

## AKMI as a Literacy Assessment on Education Quality in Indonesian Madrassa during the 5.0 Era

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**Abstract:** The level of literacy is one indicator of a nation's development. A country's high level of literacy is indicative of its educational development. The advancement of education will significantly impact national and state life. Literacy is the key to academic achievement. The greater a country's literacy rate, the more sophisticated its education. Literacy is not limited to reading, writing, and arithmetic but is also closely related to a critical perspective in problem-solving and decision-making. Through the AKMI program, the Ministry of Religious Affairs of the Republic of Indonesia measures four literacy that must be mastered by students, namely reading, numeracy, science, and sociocultural literacy. This research is a type of mixed-method research using a concurrent embedded approach. The population consisted of fourth-grade *Madrasah Ibtidaiyah* students from 34 provinces in Indonesia, with a sample size of 325,506. This study employed instruments of AKMI standardized tests. The data were processed by using inferential statistics. The results showed that (1) Three provinces with literacy scores above the national average, namely Yogyakarta 41.44%, DKI Jakarta 40.98%, and Bali 39.50%, (2) Three provinces obtained the lowest literacy index below the national average were East Nusa Tenggara 29.48%, West Kalimantan 28.23%, and North Maluku 21.82%, (3) Literacy assessment portraits six levels of student proficiency competence that is 'unadaptable,' 'assistance need,' 'basic,' 'capable,' 'skilled,' and 'needs of creation space,' (4) The low ability of students at the level of proficiency needs of creation space in the four literacy tested, which is 1%.

## INTRODUCTION

A nation of outstanding quality is eager to learn and never stops learning. Talking about learning is undoubtedly closely related to literacy. Even in Islam, the first word revealed to Allah SWT's servant, Prophet Adam (AS), when he was formed foreshadowed the start of literacy among mankind. When Allah SWT blew on Prophet Adam (AS), he awoke and sneezed, and Allah SWT taught him to recite Hamdalah. Reading literacy begins with a sentence of thanks to the Creator. The Prophet Muhammad SAW experienced the same situation. The first revelation required reading, and even though the Prophet SAW replied that he couldn't read, Allah SWT taught him to read, as stated in Q.S Al-'Alaq verses 1-5:

أَفْرَأَ بِاسْمِ رَبِّكَ الَّذِي خَلَقَ (1) خَلَقَ الْإِنْسَانَ مِنْ عَلَقٍ (2) أَفْرَأَ وَرَبُّكَ الْأَكْرَمُ (3)  
الَّذِي عَلَّمَ بِالْقَلَمِ (4) عَلَّمَ الْإِنْسَانَ مَا لَمْ يَعْلَمْ (5)

Meaning: “Recite in the name of your Lord who created. Created man from a clinging substance. Recite, and your Lord is the most Generous. Who taught by the pen. Taught man that which he knew not” (Q.S. Al-‘Alaq, 1-5).

The preceding verse teaches us the significance of literacy in this life. Many of us believe that literacy consists solely of reading and writing. In actuality, this is an unacceptable stigma. Literacy is the ability to acquire, interpret, and communicate information in terms of reading, writing, and arithmetic, as well as the capacity to think critically, analyze, and solve problems to maximize one's potential and benefit society. Globally, the OECD (Organization for Economic Cooperation and Development) and IEA (International Association for the Evaluation of Educational Achievement) administer PISA (Programme for International Student Assessment) and TIMSS (Trends in International Mathematics and Science Study) to assess the reading, numeracy, and science literacy of 15-year-old students. PISA is conducted every three years, while TIMSS is held every four. According to the results of PISA in 2018, Indonesia ranks 74th out of 79 countries, while TIMSS ranks Indonesia 44th out of 49 countries in 2015 (Hadi & Novaliyosi, 2019). This is not a satisfactory outcome, as Indonesia lags compared to other participating nations.

