



How Does the PIRLS Framework Assess Reading Literacy Among Elementary School Students in Indonesia?

*¹Khirjan Nahdi, ¹Dukha Yunitasari, ¹Baiq Desi Dwi Arianti, ¹Atiaturrahmaniah,
¹Usuluddin

¹Universitas Hamzanwadi, Indonesia

***Correspondence:**

Khirjan.nw@gmail.com

Submission History:

Submitted: February 8, 2024

Revised: February 25, 2024

Accepted: March 12, 2024



This article is licensed under a Creative Commons Attribution-Share Alike 4.0 International License.

Abstract

The study focuses on three critical aspects of reading: content comprehension, reading speed, and reading effectiveness. The objective is to understand the literacy competence of these students based on PIRLS parameters and to propose recommendations for enhancing their reading literacy. Data was gathered through reading tests, observations, and interviews. The findings reveal that the student's ability to comprehend reading content falls into the low category, at 0.51%, compared to 15%, 19%, and 24% in IEA countries. Their reading speed is moderate, averaging 151.1 words per minute, within the national average range of 130-180 words per minute. However, according to PIRLS, their reading effectiveness is low, at 34.9%, compared to the 60-80% standard in IEA member countries; the low level of content comprehension, reading effectiveness, and moderate reading speed level can be attributed to external factors. These include the perception of teachers, parents, society, and the government that reading merely involves stringing words together in a broader grammatical context. Internally, students are encouraged to read fluently to gather factual information and to measure the number of words read within a specific timeframe. This study underscores the need for a comprehensive approach to improve reading literacy among fourth-grade students in East Lombok.

Keywords: PIRLS, reading literacy, elementary school

INTRODUCTION

The emphasis on reading skills in primary education is due to the belief that the success of early education is synonymous with reading success (Slavin et al., 2014; Nahdi & Yunitasari, 2019). These skills extend beyond merely connecting language symbols to form larger language units. They also involve understanding texts while learning to read (Halliday et al., 2004). In linguistic studies, it has been observed that reading skills cannot solely rely on language structure and communicative context. Instead, they evolve within the discourse context, a phenomenon Nelson and Kern (2012) refer to as the post-linguistic era. As a result,

language learning is not only about the use and structure of language but also involves developing communication competencies for various interests within sociocultural contexts.

According to the PIRLS 2016, reading literacy is the ability to understand and use written language forms that society and individuals need. This includes constructing meaning from texts, learning from texts, and being part of a school reading community for pleasure and daily life (Martin et al., 2016). This comprehensive view of reading literacy underscores its importance in primary education. In addition, The Progress in International Reading Literacy Study (PIRLS) is a comprehensive framework designed to assess reading achievement. It is based on the concept that reading is an interactive process between the reader and the text (Mullis & Martin, 2019).

Moreover, PIRLS focuses on two primary purposes for reading, which account for most of the reading done by young students both in and out of school. The first is for literary experience, which involves reading for pleasure, allowing us to experience different worlds, other cultures, and a host of new ideas. The second is to acquire and use information, which encompasses reflecting on written texts and other sources of information as tools for attaining individual and societal goals.

Furthermore, improving reading literacy at the primary education level is a worldwide challenge that necessitates well-informed and locally adapted solutions. In numerous countries, including Indonesia, the shift from "learning to read" to "reading to learn" is critical in primary education. Several research findings suggest that students with robust reading literacy skills will likely excel academically across all disciplines, not just in their language studies (Gersten et al., 2020; Hayat & Yusuf, 2010; McConachie & Petrosky, 2009; Perin, 2013; Murnane et al., 2012; Barrow & Markman, 2016). This highlights the significance of reading literacy as a fundamental skill and a cornerstone for lifelong learning and interdisciplinary comprehension. This understanding underscores the need for a strategic focus on enhancing reading literacy in primary education.

