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# Investigating the Factors Influencing Literacy Skills among Young Students in Rural Areas of Indonesia

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## Abstract

This study aims to analyze several factors influencing elementary school students' literacy skills in rural regions of Indonesia. By employing a mixed-method design, the study combined quantitative and qualitative measures to identify the determinants of students' literacy skills. The quantitative data were collected through questionnaires on factors related to literacy skills involving 852 grade six elementary school students from thirty-nine (39) public and private elementary schools in one of the rural areas in Indonesia. Descriptive statistics and T-tests were administered to analyze the questionnaire data and to identify the most and least significant factors and domains influencing students' literacy skills. Additionally, qualitative data were gathered through semi-structured interviews with the participants. The results show that motivation and literacy facilities at schools and homes are crucial for students' literacy development in rural areas. The discussion exhibits the role of literacy facilities and students' motivation as dominant factors in shaping students' literacy skills. This research contributes to understanding the factors influencing literacy skills among young learners in rural areas of Indonesia. The findings have implications for educators, educational institutions, parents, and policymakers, providing insights to shape educational policies and practices that enhance literacy outcomes in rural regions.

Keywords: litearcy skills, rural areas

## INTRODUCTION

Reading or literacy skills are important for students' academic advancement and future opportunities, particularly among young learners. Over the last decades, there has been an extensive number of studies and research aimed at improving literacy skills, especially on self-efficacy and motivation (Lee & Jonson-Reid, 2016; Wang & Guthrie, 2004), teacher training and professional development (Darling-Hammond, Hyler & Gardner, 2017; Desimone, 2009), family and community involvement (Sénéchal & LeFevre, 2002; Jordan, Snow, & Porche, 2000), curriculum and instructional strategies (Hattie, 2012; Shanahan & Shanahan, 2012), and assessment and evaluation (Black & Wiliam, 2010). Literacy skills are critical to students' academic progress, particularly among young learners of foreign languages (Hammer et. al., 2014). The evidence is considerably stronger even for students in rural areas, such as Indonesia, who face unique educational obstacles and possibilities. However, little research has been carried out to investigate the factors influencing those skills, especially for those settings. While past research has mostly concentrated on urban settings (Damaianti, et.al.,

2020; Marmoah et.al., 2022), our work focuses on rural areas, which are becoming recognized as important but understudied environment.

Drawing upon the aforementioned context, this study aims to examine the multifaceted factors that impact the literacy skills of elementary school students in rural regions of Indonesia. The primary objective of this research is to provide both theoretical and practical insights into the various determinants that influence the students' literacy skills, particularly within the specific context of rural areas in Indonesia.. In light of these objectives, the following research questions will be addressed in this study: 1) What are the most and least influencing literacy items for primary school students in rural areas? 2) What is the most influencing domain for students' literacy skills in rural areas?

#### Literacy Skills in Indonesia

Literacy skills strongly correlate with students' interest in learning and reading (Chapman, Tunmer, and Prochnow, 2000; Guthrie et al., 2007; Law, 2008; McGeown et al., 2015). The Programme for International Student Assessment by the Organization for Economic Cooperation and Development (OECD) defines reading literacy as the capability "to comprehend, utilize, and critically analyze written texts to accomplish personal objectives, foster knowledge and potential, and effectively participate in societal affairs." In modern society, a positive relationship exists between literacy skills and individuals' socioeconomic well-being (Becker, McElvany, & Kortenbruck, 2010).

However, research indicates that the reading interest index in Indonesia remains low, registering a mere 0.001 (Susilowati, 2016). These statistics reveal that, out of every 1,000 individuals in Indonesia, only one demonstrates a commendable interest in reading. Additionally, the most recent Program for International Student Assessment (PISA) results from 2018 revealed an indicator of the educational landscape. Indonesia ranked 71st among 79 participating nations in reading literacy, 73rd in mathematics, and 74th in science. These outcomes underscore a substantial disparity between Indonesia's education system and numerous other countries concerning student performance in these core subjects.