In 2021, Indonesia's Ministry of Education and Culture established the Minimum Competency Assessment (AKM) to measure the level of achievement of literacy competencies (reading, mathematics, and science) at the elementary, junior high, and senior high school levels. The Ministry of Religious Affairs of the Republic of Indonesia additionally established the Indonesian Madrasah Competency Assessment (AKMI) program for *Madrasah Ibtidaiyah* (MI), *Madrasah Tsanawiyah* (MTs), and *Madrasah Aliyah* (MA) students. Reading literacy, numeracy literacy, scientific literacy, and sociocultural literacy are the four literacies used by AKMI to assess students' literacy proficiency (Susanti et al., 2021). Each type of literacy has its own benefits. Literacy in reading, for instance, is closely related to writing and reading skills. Numerical literacy is the capacity to tally and manipulate data. The ability to comprehend natural science information is another aspect of scientific literacy. In addition, socio-cultural literacy is the ability to get along and establish good relationships in the social environment wherever we are by prioritizing moderation and respecting existing differences, to create a harmonious and peaceful life devoid of conflict.

Once a year, both AKM and AKMI are conducted online or partially online using computerization. The implementation of this literacy assessment is anticipated to be a solution for diagnosing and implementing policies regarding the literacy proficiency of Indonesian students. At first glance, literacy may appear to be limited to reading and writing. Still, as time passes, the definition of literacy expands to encompass a variety of fields (Al Fath et al., 2018), and particularly in the current 5.0 era of rapid technological development, any information can be accessed in a relatively short amount of time; we can find the required information in a fraction of a second. This can have both positive and negative effects on students' character development. It is the responsibility of parents, institutions, and communities to instruct wise children in the use of technology for literacy. Due to the dearth of parental supervision of children's device use, we frequently encounter students with poor character. In this situation, parents, institutions, and communities play a crucial role in supervising students' use of digitalization for educational purposes. Parents

are the closest party to pupils, so they play a significant role in monitoring their children's access to digital information at home. Prophet Muhammad SAW said:

كُلُّ مَوْلُودٍ يُوَلَّدُ عَلَى الْفِطْرَةِ، فَأَبَوَاهُ يُهَوِّدَانِهِ أَوْ يُنَصِّرَانِهِ أَوْ يُمَجِّسَانِهِ، كَمَا تَلِ الْبَيْمَةَ تَنْتَجُ الْبَيْمَةَ، هَلْ تَرَى فِيهَا مِنْ جَدْعَاءِ

This hadith explains that for every child born in a state of purity, both parents play a vital role in his life, regardless of whether he becomes a Jew, Christian, or Magus (Bukhari Hadith). Environment and society also play a significant role in student character development. In a healthy environment and society, teaching moderation in being tolerant will instill in students a sense of social responsibility. So AKMI is anticipated to not only measure the extent of the quality of madrasah education in Indonesia but also to be a direction to improve the quality of character of students in life both in local, national, and global contexts by practicing the content contained in each literacy, so that, as the proverb goes, “a single rock kills two birds.” Through AKMI, the quality of education and students’ character increases in a better direction toward advanced Indo-Islamic education.

