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Implementing the Merdeka Curriculum in History Learning: Its Impact on Student Learning Autonomy at a Senior High School in Indonesia

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ABSTRACT

This qualitative descriptive study analyzes the implementation of the Merdeka Curriculum in history education at a senior high school in Rembang, Indonesia, and examines its impact on student learning autonomy. Data were collected through in-depth interviews, classroom observations, and document analysis involving 43 participants, including teachers and students. Findings indicate that while teachers' planning stages were systematically aligned with national guidelines, inconsistencies arose during execution, particularly in differentiated instruction and local history integration. Despite these gaps, the curriculum demonstrated a positive influence on fostering student autonomy, especially among Phase E (Grade X) learners, who exhibited greater confidence, self-regulation, and initiative. The study underscores the need for comprehensive teacher professional development to ensure faithful curriculum enactment. It contributes to the discourse on contextual pedagogical reform in post-colonial educational settings, highlighting how curriculum redesign can promote autonomous learning in history education.

KEYWORDS
Virtual Tour; History Education; Digital Media; Learning Outcomes; Vocational School

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ABSTRAK

Studi deskriptif kualitatif ini menganalisis penerapan Kurikulum Merdeka dalam pembelajaran sejarah di sebuah SMA di Rembang, Indonesia, serta mengkaji dampaknya terhadap kemandirian belajar siswa. Data dikumpulkan melalui wawancara mendalam, observasi kelas, dan analisis dokumen yang melibatkan 43 partisipan, termasuk guru dan siswa. Temuan menunjukkan bahwa meskipun perencanaan guru selaras dengan pedoman nasional, terdapat ketidaksesuaian dalam pelaksanaan, terutama pada pembelajaran berdiferensiasi dan integrasi sejarah lokal. Di luar kendala tersebut, kurikulum ini berpengaruh positif dalam menumbuhkan kemandirian siswa, khususnya pada peserta didik Fase E (Kelas X) yang menunjukkan peningkatan kepercayaan diri, regulasi diri, dan inisiatif. Penelitian ini menekankan pentingnya pengembangan profesional guru secara komprehensif untuk memastikan penerapan kurikulum yang sesuai. Studi ini berkontribusi pada wacana reformasi pedagogi kontekstual dalam setting pendidikan pascakolonial, dengan menunjukkan bagaimana redesain kurikulum dapat mendorong pembelajaran mandiri dalam pendidikan sejarah.

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Introduction

Education remains a perennial and central topic of global discourse, consistently positioned as a primary concern for every nation. The quality of a nation and the success of a state are fundamentally measured by the state of its educational system (Chankseliani et al., 2021). A high-quality education system invariably cultivates a high-quality citizenry, whereas a weak system results in underdeveloped human resources. Consequently, the aspiration for an advanced educational framework is universal, a goal ardently pursued by Indonesia (Indrawati & Kuncoro, 2021). Presently, Indonesia confronts serious, multifaceted challenges arising from both internal and external factors. These complex issues drive rapid changes in technology, culture, and society, all of which profoundly impact educational development, compelling the nation to seek viable solutions for progress (Moravec & Martínez-Bravo, 2023).

The current era of globalization demands rapid advancement across all life aspects, including education. Indonesia's educational system requires urgent improvement to meet contemporary global challenges. This urgency is underscored by the country's consistently low ranking in the Programme for International Student Assessment (PISA), where it lags significantly behind regional neighbors (Adiputri, 2023). There is a pressing need for Indonesian schools to leverage technology in learning, as conventional pedagogical methods are increasingly misaligned with modern student needs (Rintaningrum, 2023). Contemporary learning necessitates technology to develop supportive platforms, creating spaces for active teacher and student engagement (Hutain & Michinov, 2022). Existing government programs are perceived as inadequate in addressing these temporal demands, obligating the state to continually reform for educational advancement (Nobuhiro, 2023).

Curriculum is widely recognized as a dynamic instrument for achieving educational success, requiring continuous adaptation to advancements in knowledge, technology, and information (Vreuls et al., 2025). Its development is grounded in established foundations, principles, and regulations. Refined curricula are deliberately planned by the government through structured policy. Referring to National Education Law No. 20 of 2003, which mandates the state to guarantee quality education for its citizens, the government undertakes curriculum improvement responsibly to enhance educational standards (Nieveen et al., 2023). These policy measures aim to direct and harmonize the delivery of quality education, with each new initiative seeking to rectify previous shortcomings. Thus, curriculum refinement is expected to improve upon past educational quality and address ongoing challenges.