The MoE has also published the Public Education Report based on the Computer-Based National Assessment (ANBK) to give an overview of the quality of education in all regions of Indonesia. The ANBK is a program for assessing the standards of primary and secondary education institutions, especially their literacy and numeracy skills. The Public Education Report includes the minimum competency assessment (CMA) results in the overall ANBK evaluation.

Based on the result of the 2021 ANBK, many Indonesian elementary school students display literacy and numeracy skills below the required proficiency standard. At the national level, almost 50% of primary school children are still working toward achieving the required minimum proficiency (CMA) in these important categories. The finding shows that students in Indonesia still encounter difficulties in acquiring good literacy and numeracy skills. In Indonesia's rural areas, the problem of low literacy levels is even more concerning. There is a significant difference between rural and urban locations regarding literacy competency, with rural students frequently falling behind their urban counterparts (Rachman et al., 2021).

The gap in access to educational opportunities and resources in rural areas is one aspect that contributes to the problem. In comparison to urban regions, people in rural areas confront difficulties such as a lack of schools with complete facilities, poor infrastructure, and a lack of skilled teachers (Rachman et al., 2021). These characteristics make it more difficult for young students in rural regions to develop excellent literacy skills. Furthermore, rural schools encounter other problems, such as the lack of school facilities and competent teachers, government policy, and the problem of nutritional food supplies (Sugiono et al., 2018). Therefore, to tackle the problem of inadequate literacy skills in rural areas, it is crucial to implement extensive measures that concentrate on enhancing educational facilities, expanding the availability of high-quality teaching materials, offering teacher training programs, and involving parents and communities in fostering student literacy growth.

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## Factors Affecting Student Literacy

Numerous research studies have shed light on the factors that impact students' literacy skills, encompassing variables such as teacher quality, school infrastructure, parental involvement, and the availability of educational resources. Within the Indonesian context, despite advancements in enhancing educational accessibility, the quality of education persists as a formidable challenge (World Bank, 2018). The report recommends prioritizing investments in teacher training and school infrastructure as key avenues to bolster the overall quality of education in Indonesia. By focusing on these strategic areas, policymakers and stakeholders can proactively address the existing challenges and cultivate an educational landscape promoting robust literacy skills among Indonesian students.

Literacy skills are foundational competencies that underpin the learning process (Geske & Ozola, 2008). Consequently, these skills are crucial for language acquisition and are pivotal in facilitating proficiency across other subjects. Multiple factors contribute to low literacy skills among students. Literacy-driving factors encompass any conditions that foster the development of strong literacy skills. According to Nirmala (2022), eight influential factors have been identified concerning students' literacy skills, including 1) Family's Socioeconomic situation, 2) Communication and guidance to children at an early age, 3) Communication and tutoring during the school period, 4) Facility or collection of reading books at home, 5) Handphone, computer, and television facilities, 6) Gender, 7) Relations between family, school, and community; and 8) Use of strategies/ models in learning to read.

#### **METHODS**

#### **Research Design**

This study employed a mixed-method approach to investigate the factors influencing the literacy skills of elementary school students in a rural area. Both quantitative and qualitative data collection techniques were used. Descriptive statistics was used in this work to calculate numerous measures of central tendency, including the mean and standard deviation. To gain a clear data summary and spot patterns, the study also included graphical data representations. Quantitative data was gathered by distributing a survey questionnaire on literacy to the participating students. Various elements connected to literacy skills were assessed by the questionnaire's components, including learning motivation and habits, parental engagement, the availability of reading resources at school and at home, learning processes, and the learning environment in classrooms. The results were then confirmed by conducting several interviews with selected participants.