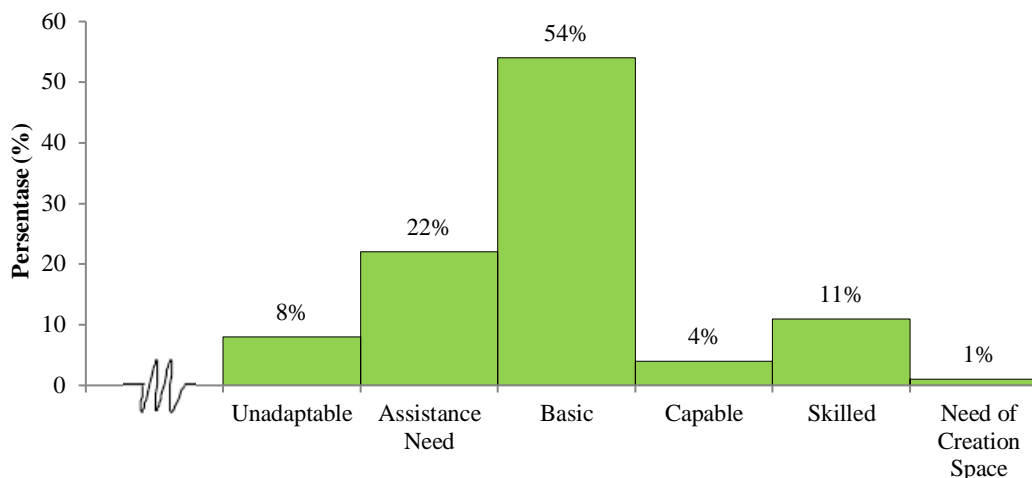
## METHODS

This study employed mixed-method research with a concurrent embedded approach, incorporating quantitative and qualitative methods in unequal proportions, primary methods in equal proportion, and secondary methods in a small proportion (Sugiono, 2019). AKMI standard test instruments were utilized to capture data, which was then analyzed using inferential statistics. The population of this study consists of 350,135 *Madrasah Ibtidaiyah* students in Indonesia, with a sample size of 325,506 fourth-grade *Madrasah Ibtidaiyah* students.

## RESULTS

The literacy examination was administered to 325,506 *Madrasah Ibtidaiyah* students in Indonesia. Known as AKMI, it assesses four literacy skills: reading literacy, numeracy literacy, science literacy, and sociocultural literacy. The test results are then analyzed with the assistance of inferential statistics. The results of the fourth literacy exam are depicted in the graphs below:

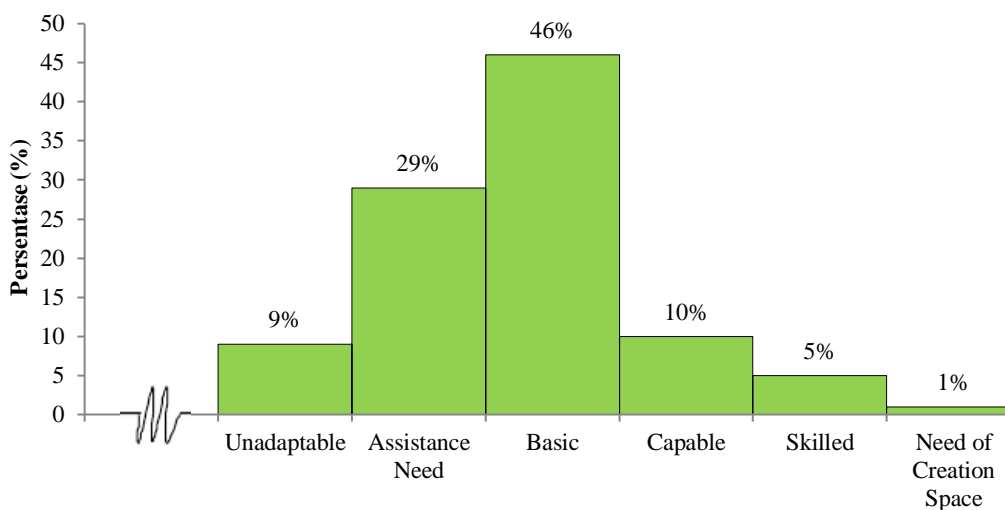
1. Reading Literacy



**Graph 1. Reading Literacy of MI Students**

Source: (Ministry of Religious Affairs of the Republic of Indonesia 2021)

