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Website Design Prototype of A Learning Media Room (LMR) as a Curriculum Support in Elementary School in Rembang District

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Abstrak:

Public Elementary Schools (SDN) play an important role in implementing the Independent Curriculum, so a prototype of the Learning Media Room (LMR) website was developed as a digital solution for managing learning across SDN in Rembang District. With the R&D level 4 approach and the Borg & Gall model, the design was carried out through observation, interviews, questionnaires, and documentation. This desktop-based prototype, designed in Figma, features five main menus and displays the characteristics of the Independent Curriculum. The test results showed that respondents rated this prototype as very good (92%), media expert validation 91.67% (good), material experts 95.83% (very good), and the effectiveness of using 8073 respondent data reached 88% (very good), so it was declared worthy of supporting the implementation of the Independent Curriculum

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1. INTRODUCTION

Elementary education in the current era of global digital transformation plays a crucial role as the primary foundation for developing human resources that are adaptable to the times. Globally, the integration of technology into the elementary school curriculum is no longer just an option but a necessity to ensure the sustainability of high-quality, contextually relevant learning (Sari & Puspita, 2019; Inganah et al., 2023). The significance of elementary education lies in its ability to shape students' character and basic competencies, which will determine success at the next level of education. In Indonesia, the dynamics of curriculum change, including the transition to the Independent Curriculum (Kurikulum Merdeka), constitute a strategic response to 21st-century education challenges that demand independence and flexibility in teaching and learning (Firdaus et al., 2022; Mukhzamilah & Kisyani, 2020). However, the effectiveness of implementing this policy depends heavily on the availability of supporting infrastructure that bridges the curriculum's vision with field practice. The inability of the education system to adapt to digitalization demands can hinder the achievement of sustainable development targets in the education sector. Therefore, strengthening the digital ecosystem at the elementary school level has become a priority agenda to create a more inclusive, efficient, and future-oriented learning environment for the younger generation across all regions, including districts.

Although the vision of the Independent Curriculum emphasizes autonomy and efficiency, the reality on the ground reveals major problems, including digital infrastructure barriers and heavy administrative burdens for educators. Real challenges faced by Public Elementary Schools (SDN) in Rembang District include limited access to adequate technological devices and low digital literacy among teachers to manage integrated learning data (Ministry of Education and Culture, 2022; Faiz et al., 2022). Manual data management systems lead to fragmented information, with student progress documentation, lesson plans, and learning outcome reporting often out of sync. This problem is exacerbated by a lack of digital coordination between teachers, school principals, and regional coordinators, which ultimately inhibits data-driven decision-making processes (Syafi'i & Rosyidah, 2022; Wahyudi, 2021). The gap between sophisticated curriculum demands and schools' operational capacity creates psychological pressure on teachers, diverting their focus from instructional quality to repetitive administrative tasks. Without systematic digital solutions, the implementation of the Independent Curriculum risks becoming a mere formal change with little impact on the quality of student learning outcomes in these areas.

Previous research regarding the development of media and learning management systems has been widely conducted by various experts to overcome school administrative deadlocks. Research on adaptive curriculum development models has been conducted by Syafi'i & Rosyidah (2022), Rudiyati (2023), Wahyudi (2021), Mukhzamilah et al. (2016), Sari et al. (2021), and Anggraeni & Mukhzamilah (2019). Syafi'i & Rosyidah (2022) focused on inclusive curriculum models but only briefly addressed data integration among stakeholders at the district level. Rudiyati (2023) reviewed aspects of curriculum adaptability but remained largely theoretical without a software prototype for mass testing. Wahyudi (2021) examined curriculum management to increase effectiveness but was limited to a single school, limiting generalizability. Meanwhile, Sari et al. (2021) conducted training on ICT-based interactive media, but this did not result in a centralized management platform. Anggraeni & Mukhzamilah (2019) highlighted school literacy policies but did not integrate them into a comprehensive Independent Curriculum

management system. The fundamental weakness of these studies is their partial nature; they failed to provide a single digital ecosystem capable of connecting the educational hierarchy from the classroom level to regional coordinators in real-time.