#### Location and Research Subject

The research involved thirty-nine (39) public and private elementary schools from thirteen (13) sub-districts in Landak Regency, Indonesia. The participants in this study consisted of 852 grade six elementary school students for the Academic Year 2022/2023 who participated in the Computer-Based National Assessment (ANBK) program in 2021. The selection of grade six students was based on their previous participation in the computer-based national assessment when they were in grade five. The study involved public and private schools from different accreditation statuses and locations, ensuring the representation of each accreditation and ANBK results. Three primary schools from each sub-district were chosen based on their ANBK accomplishment category and accreditation status. Students, teachers, and schools in the Landak District were the study's major data sources. In contrast, secondary data came from the Central Bureau of Statistics (BPS), the Landak Regency Education and Culture Office, and relevant studies.

#### **Data Collection and Analysis**

In the beginning, the author conducted desk study analysis as the preliminary data regarding literacy skills from various sources, including national reports, data from the Central Bureau of Statistics (BPS), and information from the Board of Education and Culture. The primary data were then collected using several research instruments, such as questionnaires and interviews. These questionnaires comprised statements about students' perceptions of their literacy skills. The questionnaire utilized in this study was adapted from the literacy questionnaire developed by Nirmala (2022). It encompassed several key aspects, namely: a) Motivation to learn, b) Literacy habits, c) The role of parents, d) Literacy facilities at school and home, e) Learning processes, and f) School learning environment.

The data obtained from the questionnaire were analyzed quantitatively using a descriptive statistics technique from the questionnaire. The questionnaires consisted of 19 items from 6 domains of literacy factors, where each student was asked to respond using yes/no. The questionnaire was administered using Indonesian, considering students' literacy skills in the area are still considerably low. The questionnaire was then translated into English for data analysis. Firstly, a T-test was conducted to determine the significance of the factors influencing students' literacy skills. The responses were calculated using a simple ttest to measure the mean and standard deviation. This analysis aimed to identify which factors had the most and least significant influence on the literacy skills of elementary students in rural areas of Indonesia.

Furthermore, semi-structured interviews were conducted with selected elementary school teachers and students after the questionnaire was responded to. The interview questions were derived from an interview instrument previously employed by Nirmala (2022). The semi-structured interview items were designed to clarify and confirm the finding of literacy skills of elementary students in Indonesia, consisting of 14 items concerning literacy skills factors. The interviews were also conducted to obtain information about the learning processes and literacy-related activities implemented at the schools and at home. The insights obtained through the interviews complemented and confirmed certain points that required clarification from the student questionnaires.

Thematic analysis was performed on the transcribed qualitative data from the interviews. Common themes and patterns about the elements influencing literacy skills were revealed through this procedure. The themes were found and categorized to make organizing and interpreting the qualitative data easier. The quantitative and qualitative results were combined to thoroughly examine the factors affecting literacy skills.

The next analysis includes data reduction, data presentation, and verification/conclusion. Data reduction aims to streamline the gathered data by reducing and summarizing it into digestible units for analysis. To do this, the material had to be carefully examined, coded, and categorized based on pertinent variables affecting reading skills in kids from rural areas. To identify the factors impacting literacy skills among young learners in rural Indonesia, the researchers attempted to narrow the scope of the data to concentrate on the essential components, especially the literacy factors stated by Nirmala (2020).

The next step was data presentation, which required organizing and presenting the analyzed data. Visual and descriptive tools, including tables, Figures, and narrative summaries from the questionnaire and interviews with students, were included in this step. Visual representations were used to highlight the patterns, trends, and relationships found in the data. This allowed for a thorough knowledge of the variables influencing students' literacy skills in rural areas.

Verification/conclusion was when the researchers focused on approving the results and reaching meaningful conclusions based on the data analysis. The stage involved analyzing the data thoroughly, contrasting it with prior research, and drawing the most important takeaways and consequences for literacy skills. In this phase, the researchers triangulated data from various sources in an effort to prove the validity and reliability of the findings. The verification and conclusion stage sought a thorough grasp of the elements affecting reading abilities among students in Indonesia's rural areas.