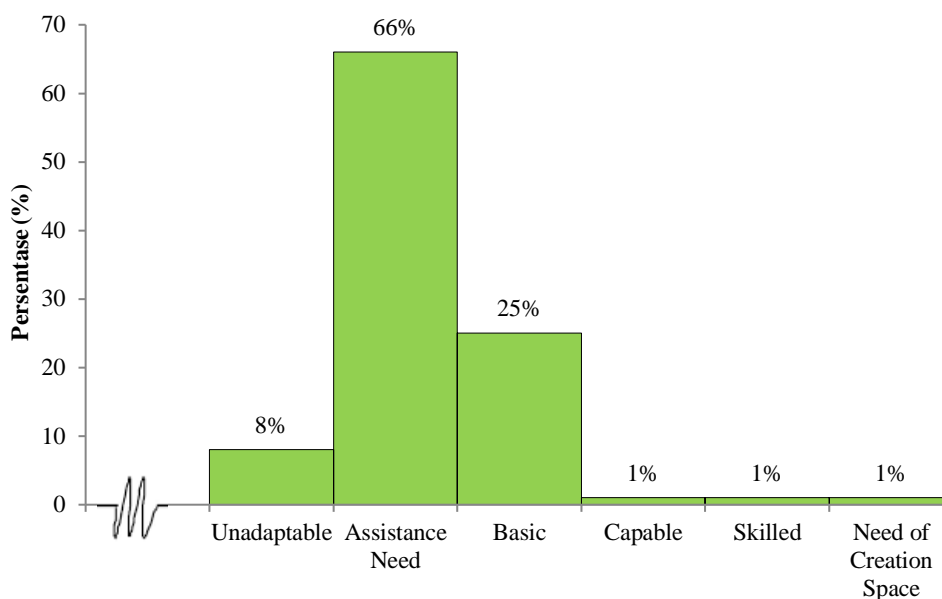
2. Numeracy Literacy



**Graph 2. Numeracy Literacy of MI Students**

Source: (Ministry of Religious Affairs of the Republic of Indonesia 2021)

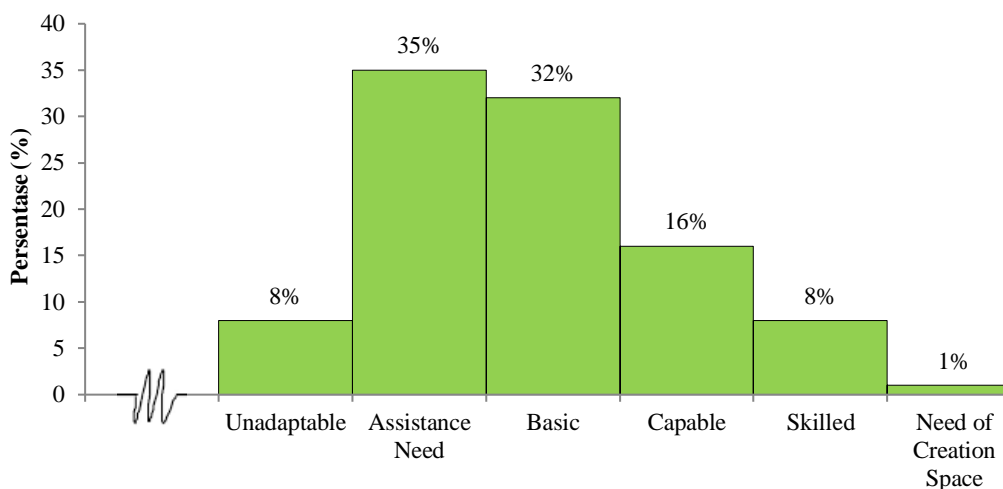
### 3. Science Literacy



**Graph 3. Science Literacy of MI Students**

Source: (Ministry of Religious Affairs of the Republic of Indonesia 2021)

### 4. Sociocultural Literacy



**Graph 4. Sociocultural Literacy of MI Students**

Source: (Ministry of Religious Affairs of the Republic of Indonesia 2021)

The data displayed in the graphs above depict the literacy assessment of MI students across six levels of proficiency competence: not yet able, requiring assistance, basic, capable, proficient, and requiring creation space.