The novelty of this study lies in the design of the Learning Media Room (LMR) prototype, specifically engineered to support the hierarchical structure and operational needs of SDN in Rembang District within the framework of the Independent Curriculum. Unlike general learning platforms, the LMR integrates five main menus covering lesson planning, automated student achievement monitoring, and supervision modules for school principals and regional coordinators (Sari & Puspita, 2019; Inayatillah, 2020). The approach used is vertical data synchronization, ensuring that every classroom activity can be instantly monitored by educational authorities above them without the need for physical document collection. Further novelty arises from the customization of website features according to the local characteristics and specific policies of Rembang District, making it a "tailor-made" solution for regional needs (Darmayanti, 2022; Wicaksana, 2023). Using the Research and Development (R&D) level 4 method, which involves massive validation from 8,073 respondents, provides a much stronger empirical basis than previous similar development research. Thus, this research not only offers a new tool but also introduces a new paradigm in digital curriculum management that seamlessly connects school administration with policy oversight.

The Research GAP identified from existing literature shows a "missing link" between the development of independent learning applications and regional-level curriculum management systems. Most previous studies focus only on the pedagogical side of learning media for students or the internal administrative side of the school, without considering the supervision needs of regional coordinators (Faiz et al., 2022; Wahyudi, 2021). There is a void in the literature regarding how a website prototype can facilitate learning outcome reporting that aligns with Independent Curriculum standards while simultaneously serving as a school performance evaluation tool for local governments at the district level. Furthermore, no studies have tested the effectiveness of an integrated platform with thousands of respondents at the district elementary education level (Sari et al., 2021; Anggraeni & Mukhzamilah, 2019). This gap indicates the need for a study that integrates information technology development with the bureaucratic needs of education, which often hinder curriculum innovation. The fundamental difference between this research and previous ones is its boldness in scaling digital solutions from the micro-level (teachers) to the macro-level (district) within a single, cohesive, and widely validated platform.

The theoretical framework used in this study relies on the Borg & Gall development model combined with the Diffusion of Innovation theory to understand how technology can be accepted within the educational ecosystem. The Borg & Gall model was chosen because it provides systematic stages from information gathering to product dissemination, which is highly suitable for creating applicable educational solutions (Syafi'i & Rosyidah, 2022; Firdaus et al., 2022). Additionally, the use of Education Management Information System (EMIS) theory serves as the foundation for designing data flow within the LMR website so that every data input can be processed into useful information for decision-making. The integration of these theories allows the researcher not only to build a physical product (website) but also to ensure that the product has a strong methodological basis to improve curriculum effectiveness. These theories are also supported by perspectives on learning media construction, which must meet material and media validity standards to function optimally in a school environment (Wicaksana, 2023; Inganah et al., 2023). By using this established framework, the development of the LMR prototype has a solid

scientific basis to answer the complexities of educational administration in the digital age, ensuring that every developed feature has a direct correlation with learning quality improvement.

The main concept applied in this research is the "Digital Learning Media Room," which serves as the digital nerve center for Independent Curriculum management in elementary schools. This concept goes beyond mere digital file storage, encompassing the automation of student progress reports and the synchronization of flexible Lesson Plans (RPP) (Faiz et al., 2022; Sari & Puspita, 2019). The use of a desktop-based prototype via Figma software as the initial design instrument ensures that the User Experience (UX) and User Interface (UI) aspects are tailored to the digital literacy levels of teachers in Rembang District. The concept of "Autonomous Learning Support" is also embedded to provide space for teachers to innovate content without being burdened by rigid reporting formats. Furthermore, the concept of transparent monitoring becomes a vital pillar where school principals can provide direct feedback through the system, creating a collaborative work culture supported by technology (Wahyudi, 2021; Inayatillah, 2020). Through the application of these modern concepts, the LMR website is expected to transform the slow face of school bureaucracy into a more dynamic, responsive, and measurable one, in line with the spirit of learning freedom championed by the central government in recent years.