In the Indonesian context, the Kurikulum Merdeka (Independent Curriculum) emerges as the latest reform initiative. It was launched against a backdrop of a prolonged learning crisis, exacerbated by the COVID-19 pandemic, which revealed systemic failures and stark disparities in educational access and outcomes across socio-cultural regions (Kemendikbud, 2022, p. 9). This curriculum represents a strategic governmental response aimed at learning recovery. Its design grants educators greater autonomy in selecting teaching tools and allows for more varied intracurricular learning, enabling content optimization and providing students time to strengthen competencies (Kemendikbud, 2022, p. 9). A foundational departure from previous models is its integration of character education, realized through the Profil Pelajar Pancasila (Pancasila Student Profile), which

aims to reinstate national ideological values within education to cultivate principled, ethical citizens (Brown et al., 2023; Peterson, 2020).

This curriculum significantly impacts specific subjects, including history. Under the *Kurikulum Merdeka*, history is taught as an integrated subject without the previous separation between Indonesian History (for all streams) and History (for social sciences stream) seen in the 2013 curriculum (Luís & Rapanta, 2020). In senior high school, all subjects are grouped under science or social science clusters. History falls under the social science cluster, receiving two instructional hours per week, plus one hour for co-curricular character strengthening, a structure intended to rectify the marginalization of history for science students evident in earlier curricula (Boadu, 2020; Cinnamon et al., 2021; Wilke et al., 2023).

A central character within the *Profil Pelajar Pancasila* is independence (*mandiri*), which is pivotal to the curriculum's success. Fostering learning autonomy is posited as crucial for developing student curiosity, self-regulation, and problem-solving capabilities (Susanti et al., 2023). Learning autonomy involves significant metacognitive activity, where learners who self-regulate tend to achieve better outcomes than those dependent on external direction (Schuster et al., 2023). It challenges students to engage in deep, independent thinking and self-questioning (Morris et al., 2025), thereby promoting effective, self-directed learning that extends beyond the classroom and fosters lifelong learning habits (Cronin-Golomb & Bauer, 2023; Dörrenbächer-Ulrich et al., 2024; Karlen et al., 2023). This study therefore examines the implementation of this curriculum in history education and its tangible impact on cultivating such student learning autonomy.

Research Questions

1. How does the implementation of the Merdeka Curriculum differ between Phase E (Grade X) and Phase F (Grade XI) in history classes at SMA Negeri 3 Rembang, particularly regarding pedagogical approaches and local history integration?
2. What are the key enabling and constraining factors influencing teachers' consistent execution of differentiated instruction and project-based learning as planned in the Merdeka Curriculum modules?
3. To what extent does the level of fidelity in implementing the student-centered principles of the Merdeka Curriculum correlate with observable differences in student learning autonomy between the two phases?

Theoretical Framework

The foundation of this study is anchored in contemporary curriculum theory, which posits that a curriculum is not a static document but a dynamic instrument for achieving educational goals, requiring continuous adaptation to societal, technological, and epistemological shifts (Pugach et al., 2020; Twining et al., 2021). Curriculum reform, therefore, is a deliberate process aimed at improving educational quality and relevance, as mandated by national policy frameworks that obligate governments to guarantee quality learning (Luo, 2023; Twining et al., 2021). The transition from one curriculum to another, such as from the 2013 Curriculum to the Merdeka Curriculum, represents a strategic intervention to address systemic gaps and align education with contemporary challenges, including

globalization and digital transformation (Amiruddin et al., 2023; Puad & Ashton, 2023). This study operates on the premise that such reforms must be analyzed not only through their structural design but, more critically, through the lens of their implementation fidelity—the degree to which they are enacted as intended in the classroom—which ultimately determines their impact (de Leeuw et al., 2020; McLure & Aldridge, 2023).