## DISCUSSION

The results of the data analysis regarding the literacy of MI students in Indonesia in 2021, attended by at least 93% of students, were processed using 57% online and 43% semi-online. The data indicates that the average national literacy index for MI students is 32.69

percent. This literacy test was administered in 34 Indonesian provinces, from Sabang to Merauke. 15 provinces obtained literacy index scores above the national average, and three provinces, namely DI Yogyakarta (41.44%), DKI Jakarta (40.98%), and Bali (39.58%), achieved the greatest literacy index. The remaining 19 provinces are still below the national average, with East Nusa Tenggara (29.48%), West Kalimantan (28.23%), and North Maluku (21.82%) having the lowest literacy indexes below the national average (Ministry of Religious Affairs of the Republic of Indonesia, 2021).

Several supporting and inhibiting factors certainly influence the results of this literacy index. Reading literacy; for example, if we look at the assessment results on reading literacy, 8% of MI students still cannot read. Some of the contributing factors include a lack of parental concern and students' interest in reading. Besides, parents' education level also affects the level of reading literacy. Students with parents with higher education tend to be more effectively able to read than students with lower education. The age factor of students who are too young is also a determinant of reading literacy. Sometimes some students go directly to elementary school without going through preschool education such as playgrounds and kindergartens. This results in those feeling awkward about learning and not knowing letters, so they cannot read and write. In other words, they need longer to be proficient in reading and writing (Putri et al., 2019).

Several initiatives that the school can take to improve student's proficiency in reading literacy encompass: (1) encouraging book reading habituation activities for 15 minutes before learning hours begin (Ministry of Education and Culture, 2015), (2) creating a book day program, where once every two weeks students review, share, and recommend their favorite books that they've finished reading, and (3) creating a special writing class program for students in deficient writing skills. (4) holding book bazaars or literacy festivals in collaboration with publishers/bookstores for affordable book stands, writing competitions, storytelling, book reviews, poetry, et cetera., (5) creating a literacy-friendly school environment by demonstrating madding, literacy invitation posters, and exhibiting student work (Agustina, 2021).

Furthermore, numeracy literacy is an individual's ability to process calculation operations to solve mathematical problems in everyday life. Numeracy literacy basically explores the ability of students to solve calculation operation problems in the form of discourse, so the ability to analyze the problems contained in the discourse is needed (Ali Sofyan et al. 2022). Consequently, this is a challenge for students because in general, the results of observations in the field show the lack of willingness of students to read literacy questions in the form of discourse, thus impacting the low numeracy literacy ability of students. Based on the results of data analysis, it was found that 9% of MI students were at the level of proficiency competence that unadaptable. This means that there are ± 29,296 people out of 325,506 students who have been unable to do numeracy literacy problems. In other words, they have not been able to do calculation operations. It is necessary to strengthen numeracy literacy by increasing learning hours, planning, implementation, assessment, and evaluation of learning processes oriented to the numeracy literacy (Syamsi et al., 2022).

The next literacy assessment is science literacy. The results of data processing on science literacy found that 66% of students are still at the level of proficiency that assistance need, each 1% the level of proficiency that is capable, skilled, and needs space for the creation of the four existing literacy, science literacy has the highest level for the level of

proficiency that assistance need. This indicates that as many as  $\pm 214,834$  students assistance need. As we know science literacy is related to the ability of students to absorb scientific understanding by searching, interpreting, and analyzing scientific evidence against the indicators to be achieved. The high number of students at the level of proficiency who assistance need in science literacy can be caused by several factors, including the lack of science learning facilities for practicum in schools, the lack of maximum learning carried out by teachers because most of them are only based on conceptual knowledge and have not directed students to examples and proof of scientific phenomena that occur in everyday life (Rianti, Jalmo, and Yolida 2016; Soniyah 2021; Sulastris Sham et al. 2023; Chasanah, Widodo, and Suprpto 2022).