The interesting aspect of this research, which makes it vital to study, is how a local digital solution can have a wide-reaching impact on thousands of educational participants within a single district. Primary interest arises from the challenge of converting 8,073 respondent data points into a system capable of satisfying various levels of interest, from classroom teachers to regional coordinator officials (Sari et al., 2021; Anggraeni & Mukhzamilah, 2019). Additionally, the fact that this prototype achieved a 92% satisfaction rate indicates a hunger for digital innovation in elementary school environments, which have often been considered laggards in high-tech adoption. The uniqueness of this research also lies in the double validation from media and material experts, ensuring that the product is not only digitally aesthetic but also pedagogically sound (Wicaksana, 2023; Inganah et al., 2023). The importance of this research is further strengthened by the urgency of providing tools capable of practically demonstrating Independent Curriculum characteristics, rather than just being theories in ministry handbooks. Therefore, this study becomes a pioneer in district-level educational digitalization efforts based on real user needs, making it a potential model for replication in other regions of Indonesia.

Based on this background, the primary objective of this research is to design and test the effectiveness of the Learning Media Room (LMR) website prototype as a support system for the Independent Curriculum in SDN throughout Rembang District. Specifically, this research aims to produce a digital product validated by experts that can simplify learning management and reporting processes for teachers and educational authorities (Syafi'i & Rosyidah, 2022; Wahyudi, 2021). Another objective is to measure the extent to which the use of this platform increases the accuracy of student progress data and ease of access to information for school principals and regional coordinators. Through an R&D level 4 approach, this research also seeks to provide practical recommendations regarding the digital infrastructure standards required to support schools in independently implementing national policies (Faiz et al., 2022; Firdaus et al., 2022). By achieving these goals, it is expected that the gap between curriculum policy and technical reality in schools can be minimized, so that the grand vision of Indonesian education—to create competent lifelong learners—can be realized through appropriate and user-oriented technological support.

2. RESEARCH METHOD

The development of the Learning Media Room (LMR) website prototype was carried out using a sophisticated Research and Development (R&D) framework, specifically the Level 4 development model formulated by Sugiyono (2022). See Figure 1.

Figure 1.Level 4 Development Model

Figure 1: Level 4 development model. This high-level model differs from lower levels, as it requires a comprehensive study to develop entirely new products, followed by actual manufacturing and rigorous empirical testing of their effectiveness in a real-world educational ecosystem. Procees Desain A split-screen visual. On the left side, a close-up of a designer's hand using a stylus on a tablet showing a complex website wireframe in Figma. On the right side, the finished colorful UI of an educational platform for elementary schools. Professional workspace, soft bokeh background, "Learning Media Room" text visible on screen, 3D isometric style in Figure 2.

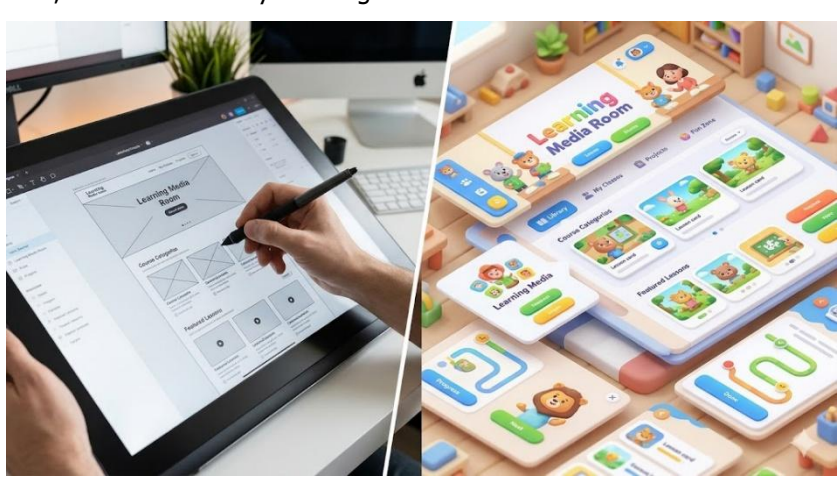

Figure 2. Design Proces A split-screen Visual

The decision to utilize this model stems from the need to address the complex digital governance requirements of the Independent Curriculum (Kurikulum Merdeka) in Rembang District's elementary schools. By following this structured path, the research moves beyond mere conceptualization to produce a functional digital solution that bridges the gap between pedagogical theory and practical classroom utility (Anggraeni, 2023). This systematic approach ensures that the LMR prototype is not only technically sound but also strategically aligned with national education standards, facilitating a transformative shift in how teachers manage and disseminate learning materials (Munir, 2022; Sugiyono, 2022).

