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Teachers also highlighted issues with students' readiness to tackle MCA questions, both in terms of content and question format.

> "...The main difficulty is the lack of deeper understanding of numeracy, according to the students. I've also surveyed them about NA, and they faced challenges, especially with numeracy, which involves more word problems." (Teacher 7)

The students also mentioned difficulties with the MCA's HOTS-based questions, especially in numeracy. However, some felt challenged by the complexity of the tasks.

> "I feel challenged because the questions are more complex compared to the usual questions." (Student 2)

> "I was confused about answering the numeracy questions." (Student 4)

4.4. The Impact of the National Assessment on Learning

Although the results of NA had not been obtained at the time this research was conducted, the majority of the teachers participating in the study stated that the implementation of NA had motivated them to enhance literacy and numeracy skills. Most teachers also expressed that they were motivated to further improve the quality of teaching by utilizing student-centered teaching methods.

> "The implementation of the national assessment has personally motivated me as a teacher to reintroduce student-centered learning models, which encourage students to be active in learning and stimulate critical thinking throughout the process." (Teacher 2)

Students had varied responses when asked about the differences in learning before and after the implementation of NA. Here are a few student statements:

> "It's the same, like speaking in front of the class or being asked to bring a phone and fill out a quiz on Google Forms at school." (Student 9)

Furthermore, teachers began to use technology more frequently in teaching and trained students to use it, such as with mobile phones and laptops.

> "Yes, it has had a significant impact, especially because we now use computers. So the students have no choice but to learn how to use computers themselves, which is now part of the learning process. We're teaching them to use technology, integrating it into learning, not just using textbooks or classroom teaching but also based on technology." (Teacher 4)

Students also stated that their teachers had started incorporating information and communication technology into lessons:

> "Usually, we are asked to bring our phones to answer questions using Quizizz or complete tasks on Google Forms." (Student 20)

However, some teachers noted that there was little or no change in their teaching methods. The reasons provided included the fact that the had not yet obtained the NA results or that they had implemented the teaching methods needed for developing literacy and numeracy.

4.5. The Impact of the National Assessment on Classroom Assessments

Teachers provided varied responses regarding the impact of NA on classroom assessments. Generally, the changes were moderate, with some teachers stating that there was little or no change at all. Nevertheless, the implementation of the NA has led teachers to reflect on the classroom assessments they conduct and begin making necessary adjustments. For instance, after the implementation of NA, some teachers focused more on authentic assessments through performance-based evaluations.

> "Yes, in assessments, I've made developments and changes because of the national assessment. The assessments I conduct are now more authentic and involve more

student performance; it's not just about using textbooks but also evaluating their performance." (Teacher 2)

Teachers also started including questions aligned with MCA standards, both in terms of content that integrates literacy and numeracy and in terms of question format, such as moving beyond simple multiple-choice questions to include complex multiple-choice, fill-in-the-blank, matching, and essay.

"Now, in the assessment system, when designing questions, we prioritize literacy, and we have modified our questions. We are now more inclined towards HOTS." (Teacher 3)

"When I administered the midterm exam, I included some questions on literacy and numeracy that align with MCA. There were challenges because the students didn't understand the structure of the sentences. I told them that this is part of MCA and they will encounter it later, especially for students who have never participated in MCA. These students had more difficulties, particularly in understanding reading or literacy questions." (Teacher 6)

When asked about changes in the way teachers assess students after the implementation of the national assessment, most student responded that there had been no changes.

"There's no difference, it's the same." (Student 3, Student 4, Student 8, Student 21)

5. Discussion

5.1. Teachers' Understanding and Perceptions of NA

The achievement of educational policy goals and programs established by the government in the field of education is also determined by how these policies and programs are understood and interpreted by stakeholders, including teachers and students. In the context of NA in Indonesia, teachers' understanding and perception are crucial because they will determine the success of NA in improving education quality through classroom learning and assessment. According to Fulmer et al. (2015), contextual factors at macro, meso, and micro levels influence how teachers' assessment practices. National assessments can be categorized as a macro-level factor influencing meso-level factors, such as education offices and school leaders, which ultimately influence teachers, both directly and indirectly. How teachers interpret the goals of the national assessment will be shaped by micro-level factors, such as their understanding and views of NA, as well as their interactions with students during learning and assessments.

Interviews with teachers in this study revealed that, in general, teachers possessed basic knowledge about the NA, including its definition, the instruments used, the types of MCA questions, the grade levels involved, and the timing of the assessment. However, teachers' understanding of MCA varied, with some teachers only able to state its full form. This finding confirms previous research indicating that teachers' understanding of MCA was still limited (Kusumaningrum & Abduh, 2022).

Most teachers understood that the results of NA are not intended to measure individual student competence but are used to map the quality of schools, which can then be used to improve teaching and learning. This understanding aligns with the explanations in various documents released by the Ministry of Education and Culture regarding NA (Center for Assessment and Learning, 2021).

The difference in terminology used to define NA, namely "evaluation" and "assessment," is understandable given the close relationship between these concepts, which is why these terms are often used interchangeably (Meylani, 2024). Article 1, Paragraph 1 of the Ministry of Education, Culture, Research, and Technology Regulation Number 17 of 2021 on National Assessment (Mendikbudristek, 2021) states that "one form of evaluation of the education system by the Ministry at the primary and secondary education levels." This definition seems to refer to one of the uses of assessment results, which is for evaluation purposes.

Teachers displayed a positive attitude toward NA, viewing it as necessary for improving education quality, including enhancing classroom teaching. This positive attitude indicates that teachers believe the results of the national assessment can be applied at various levels, from the education system to the classroom. This belief aligns with what is stated in the Ministry of Education, Culture, Research, and Technology Regulation Number 17 of 2021, where the analysis of NA results, as part of the evaluation of the education system by the Minister, will be used by other stakeholders to improve teaching quality and/or evaluate the performance of educational units. This positive attitude corroborates previous research (Kusumaningrum & Abduh, 2022) showing that teachers are interested in using MCA and character survey results to evaluate the learning process.

The findings of this study underscore the importance of teachers' understanding of NA and how this influences their teaching practices. Teachers who have a clear grasp of the assessment's component are better equipped to utilize the results to improve both classroom instruction and overall school performance. The study indicates that teachers view NA as an essential tool for enhancing education quality, as it provides valuable insights into school and student performance. However, there are challenges, including limited infrastructure and digital literacy gaps, which hinder the effective implementation of NA.

5.2. Students' Understanding and Perceptions of the National Assessment

Students who participated in this study encountered difficulties, particularly with numeracy questions and higher-order thinking tasks. These challenges suggest that there is a need to improve students' foundational skills in literacy and numeracy, as well as their ability to engage with complex, problem-solving questions. The integration of technology in learning, as noted by both students and teachers, has the potential to bridge these gaps, but only if students are adequately prepared to use technological tools effectively.

Students tended to view the NA as a low-stakes test, as it carries no direct consequences for them. Consequently, many students expressed indifference if they did not achieve favorable results, with some even feeling pleased to have the opportunity to be assessed at a national level. The messages conveyed by the Ministry of Education, Culture, Research, and Technology regarding the purpose of the assessment through various socialization efforts seem to have reached the students. This finding contrasts with a study involving students in grades 3, 5, and 7 in Australia who participated in NAPLAN (Howell, 2017). Although NAPLAN was designed as a low-stakes assessment by policymakers, some students viewed it as a high-stakes test, one that impacted their opportunities to pursue education at their desired schools. Additionally, some students expressed concerns that their assessment results would be compared to those of their peers.

The perception among some students that NAPLAN is a high-stakes test appears to be influenced by inconsistencies in the messaging, both from the government, which uses NAPLAN results for accountability purposes, and the media, which often emphasize rankings based on NAPLAN results (Howell, 2017). Therefore, it is crucial for the Indonesian government to continue sending a clear and consistent message about the low-stakes nature of NA to prevent any unintended consequences from its use. However, it is also important to frame NA in a way encourages more engagement and motivation from students, which could improve their performance.

