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# Applying Digital Technology To The Delivery Of The Merdeka Belajar Curriculum In Non-Formal Educational Institutions

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***ABSTRACT***

*This study explains the application of digital technology in the learning process with the Free Learning Curriculum at PKBM Daarul Ahkaam. The purpose of the research is to identify the implementation of the Free Learning Curriculum at PKBM Daarul Ahkaam; assess the use of digital technology in learning based on the curriculum in the same institution. The method chosen is qualitatively descriptive, involving principals, teachers, and students as participants. Data is collected through observation, interviews, and document analysis. Research results show that the implementation of the Free Learning Curriculum at PKBM Daarul Ahkaam is in line with principles - its principles, including intracurricular, co-curricular, and extracurricular activities. Students report feeling more free to express themselves and develop their interests and talents. The use of digital technology in the learning process is supported by hardware such as computers, Smart TVs, LCDs, and internet connections to meet learning needs. Schools continue to increase hardware provisioning and expand internet access, while teachers receive support through various training programs to strengthen digital literacy and optimize the use of learning applications.*
***Keywords:*** *Digital Technology, Free Learning Curriculum, Non-Formal*

**ABSTRAK**

Penelitian ini menjelaskan penerapan teknologi digital dalam proses belajar dengan Kurikulum Merdeka Belajar di PKBM Daarul Ahkaam. Tujuan penelitian adalah: mengidentifikasi pelaksanaan Kurikulum Merdeka Belajar di PKBM Daarul Ahkaam; menilai pemanfaatan teknologi digital dalam pembelajaran yang berbasis kurikulum tersebut di lembaga yang sama. Metode yang dipilih merupakan kualitatif deskriptif, melibatkan kepala sekolah, guru, dan siswa sebagai partisipan. Data dikumpulkan melalui observasi, wawancara, serta analisis dokumen. Hasil penelitian menunjukkan bahwa implementasi Kurikulum Merdeka Belajar di PKBM Daarul Ahkaam selaras dengan prinsip-prinsipnya, meliputi kegiatan intrakurikuler, kokurikuler, dan ekstrakurikuler. Siswa melaporkan merasa lebih leluasa mengekspresikan diri serta mengembangkan minat dan bakat mereka.

 

Pemakaian teknologi digital dalam proses belajar didukung oleh perangkat keras seperti komputer, Smart TV, LCD, dan koneksi internet untuk memenuhi kebutuhan pembelajaran. Sekolah terus meningkatkan penyediaan perangkat keras serta memperluas akses internet, sementara guru mendapat dukungan melalui berbagai program pelatihan untuk memperkuat literasi digital dan mengoptimalkan penggunaan aplikasi pembelajaran.

***Kata Kunci:*** *Teknologi Digital, Kurikulum Merdeka Belajar, Non-Formal*

## INTRODUCTION

The Free Learning policy arose from the aspiration to make Indonesia an intelligent, just, and wise nation. Digital literacy is a crucial component for supporting the implementation of the Free Learning curriculum. In the 21st century, technology serves not only as a tool for social media and communication but also as an educational medium (Sebastian et al., 2023). Consequently, the education sector must continuously adapt to technological advancements to improve quality, particularly through the use of information and communication technology. Thus, integrating digital technology is essential for the learning processes of the Free Learning Curriculum (Wicaksono et al., 2021; Yudhawardana, 2022).

Preliminary observations at PKBM Daarul Ahkaam indicate that the school facilitates digital integration by providing high-speed internet via Telkom Speedy and maintaining a computer lab accessible to students. Learners actively employ technology, for example, through Informatics (formerly ICT) classes and by completing assignments and exams in the lab (Sari et al., 2023). However, student participation remains suboptimal due to limited hardware; the existing computers are insufficient to serve all pupils simultaneously (Damanik & Maydevina, 2026), necessitating staggered lab use. Educational technology has been shown to significantly enhance the application of the Free Learning concept (Yudiarti, 2025). The evolving Free Learning curriculum requires teachers to assist students in learning through information technology (Bento Welado, 2025). During the pandemic, educators adopted various approaches, including digital tools that enable learning at any time and place. Students can draw on diverse learning resources for information and research (Rosmana et al., 2023).