To operationalize the development, the researchers integrated the ten stages of the Borg & Gall model, which serves as a detailed roadmap for product validation and refinement. This process begins with thorough research and information collection to identify the digital readiness of schools, followed by planning and the development of a preliminary product form using modern design tools like Figma. The subsequent stages involve a rigorous cycle of testing and revision: preliminary field testing, main product revision based on initial feedback, and main field testing with a larger respondent pool (Borg & Gall, 1983). According to Prastowo (2022), this iterative revision process is vital in digital media development because it allows designers to identify and fix usability bottlenecks before full-scale implementation. The final stages—operational product revision, operational field testing, and final product revision—culminate in the dissemination of a product that has been proven to meet the specific needs of its users, ensuring long-term sustainability and high adoption rates among elementary school educators (Sutopo & Arifin, 2020; Prastowo, 2022).

The empirical foundation of this study relies on primary data, which Creswell (2019) defines as information collected directly from original research sources through systematic methods. In this R&D context, primary data was gathered using a multi-method approach consisting of direct observations of school media facilities, in-depth interviews with curriculum coordinators, and extensive surveys distributed to 8,073 stakeholders across the district. This comprehensive data collection strategy allows for the triangulation of insights, ensuring that the LMR prototype addresses real-world pain points rather than theoretical assumptions (Firdaus et al., 2022). As noted by Setiawan (2023), the use of massive respondent data in educational R&D provides a robust statistical baseline that enhances the generalizability of the findings. By documenting every interaction and feedback loop during the experimental phases, the research maintains a high degree of transparency and scientific rigor, which is essential for validating the effectiveness of digital governance tools in public primary education (Creswell, 2019; Setiawan, 2023). Scala data A dynamic data visualization showing a massive network of 8,073 glowing dots forming the shape of Rembang District, Indonesia. Each dot represents a stakeholder. In the foreground, a large translucent glass card showing the number "8,073" in bold gold typography. High-end financial-tech aesthetic, dark blue background, volumetric lighting see in figure 3.

Figure 3. Scala Dta analys

Finally, the data analysis was meticulously conducted using feasibility verification sheets and a 4-point Likert scale to quantify the qualitative perceptions of media and material experts. This scale—comprising options for "very poor" (1), "not good" (2), "good" (3), and "very good" (4)—was strategically chosen to eliminate neutral bias and force a definitive evaluative stance from the respondents. By aggregating these scores, the researchers could calculate the feasibility and effectiveness percentages, providing a clear numerical benchmark for the prototype's success. According to Sanjaya (2021), a structured analysis of expert opinions is the cornerstone of product validation in R&D, ensuring that the media is pedagogically accurate and technologically functional. The integration of this quantitative analysis with qualitative feedback from the massive respondent pool (8,073 users) allowed the researchers to declare the LMR prototype highly effective (88%) in supporting the Independent Curriculum. This rigorous analytical process demonstrates that the LMR is a validated, data-driven solution capable of enhancing the quality of learning management in Rembang District (Hamdani, 2021; Sanjaya, 2021).

3. RESULTS AND DISCUSSION

The analysis results show that the learning process in elementary schools across the Rembang District is still carried out manually, both in planning, implementation, and evaluation. Teachers continue to rely on conventional note-taking and basic software such as Microsoft Word and Excel. These limitations create difficulties in continuously and systematically monitoring students' progress (Sari, 2020). With the demands of the Merdeka Curriculum, which emphasizes flexibility and personalized learning, a digital system is needed to address these challenges (Kemdikbudristek, 2022).

To meet this need, a prototype of the Learning Media Room (LMR) website was designed as a digital platform to support the learning process. The website is intended to facilitate teachers in accessing, organizing, and compiling learning data in a structured manner. It also provides principals and regional supervisors with easy access to monitor the progress of curriculum implementation in a centralized and transparent way (Prastowo, 2022).