5.3. The Implementation of the National Assessment

Overall, the findings from the five schools involved in the study, all located in South Jakarta, indicate that the implementation of the NA proceeded smoothly. The readiness of essential infrastructure, such as the availability of laptops/computers and internet access, significantly supported the successful execution of NA, similar to the implementation in primary schools in Cluster 7, Tambun District, Bekasi Regency (Kartanti et al., 2024). However, challenges were still encountered due to technical issues, such as slow internet connections or server outages, as seen in other schools (Ahmad, 2022; Putri et al., 2022; Widiyanto & Desstya, 2023)). This contrasts with findings from schools that lacked adequate infrastructure, such as in Tasikmalaya, where some students attended the NA at other, better-equipped schools, or where schools had to

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purchase additional laptops (Muliasari et al., 2022) Another measure taken to address insufficient laptop availability was for teachers to lend their personal laptops to students to participate in NA (Berlianto & Pembangunan, 2023). The lack of necessary infrastructure for NA is particularly felt by teachers and students in remote, frontier, and outermost areas (Kharismawati, 2022; Wuwur, 2023).

Another issue identified was that some students were not accustomed to using laptops or computers, particularly those from families without access to such devices, which hindered their performance. This phenomenon of students who are unfamiliar with, or have never used, computers or laptops is not exclusive to remote, frontier, and outermost areas (Kharismawati, 2022; Wuwur, 2023) but is also found in urban schools (Hanjani et al., 2023; Muliasari et al., 2022)). To address this issue, some schools specifically trained students to use these devices (Berlianto & Pembangunan, 2023; Hanjani et al., 2023).

Although NA was designed as a low-stakes test, some schools still prepared students by having them practice with MCA-style questions. This trend was also observed in other schools, where additional study hours were provided (Kusumaningrum & Abduh, 2022; Muliasari et al., 2022; Putri et al., 2022). The Ministry of Education and Culture emphasized through various forums and media that students need not be specially prepared to practice MCA questions, except for basic technical preparations. Furthermore, there are no individual scores for students, teachers, or school principals, nor are there rankings.

Some students in this study encountered difficulties with both literacy and numeracy of MCA questions. These findings confirm previous research (Berlianto & Pembangunan, 2023; Sari & Sayekti, 2022) highlighting students' struggles with MCA questions, which were considered complex and challenging. One reason mentioned by students was the lengthy reading passages (Berlianto & Pembangunan, 2023; Rohmah et al., 2022). MCA questions are designed to assess students' ability to engage in higher-order thinking, making them more complex than typical questions that only measure content mastery. One factor contributing to students' difficulties with higher-order thinking questions is their limited reading comprehension skills (Driana et al., 2021; Nurmawati et al., 2020; Schulz & FitzPatrick, 2016). For example, numeracy questions in MCA contain introductory materials in text and image formats, requiring students to process and interpret information, and to reason using mathematical concepts learned to solve real-world problems in various contexts (Pusat Asesmen dan Pembelajaran, 2020). Many students are still unable to think at the required higher cognitive level, which results in difficulty with numeracy problems designed for MCA (Rohmah et al., 2022).

5.4. The Impact of the National Assessment on Learning

When this study was conducted, the teachers involved had not yet received NA results. However, the implementation of the NA has further raised awareness among the teachers about the importance of developing reading literacy and numeracy. This finding aligns with the research conducted by Kartanti et al. (2024). To enhance students' reading skills, teachers in an primary school in Boyolali Regency assigned reading homework and summary exercises (Kusumaningrum & Abduh, 2022). Teachers also taught students how to highlight key points in texts.

Teachers also made efforts to improve the quality of their teaching, including by using student-centered learning and employing more diverse teaching methods, such as project-based learning. However, students had not yet fully felt these changes as they were still in the early stages. Teachers' awareness and motivation align with the goal of NA to provide feedback to educational units for use in improving teaching processes, ultimately aiming to enhance students' character and competencies (Center for Assessment and Learning, 2020).

Another notable outcome observed after the implementation of NA, confirmed by the students, was that teachers have increasingly utilized technology in their teaching, including training students to use it. The five schools in South Jakarta were generally well-equipped with the necessary infrastructure for integrating information and communication technology (ICT) into teaching. However, some students from disadvantaged families did not yet have the required devices. The digital divide remains a barrier to the effective use of technology in

education (Heeks, 2022; Rodiyah et al., 2023). Furthermore, teachers need to possess digital competencies to appropriately integrate technology into their teaching (Fernández-Batanero et al., 2020) .

Thus far, the message conveyed by the Ministry about NA, which is not designed for high-stakes purposes but rather to improve teaching quality, appears to have been well received. Ensuring that NA remains treated as a low-stakes test, focusing on improving the quality of learning, must continue to be upheld to avoid the negative consequences observed with large-scale standardized tests in other countries. For example, the shift in teachers' and students' understanding of standardized assessments from being designed as low-stakes tests to high-stakes tests, as seen in Australia, can lead to undesirable consequences, such as curriculum narrowing, with a focus on preparing for NAPLAN through practice questions (Ragusa & Bousfield, 2015).

Furthermore, to ensure that NA contributes to improving classroom learning, teachers must use NA results appropriately. Research conducted in Ireland (Pitsia et al., 2021) showed that teachers who have a positive attitude toward standardized testing and have participated in training related to standardized tests are more likely to use the test results to enhance classroom learning. The success of using assessment results to improve teaching quality is also influenced by school characteristics, the teachers' data usage skills, and collaboration (Schildkamp et al., 2016).

5.5. The Impact of the National Assessment on Classroom Assessments

Following the implementation of NA, teachers expressed a desire to make changes to classroom assessments by incorporating questions that measure literacy and numeracy, assess higher-order thinking skills, and adopt various question formats, though the degree of implementation varies. For instance, teachers in an primary school in Boyolali Regency followed up NA with exercises on multiplication, addition, and division to train students in using mathematical operations, which they completed directly before school ended (Kusumaningrum & Abduh, 2022). However, these questions were not presented in a format that requires reasoning to solve real-world problems using the mathematical concepts learned, which is essential for developing numeracy. Research by Hindriana et al. (2023) involving teachers from primary and junior high schools in Kuningan Regency showed that teachers still faced challenges in creating literacy and numeracy questions. As part of the follow-up to MCA results, teachers in a primary school in Magetan Regency, for example, participated in training to develop literacy and numeracy questions (Putri et al., 2022). Students in that school began to notice changes in the types of questions their teachers gave, which increasingly focused on reasoning to solve every day problems.

In addition to the impact on cognitive assessments, some teachers indicated that they would continue to assess students' attitudes through observation during the learning process as an effort to develop students' character. NA not only focuses on assessing cognitive aspects through MCA, but also evaluates students' character through the character survey and learning environment survey.

6. Conclusion

A proper understanding of the purposes of NA by teachers and students will play a crucial role in achieving NA goals of improving the quality of learning. Moreover, the perception among teachers and students that NA is a low-stakes assessment is a critical foundation that policymakers must maintain to ensure that the results of NA genuinely reflect students' competencies and character, free from manipulation, such as excessive test practice that does not contribute to improve learning quality. Additionally, the smooth implementation of the NA requires adequate infrastructure, particularly information technology, which must be readily available. Both teachers and students must be equipped with the necessary skills to use these technological tools. To ensure that the results of the NA are effectively utilized, teachers must also be trained to interpret the assessment outcomes and apply them to enhance the quality of teaching and classroom assessment.

Limitation

This study was conducted before the results of NA were announced, meaning that the participating teachers had not yet had the opportunity to use NA results to plan their teaching and assessments. Therefore, the impact of NA on teaching and assessment practices was based solely on the teachers' knowledge and experience of NA. This study also did not explore the affective aspects in greater depth, such as the motivation of teachers and students before and during the implementation of NA.

