

Merdeka Curriculum: The Influence of Digital Literacy and GTK Space Application on the Teachers Readiness

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ABSTRACT

This research is aimed to find out to what extent digital literacy and the application Ruang GTK impacts the readiness of elementary school teachers in the implementation of the Merdeka Curriculum in Tasik Putripuyu Kepulauan Meranti. The research is quantitative in nature and is ex post facto correlational. A sample of 72 teachers was included, and their selection was purposive. A Likert-type scale was administered to measure the variables. The analysis performed was Pearson correlation, multiple regression analysis, and SPSS v.31. The findings revealed that digital literacy ($r = 0.869$, $p < 0.001$) and Ruang GTK ($r = 0.921$, $p < 0.001$) both positively and significantly impacted the teacher readiness. These two factors, combined, accounted for 86.5% of the variance in readiness. The findings suggest that improving digital competencies and equipping teachers with relevant software applications such as Ruang GTK significantly enhance preparedness to teach in difficult remote and under-resourced regions where drastic changes to the curriculum, imposed by national policy, are difficult to execute.

Key Words: Digital Literacy, Teacher Readiness, GTK Room Application, Independent Curriculum, Educational Technology

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INTRODUCTION

The rapid advancement of digital technology has significantly reshaped global education systems, including Indonesia's. The COVID-19 pandemic marked a turning point, accelerating the transition from conventional classroom learning to online education as a necessity. This sudden shift highlighted the importance of digital transformation and emphasized the critical role of teacher readiness in adapting to digital ecosystems. In response, the Indonesian government has integrated digital tools and platforms into its educational policy to ensure the continuity and quality of learning across the country (Ainun

et al., 2019).

In the post-pandemic context, digitalization has become a core component of national education reform. Platforms such as the Merdeka Teaching Platform (PMM) and the GTK (Guru dan Tenaga Kependidikan) Room have been launched by the Ministry of Education, Culture, Research, and Technology to facilitate teacher development through digital means (Kumalasani et al., 2025). These initiatives support the Merdeka Curriculum, which emphasizes differentiated instruction, character development, and the integration of technology into the learning process. However, the actual implementation remains uneven, especially in geographically isolated areas such as Tasik Putripuyu, where limited infrastructure and digital literacy hinder progress (Hasibuan et al., 2025); (Zakarya et al., 2025).

This study focuses on the dual role of digital literacy and the use of the GTK Room application in determining teacher readiness to implement the Merdeka Curriculum. Digital literacy is defined not only as technical proficiency but also includes critical thinking, information management, and ethical engagement in digital environments (David Bawden, 2008); (Gündüzalp, 2021). Meanwhile, the GTK Room serves as a professional development tool, offering features like data updates, online training, and performance monitoring to support teachers' continuous growth (Suryadi et al., 2023); (Elpin et al., 2024). Despite its potential, several studies reveal that these tools are underutilized in remote regions due to insufficient support and unequal digital access (Nasir et al., 2024); (Saputri et al., 2024).

By investigating primary school teachers in the Tasik Putripuyu subdistrict, this study aims to analyze the individual and combined effects of digital literacy and GTK Room utilization on teacher readiness. Using a quantitative approach, it seeks to fill a research gap by providing empirical evidence on the factors influencing curriculum implementation in remote areas. The findings are expected to inform both policy and practice, offering targeted recommendations for training strategies and digital infrastructure development. Ultimately, this research contributes to building a more equitable and digitally competent teaching workforce in support of Indonesia's national education goals.

METHODS

This section of the Research Methods outlines in detail the process of conducting the research. An in-depth explanation of the methods applied allows the reader to assess the suitability of the methodology used. Also, the participants, subjects, or population and samples involved in the research should be clearly mentioned. The instruments used in the research, including who was targeted, need to be explained in detail. Likewise, the way data is analyzed in the research should also be clearly explained.

Research design

The research design is described in detail, providing a clear picture of the flow and steps to be taken in this research. Each element of the research design is designed to directly support the achievement of the research objectives that have been set.

Research site and participants

This section contains the idea of a clear and transparent description of the participants, their characteristics, and the methods used to select participants in a study. In this context, researchers are expected to provide sufficient details about who the participants

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are. In addition, the method of selecting participants also needs to be clearly explained to ensure that the process of selecting participants can be scientifically accounted for. It is recommended to use pseudonyms for school names and respondents to maintain their confidentiality and privacy, in accordance with research ethics that respect individual rights.

Data collection and analysis

The Data Collection and Analysis section describes how data was collected and analyzed in the research. First, describe the data collection methods used and the tools (e.g. questionnaires) and collection procedures, including the timing and location of the research. Then specify the type of data collected and describe the data analysis techniques applied (such as using statistical tests for quantitative data or thematic analysis for qualitative data, as well as the software used such as SPSS). In addition, explain how to ensure accuracy and consistency and this section should also include an explanation of the ethics in data collection, such as obtaining permission from respondents and maintaining the confidentiality of the data collected.