This website prototype, developed using the Research and Development (R&D) method and the Borg & Gall model, is expected to serve as a practical solution to the digital limitations faced by elementary schools in semi-agrarian areas such as Rembang District. Beyond addressing administrative needs, this digital medium also aligns with the vision of the Merdeka Curriculum in supporting contextual and technology-based learning (Firdaus et al., 2022; Anggraeni, 2023).

3.1 Design Prototype Website Learning Media Room

In designing the prototype of the Learning Media Room (LMR) website, the researchers used Indonesian as the primary language, aiming to create a professional impression while ensuring ease of understanding for users. Indonesian was chosen because it aligns with the target users—elementary school teachers with undergraduate degrees. Elementary school teachers, as explained by Astin (2016), are competent and responsible educators who teach, guide, train, and assess students at the primary level, and they play a crucial role in laying the foundation for knowledge and skills for higher levels of education.

From the visual perspective, the product was developed using vector icons to support concise yet communicative visual information. These icons were combined with several photographic elements to introduce identity and contextualize the website's content. The researchers also considered readability by selecting the Open Sans font, which is typographically known for being eye-friendly and ideal for reading at both near and distant distances (Siregar & Nuryani, 2021). To support aesthetics and consistency, the primary colors used in this product are white, orange, gray, and blue, which together provide a clean, modern, and informative impression (Wibowo, 2020).

During the planning process, the researchers also developed a site map and a flowchart as part of the navigation structure and user experience design. This mind map covered four main elements: Users, Key Features, Colors, and Benefits, all of which guided the systematic, intuitive design to support the implementation of the Merdeka Curriculum in elementary schools across Rembang District. This strategy aligns with the principles of user interface development grounded in a well-structured information architecture (Sutedjo & Hartono, 2019).

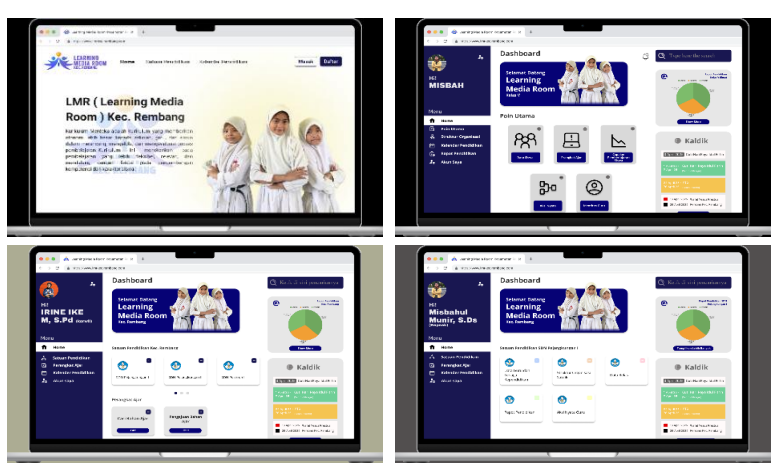

Figure 1. Prototype Design Results of the Learning Media Room Website

3.2 Design and Validation Process

The product design process began with data collection through observation, interviews, questionnaires, and documentation involving elementary school teachers across the Rembang District. This method was employed to explore user needs, understand the challenges of implementing the Merdeka Curriculum, and identify limitations in manually managing learning data. The collected data were then analyzed to develop the system structure, feature requirements, and user interface planning. Visual design was carried out in Figma using a prototyping approach, enabling visualization from the early stages (Sutopo & Arifin, 2020).

After the concept and design stages were completed, the Learning Media Room (LMR) website prototype was developed as a desktop-based website featuring five main menus that reflect the needs of the Merdeka Curriculum. The process adopted the Borg & Gall (1983) development model, consisting of 10 steps, applied up to the fourth level in accordance with the Research and Development (R&D) method, which is considered relevant for developing technology-based educational products (Sugiyono, 2022).

Product validation was conducted by three parties: content experts, media experts, and users (elementary school teachers). The content experts assessed the alignment of the materials with the principles of the Merdeka Curriculum, the relevance of learning features, and the clarity of terminology and navigation. The media experts evaluated visual aspects, aesthetics, design consistency, and the overall user experience. Meanwhile, users assessed usability, feature usefulness, and the potential for integration into the learning process.