However, in this study case, the 2022 Programme for International Students Assessment (PISA) results showed that 70% of students in Indonesia have low reading ability, falling below Level 2 on the PISA scale (OECD, 2023). This indicates that these students need help finding a short text's central idea or essential information. Despite efforts to improve literacy levels, such as regulating 15 minutes of reading for pleasure before the start of a school day, the extent to which literacy learning is facilitated in the classroom needs to be clarified. The government has changed the curriculum to address literacy better, but improving Indonesia's literacy education demands more than a piece of national curriculum regulation (Sukmayadi & Yahya, 2020). There is a need for more literacy resources (texts/books) and qualified literacy teachers to ensure literacy learning in Indonesian classrooms.

One region in Indonesia that requires more attention regarding reading literacy is East Lombok Regency, West Nusa Tenggara Province, Indonesia. This area falls within the category of underdeveloped regions. Due to insufficient data for this area, according to the Central Statistics Agency, 10.89 of the population of West Nusa Tenggara (NTB) aged 15 and above are classified as illiterate, placing NTB second from the bottom among other provinces in Indonesia (Badan et al., 2023). Referring to this, it is essential to conduct in-depth research to understand the issues experienced, particularly regarding the reading literacy of students in secondary schools, in the collective effort to bridge literacy gaps and advance education

for all children, and it is in line with the UN's Sustainable Development Goals on quality education (Ho & Lau, 2018; Lupo et al., 2017).

Therefore, this study assesses the reading literacy of fourth-grade elementary school students in East Lombok using the PIRLS 2016 literacy parameters. The primary aim is to determine the literacy competency of these students based on PIRLS parameters. The secondary aim is to formulate recommendations for enhancing their reading literacy competence. These recommendations, derived from the study's findings, are strategic for increasing the student's competitiveness in the global education context. The results of this study aim to enhance the performance of reading instruction in elementary schools within the local context.

METHOD

The data presented in this study focuses on assessing reading literacy among grade IV elementary school students, explicitly examining three crucial dimensions: comprehension of reading content, reading speed, and practical reading skills. These dimensions were measured against the 2011 PIRLS Almanac reading literacy test (Mullis et al., 2012). To collect relevant data, the study used a reading test derived from the 2011 PIRLS Almanac, translated into Indonesian. For the literacy assessment, students' cognitive competencies were evaluated across distinct areas, including factual knowledge, language proficiency, and logical reasoning. This comprehensive evaluation aimed to ascertain students' abilities in understanding, applying, and reasoning through language and literary concepts.

The study encompassed 300 grade IV elementary school students from East Lombok, comprising 53% males and 47% females. These students were drawn from 10 elementary schools across three East Lombok regions: the central, northern, and southern. The research was conducted over a period spanning from October to December 2023. Data analysis was primarily descriptive, examining frequency distributions for each aspect measured. In addition to the reading test data, qualitative information was gathered through interviews and participant observations to complement the understanding of weaknesses in reading instruction since it is used to gain insights into people's feelings and thoughts (Sutton & Austin, 2015). These qualitative insights provided contextual information regarding the learning and reading environment of grade IV elementary school students in East Lombok, serving as a foundation for recommendations aimed at informing reading education policies for teachers, principals, parents, and governmental bodies

FINDING AND DISCUSSION

Understanding Student Reading Literacy: Objectives from the 2011 PIRLS Framework

Ability to Understand Reading Content

Table 1 presents data on reading comprehension among the study subjects. The table lists the number of subjects assessed, their highest reading score, lowest reading score, and the average score represented as a percentage. In this case, there were 300 subjects in total. The highest reading score was 79, while the lowest recorded score was 21. The average reading score, calculated as a percentage of the total possible points, was 0.51%. This indicates that, on average, the study subjects scored only 0.51% of the maximum achievable score in reading comprehension.

Table 1. Reading comprehension

Subject	Highest reading score	Lowest reading score	Average (%)
300	79	21	0,51%

Based on the data presented in Table 1, the study reveals that the average proficiency of the subjects in understanding reading content stands at 0.53%. On average, each subject correctly answers only 2-3 out of 20 questions. This level of achievement is categorized as low compared to students of similar age, studying the same materials and facing equivalent questions in countries such as Singapore, England, Hong Kong, Finland, Russia, and Northern Ireland, where the average proficiency ranges from 15% to 24%. The challenge in comprehension primarily arises from informational reading materials and literary texts. Given the irregular distribution of correct answers, the subject's ability to provide correct answers does not conclusively indicate whether they genuinely understand the reading material or if their responses are merely guesses. Despite this, the average proficiency of 0.53% still surpasses the national average of 0.1%, as [Suryaman \(2015\)](#) reported, based on comparing PIRLS 2011 results with reading comprehension tests conducted on 937 grade IV elementary school students across Indonesia. This national average suggests that, on average, students can only answer a maximum of 1 correct question out of 20 informational and literary reading items.