Recommendation

Further research is needed to understand how schools and teachers utilize NA results to improve the quality of learning and assessment after four years of implementing NA. Additionally, research should explore the affective aspects of teachers' and students' experiences related to the administration of the NA.

To improve the effectiveness of NA, teachers need to promote student-centered learning and enhance their digital competency. Meanwhile, the government needs to provide teacher training and professional development to enhance teachers' competency that meet the goals of NA. In addition, the smooth implementation of NA should be supported by the availability of necessary infrastructure.

Acknowledgments

Conflict of Interest

The Authors declare that there is no conflict of interest.

Declaration of Generative AI-assisted Technologies

This manuscript was prepared with the assistance of Generative AI: ChatGPT, Grammarly, and Turnitin. ChatGPT was utilized to translate well-structured texts from Indonesian into English and to refine the translated content. Grammarly was employed to ensure grammatical accuracy and the overall quality of the texts, while Turnitin was used to assess the level of textual similarity and potential plagiarism. All intellectual contributions, critical analyses, and final revisions were conducted by the authors. The authors take full responsibility for the accuracy, originality, and integrity of the content presented in this work.
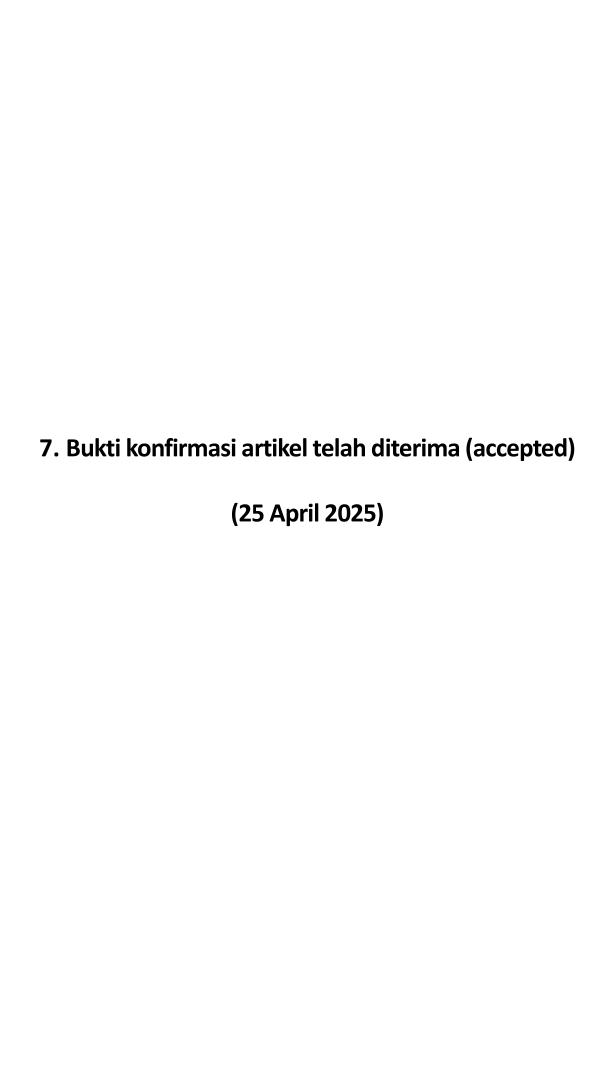
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7. Bukti konfirmasi artikel telah diterima (accepted)

(25 April 2025)

Uhamka
UNIVERSITAS MUHAMMADIYAH PROF. DR. HAMKA

Elin Driana <elin.driana@uhamka.ac.id>

LoA | Your submission has been accepted to Mimbar Sekolah Dasar

Prof. Dr. J. Julia <juli@upi.edu>   Fri, Apr 25, 2025 at 6:28 AM
To: Elin Driana <elin.driana@uhamka.ac.id>

Dear Elin Driana,

I am pleased to inform you that we have decided to accept your submission. After careful review, we found your submission, Teachers' and Students' Understanding and Perception of the National Assessment in Indonesian Elementary Schools: Implications for Learning and Classroom Assessment, to meet or exceed our expectations. We are excited to publish your piece in Mimbar Sekolah Dasar and we thank you for choosing our journal as a venue for your work.

Your submission is now forthcoming in a future issue of Mimbar Sekolah Dasar and you are welcome to include it in your list of publications. We recognize the hard work that goes into every successful submission and we want to congratulate you on reaching this stage.

Your submission will now undergo proofreading, copy editing and formatting to prepare it for publication.

You will shortly receive further instructions.

Kind regards,

Prof. Dr. J. Julia

8. Bukti artikel yang telah dipublikasikan

(22 Juni 2025)

Teachers' and Students' Understanding and Perception of the National Assessment in Indonesian Primary Schools: Implications for Learning and Classroom Assessment

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Abstract. National assessments are essential tools for evaluating educational quality worldwide. In Indonesia, the National Assessment (NA) was introduced to assess literacy, numeracy, character, and the learning environment without direct consequences for individual students. This study was conducted to explore teachers' and students' understanding and perceptions of NA, as well as its implications for classroom learning and assessment. A qualitative method with phenomenological approach was used, involving semi-structured interviews with 11 teachers and 21 fifth-grade students from six public schools in South Jakarta. The findings revealed that most teachers had a basic understanding of NA, with varied interpretations of its purpose and components. Teachers viewed NA as necessary for improving education quality but emphasized the need for better infrastructure and pedagogical support. Students, on the other hand, perceived NA as a low-stakes test with limited impact on their learning. Despite these differing views, the implementation of NA motivated improvements in literacy and numeracy, and increased the use of technology in teaching. However, challenges such as digital literacy gaps and limited device access were noted. The study contributes valuable insights into the perceptions of teachers and students, highlighting the need for infrastructure, training, and the effective use of assessment data to improve educational quality.

Keywords: Classroom Assessment; Learning; Minimum Competency Assessment; National Assessment; Primary Schools

1. Introduction

National assessments to evaluate student achievement in core competencies such as literacy and numeracy are a global practice. Even countries with decentralized education systems and high levels of teacher autonomy, such as Finland, have adopted such assessments (Juntunen, 2015). International assessments like the Programme for International Student Assessment (PISA) have encouraged education systems worldwide to adjust policies and introduce national-level evaluations (Daliri-Ngametua et al., 2024; Imlig & Ender, 2018; Ninomiya, 2016).

In general, educational assessments, whether classroom-based or standardized national assessments, serve three primary functions: improving the quality of learning, evaluating individual student performance, and assessing educational programs (National Research Council, 2001). National assessment data can be utilized across multiple levels, from individual schools to broader policy formulation (Imlig & Ender, 2018). For instance, teachers may leverage national assessment results to enhance instructional strategies (Pitsia et al., 2021), while policymakers can use the data to monitor education system performance and implement reforms aimed at quality improvement (Paget et al., 2016).

Countries vary in how they utilize national assessment data. Some employ it solely for instructional improvement, while others apply it for multiple purposes. For example, Norway and Sweden use national assessment outcomes to improve classroom instruction and maintain education quality control, with Sweden also utilizing results for individual student evaluation (Tveit, 2018).

However, national assessments frequently generate public controversy, particularly when used for high-stakes purposes, potentially leading to unintended consequences like curriculum narrowing and teaching to the test (Lee et al., 2023; Rose et al., 2018; Tveit, 2013). Indonesia has a long-standing tradition of national assessments, beginning with the End of School Exam from 1950 to 1964, followed by several changes, including the National Final Exam from 2003 and later renamed the National Exam in 2005 (Center for Education and Policy Studies, 2024). According to Government Regulation Number 19 of 2005 on National Education Standards, national exam results served multiple purposes, such as mapping program quality, student graduation, and school-level intervention.

