

**FROM READING TO INTERPRETING: STRENGTHENING THE DIGITAL LITERACY OF PGSD STUDENTS IN INDONESIAN LANGUAGE LEARNING BASED ON THE INDEPENDENT CURRICULUM**

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**Abstract**

The rapid development of digital technology in education requires the strengthening of students' digital literacy, particularly for students of the Elementary School Teacher Education Program (PGSD) as prospective primary school teachers. Digital literacy is not merely defined as the ability to read digital texts, but also the ability to understand, evaluate, and critically interpret information within Indonesian language learning contexts. This study aims to examine the effect of Indonesian language learning based on the Merdeka Curriculum on the digital literacy of PGSD students at the Faculty of Teacher Training and Education, Universitas Muhammadiyah Sumatera Utara (FKIP UMSU). This study employed a quantitative approach using a quasi-experimental design with a pretest–posttest control group. The research sample consisted of an experimental group and a control group selected through purposive sampling. The research instrument was a digital literacy questionnaire that had been tested for validity and reliability. Data were analyzed using descriptive statistics and an independent sample *t*-test. The results indicate a significant difference in digital literacy between PGSD students in the experimental and control groups. Indonesian language learning based on the Merdeka Curriculum was proven to be effective in improving students' abilities to understand, evaluate, and interpret digital texts critically. These findings emphasize the importance of implementing the Merdeka Curriculum in Indonesian language learning to prepare digitally literate and adaptive prospective primary school teachers to meet the demands of 21st-century education.

**Keywords:** Digital literacy, Indonesian language learning, Merdeka Curriculum, PGSD

## Abstrak

Perkembangan teknologi digital dalam dunia pendidikan menuntut penguatan literasi digital mahasiswa, khususnya mahasiswa Program Studi Pendidikan Guru Sekolah Dasar (PGSD) sebagai calon guru sekolah dasar. Literasi digital tidak hanya dimaknai sebagai kemampuan membaca teks digital, tetapi juga kemampuan memahami, mengevaluasi, dan memaknai informasi secara kritis dalam pembelajaran Bahasa Indonesia. Penelitian ini bertujuan untuk menguji pengaruh pembelajaran Bahasa Indonesia berbasis Kurikulum Merdeka terhadap literasi digital mahasiswa PGSD Fakultas Keguruan dan Ilmu Pendidikan Universitas Muhammadiyah Sumatera Utara (FKIP UMSU). Penelitian menggunakan pendekatan kuantitatif dengan desain kuasi eksperimen tipe pretest–posttest control group. Sampel penelitian terdiri atas kelompok eksperimen dan kelompok kontrol yang ditentukan melalui teknik purposive sampling. Instrumen penelitian berupa angket literasi digital yang telah diuji validitas dan reliabilitasnya. Data dianalisis menggunakan statistik deskriptif dan uji independent sample t-test. Hasil penelitian menunjukkan bahwa terdapat perbedaan signifikan literasi digital antara mahasiswa PGSD pada kelompok eksperimen dan kelompok kontrol. Pembelajaran Bahasa Indonesia berbasis Kurikulum Merdeka terbukti efektif dalam meningkatkan kemampuan mahasiswa dalam memahami, mengevaluasi, dan memaknai teks digital. Temuan ini menegaskan pentingnya implementasi Kurikulum Merdeka dalam pembelajaran Bahasa Indonesia untuk menyiapkan calon guru SD yang literat digital dan adaptif terhadap tuntutan pembelajaran abad ke-21.

**Kata kunci:** Literasi digital, pembelajaran Bahasa Indonesia, Kurikulum Merdeka, PGSD

## INTRODUCTION

The rapid integration of digital technologies into education has significantly reshaped how learning and teaching occur, placing digital literacy at the core of modern educational competencies. Digital literacy extends beyond the mere ability to read digital content—it encompasses the capacity to critically evaluate, interpret, and utilize digital information effectively in instructional contexts (Oktarina et al., 2025). Research shows a notable increase in global academic attention toward digital literacy in education, with multidimensional approaches capturing technical, cognitive, and ethical dimensions that influence pedagogical innovation and student engagement (Oktarina et al., 2025).