Various factors contribute to these challenges, stemming from external and internal sources, particularly within the family and school environments. Externally, students from lower-middle-class families in rural areas often encounter limited perspectives on reading proficiency, where reading fluency is equated with stringing words together grammatically. Parents may view reading solely as a means of obtaining information rather than a tool for processing, comparing, and analyzing data. Similarly, within the school environment, teachers may focus primarily on obtaining transparent information from reading materials, neglecting critical thinking and reasoning skills among students.

Internally, individual habits formed within family, community, and school environments play a significant role. Due to the need for more emphasis on critical thinking and comprehension in school learning materials, students tend to read passively, focusing on obtaining information rather than engaging deeply with the text. Furthermore, limited parental involvement in nurturing reading competencies contributes to the absence of internal motivation for students to enhance their reading skills through regular practice and critical analysis.

Table 2. Reading speed

Subject	Total	Highest score/minute	Lowest score/minute	Average speed
300	1443 words	207 words	96 words	151.1 words/minute (total 9.95 minutes)

Table 2 provides data on reading speed among the study subjects. It includes the number of words read, the highest and lowest scores achieved per minute, and the average reading speed. In this case, the study involved 300 subjects in total. Throughout the reading assessment, the subjects collectively read 1443 words. The highest reading speed observed was 207 words per minute, while the lowest was 96 words per minute. The average reading speed across all subjects was 151.1 words per minute, based on a total reading duration of

9.95. This table offers insights into the reading speed performance of the subjects, indicating their efficiency in processing textual information within a given timeframe.

A typical reading speed at the grade IV elementary school level falls within the range of 130-180 words per minute (Puspita, 2018). In this study, the subjects' reading speed was measured while they simultaneously worked on informational and literary reading tasks. The recorded results, however, do not definitively indicate whether the subjects completed reading all the words provided, as speed was determined by comparing the total number of words (1443 words) with the allotted time of 9.95 minutes. The observed moderate reading speed has an inverse relationship with reading content comprehension. Consequently, the reading skills exhibited by the study subjects remain primarily focused on basic reading mechanics rather than deeper aspects of readability and comprehension.

An intriguing revelation from the data on reading speed is that grade IV elementary school students in East Lombok demonstrate proficiency in basic reading skills when limited to mechanical tasks. However, a critical need exists to shift the focus toward enhancing reading comprehension abilities by fostering reasoning, understanding, evaluation, comparison, and inspiration derived from reading materials. Therefore, it is essential to recognize and prioritize that reading proficiency collectively transcends mere grammatical word stringing and encompasses the application of information through critical thinking and engagement with the text.

Table 3. Reading effectiveness

Subject	Average reading content comprehension	Average number of words read	Reading effectiveness (%)
300	0,51	151,1	34,9%

Table 3 presents data on reading effectiveness among the study subjects. It includes the average reading content comprehension, the average number of words read, and the reading effectiveness percentage. In this case, the study involved 300 subjects in total. The average reading content comprehension indicates the subjects' ability to understand the material they read, which, in this study, stands at 0.51%. This suggests that, on average, the subjects comprehended only a tiny fraction of the reading material provided.

The average number of words read represents the speed at which the subjects could read, with an average of 151.1 words per minute. This indicates how efficiently the subjects processed textual information within a given timeframe. The reading effectiveness percentage combines these two metrics to measure how effectively the subjects could comprehend the material while maintaining a certain reading speed. In this study, the reading effectiveness percentage is calculated to be 34.9%, indicating that the subjects' ability to comprehend the material and the speed at which they read was approximately 34.9%.