The quality of digital education must improve so that technology can be maximally leveraged; using online applications as media can substantially boost student achievement. While integrating conventional methods with digital tools is important (Nurhikmah et al., 2024). online applications should complement—not replace—the guidance provided by teachers. This study aims to identify, evaluate, and describe the use of digital technology in teaching the Free Learning Curriculum at PKBM Daarul Ahkaam. Theoretically, the findings will contribute to knowledge on the utilization and implementation of digital technology that fosters creativity and innovation of digital products within the Free Learning curriculum at the school

 

(Irawan & Aryani, 2024). Practically, the research will aid teachers in analyzing and solving issues arising from curriculum implementation, especially those related to digital technology, and help institutions anticipate challenges linked to the Free Learning approach. Implementing the Free Learning Curriculum at the elementary level has become a pivotal topic for enhancing education quality in the digital era. The curriculum emphasizes student-centered learning while encouraging creativity, independence, and teacher flexibility in designing instructional processes. Rapid digital development demands an adaptive, responsive educational model. Therefore, teachers must integrate technology, develop digital media, and design assessments that meet student needs. Investigating teachers' strategies for executing the Free Learning Curriculum is essential for deep understanding (Khairany et al., 2024). Advancements in educational technology require elementary teachers to possess both pedagogical and digital competencies. The Free Learning Curriculum offers opportunities for innovative teaching, such as project-based learning, digital platforms, and varied learning resources. However, schools differ in readiness, particularly regarding facilities and teachers' technological skills, leading to uneven curriculum implementation. This disparity underscores the importance of researching how teachers can optimize learning amid these challenges (Astini & Hasanah, 2025).

The emergence of the Independent Curriculum was driven by the need for educational reform that aligns with the digital era. The government stresses giving teachers flexibility to choose materials, methods, and assessments that suit students' needs. In practice, however, teachers face various challenges such as adapting to new teaching resources, the demand to create independent modules, and integrating technology into the learning process. This study highlights the reality in elementary schools, particularly how teachers develop creative strategies to overcome limitations and improve instructional effectiveness. Previous studies show that successful curriculum implementation is strongly influenced by teachers' capacity. Research indicates that teachers with high digital literacy are better able to integrate technology effectively, while continuous training is essential for preparing teachers to handle curriculum changes (Herdiansyah et al., 2025). Nevertheless, research on the application of the Independent Curriculum at the elementary level in the digital age is still limited, especially studies examining teachers' strategies within local contexts, opening the door for more in-depth investigations.

## METHOD

This study adopts a qualitative, descriptive design to gain a deep understanding of how the Independent Curriculum is carried out at PKBM Daarul Ahkaam, focusing on teachers' strategies for improving learning quality in the digital age. A phenomenological approach is used because the research seeks to

 

explore teachers' actual experiences with the curriculum (Nasution, 2023). The investigation concentrates on the learning process, technology use, and emerging pedagogical practices within the school setting, collecting data naturally in the field (Hadi, 2021).

Data were obtained through direct classroom observations, in-depth teacher interviews, and document analysis that included learning modules, teaching aids, and assessment outcomes (Miles & Huberman, 1994). Observation allowed the researchers to witness the real-world application of the Independent Curriculum; interviews probed teachers' strategies, challenges, and perceptions of technology integration; and documentary evidence reinforced the credibility of the findings (Hadi, 2021).