In teacher education, digital literacy is especially critical because future teachers are expected to mediate digital information and technologies in learning environments, preparing learners to navigate the complexities of digital texts and multimodal information landscapes (Lubis, S.S.W et al, 2024). Studies in Indonesian contexts have emphasized the importance of digital literacy not only as a technical skill but also as a cognitive and pedagogical enabler of quality learning processes (Saputra et al., 2025; Ngafifurrohman et al., 2025).

The Indonesian Government’s introduction of the Kurikulum Merdeka (Independent Curriculum) seeks to promote deep learning, flexibility, and authentic engagement with knowledge, including the use of digital materials and platforms in classroom practices (Rizqi et al., 2025). Kurikulum Merdeka’s principles of student-centered learning and project-based engagement aim to cultivate students’ higher-order thinking skills and digital competencies through

contextualized learning experiences (Amini,A.,2025). However, the actual impact of implementing Kurikulum Merdeka on students' digital literacy—particularly in the domain of Indonesian language learning—is insufficiently investigated at the tertiary level, especially among prospective elementary teachers enrolled in the Elementary School Teacher Education Program (PGSD).

Most existing research on *digital literacy* in education focuses on school-level contexts, teacher practices, or descriptive analyses that do not systematically measure causal impacts of curriculum interventions on learners' competencies (Lubis, S.W, 2025). For example, national studies on digital literacy often examine its role in elementary teaching or primary school teacher effectiveness under Kurikulum Merdeka (Ngafifurrohman et al., 2025), but few extend findings to higher education or employ rigorous experimental methodologies. Moreover, digital literacy research in language education tends to be qualitative or descriptive, with minimal quantitative evidence that directly evaluates structured pedagogical models (Saputra et al., 2025).

In terms of research status, prior studies generally *support* the importance of digital literacy as foundational for effective educational practices but have gaps in determining *how* specific curricular models, such as Kurikulum Merdeka, contribute to measurable outcomes among pre-service teachers in language domains. This study thus positions itself as an empirical extension and *corrective* to existing literature by using a quasi-experimental design to evaluate the effect of Kurikulum Merdeka– based Indonesian language learning on the digital literacy of PGSD students. Whereas prior research highlights relationships or perceptions of digital competencies, this study provides stronger inferential evidence.

The novelty of this research lies in several aspects. First, it specifically targets PGSD students at the Faculty of Teacher Training and Education, Universitas Muhammadiyah Sumatera Utara (UMSU), a group whose digital literacy development has not been prominently examined with experimental rigor. Second, the study operationalizes digital literacy as measurable outcomes related to comprehension, evaluation, and interpretation of digital texts within Indonesian language learning. Third, it evaluates the effectiveness of Kurikulum Merdeka—a national education reform—through quantitative comparison between groups exposed to curricular innovation and those under conventional instruction, thereby adding critical empirical evidence to the field. Given the urgency of preparing digitally literate future teachers and the limitations identified in prior work, this study aims to determine whether Indonesian language learning based on the Kurikulum Merdeka significantly enhances digital literacy among PGSD students at FKIP UMSU compared to those receiving traditional instruction.

## **METHODS**

This study employed a quantitative approach using a quasi-experimental design, specifically the *pretest–posttest control group design*. This design was selected because the researcher could not randomly assign participants to experimental conditions due to institutional and academic constraints, which is common in educational research settings (Creswell & Creswell, 2018; Fraenkel et al., 2019). The design allowed for a comparison of students' digital literacy levels before and after the implementation of Indonesian language learning based on the Kurikulum Merdeka, as well as between groups receiving different instructional treatments.

The research was conducted at the Faculty of Teacher Training and Education (FKIP), Universitas Muhammadiyah Sumatera Utara (UMSU) during the even semester of the 2024/2025 academic year. The population of this study consisted of all undergraduate students enrolled in the Elementary School Teacher Education Program (PGSD) who were taking the Indonesian Language Education course. From this population, two intact classes were selected using a purposive sampling technique, considering similarities in academic background, semester level, and course content. One class was assigned as the experimental group, which received Indonesian language instruction based on Kurikulum Merdeka principles, while the other served as the control group, receiving conventional instruction. The total sample comprised 80 students, with 40 students in the experimental group and 40 students in the control group.