Reading effectiveness encompasses various dimensions of the reading process. It denotes the ability of an individual to extract sufficient information and critical insights from their reading endeavors. Beyond simply obtaining information and critical insights, the effectiveness of reading also hinges on the efficient use of time. Spending an extended period reading without acquiring meaningful information and critical insights renders the reading process impractical. Conversely, rushing through reading material without absorbing sufficient information and critical insights renders the process ineffective. Actual reading

effectiveness necessitates balancing the time allocated and the reader's acquisition of meaningful information and critical insights.

Challenges in Reading: Analytical Difficulties According to the PIRLS Framework

In light of the reading ability standards outlined by PIRLS, which encompass both reading skills (such as obtaining informative knowledge) and readability (involving comprehension, reasoning, comparison, evaluation, and inspiration), it becomes imperative to address specific weaknesses observed in the reading learning process of grade IV elementary school students, particularly in East Lombok. Firstly, there is a critical need for students, teachers, parents, and governments to broaden their understanding of reading beyond mere grammatical stringing of words and the acquisition of factual information. Reading proficiency should encompass abilities to understand, reason, evaluate, compare, and inspire. The current emphasis solely on speed and factual retrieval fosters a detached relationship with reading material, limiting critical thinking and the ability to contextualize information.

Secondly, the limitation above leads to a consequential context where reading instruction becomes merely a means to cover a set amount of material within a specific timeframe. Reading activities are reduced to instrumental tasks focused on answering questions without fostering more profound engagement with the text. As a result, learning to read becomes a routine instructional component rather than a holistic development of language skills. Moreover, teachers often select reading materials based solely on the availability of factual knowledge, neglecting to stimulate students' critical thinking by posing thought-provoking questions. The materials typically feature straightforward answers derived directly from the text, failing to challenge students to engage in reasoning, comparison, or explore complex ideas beyond the surface level of comprehension.

Furthermore, the questions teachers pose tend to revolve around the reading material itself, needing more depth in prompting further analysis or critical reflection. Rather than utilizing reading material as a springboard for broader analytical thinking and comparative analysis, the focus remains narrowly centered on the text, stifling opportunities for students to develop their analytical skills and generate innovative ideas. Addressing these weaknesses requires a concerted effort to redefine the approach to reading instruction, emphasizing not just the acquisition of information but also the development of critical thinking, analytical reasoning, and the cultivation of imaginative insights from reading material.

Parents, teachers, and governments often share similar perspectives on the reading process. However, parents and communities need more initiative to support reading education outside school settings actively. They often rely solely on teachers and students to be responsible for developing children's reading skills. This shift of responsibility underscores a need for greater parental and community involvement in fostering a supportive reading environment (Han et al., 2017; Kharizmi, 2019; Musfiroh & Listyorini, 2016; Sénéchal & Lefevre, 2014; Welch & Freebody, 2005).

The comparison of reading literacy levels among grade IV elementary students in East Lombok with those in countries like Singapore, Russia, and Finland reveals significant disparities, highlighting the necessity for tailored interventions in reading education. These differences underscore the profound influence of socioeconomic, cultural, and educational

factors in shaping students' reading abilities (Gay, 2018). Despite moderate reading speeds, the low levels of comprehension and effectiveness among students in East Lombok emphasize that more than fluency alone is needed to guarantee comprehension and analytical skills. This emphasizes the importance of implementing strategies that enhance understanding and critical engagement with texts alongside fluency-focused approaches (Fisher et al., 2016).

Moreover, the study underscores a fundamental gap in the region's current pedagogical approach to reading instruction. The predominant emphasis on decoding and fluency without corresponding attention to comprehension and critical thinking calls for a paradigm shift. Reading instruction should evolve to foster deeper connections with the material, encouraging students to question, infer, and synthesize information from their readings. Educators need training in innovative reading strategies that prioritize critical thinking and comprehension, as supported by recent pedagogical research (Browne, 2007; Byrnes & Wasik, 2019; Darling-Hammond et al., 2017; Fox et al., 2002; McKnight et al., 2016; Warsihna, 2016; Wyse et al., 2018).

Additionally, the study highlights the significant influence of the home environment on reading literacy. The perception of reading as a mechanical task rather than a critical and enjoyable activity reflects broader societal attitudes toward literacy. Encouraging parents and communities to engage in literacy education through programs that promote the joy and utility of reading beyond the classroom can create a more supportive environment for literacy development. Cultivating a culture of reading at home, where reading is valued and enjoyed, can profoundly impact students' reading habits and attitudes toward learning.

