Managing Educational Resources for IPAS Instruction in Primary Schools: Strategies for Implementing the Merdeka Curriculum

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Abstract

The implementation of the Merdeka Curriculum in Indonesia introduces significant pedagogical shifts, particularly in how educational resources are managed and utilized in primary schools. One of the key components of this curriculum is IPAS (Ilmu Pengetahuan Alam dan Sosial), an integrated subject combining science and social studies aimed at promoting contextualized, inquiry-based learning. This study explores the strategies employed by SDN Gondang, a public primary school in East Java, in managing educational resources to support effective IPAS instruction under the Merdeka Curriculum framework. Employing a qualitative case study approach, data were collected through semi-structured interviews with teachers and school leaders, direct classroom observations, and analysis of instructional documents. The findings reveal that the school implements various adaptive strategies, including collaborative development of contextual teaching materials, integration of local environmental content, use of simple digital media, and peer mentoring among teachers. Despite facing limitations such as infrastructure gaps and varying levels of teacher preparedness, SDN Gondang demonstrates innovative and resourceful practices aligned with the curriculum's principles. The study highlights the importance of leadership, professional collaboration, and continuous capacity building in enabling effective educational resource management for curriculum reform. These insights offer valuable implications for schools across similar contexts seeking to strengthen the implementation of integrated subjects like IPAS.

Keywords
educational resource management; ipas; merdeka curriculum; primary education

INTRODUCTION

Education in the 21st century is increasingly defined by its capacity to develop learners who are not only knowledgeable but also adaptable, critical, collaborative, and

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responsive to real-world challenges (Sholeh, M. I., et al. 2024). To meet these demands, many education systems around the world are undergoing substantial curriculum reforms that emphasize learner autonomy, contextualized instruction, and interdisciplinary learning (Rozak, R. W. A., et al .2024), (Ramadhani, S. 2023). Indonesia has responded to these global trends through the introduction of the *Kurikulum Merdeka* (Merdeka Curriculum), a transformative curriculum policy aimed at fostering student-centered learning, empowering teacher autonomy, and enhancing the relevance of education to local contexts (Asmahasanah, S., et al. 2023), (Reskia, D., et al. 2025).

One of the most notable innovations introduced under the Merdeka Curriculum in primary education is the integration of *Ilmu Pengetahuan Alam dan Sosial* (IPAS), a subject that merges natural and social sciences (Muyassaroh, I., et al. 2023). This interdisciplinary approach is designed to encourage students to explore phenomena from multiple perspectives, enabling them to understand the relationship between scientific processes and social dynamics in their environment (Wulandari, A. 2023). The IPAS subject promotes inquiry-based, contextual, and experiential learning that reflects students' real-life experiences, local culture, and community needs. By blending concepts from two traditionally separate disciplines, IPAS offers an opportunity to cultivate a more holistic understanding of knowledge and its applications in everyday life (Prihantini, P., et al. 2025).

However, the successful implementation of IPAS instruction is not solely dependent on curriculum design; it requires the effective management of educational resources that support integrated and meaningful learning experiences. Educational resource management refers to the processes of planning, acquiring, developing, adapting, organizing, and utilizing various forms of instructional materials, tools, and media to support teaching and learning objectives (Surul, R., & Septiliana, L. 2023). These resources may include textbooks, digital content, visual aids, manipulatives, and contextual learning materials that align with the curriculum's goals. In the case of IPAS, the resources must be carefully selected or designed to foster cross-disciplinary understanding, stimulate inquiry, and encourage students to apply their knowledge in solving authentic problems (Ariswari, N., et al. 2025).

Managing such resources in primary schools presents both opportunities and challenges. On the one hand, the curriculum's emphasis on flexibility and

contextualization allows teachers to tailor learning materials to students' specific needs, backgrounds, and local environments (Sari, M., et al. 2025). On the other hand, many schools especially those in rural or semi-urban areas face significant limitations, such as insufficient infrastructure, lack of access to appropriate teaching materials, inadequate teacher training in integrated instruction, and minimal institutional support for innovation. These challenges can hinder the capacity of teachers to effectively implement IPAS instruction and fully realize the objectives of the Merdeka Curriculum (Jumanto, J., & Mustofa, M. 2023).