The high-stakes nature of the National Exam led to significant public concern, culminating in a citizen lawsuit filed by 58 individuals in 2006. Between 2015 and 2020, while the National Exam no longer determined student graduation, it continued to be administered. In 2021, NA officially replaced the National Exam. According to the Regulation of the Minister of Education, Culture, Research, and Technology of the Republic of Indonesia Number 17 of 2021 concerning the National Assessment (Mendikbudristek, 2021), NA is a system-level evaluation tool targeting grades 5, 8, and 11. Unlike the national exam, which was administered at the end of an educational level to determine graduation, NA is conducted in grades 5, 8, and 11 and does not have consequences for individual students (Center for Assessment and Learning, 2021).

1.1. Problem Statement

The success of national education policy implementation largely depends on its effective translation into classroom practices. For assessment data to meaningfully contribute to improve student learning, it must be appropriately utilized at both school and classroom levels (Schildkamp et al., 2016). Stakeholder perceptions—particularly those of principals, teachers, parents, and students—significantly influence how assessments impact learning (Imlig & Ender, 2018).

Teachers play a central role in translating assessment policies into instructional practices. Their understanding and perception of an assessment guide how results are interpreted and used to tailor instruction to student needs (Schildkamp et al., 2016). Similarly, student understanding and attitudes toward assessments can influence their engagement and learning strategies (Nieminen & Atjonen, 2022; Smith et al., 2011). For example, although Australia's NAPLAN is intended as a low-stakes assessment, some students perceive it as high-stakes, affecting their behavior and emotional responses (Howell, 2017).

Previous research on NA in Indonesia has highlighted variation in teachers' understanding and readiness of NA (e.g., Iman et al., 2021; Nurhikmah et al., 2021; Sari & Sayekti, 2022), as well as the inadequacy of the infrastructure and resources necessary for effective implementation of NA (e.g., Berlianto & Pembangunan, 2023; Muliasari et al., 2022; Rigianti & Utomo, 2023). These factors contribute to the achievement of the intended goals of national assessments. Consequently, there is a need for further studies that investigate NA from the perspective of students, in addition to teachers, and assess its impact on learning outcomes and classroom assessment practices.

1.2. Related Research

Early research findings indicated varied understanding of NA among primary school teachers. Some teachers understood the Minimum Competency Asessment (MCA), a component of NA, as a replacement for the National Exam (Nurhikmah et al., 2021; Sari & Sayekti, 2022). Conversely, a school principal in a primary school in Peukan Pidie, Aceh Province viewed MCA as a policy to assess the national educational quality, not a replacement for the exam due to its different objectives (Iman et al., 2021). Based on interviews, teachers in two elementary schools in Boyolali Regency had understood the components of MCA, such as literacy and numeracy and the indicators in the character survey (Kusumaningrum & Abduh, 2022).

Schools had made various efforts to prepare for the implementation of NA, such as organizing socialization activities for teachers (Nurhikmah et al., 2021; Putri et al., 2022), preparing teaching materials, questions, including those measuring higher-order thinking skills, and modules for students (Hanjani et al., 2023) and adjusting learning to the MCA assessment model by

providing teachers with supporting books aligned with MCA (Iman et al., 2021). In preparation for NA, schools also provided additional lessons for students selected to participate in NA by working on MCA questions (Hanjani et al., 2023; Iman et al., 2021; Kusumaningrum & Abduh, 2022; Muliasari et al., 2022). Special preparations for NA also included utilizing MCA questions via the website of Center for Assessment and Learning (Kusumaningrum & Abduh, 2022; Putri et al., 2022). Since not all students were familiar with using computers/laptops, some schools have specifically introduced students to computer operations (Hanjani et al., 2023).

In general, the implementation of NA in schools had proceeded smoothly. However, challenges remained related to the availability and use of information and communication technology, such as insufficient availability of computers/laptops (Berlianto & Pembangunan, 2023; Muliasari et al., 2022; Rigianti & Utomo, 2023), especially in the remote, frontier, and outermost areas (Kharismawati, 2022; Wuwur, 2023), problematic internet connections (Ahmad, 2022; Kusumaningrum & Abduh, 2022; Widiyanto & Desstya, 2023), limited teacher and/or student skills in using technology (Iman et al., 2021; Kharismawati, 2022; Wuwur, 2023), and inadequate telecommunications networks in the remote, frontier, and outermost areas, making it difficult to find locations to administer NA (Kharismawati, 2022). Other challenges included the lack of supporting books for MCA (Rigianti & Utomo, 2023), limited teacher ability to develop MCA-related questions (Rigianti & Utomo, 2023), and insufficient socialization (Iman et al., 2021).

Research examining the impact of NA on learning and assessments in primary schools is still relatively limited. The majority of these studies focused on the impact of MCA. For example, based on MCA results reported in educational reports, teachers in a primary school in Karas Subdistrict, Magetan Regency, began attending training sessions to improve the quality of learning presenting questions in the form of story problems that integrate several topics from the theme books, designed to stimulate critical thinking and problem-solving skills (Putri et al., 2022).

Despite the policy shift in Indonesia, limited research has examined the implications of NA for primary education, especially from the perspectives of teachers and students. This study seeks to fill that gap by exploring how teachers and students understand and perceive NA and how its implementation affects learning and classroom assessment practices.

1.3. Research Objectives

This study aimed to explore teachers' and students' understanding and perceptions of NA and the impact of the implementation of NA on learning and classroom assessments.

2. Theoretical Framework

2.1. Assessment and Learning

Educational assessments profoundly influence the teaching and learning process, playing a pivotal role in determining the content delivered and the pedagogical approach employed (Baird et al., 2017). The nature of the assessments further shape students' learning approaches, potentially fostering either a surface approach—characterized by a limited engagement aimed solely at fulfilling course requirements—or a deep approach, which is rooted in intrinsic motivation to achieve a comprehensive understanding of the material (Bloxham & Boyd, 2007).

Assessments emphasizing memorization of discrete facts or procedures tend to promote surface learning. In contrast, assessments that require students to synthesize information, recognize patterns, and draw conclusions foster deeper cognitive engagement and integrative understanding (Bloxham & Boyd, 2007). Therefore, the design and intent of assessment tasks have significant implications for learning outcomes.Assessments are frequently oversimplified as a dichotomy between internal assessments conducted by educators and external assessments imposed by external bodies such as government agencies or international organizations. This binary perspective fails to acknowledge that assessments occupy a continuum, varying in their alignment with teaching and learning activities (Pellegrino, 2017).

The design of student achievement assessments is largely influenced by each country's educational framework and prevailing global assessment trends (Imlig & Ender, 2018). As Baird et al. (2017) assert, while international assessments may not directly impact the manner in which students engage with the content, they do shape educational policy, which in turn dictates the curriculum and instructional methodologies employed in classrooms.

2.2. National Assessment in Several Countries

National assessments implemented by educational systems across various countries to collect data on student achievement serve multiple purposes, encompassing both high-stakes and low-stakes objectives. High-stakes assessments, such as graduation examinations at the end of an educational level, carry significant consequences. In contrast, low-stakes assessments are primarily utilized to enhance instructional practices within the classroom. On a broader scale, data derived from student achievement assessments can be employed to monitor and evaluate the effectiveness of a nation's education system.

Assessment frameworks vary significantly across countries. For instance, Australia conducts the National Assessment Program–Literacy and Numeracy (NAPLAN) annually for all students in grades 3, 5, 7, and 9, specifically to track proficiency in literacy and numeracy (National Assessment Program, 2025). Norway administers a national assessment to evaluate the students' competencies in grades 5 and 8 in English, reading, and mathematics, as well as grade 9 in reading and mathematics, which is mandatory for all students (Tveit, 2013). The United States implements the National Assessment of Educational Progress (NAEP) annually using representative samples of students in Grades 4, 8, and 12 across a broad array of subject (National Center for Education Statistics, 2019). Conversely, Brazil administers the Prova Brasil biennially to assess students' achievement in grades 4 and 8 in mathematics and Portuguese (Paget et al., 2016).