The Merdeka Curriculum itself is theorized as a pedagogical reconstruction designed to foster a more student-centered and flexible learning ecosystem. Its theoretical underpinnings are explicitly detailed in official guidelines that emphasize differentiated instruction, project-based learning, and streamlined essential materials to allow for depth of understanding (Kemdikbud, 2022; (Grecu, 2023; Griful-Freixenet et al., 2020). A core theoretical pillar is the development of the *Profil Pelajar Pancasila* (Pancasila Student Profile), which integrates national character building with modern competencies, positioning independence (*mandiri*) as a non-negotiable outcome of the learning process (Muhardis, 2023). Furthermore, the curriculum advocates for a multidimensional and contextual approach to subjects like history, urging the connection of past events to present realities and local narratives to foster critical relevance and identity (Thorp & Persson, 2020; Wilke et al., 2023). This framework posits that autonomy is cultivated not in a vacuum but within a structured yet flexible pedagogical environment that values student agency (Torres Castro & Pineda-Báez, 2023).

The successful translation of this curriculum theory into practice hinges on effective pedagogical implementation, particularly concerning differentiated instruction and contextual teaching. The theory of differentiated instruction suggests that addressing the varying readiness, interests, and learning profiles of students is essential for maximizing individual growth, a principle embedded in the Merdeka Curriculum's design (Gheyssens et al., 2022; Grecu, 2023; Melesse & Belay, 2022). Concurrently, constructivist and contextual learning theories, as applied to history education, argue that knowledge is actively built by learners when content is made meaningful through connection to their immediate environment and lived experiences (Do et al., 2023; Perrotta & Cross, 2024). The integration of local history (*sejarah mikro*) is thus not merely an add-on but a theoretical imperative for deepening historical consciousness and relevance (Edling et al., 2020; Popa, 2022, 2023). However, the bridge between this theory and classroom practice is mediated by teacher capacity and the availability of appropriate teaching modules and resources (van Geel et al., 2022).

In the digital age, the theoretical framework must also account for the role of technology as both a catalyst for and a component of autonomous learning. Modern educational theory asserts that technology integration is crucial for creating engaging, diverse, and accessible learning platforms that cater to contemporary learners' needs and preferences (Mhlongo et al., 2023; Taylor et al., 2023). The use of varied media—from visual aids to digital quizzes and online resources—is theorized to support differentiated instruction, stimulate critical thinking, and provide avenues for independent inquiry (Zolkwer et al., 2023). The Merdeka Curriculum implicitly endorses this by encouraging flexible teaching tools. Therefore, the extent and manner of technology adoption in the classroom become key variables in realizing the curriculum's goal of fostering a more interactive and self-directed learning environment, moving beyond conventional, teacher-centric methods (Amiruddin et al., 2023; Li et al., 2023; Morris & Rohs, 2023).

The dependent variable central to this study is student learning autonomy, a multifaceted construct grounded in educational psychology and self-determination theory. Autonomy in learning is defined as the learner's capacity to take charge of their own learning process, encompassing metacognitive skills, self-regulation, initiative, and resourcefulness (Atman Uslu & Yildiz Durak, 2022; Molenaar et al., 2023). Theorists argue that autonomous learners engage in higher-order metacognitive activities, such as planning, monitoring, and evaluating their learning, which leads to more profound and sustained educational outcomes (de Bruin et al., 2020; Dignath et al., 2023; Theobald, 2021). This independence is cultivated through pedagogical designs that provide opportunities for choice, problem-solving, and independent inquiry, thereby shifting the responsibility for learning progressively to the student (Arvidsson & Kuhn, 2021; Rachul et al., 2021; Susanti et al., 2023). In the context of the Merdeka Curriculum, the theoretical expectation is that its pedagogical principles—differentiation, project-based learning, and contextual relevance—are precisely the kinds of environments that nurture these competencies (Amiruddin et al., 2023; Guo et al., 2020; Maor et al., 2023).