### **RESULT AND DISCUSSION**

According to the data analysis, the items used for literacy skills are ranked based on the student's perceptions. Figure 1 shows the result of each item based on the mean score.

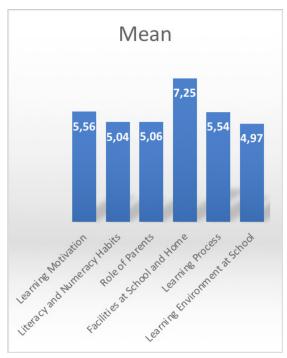


Figure 1. Students' Perception on Items Affecting Literacy Skills

Besides the items, the mean ranks the students' literacy skills based on the influencing domain. Figure 2 depicts the result of each domain based on the mean score.

Based on the students' perceptions, the study identifies three primary factors significantly influencing students' literacy skills in rural areas of Indonesia: motivation, parental involvement, and the enjoyable nature of learning processes in class.

The first item shows that the enjoyment of reading is crucial in shaping students' literacy and skills. Based on the interview, one student shows great interest in reading by saying, "I really enjoy reading at school because I always learn a new thing every time I read books." When students like reading activities, it signifies their interest in engaging with educational materials, actively participating in learning, and developing the cognitive processes necessary for acquiring new knowledge and skills. Therefore, understanding the factors influencing motivation is vital for promoting successful learning outcomes and academic achievement.



**Figure 2**. The Influencing Domains for Literacy Skills

The body of research has shown that motivation has a considerable impact on cognitive functions that are essential for learning and acquiring new knowledge, such as attention, perception, and memory (Lee & Jonson-Reid, 2016; Wang & Guthrie, 2004; Schunk & DiBenedetto, 2021). The cognitive mechanisms that underlie reading skills are also impacted by motivation. For instance, attention, which is crucial for processing and understanding written and mathematical information, can be influenced by motivation. Motivated students are more likely to focus on important material and block out distractions, which improves their capacity to understand and solve difficulties in the classroom.

The second item exhibits parents' involvement in learning which significantly affects students' literacy abilities (Sénéchal & LeFevre, 2014; Wilder, 2014). One student mentioned that their parents encourage them to learn daily, "My parents encourage me to study every day." Children frequently imitate their parent's behavior, and when parents have a favorable attitude toward education and learning, their children are more likely to adopt the same outlook. Parents may directly promote their children's learning by helping them with homework, providing feedback on assignments, and regularly contacting teachers to track their children's development.

Parental involvement in their children's education reinforces classroom learning and provides additional support for developing literacy skills (Sénéchal & LeFevre, 2014). Creating a supportive home environment that promotes learning and encourages children to read and engage in educational activities contributes to a positive learning environment that enhances cognitive development (Wilder, S., 2014). Therefore, the role of a parent is crucial in constructing literacy habits for a student.

The next item is 'reading lessons in class are enjoyable," which highlights the significance of fun learning processes as a critical factor influencing students' literacy skills. Fun learning processes activate the brain's reward centers, increase motivation and enthusiasm, foster creativity and problem-solving abilities, and promote social and emotional development. These factors profoundly impact students' academic achievement and overall cognitive and personal growth (Ainley, Hidi, & Berndorff, 2002). Incorporating fun learning processes fosters positive learning outcomes and enhances students' academic success.

In addition to the three most influencing factors discussed earlier, namely students' enjoyment of reading, parental encouragement to study, and the enjoyable nature of reading and mathematics lessons in class, there are also three factors identified as having a lesser impact on students' literacy skills in the context of rural areas in Indonesia.

The first least influencing factor is the literacy habit of "I learn to read every day." While developing a daily reading habit is generally considered beneficial for improving literacy skills, the findings of this study suggest that in the specific context of rural areas, students rarely have effective literacy habits. One of the students mentioned in the interview, "I don't learn every day because I get bored to learn sometimes." The statement shows that students in rural areas still need to improve their reading habits.