Each student who participates in NAPLAN will receive the results, and and parents may use the results to track their children's literacy progression and engage in discussions with teachers about the results (National Assessment Program, 2025)). Additionally, these results serve as supplementary information for teachers to assess students' literacy and numeracy competencies and monitor their academic progress. Education policymakers leverage these results to monitor and evaluate the performance of schools and the overall education system, guiding the development of literacy and numeracy skills and identifying schools requiring additional support. Similarly, Norway's national assessment results are reported individually, facilitating instructional improvements by teachers. At an aggregate level, policymakers utilized these results across various levels to conduct comprehensive monitoring and evaluation (Tveit, 2013). In contrast, NAEP does not aim to assess individual student or school performance. Rather, it serves as a tool for tracking national and state-level educational progress (National Center for Education Statistics, 2019). Similarly, the results of Prova Brasil are not intended to assess individual student progress and are not disseminated to all students. Instead, the Brazilian Ministry of Education uses the Prova Brasil results to monitor and evaluate the education system, enabling improvements through data-driven policymaking (Paget et al., 2016).

2.3. National Assessment in Indonesia

Article 2 of the Regulation of the Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia Number 17 of 2021 on National Assessment (Mendikbudristek, 2021) states that the purpose of NA is to measure cognitive learning outcomes, non-cognitive learning outcomes, and the quality of the learning environment in educational units. These are measured using the minimum competency assessment, character survey, and learning environment survey, respectively. During the implementation of NA, students will complete two instruments: the minimum competency assessment and the character survey, while school principals and teachers complete the learning environment survey.

The types of questions in MCA vary, including multiple choice, complex multiple choice, matching, short answer, and essay. The scoring for multiple choice, complex multiple choice, matching, and short answer/essay questions is done objectively. The components of reading literacy are content (informational text and fictional text); cognitive process(finding

information, interpreting and integrating Information, and evaluating and reflecting on information); and context (personal, socio-cultural, and scientific). Meanwhile, the component of numeracy are content (numbers, geomatry, data and uncertainty, and algebra), cognitive process (knowing, applying, and reasoning), and context (personal, socio cultural, scientific) (Center for Assessment and Learning, 2020).

Another instrument is the character survey, which is designed to assess attitudes, values, beliefs, and habits reflecting students' character, based on the Pancasila Student Profile (Center for Assessment and Learning, 2021). This profile includes six dimensions: 1) faith and devotion to God Almighty and noble character; 2) global diversity; 3) mutual cooperation; 4) critical thinking; 5) independence; and 6) creativity.

The learning environment survey is used to gather information about the quality of the learning process and the school climate that supports learning. This survey includes nine dimensions: 1) students' socioeconomic background; 2) the quality of classroom learning; 3) teacher reflection and improvement in teaching; 4) instructional leadership; 5) safety climate in educational units; 6) diversity climate in educational units; 7) gender equality climate; 8) inclusivity climate; and 9) parental and student support for the educational unit's programs (Center for Educational Assesment, 2022).

The Minister of Education uses the results of NA as part of the educational evaluation by (Article 11 Paragraph (3)). The Ministry then communicate the analysis of these results to stakeholders at various levels to enhance the quality of learning in educational units and/or evaluate the performance of educational units in their regions (Article 11 Paragraph (4)).

In terms of cognitive learning outcomes, NA is similar to NAPLAN in Australia, as it measures literacy and numeracy competencies. These outcomes differ from the national assessments in Norway and Brazil, which focus on subject-specific competencies. In contrast to NAPLAN in Australia and the national assessment in Norway, which encompass all students within the specified grades, NA is administered to a randomized sample of students at each school. Another notable distinction is that, unlike the assessments in Australia and Norway, the results of NA are not reported at the individual student level but rather at the school level, akin to the Prova Brasil. Despite these procedural differences in the administration of national assessments across the aforementioned countries, the data derived from these assessments, including NA results, are utilized by policymakers at various tiers to implement improvements aimed at enhancing the overall quality of education.

3. Method

3.1. Research Design

This study employed a phenomenological approach, enabling the researchers to explore the informants' lived experiences and the meanings they attach to a phenomenon (Creswell & Poth, 2018). Therefore, this approach was used to gather rich data by exploring teachers' and students' experiences, perspectives, and views regarding NA.

3.2. Participant

The study involved 11 teachers and 21 fifth-grade students from six public primary schools in Kebayoran Lama District, South Jakarta, who participated in NA in 2021. The teachers were selected based on their educational background, certification, and teaching experience. Meanwhile, the students were selected based on their participation in NA. Schools were coded A, B, C, D, and E to maintain data confidentiality. Each teacher was assigned a code consisting of the word "Teacher" followed by a number from 1 to 11. The students were assigned a code consisting of the word "Student" followed by a number from 1 to 21. The distribution of the informants at each school is shown in Table 1.

Tabel 1. Informants by School

School Code	The Number of Informants	
	Teacher	Student
A	2	4
B	2	4
C	1	3
D	2	5
E	2	2
F	2	3
Total	11	21

The backgrounds of the teachers and students were collected through a questionnaire distributed using Google Forms, which contained information about the participants. The teachers' characteristics were categorized based on gender, age, years of teaching experience, educational background, and certification. The characteristics of the teachers are presented in Table 2.

Tabel 2. Teachers' Characteristics

Variable	Number	Percentage (%)
Gender		
Male	2	18,19%
Female	9	81,81%
Total	11	100%
Age		
≤ 30 years	-	-
31-40 years	7	63,64%
≤ 41 years	4	36,36%
Total	11	100%
Teaching Experience		
1-5 years	-	
6-10 years	3	27,28%
>10 tahun yers	8	72,72%
Total	11	100%
Educational Background		
Bachelor degree in primary teacher education	11	100%
Others	-	-
Total	11	100%
Teacher Certification		
Yes	11	100%
No	-	-
Total	11	100%

As presented in Table 2, most fifth-grade teachers were female, accounting for 81.81%. The largest group of teachers was aged between 31 and 40 years, making up 63.64%. Most teachers had over 10 years of teaching experience (72.72%) and held a bachelor's degree in primary school teacher Education (S1-PGSD), with all teachers being certified. The student characteristics were categorized based on gender, age, and academic achievement. The results of the data collection are shown in Table 3.

Tabel 3. Students' Characteristics

Variable	Number	Percentage (%)
Gender		
Male	13	61,90%
Female	8	38,10%
Total	21	100%
Age		
11 years	13	61,90%
12 years	8	38.10%
Total	21	100%

Based on Table 3, most student were male (61.90%), with the remaining 38.10% being female. The most common age among students was 11 years (61.90%), while the remaining students were 12 years old (38.10%).

3.3. Data Collection

Data were collected through semi-structured interviews using a prepared set of questions that were posed to both teachers and students. However, the researchers had the flexibility to explore additional responses from the informants. The questions were designed to investigate the informants' understanding and perceptions of NA, the implementation of NA in schools, and the impact of NA on learning and assessment.

Prior to the interviews, the researchers obtained permission from the Sub-District Education Office of South Jakarta to conduct research in several primary schools. Subsequently, the researchers met with the school principals to schedule interviews with fifth-grade teachers. The interviews were scheduled so as not to disrupt classroom activities, with each session lasting between 30 and 60 minutes. The second author conducted the interviews with the assistance of a research assistant. With written consent from the participants, the interviews were recorded while ensuring confidentiality.

3.4. Data Analysis

The researchers used Google Docs to transcribe the recorded interviews into written text. The data were then analyzed using typological analysis by categorizing the data based on predefined typologies (Hatch, 2002). For this study, the typology was based on the research questions, including teachers' and students' understanding and perspectives of NA, its implementation, and its impact on classroom teaching and assessment. Data within each typology were then categorized based on emerging patterns. Data coding and categorization were performed by the first author, second author, and research assistant. The researchers used structural coding, referring to the research questions, to categorize the data (Saldaña, 2013). The results of the coding and categorization were then discussed to formulate the themes that emerged.