All data-collection methods were triangulated to ensure that the information is accurate, comprehensive, and truly reflective of the situation.The gathered data underwent reduction, presentation, and inference stages. Thematic analysis was performed to identify patterns, strategies, and instructional practices pertinent to implementing the Independent Curriculum in a digital context. Each result was examined against learning theories and curriculum policies. Validation employed source and technique triangulation, ensuring the study's findings are reliable. Through this analytical process, the research clarifies how teachers' strategies contribute to enhancing the quality of instruction.

## RESULTS AND DISCUSSION

### Implementation of the Independent Learning Curriculum at PKBM Daarul Ahkaam

The Independent Learning Curriculum was introduced at PKBM Daarul Ahkaam with the intake of new students for the 2024/2025 academic year. The curriculum primarily targets grades VIII and IX, requiring these classes to transition from the K-13 curriculum to the new framework. In practice, grade-VIII teachers are required to adopt the Independent Learning Curriculum immediately as the basis for instruction, while teachers of grades VIII and IX gradually replace lecture-based methods with creative approaches that assess students' creativity and talents. Several challenges have emerged during implementation, including shifts in mindset and adaptation to a more active, student-centered, and flexible teaching approach. School leaders, teachers, and students need time to adjust from the previously more structured, teacher-oriented system.

Parents also must understand and support the new learning model. Infrastructure constraints, especially the lack of stable and widespread internet access, have become a major obstacle to the technology-driven aspects of the Independent Learning Curriculum (Cholilah et al., 2023). Limited availability of laboratory equipment and materials, notably for subjects such as Geography,

 

hinders project-based learning and hands-on experiences (Lee & Bull, 2008). Teachers require additional training to improve their competence in using digital tools and selecting reliable digital resources. Students face challenges in managing time and workload due to the increased number of assignments and group projects, and they must develop skills to filter information from diverse sources to ensure its validity (Crosnoe & Ressler, 2019). Teachers' workload also rises as they design innovative, engaging activities and assess student performance comprehensively through authentic assessments. The school principal plays a crucial role in addressing these issues by focusing on capacity-building for teachers through regular training in pedagogy and technology, improving infrastructure (especially internet connectivity), and informing parents to secure their support and understanding. Teachers actively collaborate and share best practices both within and beyond the school, creating learning innovations by leveraging digital technologies and personalized approaches to enhance interaction and comprehension (Darti et al., 2023).

Students demonstrate adaptation by developing time-management abilities, digital literacy (filtering credible information), effective teamwork, and proactively seeking assistance from teachers or peers when encountering difficulties. Research by Hendra Agung Saputra Samaloisa and Dyulius Thomas Bilo indicates that the Independent Learning Curriculum grants students freedom to shape their learning paths, fostering autonomy, creativity, and proactivity. Teachers are expected to harness technology such as instructional videos, educational applications, and online discussion forums (Samaloisa & Bilo, 2024). Deficiencies in teachers' skills to create engaging learning media and understand students' interests and talents can be mitigated through targeted training programs.

**Extracurricular Learning**

Implementing the Independent Learning Curriculum at PKBM Daarul Ahkaam has brought significant changes to extracurricular activities, creating a more dynamic, innovative, and student-centered learning environment. Interviews with the school principal, a basketball coach, and participants from various clubs (hadrah) reveal that the curriculum not only reshaped the program structure but also triggered deep shifts in teaching methods and technology use. The principal emphasized that the flexibility of the Independent Learning Curriculum is the key factor behind successful digital technology integration across diverse extracurriculars (Siswanto, 2024). For instance, the marching band uses music-arrangement apps and online tutorials; the flag-raising squad employs video analysis to refine marching techniques. Social media supports scout campaigns, online platforms host religious studies, vocal-training apps aid the choir, and match-analysis tools benefit basketball all illustrating how the curriculum facilitates pedagogical innovation that maximizes digital potential. Coaches, such as the

basketball trainer, report that the Independent Learning Curriculum empowers them to adopt more modern and effective training methods. Video analysis, statistical-recording apps, and Whats-App groups for communication boost training efficiency and help students understand their strengths and weaknesses.