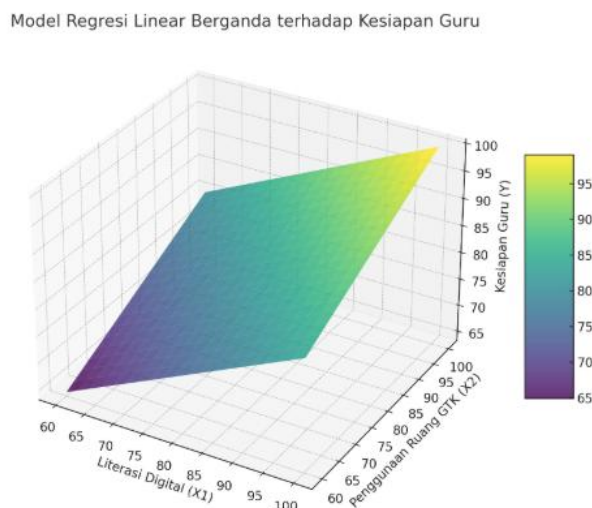
FINDINGS AND DISCUSSION

Findings

The results of the data analysis revealed strong and statistically significant relationships between the independent variables – digital literacy and use of the Ruang GTK application – and the dependent variable, which is teacher readiness in implementing the Merdeka Curriculum. The Pearson correlation test indicated that digital literacy had a correlation coefficient of $r = 0.869$ with a significance level of $p < 0.001$, based on responses to a structured Likert-scale questionnaire that measured both digital competence and curriculum readiness. Similarly, the use of the Ruang GTK application showed a correlation coefficient of $r = 0.921$, also with $p < 0.001$, indicating a strong association between the frequency of using the platform and readiness scores. Further analysis using multiple linear regression revealed that the combination of digital literacy and Ruang GTK usage accounted for 86.5% of the variance in teacher readiness ($R^2 = 0.865$). These results were obtained using SPSS version 31 and were based entirely on responses to validated and reliable instruments, with no manipulation of variables, in line with the study's ex post facto correlational design.

Table 1 Summary of Correlation and Regression Analysis Results

No.	Relationship	r-value / R	R ²	Adj. R ²	Sig. (p-value)	Notes
1	Digital Literacy ↔ Teacher Readiness	0.869	-	-	0.000	Pearson correlation
2	Ruang GTK Usage ↔ Teacher Readiness	0.921	-	-	0.000	Pearson correlation
3	Digital Literacy + Ruang GTK → Readiness	0.930	0.865	0.861	0.000	Multiple linear regression (SPSS v31)

Figure 1 Numbers of Teachers and Pre-Service

Discussion

The implementation of the Merdeka Curriculum requires teachers to possess not only pedagogical expertise but also digital literacy skills. Digital literacy is defined as the ability to access, evaluate, and utilize digital resources effectively to support learning. In the context of Indonesian education, digital literacy becomes a key factor because the curriculum emphasizes technology integration and independent learning (Ramadansur et al., 2024). Teachers with higher digital competence are more capable of designing engaging, student-centered lessons supported by digital tools. Conversely, teachers with weak digital skills often struggle to adapt, leading to gaps in curriculum implementation. Empirical evidence from regression analysis shows that digital literacy strongly correlates with teacher readiness, making it a significant predictor of success. When teachers master digital tools, they become more confident in managing technology-based instruction. Therefore, Bastian et al., (2023) argue that this readiness further ensures smooth adaptation to changes mandated by the government. Therefore, digital literacy must be prioritized in teacher training programs. Ultimately, strengthening digital literacy represents a strategic step toward ensuring effective curriculum reform.

Alongside digital literacy, the Ruang GTK application plays a pivotal role in supporting teachers to implement the Merdeka Curriculum. Ruang GTK is designed to provide access to training, administrative services, and teaching resources in one integrated platform. Teachers who actively engage with Ruang GTK gain structured support that helps them overcome challenges in teaching and professional development (Rizki & Fahkrunisa, 2022). The availability of up-to-date materials within the application ensures that educators remain aligned with the latest curriculum guidelines. Moreover, Ruang GTK fosters continuous learning by offering online modules and workshops, which help teachers enhance their competence. Teachers in rural or less developed areas particularly benefit from this support, as it reduces geographic barriers to professional resources. Empirical findings by Suardana et al., (2022) & Triayomi et al., (2022) confirmed that the use of Ruang

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GTK positively contributes to teacher readiness. When combined with strong digital literacy, the platform becomes even more effective in boosting curriculum implementation. Therefore, policymakers should encourage teachers to integrate Ruang GTK into their daily professional practices. This synergy ensures that teachers remain both competent and supported in the era of digital education.

Therefore, the statistical evidence from regression analysis strengthens the argument that digital literacy and Ruang GTK usage significantly influence teacher readiness. Together, these two factors explain 86.5% of the variation in readiness levels, which is a very high percentage. This means that improvements in both domains simultaneously have a direct and measurable effect on how well teachers adapt to the Merdeka Curriculum (Daulai, 2021; Suherdi, 2012). From a methodological perspective, such findings validate the robustness of the research design. It also reflects how empirical studies can provide concrete recommendations for education stakeholders. By quantifying the impact of these variables, researchers establish clear evidence for prioritizing teacher digital capacity and systemic support platforms. Without these two components, reforms may face resistance or ineffective adoption at the classroom level. Thus, investment in digital training and application usage is not optional but essential. This finding from Argudo-Serrano et al., (2023) & Thornhill-Miller et al., (2023) resonate with international studies that emphasize the dual importance of personal competence and institutional support in educational reforms.