Synthesizing these strands, the overall theoretical framework for this study posits that the Merdeka Curriculum represents a comprehensive policy intervention based on theories of student-centered, contextual, and differentiated pedagogy aimed at developing autonomous learners with strong character (Amiruddin et al., 2023); Kemdikbud, 2022). Its potential impact, however, is not automatic but is critically mediated by the implementation process. The theory of implementation fidelity suggests that the outcomes of any reform are directly related to how faithfully its core components are executed by practitioners (Clayback et al., 2023; Grecu, 2023; Hasanah et al., 2022). Therefore, this study investigates the hypothesis that variances in implementation fidelity—particularly in applying differentiated instruction, integrating local context, and utilizing technology—will lead to measurable differences in the development of student learning autonomy. This creates a conceptual chain linking curriculum design (independent variable), through classroom implementation (mediating variable), to the growth of learner autonomy (dependent variable), all within the specific context of history education (Grecu, 2023; Hasanah et al., 2022; Mohammadi Zenouzagh et al., 2023; Sun, 2023; Y. Wang & Ryan, 2023).

Method

Research Design and Approach

This study employed a qualitative research method with a descriptive approach. A qualitative methodology is appropriate for investigating complex social phenomena within their natural settings, aiming to gain a deep, holistic, and nuanced understanding of participants' experiences and perspectives (Creswell & Creswell, 2023). This approach is interpretative, allowing the researcher to explore the meanings individuals ascribe to their actions and interactions concerning a specific issue. In this context, the qualitative descriptive design was selected to thoroughly investigate and depict the phenomenon of Merdeka Curriculum implementation in history classes and its perceived impact on student learning autonomy at SMA Negeri 3 Rembang. This design facilitates a comprehensive and detailed description of the planning, execution, and outcomes of the curriculum

reform as experienced by teachers and students, providing rich, narrative data to answer the research questions.

Research Context and Participants

The study was conducted at SMA Negeri 3 Rembang, a public senior high school that had independently adopted the Merdeka Curriculum starting in the 2022/2023 academic year. The research focused on history instruction in Phase E (Grade X) and Phase F (Grade XI), where the curriculum was being actively implemented. Participants were selected using a purposive sampling technique to ensure they held key information relevant to the research objectives. The sample consisted of 43 participants in total: three history teachers (one teaching Phase E and two teaching Phase F) and 40 students (20 from Phase E and 20 from Phase F). The teachers provided insights into curriculum planning, pedagogical decisions, and their observations of student behavior. The students offered crucial perspectives on their learning experiences, engagement with the new curriculum activities, and their self-perception regarding learning autonomy. This multi-perspective approach was essential for constructing a triangulated understanding of the implementation process.

Data Collection Techniques

Data were collected over a three-month period using three primary techniques, ensuring methodological triangulation to enhance the credibility and comprehensiveness of findings.

Semi-structured interviews were conducted with all three history teachers and the 40 student participants. Interview guides were tailored separately for teachers and students. Teacher interviews explored themes such as lesson planning aligned with the Merdeka Curriculum, challenges and strategies in implementation (e.g., differentiation, local history integration), and their assessment of changes in student engagement and independence. Student interviews focused on their experiences in history classes, perceptions of new learning activities (e.g., projects, group work), and self-evaluation of their confidence, initiative, and self-regulation in learning. All interviews were audio-recorded with consent and later transcribed verbatim for analysis.

Non-participant observation was carried out during history lessons in both Phase E and Phase F classrooms. A structured observation protocol was used to document the alignment between planned teaching modules and actual classroom practice. Specific attention was paid to pedagogical methods (e.g., lecture, discussion, project-based learning), the use of teaching media and technology, teacher-student and student-student interactions, and manifestations of student autonomous behaviors (e.g., asking questions, independent problem-solving, collaborative work). Field notes were taken during and immediately after each observation session.

Relevant documents were collected and analyzed to corroborate and supplement data from interviews and observations. These documents included (a) *Teaching Modules (Modul Ajar)* developed by the history teachers, analyzed for their structure, learning objectives, activity design, and assessment plans against the Merdeka Curriculum guidelines; (b) samples of student assignments and project outputs; and (c) official school records related to curriculum implementation. This analysis provided tangible evidence of planning and learning outcomes.