CONCLUSION

This study provides a comprehensive analysis of reading literacy among fourth-grade students in East Lombok, examining reading content comprehension, speed, and effectiveness. The results reveal significant disparities in literacy proficiency compared to IEA member countries' PIRLS standards. Specifically, the reading comprehension level of the students is low at 0.51%, only slightly better than the national average of 0.1% in 2015 but well below the 15% to 24% range typical in IEA countries. Additionally, while the students' reading speed averages 151.1 words per minute, this does not translate into sufficient comprehension or overall literacy proficiency, with an effectiveness rate of only 34.9%—far below the 60-80% seen in IEA nations. These issues arise from common perceptions among educators, parents, and the wider community that prioritize reading fluency and basic information retrieval over deeper understanding or critical engagement with texts. Highlighting a critical need for intervention, this research calls for more focused actions to enhance literacy education in East Lombok, aiming to equip students with the skills necessary to thrive in a complex global environment.

REFERENCES

- Badan Pusat Statistik. (2023). *Angka buta aksara menurut provinsi dan kelompok umur (Persen), 2021-2023*. <https://www.bps.go.id/id/statistics-table/2/MTAyIzI=/angka-buta-aksara-menurut-provinsi-dan-kelompok-umur--persen-.html>
- Barrow, L., & Markman-Pithers, L. (2016). Supporting young English learners in the United States. *The Future of Children*, 159-183. <https://www.jstor.org/stable/43940586>
- Browne, A. (2007). *Teaching and learning communication, language and literacy*. SAGE.

- Byrnes, J., & Wasik, B. (2019). *Language and literacy development: What educators need to know*. Guilford Publications.
- Darling-Hammond, L., Hyler, M. E., Gardner, M. (2017). Effective teacher professional development. *Learning Policy Institute*. <https://doi.org/10.54300/122.311>.
- Fisher, D., Frey, N., & Hattie, J. (2016). *Visible Learning for Literacy, grades K-12: Implementing the Best Practices to Accelerate Student Learning*. Corwin.
- Fox, R., Medwell, J., Poulson, L., & Wray, D. (2002). *Teaching literacy effectively in the primary school*. RoutledgeFalmer.
- Gay, G. (2018). *culturally responsive teaching: Theory, research, and practice*. Teachers College Press.
- Gersten, R., Haymond, K., Newman-Gonchar, R., Dimino, J., & Jayanthi, M. (2020). Meta-analysis of the impact of reading interventions for students in the primary grades. *Journal of Research on Educational Effectiveness*, 13(2), 401–427. <https://doi.org/10.1080/19345747.2019.1689591>
- Halliday, M.A.K., Matthiessen, C.M.I.M., Halliday, M., & Matthiessen, C. (2004). An introduction to functional grammar (3rd ed.). Routledge. <https://doi.org/10.4324/9780203783771>
- Han, W., Susanto, D., Dewayani, S., Pandora, P., Hanifah, N., Miftahussururi, M., ... & Akbari, Q. S. (2017). *Materi pendukung literasi numerasi*. Kementerian Pendidikan dan Kebudayaan Republik Indonesia.
- Hayat, B., & Yusuf, S. (2010). Benchmark internasional mutu pendidikan. *Bumi Aksara*.
- Ho, E. S. C., & Lau, K. Ling. (2018). Reading engagement and reading literacy performance: Effective policy and practices at home and in school. *Journal of Research in Reading*, 41(4), 657–679. <https://doi.org/10.1111/1467-9817.12246>
- Kharizmi, M. (2019). Kesulitan siswa sekolah dasar dalam meningkatkan kemampuan literasi. *Jurnal Pendidikan Almuslim*, 7(2), 94–102.
- Lupo, S., Jang, B. G., & McKenna, M. (2017). The relationship between reading achievement and attitudes toward print and digital texts in adolescent readers. *Literacy Research: Theory, Method, and Practice*, 66(1), 264–278. <https://doi.org/10.1177/2381336917719254>
- Martin, M. O., Mullis, I. V., & Foy, P. (2016). Assessment design for PIRLS, PIRLS literacy, and ePIRLS in 2016. *PIRLS*, 55-69.
- McConachie, S. M., & Petrosky, A. R. (2009). *Content matters: A disciplinary literacy approach to improving student learning*. John Wiley & Sons.
- McKnight, K., O'Malley, K., Ruzic, R., Horsley, M., Franey, J. J., & Bassett, K. (2016). Teaching in a digital age: How educators use technology to improve student learning. *Journal of Research on Technology in Education*, 48(3), 194–211. <https://doi.org/10.1080/15391523.2016.1175856>
- Mullis, I. V., & Martin, M. O. (2019). *PIRLS 2021 Assessment Frameworks*. International Association for the Evaluation of Educational Achievement. Herengracht 487, Amsterdam, 1017 BT, The Netherlands.
- Mullis, I.V.S., Martin, M.O., Foy, P., & Drucker, K.T. (2012). *PIRLS 2011 International Results in Reading*. TIMSS & PIRLS International Study Center
- Murnane, R., Sawhill, I., & Snow, C. (2012). Literacy challenges for the twenty-first century: Introducing the issue. *The future of children*, 3-15. <https://www.jstor.org/stable/23317408>