The second last item is "the teacher guides us to read outside the classroom," referring to the role of the learning environment at school. The findings of this study suggest that the learning environment at school is still inadequate, particularly in rural contexts, despite the fact that a helpful learning environment is essential for students' academic growth. Because of the inadequate facilities and the students' reading habits, one of the teachers said, "Sometimes, it is hard to create a supportive learning environment at school due to the lack of facilities and reading habits of the students."

Lastly, the third least influencing factor is "my parents accompany me while studying," highlighting the role of parents in supporting their children's learning. Although it is well acknowledged that parental engagement is essential for students to succeed academically, the data from this study imply that in rural communities, parents rarely accompany their children while studying. Even though they urge their children to learn, they rarely go with them while they read or study. One student even claims their parents never inquire about their classwork or assignments. He said, "My dad and mom never accompany me while studying. They think that my study is the job of my teachers, not them". This kind of mentality is still found in rural areas.

Table 2 presents the mean scores for each domain, revealing that Facilities at School and Home emerged as the most influential domain for students' literacy skills in rural areas. This domain includes four items, namely: 1) My school has a library with comfortable rooms, 2) My classroom has a wide variety of interesting reading materials), 3) My school has a good "reading corner"), and 4) My school does not have good and diverse books.

Facilities at school and home play a crucial role in significantly influencing students' literacy and numeracy skills in rural areas (Dong, Wu, Dong, & Tang, 2020). The development of students' literacy has been demonstrated to be favorably impacted by access to proper learning facilities at home and at school. Access to facilities, especially literacy, will improve students' academic achievement. The availability of facilities is also crucial for developing literacy skills because it gives students access to the materials and equipment they need for successful learning. The school facilities, such as books, technology, and instructional resources, can significantly improve learning by allowing students to participate in hands-on activities and experiment with different teaching strategies. Similarly, having books, educational games, and other materials available to children at home can help them continue studving outside the classroom.

Among the items within the Facilities at School and Home domain, the presence of a comfortable and well-equipped library holds the highest rank. An engaging and interesting Home Literacy Environment (HLE) also increases students' academic achievement (Dong, et., 2020). Better literacy skills and favorable long-term results are more likely among students with access to a welcoming and well-equipped library. The development of students' literacy skills depends greatly on the availability of a complete library. As a result of exposure to a variety of reading materials, including books, magazines, newspapers, and online sources, students' vocabulary grows, their comprehension improves, and their ability to think critically and solve problems is fostered (Lance, et al., 2000; Ekong & Ekong, 2018). A thorough library also provides students with resources and materials that might not be easily accessible in the classroom.

For developing children's literacy skills, especially in remote locations, having access to classrooms with plenty of reading materials is especially important. Previous studies have shown that students are more likely to have a solid foundation in language and reading motivation when they access various reading resources (Park, 2008; Ho & Lau, 2018). Students exposed to these learning environments are thus more prepared to handle academic obstacles and enjoy lifelong learning. Students can use these resources to engage in active learning practices and enhance their critical thinking, problem-solving, and creativity skills when they can access a wide selection of reading and numeracy materials in the classroom (Park, 2008).

Additionally, providing enough reading materials in the classroom helps encourage students to enjoy reading and learning. Students are more likely to find themes that interest them when a variety of books, magazines, and other reading materials are available in the classroom setting, which boosts their desire to read and learn. Welldesigned enhanced interventions may improve children's reading skills and academic performance. According to Gao et al. (2018), reading proficiency significantly improved when children had greater access to independent reading materials and teachers received quality training.

The next item is access to the reading corner, a spot combined with literacy activities for students to read and learn at school. The literacy skills of the students can be developed through this reading corner. Students' problem-solving skills and inventiveness will increase when they are asked to read on their own time in a special area (Morrow & Weinstein, 1986). Schools should have a reading area to help students develop their literacy abilities. Access to a reading corner in schools also promotes a sense of community among students.