Besides, motivational factors, interests, and learning methods that mostly memorize material field (Alti et al., 2021) without practice and lack of guidance from parents towards students studying at home, to teacher professionalism in teaching science are also causes of low levels of science literacy in students (HW, 2022; Jufrida et al., 2019). Overcoming this can be done by increasing inquiry and practicum activities during the learning process, so that students are directly involved and can even experiment to provide evidence in achieving the required competency indicators (Daniah, 2020; Fatya et al., 2023). Teachers can also be more creative by creating teaching materials that attract students' interest in science literacy, for example, teaching materials that provide examples in the form of pictures or comics about indicators to be achieved (Maulita, 2023), making android-based applications combined with artificial intelligence that contain material discussions and science literacy problems (Zohrani et al., 2018).

Slightly different from the Minimum Competency Assessment (AKM) organized by the Ministry of Education and Culture on three types of literacy: reading, numeracy, and science, The Ministry of Religious Affairs of the Republic of Indonesia carries out the Indonesian Madrasah Competency Assessment (AKMI) on four types of literacy. In addition to reading, numeracy, and science literacy, sociocultural literacy is a new assessment. Socio-cultural literacy is the ability of students to process information related to environmental conditions and socio-cultural and religious issues, ranging from analyzing, solving problems, and thinking critically about solving problems to making the right decisions. This sociocultural literacy consists of three contents: national commitment, tolerance, accommodating, and inclusiveness, which can be viewed through three assessment lenses, local, national, and global.

Compared to reading, numeracy, and science literacy, the analysis results show that sociocultural literacy exhibits stability at all proficiency levels. Although at the level of proficiency needed for creation space, there is still a minor percentage of 1%. This is the same as the other three literacy levels, which also have a percentage of 1%. In every literacy assessment conducted, only 3,256 MI students have a level of proficiency requiring creation space, indicating that the average MI student in Indonesia is still below the level of proficiency required for creation space. This number is undoubtedly minuscule compared to the total number of class IV students in *Madrasah Ibtidaiyah* who participated in the assessment, which was 325,506.

Sociocultural literacy in AKMI is intended to accommodate the values of religious moderation into a sociocultural context that is universal to humanity in students. So that they become more moderate individuals in family life, schools, madrasas, and communities (Machmudah et al., 2022; Pratiwi & Asyarotin, 2019). A question arises why sociocultural literacy needs to be included in AKMI. Definitely, this has an important reason for the development of students. It is a fact that we live in a social and cultural environment. Students need to know their environment, understand society and culture as

part of their identity, and understand ancestral culture full of local wisdom and exemplary values in local, national and global scale life (Triwardhani, Mulyani, and Putra 2023). Sociocultural literacy can be likened to unifying literacy that can wrap reading literacy, numeracy literacy, and science literacy in a unified frame that strengthens the ability of students to live this life.

AKMI as a madrasah assessment program in Indonesia is the most prudent program for measuring students' literacy proficiency levels. Experts in their respective fields make the instruments and modules in detail by considering each level of students' proficiency and having reviewers with undoubted competence. Before being disseminated to the madrasah, the module is also tested for readability, so there is no doubt about its validity and reliability.

## CONCLUSION

AKMI proves that madrasahs in Indonesia can create their own measuring instrument for digital-based evaluation in the current 5.0 era. One interesting thing found in AKMI and not found in AKM (Minimum Competency Assessment) or PISA (Programme for International Student Assessment) and TIMSS (Trends in International Mathematics and Science Study) is the existence of sociocultural literacy which is a plus to measure the values of religious moderation found in students, even though it is a new program that has been running for the last 3 years (2021–2023). AKMI has successfully conducted assessments to measure the quality of madrasah education in Indonesia regarding reading, numeracy, science, and sociocultural literacy. Undeniably, the results of the assessment of the four literacy are not satisfactory. Still, the results of AKMI can be an evaluation to improve students' competence and proficiency in reading, numeracy, science, and sociocultural literacy.

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