3.5. Trustworthiness

Trustworthiness of this study was addressed by ensuring credibility, transferability, dependability, and confirmability (Daymon & Holloway, 2010). To ensure credibility, the researchers employed data triangulation by involving teachers and students from different schools—11 teachers and 21 students from six public   primary schools in Kebayoran Lama, South Jakarta. Additional efforts to ensure credibility were made through investigator triangulation, involving the first author, second author, and a research assistant in the data analysis process. The analysis results were then compared and discussed to reach a consensus on the identified patterns, categories, and themes. Transferability was achieved by providing a detailed description of the study and comparing it with other research on NA. To ensure consistency and accuracy (dependability), an audit trail was conducted by documenting each stage of the research process, including the informants' data with assigned codes, interview recordings, transcripts, coding, and categorization of data. To ensure that the findings and conclusions aligned with the study's objectives (confirmability), the researcher ensured that the findings and conclusions were derived from a thorough analysis of the collected data.

4. Findings

The data analysis resulted in five themes: teachers' understanding and perceptions of NA, students' understanding and perceptions of NA, the implementation of NA, the impact of NA on learning, and the impact of NA on classroom assessments.

4.1. Teachers' Understanding and Perceptions of the National Assessment

The interview results indicated that most teachers understood the concept of NA, although they used different terminology, such as "evaluation" and "assessment." Four teachers referred to it as an evaluation, while five teachers referred to it as an assessment. Additionally, two teachers directly linked NA to its perceived purpose as the assessment of students' competencies. Below are some definitions provided by the teachers who used the terms "evaluation" and "assessment":

> "National assessment is an evaluation program organized by the government to improve the quality of education and to capture the input and output of a school." (Teacher 3)

> "National assessment, as far as I know, is a type of assessment conducted by the Ministry of Education to assess the overall quality of an educational unit, both from the students and the learning environment." (Teacher 2)

Additionally, two teachers directly linked the purpose of NA to assess students' competencies, with one teacher also mentioning its role in reflecting the condition of the school.

Interviews with the teachers also revealed that the majority had a basic understanding of the components of NA, such as MCA, character survey, and learning environment survey, as well as the grade levels involved and the timing of the assessment. However, one teacher only mentioned the components of MCA, specifically literacy and numeracy, without mentioning the character survey and the learning environment survey. Another teacher did not know about the components of NA.

Regarding MCA, three of the 11 interviewed teachers stated that MCA measures students' basic competencies in literacy. Three other teachers referred to MCA as an assessment of the basic competencies students should master, without specifying the competencies being measured. Here is a statement representing this understanding:

> "Assessment is conducted to measure students' basic competencies. The basic competencies in question are related to literacy, such as reading literacy and numeracy literacy." (Teacher 2)

Three other teachers referred to MCA as an assessment of the basic competencies students should master, without specifying the competencies being measured. Here is a statement representing this understanding:

> "Basic competencies assessment for students, which serves as a source of information to map and evaluate the quality of education in a region." (Teacher 5)

Two teachers only mentioned the acronym MCA without discussing the components of the assessment. One teacher did not specifically mention basic competency measurement but referred to general student learning outcomes. Another teacher stated that MCA requires students to engage in higher-order thinking. Additionally, one teacher linked MCA to its use in mapping school quality.

> "AKM is an assessment conducted to improve the quality of learning, implemented by the government to drive improvements in teaching and learning outcomes." (Teacher 1)

Ten of the 11 teachers strongly affirmed the necessity of NA. Reasons cited included improving the quality of education, measuring school quality as a basis for follow-up actions, enhancing education in Indonesia, and evaluating student learning outcomes. Below are some of the teachers' statements.

"Yes, it is essential because national assessment can be used to measure the quality of an educational unit, which will then serve as a reference for follow-up actions to improve the unit's quality and ultimately improve education in Indonesia." (Teacher 2)

"In my opinion, it is necessary to measure, to assess, and to evaluate students' learning outcomes over time, because without AN, we wouldn't know where we stand. Moreover, since the national exams are said to no longer exist, this is crucial." (Teacher 7)

One teacher (Teacher 3) emphasized the importance of understanding the quality of a school compared to others, as this could motivate teachers and other stakeholders to improve learning quality. This view was shared by Teacher 7, who highlighted that NA results could inspire school-wide improvements.

Teacher 6 proposed the importance of implementing NA for all fifth-grade students in primary schools so that each student has the experience of participating in the assessment. However, this teacher acknowledged that not all schools are equipped to implement NA for all students in the designated grades due to limitations in necessary facilities, such as computers and sufficient internet access.

Meanwhile, Teacher 9 shared a notable perspective, who did not directly express the need for NA but elaborated on the use of NA at various levels. In this teacher's view, the government needs NA to map educational quality. After results are obtained, schools can then use NA results to evaluate their performance and identify areas for improvement.

4.2. Students' Understanding and Perceptions of the National Assessment

According to the interviews, several students were able to state the full form of NA , the types of questions involved in MCA—literacy and numeracy—and the types of questions, such as multiple choice, complex multiple choice, and fill-in-the-blank. However, some students were unable to recall the full form of NA.

Most students viewed NA as answering questions using a computer or laptop. Many students also noted that MCA questions were more challenging than those given by their teachers, especially the numeracy questions. However, some students also mentioned difficulties with the reading literacy questions.

When asked about their feelings toward participating in NA, some students expressed positive emotions:

"I'm happy because I received a national-level assessment." (Student 3)

Others were indifferent about their performance:

"If the results are poor, it's no big deal." (Student 13)

4.3. The Implementation of the National Assessment

Overall, the interviews indicated that the implementation of NA in the schools that participated in this study went smoothly. Teachers also prepared students for NA.

"Yes, students were given training, such as special sessions. They were regularly trained with questions that followed the MCA format. The school also provided MCA-related books for students to study, both at home and in school." (Teacher 11)

However, there were some challenges during the process, particularly during the trial runs. The most frequently mentioned issue was related to internet connectivity and server problems.

"Technical issues may arise, such as server problems from time to time." (Teacher 10)

"Sometimes there are difficulties. Also, when using computers, the login process can be very slow." (Student 20)

"There was a slow network when logging in, and I had to input a code, but it didn't work." (Student 21)

Another challenge involved students who were not accustomed to using computers or laptops, as not all students owned a laptop at home.

> "Perhaps it's due to their learning environment, because not all of them have computers at home, making it a bit awkward. There were difficulties during the tasks since they are not used to using a mouse, and now they have to use one." (Teacher 6)

Teachers also highlighted issues with students' readiness to tackle MCA questions, both in terms of content and question format.

> "...The main difficulty is the lack of deeper understanding of numeracy, according to the students. I've also surveyed them about NA, and they faced challenges, especially with numeracy, which involves more word problems." (Teacher 7)

The students also mentioned difficulties with the MCA's HOTS-based questions, especially in numeracy. However, some felt challenged by the complexity of the tasks.

> "I feel challenged because the questions are more complex compared to the usual questions." (Student 2)

> "I was confused about answering the numeracy questions." (Student 4)

4.4. The Impact of the National Assessment on Learning

Although the results of NA had not been obtained at the time this research was conducted, the majority of the teachers participating in the study stated that the implementation of NA had motivated them to enhance literacy and numeracy skills. Most teachers also expressed that they were motivated to further improve the quality of teaching by utilizing student-centered teaching methods.

> "The implementation of the national assessment has personally motivated me as a teacher to reintroduce student-centered learning models, which encourage students to be active in learning and stimulate critical thinking throughout the process." (Teacher 2)

Students had varied responses when asked about the differences in learning before and after the implementation of NA. Here are a few student statements:

> "It's the same, like speaking in front of the class or being asked to bring a phone and fill out a quiz on Google Forms at school." (Student 9)

Furthermore, teachers began to use technology more frequently in teaching and trained students to use it, such as with mobile phones and laptops.