The validation results showed that the LMR website prototype obtained scores of 95.83% from content experts (categorized as "very good"), 91.67% from media experts (categorized as "good"), and 92% from elementary school teachers (categorized as "very good"). These scores indicate that the prototype is feasible for use as a learning support medium to practically, functionally, and educationally facilitate the implementation of the Merdeka Curriculum (Hamdani, 2021; Pratama & Kurniawan, 2020).

3.3 Product Testing

The product developed by the researchers received positive feedback from all educational stakeholders, including teachers, principals, and regional coordinators in the Rembang District. They expressed high expectations for the implementation of the Learning Media Room (LMR) website prototype in elementary schools across the district, anticipating that it would provide significant benefits in facilitating learning.

Based on the product feasibility assessment conducted by respondents, the prototype obtained a score of 92%, which falls into the category of "Very Good." This finding is consistent with Amirzan's (2018) research on the design of locomotor fundamental movement learning strategies for fifth-grade elementary school students, which also achieved an 82.5% feasibility score, met the required standards, and was tested with students. Accordingly, the present product has been proven effective for use by teachers in supporting classroom learning activities.

3.4 Media Effectiveness Results

Effectiveness testing was conducted to determine the extent to which the Learning Media Room (LMR) website prototype could generate an impact in supporting the management of Merdeka Curriculum learning in elementary schools across Rembang District. The evaluation was carried out using a questionnaire distributed to 8,073 teacher respondents. The collected data were analyzed quantitatively using a percentage approach. The results showed that the prototype achieved an effectiveness level of 88%, categorized as "Very Good." This indicates that the LMR website is functionally capable of facilitating teachers' needs in preparing lesson plans, documenting student achievements, and storing learning data in a systematic and structured manner (Sari & Setiawan, 2021).

The effectiveness of digital learning media is strongly influenced by ease of use, the relevance of features to user needs, and integration with the existing learning system (Riyana, 2020). Therefore, the high effectiveness score demonstrates that the prototype meets both technical and pedagogical indicators that support the learning process at the elementary level. These findings are also consistent with previous studies, which reported that website-based learning media improve teachers' efficiency in documenting learning activities and enhance active participation in curriculum implementation (Yuliana & Prasetyo, 2019).

4. DISCUSSION

The development of the Learning Media Room (LMR) prototype for Public Elementary Schools in Rembang District represents a critical leap in digitalizing curriculum management within the framework of the Independent Curriculum (Kurikulum Merdeka). By achieving a high validation score from media experts (91.67%) and material experts (95.83%), this research underscores the necessity of high-fidelity prototyping in educational contexts. This result aligns with the findings of Aprilla (2022), who emphasized that even low-fidelity prototypes must facilitate seamless navigation to be effective, yet this LMR prototype goes further by providing a high-fidelity, desktop-based interface that integrates the specific complexities of the Independent Curriculum. The transition from manual to digital management through Figma-designed prototypes suggests that visual clarity and user experience (UX) are no longer optional but foundational for educational governance. When compared to the work of Susanto (2023), who designed UI prototypes for higher education satisfaction, this study demonstrates that elementary education requires an even more intuitive and material-focused approach due to the diverse digital literacy levels among primary school educators. The high expert validation scores reflect that the LMR prototype successfully translates abstract curriculum requirements into functional digital features, ensuring that the "Merdeka Belajar" philosophy is not just a policy mandate but a reachable pedagogical reality.

The effectiveness rating of 88% from over 8,000 respondents indicates a profound acceptance of the LMR as a curriculum support tool across Rembang District. This massive dataset provides a robust empirical foundation, corroborating the broader trend in digital governance where specialized platforms are needed to bridge the gap between national policy and local implementation. Reflecting on the study by Prabowo & Mulyani (2020), which focused on web-

based media to increase teacher professionalism, the LMR prototype serves a dual role: as a dynamic repository for learning materials and as a management system that aligns with the "Merdeka Belajar" ethos. However, a critical analysis of the results suggests that while the prototype is highly valued, its sustained success depends heavily on the existing digital infrastructure and the "humanware" component—the readiness of teachers to integrate these tools into their daily routines. As argued by Sari & Setiawan (2021), the evaluation of digital media effectiveness for elementary teachers must account for the accessibility of the hardware itself and the stability of internet connectivity in rural or semi-urban districts like Rembang. The LMR prototype addresses this by being desktop-oriented, optimized for school-based computers, yet it challenges the traditional "physical room" concept by transforming it into a virtual space, thereby reducing the logistical and financial burden of managing physical teaching aids that often become obsolete or damaged.