Data Analysis

The collected data were analyzed using an interactive model of qualitative data analysis involving data reduction, data display, and conclusion drawing/verification (Bingham, 2023). Initially, interview transcripts, observation notes, and document summaries were organized and repeatedly reviewed to gain familiarity. Subsequently, thematic analysis was employed. Codes were generated inductively from the data (e.g., "challenge in differentiation," "use of local content," "student self-initiative") and then grouped into broader categories and themes. For instance, themes emerged around "Gaps in Implementation Fidelity," "Variation in Pedagogical Innovation," and "Dimensions of Student Autonomy." The analysis was an iterative process, constantly comparing findings across the three data sources (triangulation) to validate and refine the emerging themes, ensuring they accurately represented the collected evidence.

Data Validity and Ethical Considerations

To ensure the trustworthiness and validity of the research, several strategies were employed. Triangulation was central: data source triangulation (comparing accounts from teachers and students) and methodological triangulation (cross-checking findings from interviews, observations, and documents) were rigorously applied. For example, a teacher's claim about using varied media was checked against classroom observations and student interview responses. Member checking was performed by summarizing and sharing initial interpretations with a subset of participants to confirm accuracy. Detailed reflexivity was maintained through a research journal, where the researcher's potential biases and assumptions were recorded and reflected upon throughout the study. Ethically, this research adhered to standard protocols. Informed consent was obtained from all participants, including assent from students and permission from the school administration. Participants were informed about the study's purpose, their right to withdraw at any time without consequence, and the measures taken to ensure confidentiality. All names and identifying information have been anonymized in the reporting of findings to protect participant privacy.

Results

Senior High School (SMA) Negeri 3 Rembang has independently implemented the Merdeka Curriculum since 2022, with current application in Grade X (Phase E) and Grade XI (Phase F). This implementation has introduced significant innovations in the teaching and learning process, particularly in History. Findings derived from history teachers, students, classroom observations, and document analysis reveal a detailed picture of on-the-ground practices.

Planning for History Instruction within the Merdeka Curriculum

The planning process undertaken by history teachers began with reconstructing their understanding of the subject's position within the new curriculum framework before proceeding to the technical stages of teaching module development. This reconstruction identified four key positions based on the Learning Outcomes (*Capaian Pembelajaran* or CP). First, the contextual approach linking the past, present, and future. History teachers

at SMA N 3 Rembang have attempted to connect material with concrete examples and contemporary relevance. Second, history content that is more concise and essential. Teachers acknowledged this change and viewed it as an opportunity to develop their own materials.

Notable findings emerged regarding the third and fourth positions: the integration of local/micro-history and the application of differentiated instruction. The Phase E teacher actively introduced micro-history through assignments such as village history observations, family history, and feminist studies related to the figure of R.A. Kartini. In contrast, the Phase F teacher had not implemented similar practices, constrained by the limited material in the textbook. Likewise, regarding differentiated instruction; the Phase E teacher had applied it using varied media, while the Phase F teacher had not yet done so. In the technical planning stages, teachers followed the established flow: analyzing CP, developing teaching modules, aligning instruction with student characteristics, and planning assessment. Analysis of the teaching modules showed that both Phase E and F teachers had generally fulfilled the main components (general information, core components). However, incompleteness was found in the appendices, such as the absence of a glossary. Regarding diagnostic assessment, both teachers admitted to not conducting it routinely at the beginning of each learning session.

Implementation of History Instruction under the Merdeka Curriculum

Classroom observation of implementation revealed gaps between planning and practice, as well as differences between Phase E and F. The Phase E teacher's execution was relatively aligned with the teaching module, utilizing project-based group discussion methods (e.g., creating infographics) as planned. Conversely, the Phase F teacher was found to have discrepancies; the module planned for discussions and presentations, but the classroom practice involved lecture methods accompanied by resume-writing assignments.

Regarding teaching models and media, the difference was also striking. The Phase E teacher had adopted project-based learning models with varied media (visual, audio-visual, digital platforms like Quizizz). The Phase F teacher still relied on conventional models (lecture) with media limited to textbooks and the whiteboard. Assessment implemented by the Phase E teacher included formative and summative, while the Phase F teacher only conducted formative assessment and did not include plans for diagnostic or summative assessment in the teaching module.