> "Yes, it has had a significant impact, especially because we now use computers. So the students have no choice but to learn how to use computers themselves, which is now part of the learning process. We're teaching them to use technology, integrating it into learning, not just using textbooks or classroom teaching but also based on technology." (Teacher 4)

Students also stated that their teachers had started incorporating information and communication technology into lessons:

> "Usually, we are asked to bring our phones to answer questions using Quizizz or complete tasks on Google Forms." (Student 20)

However, some teachers noted that there was little or no change in their teaching methods. The reasons provided included the fact that the had not yet obtained the NA results or that they had implemented the teaching methods needed for developing literacy and numeracy.

4.5. The Impact of the National Assessment on Classroom Assessments

Teachers provided varied responses regarding the impact of NA on classroom assessments. Generally, the changes were moderate, with some teachers stating that there was little or no change at all. Nevertheless, the implementation of the NA has led teachers to reflect on the classroom assessments they conduct and begin making necessary adjustments. For instance,

after the implementation of NA, some teachers focused more on authentic assessments through performance-based evaluations.

> "Yes, in assessments, I've made developments and changes because of the national assessment. The assessments I conduct are now more authentic and involve more student performance; it's not just about using textbooks but also evaluating their performance." (Teacher 2)

Teachers also started including questions aligned with MCA standards, both in terms of content that integrates literacy and numeracy and in terms of question format, such as moving beyond simple multiple-choice questions to include complex multiple-choice, fill-in-the-blank, matching, and essay.

> "Now, in the assessment system, when designing questions, we prioritize literacy, and we have modified our questions. We are now more inclined towards HOTS." (Teacher 3)

> "When I administered the midterm exam, I included some questions on literacy and numeracy that align with MCA. There were challenges because the students didn't understand the structure of the sentences. I told them that this is part of MCA and they will encounter it later, especially for students who have never participated in MCA. These students had more difficulties, particularly in understanding reading or literacy questions." (Teacher 6)

When asked about changes in the way teachers assess students after the implementation of the national assessment, most student responded that there had been no changes.

> "There's no difference, it's the same." (Student 3, Student 4, Student 8, Student 21)

5. Discussion

5.1. Teachers' Understanding and Perceptions of NA

The achievement of educational policy goals and programs established by the government in the field of education is also determined by how these policies and programs are understood and interpreted by stakeholders, including teachers and students. In the context of NA in Indonesia, teachers' understanding and perception are crucial because they will determine the success of NA in improving education quality through classroom learning and assessment. According to Fulmer et al. (2015), contextual factors at macro, meso, and micro levels influence how teachers' assessment practices. National assessments can be categorized as a macro-level factor influencing meso-level factors, such as education offices and school leaders, which ultimately influence teachers, both directly and indirectly. How teachers interpret the goals of the national assessment will be shaped by micro-level factors, such as their understanding and views of NA, as well as their interactions with students during learning and assessments.

Interviews with teachers in this study revealed that, in general, teachers possessed basic knowledge about the NA, including its definition, the instruments used, the types of MCA questions, the grade levels involved, and the timing of the assessment. However, teachers' understanding of MCA varied, with some teachers only able to state its full form. This finding confirms previous research indicating that teachers' understanding of MCA was still limited (Kusumaningrum & Abduh, 2022).

Most teachers understood that the results of NA are not intended to measure individual student competence but are used to map the quality of schools, which can then be used to improve teaching and learning. This understanding aligns with the explanations in various documents released by the Ministry of Education and Culture regarding NA (Center for Assessment and Learning, 2021).

The difference in terminology used to define NA, namely "evaluation" and "assessment," is understandable given the close relationship between these concepts, which is why these terms are often used interchangeably (Meylani, 2024). Article 1, Paragraph 1 of the Ministry of Education, Culture, Research, and Technology Regulation Number 17 of 2021 on National

Assessment (Mendikbudristek, 2021) states that "one form of evaluation of the education system by the Ministry at the primary and secondary education levels." This definition seems to refer to one of the uses of assessment results, which is for evaluation purposes.

Teachers displayed a positive attitude toward NA, viewing it as necessary for improving education quality, including enhancing classroom teaching. This positive attitude indicates that teachers believe the results of the national assessment can be applied at various levels, from the education system to the classroom. This belief aligns with what is stated in the Ministry of Education, Culture, Research, and Technology Regulation Number 17 of 2021, where the analysis of NA results, as part of the evaluation of the education system by the Minister, will be used by other stakeholders to improve teaching quality and/or evaluate the performance of educational units. This positive attitude corroborates previous research (Kusumaningrum & Abduh, 2022) showing that teachers are interested in using MCA and character survey results to evaluate the learning process.

The findings of this study underscore the importance of teachers' understanding of NA and how this influences their teaching practices. Teachers who have a clear grasp of the assessment's component are better equipped to utilize the results to improve both classroom instruction and overall school performance. The study indicates that teachers view NA as an essential tool for enhancing education quality, as it provides valuable insights into school and student performance. However, there are challenges, including limited infrastructure and digital literacy gaps, which hinder the effective implementation of NA.

5.2. Students' Understanding and Perceptions of the National Assessment

Students who participated in this study encountered difficulties, particularly with numeracy questions and higher order thinking tasks. These challenges suggest that there is a need to improve students' foundational skills in literacy and numeracy, as well as their ability to engage with complex, problem-solving questions. The integration of technology in learning, as noted by both students and teachers, has the potential to bridge these gaps, but only if students are adequately prepared to use technological tools effectively.

Students tended to view the NA as a low-stakes test, as it carries no direct consequences for them. Consequently, many students expressed indifference if they did not achieve favorable results, with some even feeling pleased to have the opportunity to be assessed at a national level. The messages conveyed by the Ministry of Education, Culture, Research, and Technology regarding the purpose of the assessment through various socialization efforts seem to have reached the students. This finding contrasts with a study involving students in grades 3, 5, and 7 in Australia who participated in NAPLAN (Howell, 2017). Although NAPLAN was designed as a low-stakes assessment by policymakers, some students viewed it as a high-stakes test, one that impacted their opportunities to pursue education at their desired schools. Additionally, some students expressed concerns that their assessment results would be compared to those of their peers.

The perception among some students that NAPLAN is a high-stakes test appears to be influenced by inconsistencies in the messaging, both from the government, which uses NAPLAN results for accountability purposes, and the media, which often emphasize rankings based on NAPLAN results (Howell, 2017). Therefore, it is crucial for the Indonesian government to continue sending a clear and consistent message about the low-stakes nature of NA to prevent any unintended consequences from its use. However, it is also important to frame NA in a way encourages more engagement and motivation from students, which could improve their performance.

5.3. The Implementation of the National Assessment

Overall, the findings from the five schools involved in the study, all located in South Jakarta, indicate that the implementation of the NA proceeded smoothly. The readiness of essential infrastructure, such as the availability of laptops/computers and internet access, significantly supported the successful execution of NA, similar to the implementation in primary schools in Cluster 7, Tambun District, Bekasi Regency (Kartanti et al., 2024). However, challenges were still encountered due to technical issues, such as slow internet connections or server outages, as

seen in other schools (Ahmad, 2022; Putri et al., 2022; Widiyanto & Desstya, 2023)). This contrasts with findings from schools that lacked adequate infrastructure, such as in Tasikmalaya, where some students attended the NA at other, better-equipped schools, or where schools had to purchase additional laptops (Muliasari et al., 2022) Another measure taken to address insufficient laptop availability was for teachers to lend their personal laptops to students to participate in NA (Berlianto & Pembangunan, 2023). The lack of necessary infrastructure for NA is particularly felt by teachers and students in remote, frontier, and outermost areas (Kharismawati, 2022; Wuwur, 2023).