Apart from above, the theoretical foundation of this study is grounded in the Technology Acceptance Model (TAM) and change management theories. TAM suggests that perceived usefulness and perceived ease of use determine whether individuals adopt new technologies (Shambare & Jita, 2025; Xue et al., 2024). In the case of teachers, digital literacy shapes their perception of ease, while Ruang GTK demonstrates usefulness by providing practical resources. Change management theories, meanwhile, emphasize that successful curriculum reform requires both individual readiness and systemic facilitation. Teachers who lack support or confidence are less likely to embrace change. This aligns with findings by Hasibuan et al., (2025) & Triayomi et al., (2022) showing that readiness is highest when both skills and systems are developed together. The Merdeka Curriculum represents a significant change, requiring teachers to shift from traditional approaches to more student-centered and technology-enhanced practices. By applying these theories, the study situates its findings within an established academic framework. The theoretical lens also provides justification for why interventions must be holistic rather than isolated. Ultimately, this theoretical integration enriches the empirical evidence and strengthens the validity of conclusions.

Therefore, teacher readiness is not only a matter of technical skills but also of confidence and motivation. Digital literacy, as proposed by Asare et al., (2023) Gündüzalp, (2021), empowers teachers by giving them control over new teaching methods. Meanwhile, Ruang GTK provides external support that reinforces their sense of competence and belonging to a professional community. This dual empowerment creates a positive cycle where teachers feel capable and supported simultaneously. The study's findings indicate that readiness is not solely about knowledge but about integrating skills and systems effectively. When teachers perceive themselves as prepared, they are more likely to innovate and take risks in the classroom. Such readiness leads to higher-quality instruction, which ultimately benefits students. Moreover, confidence in using digital tools aligns with 21st-century learning demands, preparing students for future challenges (Fabian et al., 2024). The combined influence of skills and support is therefore vital in enhancing teacher

professionalism. In this sense, readiness becomes both a psychological and practical dimension of curriculum reform.

Instead, Alfarizi & Sari (2024); Ergül & Taşarb (2023) & Thornhill-Miller et al., (2023) suggested that a comprehensive programs that address both competencies simultaneously should be implemented. Additionally, monitoring and evaluation systems must be established to ensure that training translates into classroom practices. Incentives may also be necessary to encourage teachers in rural areas to adopt digital tools actively. Governments could provide subsidies for devices or internet packages to reduce access gaps. Partnerships with private technology companies could also help expand infrastructure and training opportunities. The ultimate goal should be to create a sustainable ecosystem where teachers are continuously supported (Daulai, 2021). Such policy initiatives will ensure that the Merdeka Curriculum achieves its intended outcomes.

The broader educational transformation in Indonesia depends on how well teachers adapt to the Merdeka Curriculum. Curriculum reform without adequate teacher readiness risks being superficial and ineffective. The findings of this study highlight that readiness is largely determined by digital skills and access to professional support systems. This reinforces the idea that teachers are central agents of change, not passive recipients of policy. When teachers are adequately prepared, they can translate abstract curriculum goals into meaningful classroom practices. Conversely, unprepared teachers may resist reform, leading to uneven implementation. Therefore, strengthening teacher readiness becomes a critical national priority.

In conclusion, the study provides systematic and empirical evidence on the determinants of teacher readiness in implementing the Merdeka Curriculum. Digital literacy and Ruang GTK usage emerge as the two most influential factors, accounting for the vast majority of readiness variation. These findings are consistent with established theories and aligned with current educational challenges in Indonesia. By addressing both individual competence and systemic support, stakeholders can ensure that reforms achieve sustainable impact. Special attention must be paid to less developed regions where digital access remains limited. Policy interventions should combine infrastructure investment, targeted training, and platform optimization. Such comprehensive strategies will reduce inequalities and promote inclusive curriculum implementation. At the same time, enhancing teacher readiness will directly benefit students by improving instructional quality. This research therefore contributes both theoretical and practical insights for education reform. Moving forward, the findings can serve as a roadmap for designing effective teacher development programs in Indonesia's evolving education landscape.

CONCLUSIONS AND SUGGESTION

This study concludes that both digital literacy and the use of the Ruang GTK application significantly affect elementary school teachers' readiness to implement the Merdeka Curriculum, with both factors jointly explaining 86.5% of the variance in readiness. Teachers with higher digital competence and greater engagement with the Ruang GTK platform tend to be better prepared for curriculum reform. Based on these findings, it is recommended that education stakeholders prioritize digital literacy training and expand access to supportive platforms like Ruang GTK, especially in remote and disadvantaged regions. Future research may consider including qualitative approaches or broader geographic samples to gain a deeper understanding of teacher readiness in diverse contexts.

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