Given the relatively recent implementation of the Merdeka Curriculum, there remains a limited understanding of how schools manage educational resources in practice, particularly in the context of integrated subjects like IPAS (Ariswari, N., et al. 2025), (Mubarok, R., 2023). Empirical studies that explore resource management strategies at the school level are crucial for identifying best practices, common obstacles, and systemic needs that can inform curriculum support policies and teacher professional development programs (Surul, R., & Septiliana, L. 2023).

This study seeks to address this gap by examining how SDN Gondang, a public primary school in East Java, manages its educational resources to support IPAS instruction under the Merdeka Curriculum framework. The research focuses on identifying strategic approaches undertaken by the school to develop, adapt, and utilize instructional resources in alignment with the new curriculum. It also explores the institutional, pedagogical, and contextual factors that facilitate or constrain effective resource management. By highlighting the practical experiences of educators and school leaders in navigating curriculum change, this study aims to contribute to the broader discourse on educational reform and resource optimization in primary education settings.

METHOD

This study employed a qualitative case study approach to explore the strategies used by a primary school in managing educational resources for IPAS instruction within the framework of the Merdeka Curriculum. The qualitative approach was chosen to enable an in-depth understanding of the processes, experiences, and contextual factors influencing educational resource management at the school level.

Research Design

The research was designed as a single-site case study, focusing on SDN Gondang, a public primary school in East Java, Indonesia. This design allowed the researchers to capture rich, contextual insights into the practices and challenges experienced by educators in implementing IPAS through localized resource management. Figure 1 presents the qualitative research design.

Figure 1. Qualitative Research Design

Data Collection

Data were collected through semi-structured interviews, direct observations, and document analysis. The combination of these three techniques allowed for triangulation, increasing the validity of findings. Interviews were conducted with teachers responsible for IPAS instruction, school leadership (principal and curriculum coordinator), and relevant staff involved in instructional material development. Observations focused on classroom practices, instructional media use, and resource deployment. Document analysis included curriculum plans, learning modules, teaching materials, and resource inventories.

Research Site and Sample

The study was conducted at SDN Gondang, a public primary school located in East Java, which has been actively implementing the Merdeka Curriculum. The school was purposefully selected due to its early adoption of the new curriculum and its commitment to integrating IPAS instruction. Participants were selected using purposive sampling, targeting key individuals involved in curriculum planning and instructional delivery. Table 1 presents the research sample.

Table 1. Research Sample

Participant Group	Number of Participants	Criteria for Selection
IPAS Teachers	4	Actively teaching IPAS in Grades IV–VI
School Principal	1	Oversees curriculum implementation
Curriculum Coordinator	1	Responsible for instructional planning and alignment
Media Developer/Staff	1	Assists in preparing and managing learning resources

Research Instruments

The instruments used in the study were designed to gather detailed qualitative data aligned with the research objectives. The table below summarizes the instruments used and the type of data they generated, Table 2 presents the research instruments.

Table 2. Research Instruments

Instrument	Purpose	Data Type
Interview Guide	To explore participants' experiences, strategies, and challenges in managing IPAS resources	Qualitative (verbal data from semi-structured interviews)
Observation Checklist	To document classroom practices and resource usage during IPAS instruction	Qualitative (field notes, observation records)
Document Analysis Format	To examine curriculum documents, lesson plans, and instructional materials	Qualitative (textual and visual data)

RESULT AND DISCUSSION

RESULT

The findings of this study, conducted at SDN Gondang, reveal several key strategies and challenges in the management of educational resources for implementing IPAS (*Ilmu Pengetahuan Alam dan Sosial*) instruction under the Merdeka Curriculum. Data collected through interviews, classroom observations, and document analysis were thematically analyzed, resulting in the emergence of four major themes: (1) contextual adaptation of teaching materials, (2) teacher collaboration in resource development, (3) integration of digital and local resources, and (4) institutional support and constraints.

Contextual Adaptation Of Teaching Materials

Teachers at SDN Gondang demonstrated proactive efforts to adapt IPAS learning materials based on students' local environment and daily experiences. Instead of relying solely on centralized textbooks, educators modified existing modules to include examples relevant to the local agricultural setting, water cycles in rural areas, and traditional

community practices. This contextualization aligned with the core principles of the Merdeka Curriculum, which emphasizes place-based and student centered learning.