This shows the curriculum not only grants teachers freedom to innovate but also provides the tools and approaches needed for better outcomes. Students involved in the Hadrah group demonstrate direct positive impacts (Yulianto et al., 2024). Hadrah members use Instagram and TikTok to convey reproductive-health messages in an engaging, peer-friendly manner, indicating that the curriculum encourages active participation and empowers students as change agents. Basketball and Hadrah participants also benefit from digital tools such as match-analysis videos, online first-aid tutorials, and Whats-App coordination groups, strengthening teamwork and operational efficiency (Damayanti et al., 2024).

Overall, the informants' testimonies consistently portray that the Independent Learning Curriculum at PKBM Daarul Ahkaam stimulates innovation in extracurricular learning, raises student engagement, and leverages digital technology to enrich the educational experience. The blend of curricular flexibility with appropriate technological access creates a more dynamic, effective, and enjoyable learning environment, while preparing students for future challenges. This success confirms that the Independent Learning Curriculum is not merely a curriculum revision; it represents a systemic transformation that positively influences every facet of education at PKBM Daarul Ahkaam.

**Implementation of Digital Technology in the Merdeka Curriculum at PKBM Daarul Ahkaam**

The Merdeka Curriculum offers students flexibility to maximize their potential. Achieving this requires integrating technology as a key component of teaching and learning. When appropriately applied, technology can make instruction more personalized, engaging, and meaningful for learners (Wahyudi & Jatun, 2024). PKBM Daarul Ahkaam has begun embedding digital technology into the Merdeka Curriculum, though further improvements are needed. The institution provides computers, smart TVs, LCD screens, and internet connectivity. The school principal serves as the main supervisor, monitoring the effectiveness of digital tools through classroom visits, direct observation, and surveys that assess impact (Dewi, 2024). Several challenges have emerged, notably limited internet access and low digital competence among teachers and students. To address these issues, the school conducts training for both groups and continually evaluates outcomes via the principal's observations and survey feedback. The principal's supervisory role is crucial in judging how digital technology contributes to the learning process (Fajriati et al., 2024).

The principal's strategy to motivate teachers and students to participate in training reflects a holistic, sustainable approach to building digital capacity. By combining demonstrations of benefits, incentives, and robust support systems, this strategy can foster an innovative and effective learning environment where digital technology is used optimally to raise educational quality. The success of the approach hinges on consistent implementation and ongoing evaluation to keep the training program relevant and effective for teachers' and students' needs. Research by Desi Endrawati Subroto, Supriandi, Rio Wirawan, and Arief Yanto Rukmana indicates that digital technology in education creates both opportunities and challenges for integration in Indonesia (Subroto et al., 2023). While technology can enhance learning experiences, engagement, and students' readiness for the digital era, its deployment must still overcome several obstacles.

In summary, PKBM Daarul Ahkaam has incorporated digital tools such as computers, smart TVs, LCD displays, and internet access into Merdeka Curriculum instruction. Obstacles include hardware shortages, uneven internet distribution, and low teacher digital literacy. Nonetheless, the school is actively improving the situation by acquiring additional equipment, expanding internet coverage, and offering digital-literacy training for teachers, thereby further optimizing the use of digital technology within the Merdeka Curriculum (Said, 2023).

## CONCLUSION

The implementation of the Merdeka Learning Curriculum at PKBM Daarul Ahkaam aligns with its guiding principles, encompassing intramural, co-curricular, and extracurricular activities. Learning has become more engaging, with students experiencing freedom to express themselves, develop their interests and talents, and benefit from a more interactive approach that moves away from rigid lecturing. The integration of digital technology into the Merdeka Learning Curriculum at PKBM Daarul Ahkaam is also evident, demonstrated by hardware such as computers, smart TVs, and LCD screens. The school provides internet access to support learning needs, illustrating how technology can serve as a bridge to improved education.

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