- Musfiroh, T., & Listyorini, B. (2016). Konstruksi kompetensi literasi untuk siswa sekolah dasar. *Litera*, 15(1). <https://doi.org/10.21831/ltr.v15i1.9751>
- Nahdi, K., & Yunitasari, D. (2019a). Inside-outside circle: An early childhood language and literacy development method. *International Journal of Innovation, Creativity and Change*, 5(6), 325–335.
- Nelson, M., & Kern, R. (2012). *Language teaching and learning in the postlinguistic condition?* Deakin University.
- OECD (2023), *PISA 2022 results (Volume I): The state of learning and equity in education*. OECD Publishing.
- Perin, D. (2013). Literacy skills among academically underprepared students. *Community College Review*, 41(2), 118-136. <https://doi.org/10.1177/0091552113484057>
- PIRLS (2011). *International Report. Performance at the PIRLS 2011*. International Benchmarks TIMSS & PIRLS Report International Study Center (IEA): Lynch School of Education, Boston College.
- Puspita, P. T. (2018). *Pengaruh kecepatan membaca terhadap pemahaman konten bacaan*. Universitas Airlangga.
- Sénéchal, M., & Lefevre, J. A. (2014). Continuity and change in the home literacy environment are predictors of vocabulary and reading growth. *Child Development*, 85(4), 1552–1568. <https://doi.org/10.1111/CDEV.12222>
- Slavin, R. E., Madden, N. A., Chambers, B., & Haxby, B. (2014). *Membaca membuka pintu dunia: Program success for all model yang jelas dan kuat untuk meningkatkan kemampuan membaca anak sekolah dasar*. Terjemahan Erick Setiyawati & Rahmat Fajar. Pustaka Pelajar.
- Sukmayadi, V., & Yahya, A. H. (2020). Indonesian education landscape and the 21st century challenges. *Journal of Social Studies Education Research*, 11(4), 219–234.
- Suryaman, M. (2015). Analisis hasil belajar peserta didik dalam literasi membaca melalui studi internasional (PIRLS) 2011. *LITERA*, 14(1), 170–186. <https://doi.org/10.21831/ltr.v14i1.4416>
- Sutton, J., & Austin, Z. (2015). Qualitative research: Data collection, analysis, and management. *Canadian Journal of Hospital Pharmacy*, 68(3). <https://doi.org/10.4212/cjhp.v68i3.1456>
- Warsihna, J. (2016). Meningkatkan literasi membaca dan menulis dengan Teknologi Informasi dan Komunikasi (TIK). *Kwangsan*, 4(2), 67. <https://doi.org/10.31800/jtp.kw.v4n2.p67--80>
- Welch, A. R., & Freebody, P. (2005). *Knowledge, culture and power: International perspectives on literacy as policy and practice*. Routledge.
- Wyse, D., Bradford, H., Jones, R., & Wolpert, M. A. (2018). *Teaching English, language and literacy*. Routledge.