For example, a Grade V teacher replaced generic illustrations of ecosystems with photographs of rice fields and irrigation systems familiar to students in the region. Such adaptations enhanced student engagement and comprehension by connecting abstract scientific and social concepts with real-life applications.

Teacher Collaboration in Resource Development

Another prominent strategy identified was the collaborative creation and sharing of IPAS resources among teachers. Through regular subject-focused meetings, teachers discussed lesson plans, co-developed worksheets, and exchanged media such as videos, diagrams, and locally sourced articles. This collegial approach not only improved the quality and variety of materials used but also provided informal peer support for curriculum interpretation and instructional innovation.

Collaborative planning sessions were often facilitated by the curriculum coordinator, who played a key role in aligning instructional resources with the expected learning outcomes (CP/KP) under the Merdeka Curriculum. This collaborative model addressed the gap in ready-made IPAS materials and fostered a shared understanding of interdisciplinary teaching.

Integration Of Digital and Local Resources

Although the school had limited access to advanced technological infrastructure, teachers made use of simple digital tools, such as YouTube videos, smartphone recordings, and downloadable worksheets. These were often combined with tangible, local resources such as soil samples, traditional crafts, and maps of the surrounding community to support hands-on and inquiry based learning.

This hybrid approach reflected a flexible resource management strategy, wherein digital and non-digital materials complemented each other. For instance, students were asked to watch a short video about the water cycle at home, then conduct a group observation of a local river during class time, followed by a reflective group discussion. This combination of modalities strengthened student engagement and deeper conceptual understanding, as emphasized by recent findings in blended learning research.

Institutional Support and Constraints

While several resource management strategies were effectively implemented at the teacher level, systemic limitations remained evident. The availability of printed IPAS materials specifically aligned with the Merdeka Curriculum was limited. In addition, not all teachers had received formal training in interdisciplinary instruction or media development. Budget constraints also limited the procurement of supplementary materials.

Despite these challenges, school leadership particularly the principal and curriculum coordinator provided strong support by allocating time for teacher collaboration, encouraging innovation, and fostering a school culture that values contextual learning. The school's initiative to integrate resource management into its annual planning reflected a strategic commitment to curriculum reform, although greater institutional support at the district level was still needed to ensure sustainability. Table 3 presents the management of educational resources for ipas teaching in elementary schools.

Table 3. Management of Educational Resources for IPAS Teaching in Elementary Schools.

Theme	Key Findings
Contextual Adaptation	Teachers localized IPAS materials based on real-world student environments.
Teacher Collaboration	Collaborative planning improved material quality and interdisciplinary cohesion.
Integration of Digital and Local Resources	Digital media supported by local, physical tools enabled blended learning.
Institutional Support and Constraints	Leadership supported innovation, but systemic challenges remained.

These findings underscore the critical role of localized, collaborative, and adaptive strategies in managing educational resources for IPAS instruction. They also highlight the importance of institutional policies and support mechanisms in sustaining curriculum reform at the primary level (Ariswari, N., et al. 2025), (Wulandari, A. 2023).

DISCUSSION

The findings of this study underscore the central role of educational resource management in the successful implementation of IPAS (*Ilmu Pengetahuan Alam dan Sosial*) within the Merdeka Curriculum framework. The strategies adopted by SDN Gondang reveal a practical, context-sensitive approach to curriculum enactment one that

is shaped not only by institutional mandates but also by local realities, teacher agency, and community relevance.

First, the practice of contextual adaptation of teaching materials reflects the essence of the Merdeka Curriculum's pedagogical philosophy, which emphasizes local wisdom, learner autonomy, and meaningful learning experiences. Teachers at SDN Gondang demonstrated the capacity to reinterpret national curriculum guidelines through localized content, making abstract scientific and social concepts more tangible and relatable for students. This aligns with prior literature highlighting that curriculum reforms are most effective when they accommodate the sociocultural context of the learners and empower teachers as co-designers of instruction (Inayah Septiyani, & Sukartono. 2023), (Wardana, M. D. K. 2024), (Reskia, D., et al. 2025).