By giving students a common area to conduct reading and learning activities, collaboration and teamwork are encouraged (Momtaz & Naji, 2012; Passig & Maidel-Kravetsky, 2016). In a collaborative setting, students feel supported, motivated, and more willing to actively engage in their learning.

When students are engaged and intrigued by the content they are reading, they demonstrate enhanced comprehension and retention of information, resulting in improved literacy skills. Moreover, engaging books and reading materials contribute to developing students' vocabulary and language proficiency (Krashen, 2004). By exposing students to various texts encompassing fiction, nonfiction, and informational genres, they are introduced to new vocabulary and concepts that expand their linguistic abilities and enhance their communication skills.

When students are interested in and engaged by the material they are reading, they show greater comprehension and memory, which leads to improved literacy skills. Additionally, interesting reading materials help students improve their vocabulary and linguistic skills (Krashen, 2004). As a result of reading various fiction, nonfiction, and informative texts, students are exposed to new terminology and ideas that help them communicate more effectively and develop their language skills.

Despite the conclusions drawn from this study, there are several limitations. First, this study concentrated on a specific rural region of Indonesia. Rural communities across Indonesia vary in terms of demographics, socio-economic factors, and educational infrastructure (Carnegie, 2010; Azzahra & Amanta, 2021). Hence, the insights gained from this study may not fully represent the diverse landscape of rural areas nationwide in Indonesia.

Furthermore, the study was based on selfreported student data, which could be vulnerable to response bias. The bias refers to any consistent tendency to respond incorrectly to a substantive indicator, resulting in systemic mistake in prediction (McGrath et. al., 2010). In this study, elementary students were asked to fill in the questionnaire sheets under the guidance of their teachers and researchers. The questions were initially written down in English, but after several considerations, the researchers changed the items in Indonesian. Even so, researchers found some students did some random or careless responding because they are too afraid or reluctant to ask the teacher. As a result, while the insights derived from this data are significant, they must be interpreted with caution, taking into account potential biases that may have influenced the students' responses.

To address the aforementioned limitations, future research could benefit from using a more extensive and representative sampling technique. A multi-site study including varied rural districts throughout Indonesia is suggested as a future research topic. This method would entail picking a variety of rural locations with distinct demographics, socioeconomic variables, and educational infrastructure. By collecting this larger range, researchers can gain a more comprehensive knowledge of the factors that influence reading skills in varied rural environments.

Eventually, to address the limitation on self-reported student data, future studies could use a mixed-methods approach. By combining quantitative data from self-reports with qualitative insights, such as interviews or observations, researchers would be able to investigate a more nuanced and multifaceted picture of students' literacy experiences. Besides, using several data collection methods would allow researchers to cross-check information and reduce the possible impact of response biases.

## CONCLUSION

The investigation into the determinants influencing young learners' literacy skills in rural Indonesia has identified several significant characteristics, including access to educational resources, learning motivation, parental participation, and literacy infrastructures at schools and homes. These factors have emerged as influencing factors for students' literacy skills for elementary students in rural areas.

Based on the students' perceptions, the three items that become the most influential items affecting their literacy skills include: 1) "I enjoy reading," 2) "My parents encourage me to study every day," and 3) "Reading lessons in class are enjoyable." The study also reveals that the least influencing items are: 1) I learn to read every day," 2) "The teacher guides us to read outside the classroom," and 3) "My parents accompany me while studying." Furthermore, the Facilities at School and Home domain has emerged as the most influential domain for students' literacy skills in rural areas. This domain encompasses four items, namely: 1) "My school has a library with comfortable rooms," 2) "My classroom has a wide variety of interesting reading and numeracy materials," 3) "My school has a good 'reading corner," and 4) "My school does not have good and diverse books."

The results of this study demonstrate the critical importance of motivation and facilities

that are easily accessible in promoting literacy growth in rural areas. However, the other domains of influencing factors of literacy skills must also be paid attention such as literacy habits, the role of parents, the learning process, and the learning environment at school.

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