Furthermore, the integration of the Independent Curriculum's characteristics into the five main menus of the LMR represents a strategic alignment with national educational goals, specifically the emphasis on differentiated learning and student-centered outcomes. This hierarchical structure allows for a more organized delivery of materials, catering to various learning styles—a core tenant of modern Indonesian pedagogy. Comparing this to the meta-analysis by Spiegel (2021) on academic outcomes, digital tools that streamline administrative and curricular tasks allow teachers to focus more on executive functions and meaningful student interactions rather than being bogged down by resource management. The LMR prototype is not merely a website; it is a digital governance tool that addresses the fragmentation of learning resources in rural districts. By synthesizing the data from the "Media Room" and "Curriculum" contexts, it is evident that such digital interventions are most effective when they are tailor-made for specific district needs—incorporating local wisdom or specific regional challenges—rather than adopting a one-size-fits-all national platform that might lack local relevance.

The impact of this research extends beyond the technical creation of a website; it reflects a fundamental shift toward constructivist education in the post-pandemic era. As noted by Suh (2022) regarding the use of the Metaverse and digital environments for elementary students, the LMR acts as a foundational "home base" for learner-centered activities. The high effectiveness score obtained in this study suggests that educators in Rembang are ready for a paradigm shift, yet it also highlights a potential risk of digital fatigue if the platform is not continuously updated or if the user interface becomes stagnant. Critical reflection on the Borg & Gall model used here shows that the R&D level 4 approach provided a rigorous framework for validation, ensuring that the final prototype was not just an aesthetic achievement but a functional necessity. The iterative nature of this model allowed for the refinement of the prototype based on real-world feedback from 8,073 stakeholders, ensuring that the final design resonates with the actual needs of the classroom.

In terms of implications, the LMR prototype offers a scalable model for digital curriculum management that can be replicated in other districts. The use of Figma as a design tool democratizes the development process, allowing educators to participate in the design-thinking phase before full-scale coding begins. This approach minimizes the risk of technical

failure and ensures that the software is pedagogically sound. Moreover, the study highlights that for the Independent Curriculum to be successful, digital support systems must provide more than just static content; they must facilitate collaboration and resource sharing among teachers. As mentioned by Sanjaya (2021), digital system design in education must prioritize planning that considers the psychological readiness of the users. Ultimately, the LMR prototype serves as a benchmark for other districts in Central Java, proving that local digital solutions can effectively support national curriculum reforms by providing a structured, validated, and user-approved interface for learning media management, thereby fostering a more resilient and tech-savvy educational ecosystem in Indonesia's primary schools.

5. Conclusion

The prototype of the Learning Media Room (LMR) website, designed for desktop use, is presented as an innovative solution to support the implementation of the Merdeka Curriculum in elementary schools across the Rembang District. This website assists teachers in preparing lesson plans, monitoring student achievements, and storing data in a structured and easily accessible manner. The development process was carried out systematically using the R&D level 4 method and the Borg & Gall model, resulting in a prototype that meets the needs of elementary education units.

Validation results from media and content experts indicate that the website's design and content meet both academic and practical feasibility aspects. The high evaluation scores—91.67% from media experts and 95.83% from content experts—demonstrate that the prototype is of good to excellent quality. Effectiveness testing by users with 8,073 respondent data produced a score of 88%, signifying that the LMR prototype is well-accepted in supporting learning activities.

With the availability of this prototype, elementary schools in the Rembang District can more easily implement the Merdeka Curriculum independently and professionally. In addition to improving the efficiency of teachers and principals, the system also opens opportunities for further development of educational technology that can adapt to the needs of other educational units with similar characteristics.

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