Another issue identified was that some students were not accustomed to using laptops or computers, particularly those from families without access to such devices, which hindered their performance. This phenomenon of students who are unfamiliar with, or have never used, computers or laptops is not exclusive to remote, frontier, and outermost areas (Kharismawati, 2022; Wuwur, 2023) but is also found in urban schools (Hanjani et al., 2023; Muliasari et al., 2022)). To address this issue, some schools specifically trained students to use these devices (Berlianto & Pembangunan, 2023; Hanjani et al., 2023).

Although NA was designed as a low-stakes test, some schools still prepared students by having them practice with MCA-style questions. This trend was also observed in other schools, where additional study hours were provided (Kusumaningrum & Abduh, 2022; Muliasari et al., 2022; Putri et al., 2022). The Ministry of Education and Culture emphasized through various forums and media that students need not be specially prepared to practice MCA questions, except for basic technical preparations. Furthermore, there are no individual scores for students, teachers, or school principals, nor are there rankings.

Some students in this study encountered difficulties with both literacy and numeracy of MCA questions. These findings confirm previous research (Berlianto & Pembangunan, 2023; Sari & Sayekti, 2022) highlighting students' struggles with MCA questions, which were considered complex and challenging. One reason mentioned by students was the lengthy reading passages (Berlianto & Pembangunan, 2023; Rohmah et al., 2022). MCA questions are designed to assess students' ability to engage in higher-order thinking, making them more complex than typical questions that only measure content mastery. One factor contributing to students' difficulties with higher-order thinking questions is their limited reading comprehension skills (Driana et al., 2021; Nurmawati et al., 2020; Schulz & FitzPatrick, 2016). For example, numeracy questions in MCA contain introductory materials in text and image formats, requiring students to process and interpret information, and to reason using mathematical concepts learned to solve real-world problems in various contexts (Pusat Asesmen dan Pembelajaran, 2020). Many students are still unable to think at the required higher cognitive level, which results in difficulty with numeracy problems designed for MCA (Rohmah et al., 2022).

5.4. The Impact of the National Assessment on Learning

When this study was conducted, the teachers involved had not yet received NA results. However, the implementation of the NA has further raised awareness among the teachers about the importance of developing reading literacy and numeracy. This finding aligns with the research conducted by Kartanti et al. (2024). To enhance students' reading skills, teachers in an primary school in Boyolali Regency assigned reading homework and summary exercises (Kusumaningrum & Abduh, 2022). Teachers also taught students how to highlight key points in texts.

Teachers also made efforts to improve the quality of their teaching, including by using student-centered learning and employing more diverse teaching methods, such as project-based learning. However, students had not yet fully felt these changes as they were still in the early stages. Teachers' awareness and motivation align with the goal of NA to provide feedback to educational units for use in improving teaching processes, ultimately aiming to enhance students' character and competencies (Center for Assessment and Learning, 2020).

Another notable outcome observed after the implementation of NA, confirmed by the students, was that teachers have increasingly utilized technology in their teaching, including training students to use it. The five schools in South Jakarta were generally well-equipped with

the necessary infrastructure for integrating information and communication technology (ICT) into teaching. However, some students from disadvantaged families did not yet have the required devices. The digital divide remains a barrier to the effective use of technology in education (Heeks, 2022; Rodiyah et al., 2023). Furthermore, teachers need to possess digital competencies to appropriately integrate technology into their teaching (Fernández-Batanero et al., 2020) .

Thus far, the message conveyed by the Ministry about NA, which is not designed for high-stakes purposes but rather to improve teaching quality, appears to have been well received. Ensuring that NA remains treated as a low-stakes test, focusing on improving the quality of learning, must continue to be upheld to avoid the negative consequences observed with large-scale standardized tests in other countries. For example, the shift in teachers' and students' understanding of standardized assessments from being designed as low-stakes tests to high-stakes tests, as seen in Australia, can lead to undesirable consequences, such as curriculum narrowing, with a focus on preparing for NAPLAN through practice questions (Ragusa & Bousfield, 2015).

Furthermore, to ensure that NA contributes to improving classroom learning, teachers must use NA results appropriately. Research conducted in Ireland (Pitsia et al., 2021) showed that teachers who have a positive attitude toward standardized testing and have participated in training related to standardized tests are more likely to use the test results to enhance classroom learning. The success of using assessment results to improve teaching quality is also influenced by school characteristics, the teachers' data usage skills, and collaboration (Schildkamp et al., 2016).

5.5. The Impact of the National Assessment on Classroom Assessments

Following the implementation of NA, teachers expressed a desire to make changes to classroom assessments by incorporating questions that measure literacy and numeracy, assess higher order thinking skills, and adopt various question formats, though the degree of implementation varies. For instance, teachers in an primary school in Boyolali Regency followed up NA with exercises on multiplication, addition, and division to train students in using mathematical operations, which they completed directly before school ended (Kusumaningrum & Abduh, 2022). However, these questions were not presented in a format that requires reasoning to solve real-world problems using the mathematical concepts learned, which is essential for developing numeracy. Research by Hindriana et al. (2023) involving teachers from primary and junior high schools in Kuningan Regency showed that teachers still faced challenges in creating literacy and numeracy questions. As part of the follow-up to MCA results, teachers in a primary school in Magetan Regency, for example, participated in training to develop literacy and numeracy questions (Putri et al., 2022). Students in that school began to notice changes in the types of questions their teachers gave, which increasingly focused on reasoning to solve every day problems.

In addition to the impact on cognitive assessments, some teachers indicated that they would continue to assess students' attitudes through observation during the learning process as an effort to develop students' character. NA not only focuses on assessing cognitive aspects through MCA, but also evaluates students' character through the character survey and learning environment survey.

6. Conclusion

A proper understanding of the purposes of NA by teachers and students will play a crucial role in achieving NA goals of improving the quality of learning. Moreover, the perception among teachers and students that NA is a low-stakes assessment is a critical foundation that policymakers must maintain to ensure that the results of NA genuinely reflect students' competencies and character, free from manipulation, such as excessive test practice that does not contribute to improve learning quality. Additionally, the smooth implementation of the NA requires adequate infrastructure, particularly information technology, which must be readily available. Both teachers and students must be equipped with the necessary skills to use

these technological tools. To ensure that the results of the NA are effectively utilized, teachers must also be trained to interpret the assessment outcomes and apply them to enhance the quality of teaching and classroom assessment.

Limitation

This study was conducted before the results of NA were announced, meaning that the participating teachers had not yet had the opportunity to use NA results to plan their teaching and assessments. Therefore, the impact of NA on teaching and assessment practices was based solely on the teachers' knowledge and experience of NA. This study also did not explore the affective aspects in greater depth, such as the motivation of teachers and students before and during the implementation of NA.

Recommendation

Further research is needed to understand how schools and teachers utilize NA results to improve the quality of learning and assessment after four years of implementing NA. Additionally, research should explore the affective aspects of teachers' and students' experiences related to the administration of the NA.

To improve the effectiveness of NA, teachers need to promote student-centered learning and enhance their digital competency. Meanwhile, the government needs to provide teacher training and professional development to enhance teachers' competency that meet the goals of NA. In addition, the smooth implementation of NA should be supported by the availability of necessary infrastructure.

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Conflict of Interest

The Authors declare that there is no conflict of interest.

Declaration of Generative AI-assisted Technologies

This manuscript was prepared with the assistance of Generative AI ChatGPT, Grammarly, and Turnitin. ChatGPT was utilized to translate well-structured texts from Indonesian into English and to refine the translated content. Grammarly was employed to ensure grammatical accuracy and the overall quality of the texts, while Turnitin was used to assess the level of textual similarity and potential plagiarism. All intellectual contributions, critical analyses, and final revisions were conducted by the authors. The authors take full responsibility for the accuracy, originality, and integrity of the content presented in this work.

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