Data were collected using a digital literacy test instrument developed by the researchers based on established digital literacy frameworks, which emphasize information comprehension, critical evaluation of digital texts, interpretation of multimodal content, and ethical use of digital information (Ng, 2012; UNESCO, 2018). The instrument was administered as both a pretest and a posttest. Prior to its implementation, the instrument underwent content validation by experts in Indonesian language education and educational technology. Empirical validity was tested using item-total correlation analysis, while reliability was measured using Cronbach's Alpha coefficient, with a reliability index exceeding the minimum acceptable threshold of 0.70, indicating good internal consistency (Fraenkel et al., 2019).

The research procedure was conducted in several stages. First, both groups were given a pretest to measure their initial digital literacy levels. Second, the experimental group received instruction designed according to Kurikulum Merdeka principles, emphasizing student-centered learning, digital text exploration, critical reading activities, and reflective meaning-making tasks using digital platforms. Meanwhile, the control group followed conventional lecture-based instruction with limited integration of digital literacy-oriented activities. The treatment was conducted over XX instructional meetings. At the end of the intervention, a posttest was administered to both groups to assess changes in students' digital literacy levels.

Data analysis was performed using descriptive and inferential statistical techniques. Descriptive statistics were used to determine the mean, standard deviation, and distribution of digital literacy scores in both groups. Before hypothesis testing, prerequisite tests were conducted, including normality tests (Kolmogorov-Smirnov) and homogeneity of variance tests (Levene's test). To examine the effectiveness of the instructional intervention, an independent samples t-test was used to compare posttest scores between the experimental and control groups, while a paired samples t-test was employed to analyze within-group differences between pretest and posttest scores. All statistical analyses were conducted using SPSS software with a significance level set at  $\alpha = 0.05$ , following standard procedures in quantitative educational research (Field, 2018).

## RESULTS AND DISCUSSION

### RESULTS

This section presents the findings obtained from the implementation of Indonesian language learning based on the Merdeka Curriculum in improving the digital literacy of PGSD students at FKIP UMSU. The data were collected through pretest and posttest instruments administered to both the experimental and control groups.

#### Descriptive Statistics of Digital Literacy Scores

The descriptive analysis was conducted to examine the initial and final digital literacy levels of students in both groups. The results are presented in Table 1.

Table 1. Descriptive Statistic of Pretest and Posttest Digital Literacy Scores

Group	Test	N	Mean	Std. Deviation
Experimental	Pretest	40	62.45	6.83
Experimental	Posttest	40	81.30	5.92
Control	Pretest	40	61.87	7.10
Control	Posttest	40	69.15	6.45

Table 1 shows that both groups had relatively similar mean scores in the pretest, indicating comparable initial digital literacy levels. However, after the instructional intervention, the experimental group demonstrated a substantially higher increase in posttest scores compared to the control group. This indicates that Indonesian language learning based on the Merdeka Curriculum contributed positively to students' digital literacy development.

#### Prerequisite Testing

Prior to hypothesis testing, normality and homogeneity tests were conducted. The Kolmogorov-Smirnov test indicated that the data were normally distributed ( $p > 0.05$ ), while Levene's test showed homogeneity of variance between groups ( $p > 0.05$ ). These results confirmed that parametric statistical tests could be applied.

#### Inferential Analysis

To determine the significance of the difference in digital literacy improvement between the two groups, an independent samples t-test was conducted on the posttest scores. The results are summarized in **Table 2**.

Table 2. Independent Samples t-Test of Posttest Digital Literacy Scores

Variable	t	df	Sig. (2-tailed)
Digital Literacy	5.87	40	0.000

As shown in Table 2, the significance value ( $p = 0.000$ ) is lower than the 0.05 significance level, indicating a statistically significant difference between the experimental and control groups. Therefore, it can be concluded that Indonesian language learning based on the

Merdeka Curriculum has a significant effect on improving the digital literacy of PGSD students.

## DISCUSSION

This study aimed to examine the effect of Indonesian language learning based on the Merdeka Curriculum on the digital literacy of PGSD students at FKIP UMSU. The findings explicitly answer the research question by demonstrating that students who participated in Merdeka Curriculum-based instruction achieved significantly higher digital literacy outcomes than those who received conventional instruction.