Student Learning Autonomy in Merdeka Curriculum History Learning

Student learning autonomy was analyzed through eight indicators and showed interesting variations between Phase E and F. Phase E students generally displayed a more developed autonomy profile. They demonstrated good self-confidence during discussions, were willing to show their answers, and were unafraid of being wrong. Their ability to work independently and sense of responsibility for assignments also appeared good, although occasional late submissions occurred. Their initiative in seeking learning resources was highly active, utilizing the internet and books on their own accord. The initiative to ask questions, though not yet uniform, was visible among some students. When facing

difficulties, they demonstrated independent strategies such as asking peers, browsing, and only then consulting the teacher. Their self-control ability to maintain focus during learning was also rated as good.

On the other hand, Phase F students showed more varied and generally lower levels of autonomy in several aspects. Self-confidence still required encouragement, and the initiative to ask questions typically only emerged after the teacher provided a prompting question. Nevertheless, their ability to work independently, responsibility in completing assignments, and willingness to seek learning resources when instructed were evident. Their attitude in facing difficulties also showed independent effort. However, their self-control ability to focus was deemed not yet optimal, with some students appearing easily distracted or drowsy during lessons. At the end, the findings indicate that the more complete and student-centered implementation of the Merdeka Curriculum in Phase E correlates with a higher level of student learning autonomy compared to Phase F.

Discussion

The findings from SMA Negeri 3 Rembang reveal a critical duality in the initial implementation of the Merdeka Curriculum, characterized by structured adherence in planning stages contrasted with inconsistent and divergent execution. While both Phase E and F teachers systematically followed the mandated stages of teaching module development—analyzing Learning Outcomes (CP), designing assessments, and creating instructional tools (Bingham, 2023; Qoyyimah et al., 2020)—this procedural compliance did not guarantee faithful enactment. The significant divergence in classroom practice, particularly the Phase F teacher's reversion to conventional lecture methods despite planning for discussions, underscores a persistent challenge noted in curriculum transitions: the gap between formal policy adoption and deep pedagogical change (Ham & Dekkers, 2019; Rich, 2021). This suggests that while administrative frameworks are in place, the transformative pedagogical principles of the Merdeka Curriculum, such as student-centeredness and differentiation, require more profound internalization and support beyond mere technical documentation (Smets & Struyven, 2020).

A central tenet of the Merdeka Curriculum is the contextualization of learning, explicitly advocating for the integration of local history to connect students with their immediate socio-cultural heritage (Kemdikbud, 2022; (Halvorsen et al., 2021). The implementation at SMA N 3 Rembang presents a mixed picture. The Phase E teacher's proactive efforts to incorporate local Rembang history, such as projects on Batik Lasem and R.A. Kartini's legacy, align with the goal of making history relevant and fostering a multidimensional understanding of the past. However, the absence of similar integration in Phase F, attributed to textbook constraints, reveals a critical vulnerability. This disparity highlights how curriculum realization can become contingent on individual teacher initiative and interpretation rather than systemic, school-wide strategy (Zhang et al., 2023). It points to a need for structured professional development and resource creation that empowers all teachers to transcend textbook limitations and creatively embed local narratives, as the success of such reforms depends on uniform capacity building across all levels (Ke et al., 2023).

Furthermore, the varied use of technology and differentiated instruction between phases reflects broader national challenges in modernizing pedagogy. The Phase E teacher's utilization of digital tools and varied media aligns with calls for education to leverage technology to meet contemporary learner needs and foster engagement (Mohammadi Zenouzagh et al., 2023; S. Wang et al., 2023). In contrast, the Phase F teacher's reliance on traditional methods underscores a digital divide in pedagogical practice, potentially exacerbating disparities in student experience and outcomes within the same institution. This inconsistency impedes the curriculum's aim to cultivate adaptability and critical thinking skills essential for the digital era (Badshah et al., 2024). The findings suggest that successful curriculum reform must address not only access to technology but, more importantly, the pedagogical competencies required to harness it effectively for differentiated and autonomous learning (Langelaan et al., 2024).

The assessment practices observed further illustrate a partial transition. The planned inclusion of formative and summative assessments in modules indicates an understanding of the Merdeka framework's emphasis on continuous evaluation (Schildkamp et al., 2020). However, the sporadic application of diagnostic assessment and the Phase F teacher's narrowing of planned assessments to only formative methods reveal a persistent exam-oriented culture or a lack of deep training in assessment literacy. Effective differentiated instruction, a cornerstone of the curriculum, is predicated on robust initial diagnostic data to understand student readiness (Westbroek et al., 2020). The lack of routine diagnostic practice, therefore, directly undermines the potential for truly personalized learning pathways, making differentiation more aspirational than operational for some educators.