Second, collaborative resource development emerged as a critical enabler of innovation and consistency in teaching practices. Teachers who worked together in planning and producing instructional media benefited from shared knowledge, reduced workload, and mutual reinforcement of pedagogical goals. This finding supports existing research on teacher professional learning communities, where collaboration fosters reflective practice and instructional coherence. Such models of professional collaboration are particularly important in contexts where official resources for new curriculum subjects such as IPAS are still limited or underdeveloped (Qomar, M., & Fitri, A. Z. 2024), (Sahibe, N., et al. 2025), (W, S., Nur, M., & Ismail, S. 2023).

Third, the integration of digital and local resources highlights the adaptability of teachers in hybrid resource environments. Despite technological constraints, educators at SDN Gondang successfully blended low-tech and high-tech tools to create multimodal learning experiences. This strategy mirrors global trends in blended and flexible learning, where digital tools are not meant to replace traditional materials but to enrich and diversify the learning process. Notably, the use of community-based materials also strengthened place-based learning, reinforcing the Merdeka Curriculum's goal of fostering civic identity and environmental awareness (Sanjaya, C., & Fikriyah, F. 2025), (Suratmi, S., et al. 2025), (Ariswari, N., 2025).

However, the discussion would be incomplete without acknowledging the institutional challenges that may hinder sustainability and scalability. Limited access to curriculum-aligned IPAS resources, insufficient training in interdisciplinary teaching, and

budget constraints remain significant barriers. While the school leadership at SDN Gondang showed initiative and commitment, broader systemic support from education authorities is necessary to ensure equitable implementation across schools with varying capacities. Policy alignment, investment in resource development, and teacher capacity-building are all essential components of a comprehensive curriculum reform strategy (Surul, R., & Septiliana, L. 2023), (Muyassaroh, I., et al. 2023), (Wulandari, A. 2023). Importantly, the study illustrates that curriculum transformation is not solely a matter of content delivery but also of strategic planning, teacher empowerment, and adaptive resource management. It provides empirical evidence that the Merdeka Curriculum, when interpreted flexibly and locally, can be translated into actionable teaching practices that meet both national standards and student needs (Wardana, M. D. K. 2024), (Reskia, D., et al. 2025).

The implications of this study extend beyond the case of SDN Gondang. For policymakers, it highlights the urgency of providing structured resource support and professional development for IPAS implementation. For school leaders, it demonstrates the value of fostering collaborative cultures and resource innovation. And for teachers, it reinforces the importance of autonomy, creativity, and responsiveness in navigating curricular change. Future research may further explore comparative studies between urban and rural schools, investigate the long-term impacts of localized resource strategies on student learning outcomes, and evaluate the effectiveness of institutional support mechanisms in diverse educational contexts.

CONCLUSION

This study concludes that the successful implementation of IPAS instruction within the Merdeka Curriculum in primary schools is significantly influenced by how educational resources are managed at the school level. The case of SDN Gondang illustrates that effective resource management is grounded in four interrelated strategies: contextual adaptation of materials, teacher collaboration, the integration of digital and local resources, and strong institutional support. Teachers' ability to adapt learning materials to the local context has proven essential in making IPAS concepts more relevant and engaging for students. Collaboration among educators has enhanced the quality and coherence of instructional planning, while the blending of digital and tangible resources has enriched

students' learning experiences, even in environments with limited technological infrastructure. Moreover, school leadership plays a vital role in fostering a supportive culture that encourages innovation and reflective teaching practices. Despite these positive findings, the study also identifies several challenges that must be addressed namely, the limited availability of official teaching resources, lack of structured training for interdisciplinary instruction, and budget constraints. These limitations suggest that broader systemic support is required to scale and sustain the gains achieved through localized initiatives. In summary, managing educational resources is not merely a logistical task but a strategic and pedagogical process that determines the quality of curriculum implementation. To fully realize the objectives of the Merdeka Curriculum, especially in the context of IPAS instruction, it is essential to empower teachers, strengthen school-level collaboration, and ensure policy and infrastructure support from educational authorities. Future research should investigate the long-term impact of these strategies on student learning outcomes and explore how similar approaches can be adapted in diverse educational settings.

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