The improvement observed in the experimental group can be attributed to the instructional characteristics of the Merdeka Curriculum, which emphasizes student-centered learning, contextual exploration of digital texts, and reflective meaning-making activities. Through these learning processes, students were encouraged not only to access digital information but also to critically evaluate, interpret, and ethically use digital content. This finding supports the conceptual framework of digital literacy proposed by UNESCO (2018) and Ng (2019), which positions digital literacy as a multidimensional competence involving cognitive, critical, and ethical dimensions.

The results also align with previous studies indicating that meaningful integration of digital media in language learning enhances students' higher-order literacy skills. Falloon (2020) and Redecker (2017) reported that learning environments emphasizing autonomy and critical engagement with digital resources significantly improve pre-service teachers' digital competencies. Similarly, national studies have found that digital-based Indonesian language learning promotes deeper reading comprehension and critical thinking (Pratama & Firmansyah, 2021; Hidayat et al., 2021). This study supports and strengthens these findings by providing empirical evidence through a quasi-experimental design.

In terms of gap analysis, previous research has largely focused on descriptive assessments of digital literacy or examined school-level learners. Empirical studies investigating the causal impact of curriculum implementation on digital literacy at the higher education level, particularly among PGSD students, remain limited. By employing a pretest–posttest control group design, this study addresses this gap and offers stronger methodological rigor. Thus, the research status of this study can be positioned as both supportive and corrective—supporting existing theories of digital literacy while correcting methodological limitations in prior studies.

The novelty of this research lies in its focus on PGSD students as prospective primary school teachers and its emphasis on digital literacy as a process of moving “from reading to meaning-making.” This conceptual shift suggests a modification of traditional digital literacy frameworks, which often emphasize access and technical skills. The findings indicate that curriculum-driven pedagogical design plays a critical role in fostering deeper interpretative and evaluative literacy skills. Therefore, this study contributes to the refinement of digital literacy theory by emphasizing the importance of curriculum alignment and pedagogical intentionality in higher education language learning. From a practical perspective, the results of this study provide important implications for teacher education institutions. Integrating Merdeka Curriculum principles into Indonesian language courses can effectively strengthen the digital literacy of prospective teachers, preparing them to design meaningful literacy instruction in primary schools. This contributes not only to individual competence development but also to broader efforts to enhance literacy education in the digital era.

## CONCLUSION

This study concludes that Indonesian language learning based on the Merdeka Curriculum has a significant and positive effect on improving the digital literacy of PGSD students at the Faculty of Teacher Training and Education, Universitas Muhammadiyah Sumatera Utara. The findings demonstrate that students who participated in Merdeka Curriculum-oriented instruction achieved higher digital literacy outcomes than those who received conventional learning, particularly in terms of critical understanding, evaluation, and meaning-making of digital texts. The results confirm that digital literacy development is not merely influenced by access to digital technology, but is strongly shaped by pedagogical design and curriculum orientation. Learning activities that emphasize student autonomy, contextual digital text exploration, and reflective interpretation effectively facilitate the transition from basic digital reading skills to higher-order meaning-making competencies. Thus, this study reinforces and extends existing digital literacy frameworks by highlighting the crucial role of curriculum-driven instructional strategies in higher education language learning.

From a theoretical perspective, this research supports and refines contemporary digital literacy theories by demonstrating that curriculum alignment—specifically through the Merdeka Curriculum—functions as a key mediating factor in strengthening digital literacy among prospective teachers. Practically, the findings suggest that teacher education programs should systematically integrate Merdeka Curriculum principles into Indonesian language courses to better prepare future primary school teachers to implement meaningful and critical literacy instruction in digitally mediated classrooms. Despite its contributions, this study has several limitations. The research was conducted within a single institution and focused on a limited sample size, which may affect the generalizability of the findings. Additionally, this study examined digital literacy outcomes primarily through test-based instruments, without incorporating qualitative data that could provide deeper insights into students' learning experiences. Future research is recommended to involve larger and more diverse samples across multiple institutions, employ mixed-method approaches, and explore the long-term impact of Merdeka Curriculum-based learning on pre-service teachers' digital literacy and pedagogical practices. Such studies would further strengthen the empirical foundation for curriculum innovation in Indonesian language education and teacher preparation programs.

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