Most significantly, the correlation between pedagogical implementation and student learning autonomy offers compelling evidence of the curriculum's potential impact. The more holistic application of project-based learning, differentiated tasks, and local content in Phase E appears to have fostered a stronger sense of self-confidence, initiative, self-regulation, and resourcefulness among students—key indicators of learning autonomy (Susanti et al., 2023; Wu, 2024). Conversely, the more traditional, teacher-centered environment in Phase F correlated with students displaying lower initiative and requiring more external prompts. This aligns with educational theory positing that autonomy is cultivated through environments that provide choice, meaningful challenge, and opportunities for self-directed inquiry (Amiruddin et al., 2023; Wu, 2024). The data suggests that the Merdeka Curriculum's design can indeed promote autonomy, but this outcome is not automatic; it is mediated by the fidelity and quality of its classroom enactment (Amiruddin et al., 2023).

In conclusion, the implementation at SMA N 3 Rembang serves as a microcosm of the opportunities and challenges in rolling out the Merdeka Curriculum. It demonstrates that structural alignment at the planning stage is achievable, yet the ultimate success of the reform in fostering the intended Pancasila Learner profile—particularly the characteristic of independence—hinges on overcoming execution gaps (Hughes & Lewis, 2020). The observed disparities between phases underscore an urgent need for targeted, ongoing, and practical professional development that moves beyond conceptual understanding to coaching in pedagogical skills, local resource development, and consistent assessment for learning (Moore et al., 2023). Ultimately, the curriculum's promise to nurture independent, critical thinkers will only be fully realized when systemic support ensures that

innovative planning translates uniformly into transformative classroom practice for all teachers and students.

Conclusion

This study concludes that the implementation of the Merdeka Curriculum at SMA Negeri 3 Rembang presents a complex and uneven picture, characterized by a significant gap between formal planning and practical enactment. While teachers demonstrated systematic adherence to national guidelines in designing teaching modules, substantial inconsistencies emerged during classroom execution, particularly in the application of differentiated instruction and the integration of local history. These inconsistencies were notably pronounced between Phase E and Phase F, indicating that the depth of curricular transformation is highly dependent on individual teacher agency and pedagogical orientation rather than a uniform institutional shift. Ultimately, however, the findings affirm the curriculum's core potential, as its more faithful application in Phase E demonstrated a positive and tangible impact on fostering key dimensions of student learning autonomy—such as self-confidence, initiative, and self-regulation—compared to the more traditional learning environment in Phase F.

The research carries several critical implications for policy and practice. First, it underscores that the successful transition to the Merdeka Curriculum requires moving beyond procedural compliance to deep pedagogical transformation. Therefore, comprehensive, ongoing, and practice-based professional development for teachers is non-negotiable. Such programs must focus on building competencies in operationalizing differentiated instruction, developing contextual teaching materials, and implementing authentic assessment literacy, rather than merely disseminating regulatory concepts. Second, schools and local education authorities must proactively support the creation and curation of localized learning resources, especially for subjects like history, to empower all teachers to transcend textbook limitations. Finally, the observed link between student-centered pedagogy and increased autonomy provides a strong empirical rationale for educational leaders to consistently advocate for and resource the pedagogical shifts at the heart of the Merdeka reform, ensuring they are implemented equitably across all classrooms and grade levels.

This study acknowledges certain limitations that qualify its findings and suggest avenues for future research. Firstly, the research was conducted in a single school utilizing a qualitative case study approach; while providing depth, the findings are context-specific and not generalizable to all educational settings in Indonesia. Secondly, the reliance on self-reported data from interviews and observations at one point in time may not fully capture the longitudinal evolution of teaching practices or student autonomy. Thirdly, the study focused primarily on the implementation process and perceived autonomy, without employing standardized instruments to measure learning autonomy or student learning outcomes longitudinally. Future research would benefit from mixed-methods, longitudinal designs across multiple school contexts to trace the causal relationships between curriculum implementation strategies, teacher development, and measurable changes in student autonomy and academic achievement over time.

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