

Policy Analysis on the Implementation Curriculum Management in Labour Workforce

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Abstract

This study seeks to comprehend the planning and development of the Independent Curriculum in middle and high schools in Medan. Additionally, it aims to investigate the implementation of the Merdeka Curriculum in these institutions and its impact on the quality of learning and student outcomes. The study also endeavors to identify the primary obstacles and challenges encountered by teachers, students, and schools in the execution of the Merdeka Curriculum in Medan. Furthermore, it aims to analyze the factors influencing the effectiveness of curriculum implementation. The research methodology employed is an evaluative approach. The methodology employed in this study is the CIPPO method, encompassing context, input, process, product, and output. The data is presented qualitatively through narrative descriptions with accompanying descriptive percentages. Analytical techniques involve tabulation and qualitative analysis. Based on the outcomes of data analysis, it is discerned that the planning and development of the Independent Curriculum in Middle and High Schools in Medan have proceeded smoothly, aligning seamlessly with established criteria. The execution of the Independent Curriculum in middle and high schools in Medan has been generally successful; however, a few minor obstacles persist, impeding its seamless implementation. The primary challenge encountered by teachers, students, and schools in implementing the Independent Curriculum in Medan stems from insufficient facilities and infrastructure, particularly in schools situated in remote areas. This factor significantly affects the overall effectiveness of curriculum implementation. The research novelty resides in delineating the distinctive aspects of planning and executing the Merdeka curriculum within resource-constrained environments. The study delves into perceived obstacles and elucidates strategies aimed at surmounting challenges, thereby facilitating the effective implementation of the Merdeka curriculum in such settings.

Keywords: *Curriculum, evaluation, implementation, independent learning, obstacles.*

Introduction

The five foundational pillars of education within the framework of the 4.0 industrial revolution encompass economy, business, national-global relations, public, and individual aspects, all integral to expediting industrial requirements (Ayanwale, 2023; Fasanmi, 2023). In response to the economic, social, and cultural interconnectivity on a global scale, particularly within the Asean Economic Community (AEC) since 2015, Indonesia confronts heightened competition

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across various sectors such as industry labor, trade, and tourism among other occupations in MEA member countries (Ferguson, 2014). The imperative of cultivating a skilled, intermediate, and professional workforce becomes paramount to both enhance the accessibility and elevate the quality of secondary education, positioning Indonesia as a haven for skilled workers from MEA member nations.

In pursuit of this objective, education stands as a cornerstone for fostering robust governance. The educational landscape in Indonesia has undergone notable advancements, persistently evolving to address disparities vis-à-vis other nations (Majety et al., 2023; Nisselle et al., 2021). To bridge these gaps, the Indonesian government has adopted strategic measures, including the implementation of the Independent Learning Curriculum, also known as the Merdeka Curriculum (Benstead et al., 2023; Ken et al., 2023).

The implementation of the Merdeka Curriculum extends across all educational levels, spanning from elementary school (SD) to middle school (SMP) and high school (SMA) (Cufer et al., 2023; Del et al., 2023). Notably, the province of Medan, distinguished by a substantial population and a high number of school-age children, assumes a pivotal role as a focal point for the execution of the Independent Curriculum (Benstead et al., 2023; Shiao et al., 2023).

The Merdeka Curriculum stands as the singular national curriculum designed to promote a contextual education approach, accentuating pupils' abilities while remaining attuned to their evolving needs and developments (Iivari et al., 2023; Livingston et al., 2023). Following the onset of the COVID-19 pandemic, online methods have emerged as a potent tool to surmount various challenges in education implementation around the world (Irene, 2023; Nel et al., 2021; Salgado, et. al., 2023). This adaptability is attributed to the inherent flexibility of the Merdeka Curriculum in navigating obstacles and keeping pace with the contemporary zeitgeist (Blank & Petr, 2023; Henderson et al., 2023).

The Merdeka Curriculum exhibits exceptional flexibility, particularly in regions like Medan. Consequently, a more in-depth investigation is imperative to assess the effectiveness of its implementation at middle and high school levels (Blank & Petr, 2023; Nisselle et al., 2021). In Medan, the MKBM has been implemented across various school levels, as delineated in Table 1.

Table 1*Number of Schools That have Implemented the Independent Curriculum*

No	Level	2022 (%)	2023 (%)	Increase
1	Primary school	54.8	78.8	24.0
2	First high school	58.5	79.2	20.7
3	High school	67.6	82.9	15.3
4	Vocational high school	65.7	82.8	17.1
	Average	61.7	80.9	19.3

Source: Education Department of Medan

Table 1 illustrates that by 2023, the implementation of the Merdeka Curriculum is projected to reach 78.8% in elementary schools, 79.2% in junior high schools, 82.9% in high schools, and 82.8% in vocational high schools. Notably, senior high schools and vocational high schools exhibit the highest adoption rates. Analyzing the year-on-year increase from 2022 to 2023, elementary schools demonstrate the most substantial growth at 24%, followed by junior high schools at 20.7%. In contrast, vocational high schools show a moderate increase of 17.1%, while the lowest increment is observed in high schools at 15.3%.

Given the information presented, a comprehensive evaluation of the Merdeka curriculum's implementation in Medan is deemed necessary, particularly at the junior high school and senior high school levels (Cufer et al., 2023; Del et al., 2023). Given the information presented, a comprehensive evaluation of the Merdeka curriculum's implementation in Medan is deemed necessary, particularly at the junior high school and senior high school levels (Neto et al., 2023; Shiao et al., 2023). (Cufer et al., 2023; Del et al., 2023).

Prior research indicates that the Merdeka curriculum represents a transformative shift in curricular paradigms, holding the potential to significantly enhance the quality of education in Indonesia (Ying et al., 2022; Zhao & Cheah, 2023). Another study asserts that, the Merdeka curriculum introduces advancements in teaching materials, emphasizes a student-centric learning approach, and places a greater emphasis on skill development. Additionally, further research corroborates that the Merdeka curriculum is notably attuned to evolving social, informational, and technological landscapes (Delprato, 2023; Guti, 2023).

Additional research findings assert that the implementation of the Merdeka curriculum effectively addresses various challenges encountered by previous curricula. A key challenge in curriculum execution pertains to the proficiency of educators in mastering teaching materials, technologies, resources, and pedagogical methods (Ghafur, 2021; Ravindiran et al., 2023; Salman & Salonia,

2023). predominant issue is that a significant proportion of teachers struggle to align with the diverse expectations of a large and heterogeneous student body, characterized by varying abilities, interests, passion, and learning speeds (Iivari et al., 2023; Wang et al., 2023).

The unique contribution of this research lies in its evaluation of the implementation of the free curriculum in Western Java, with a focused consideration on teacher resource aspects. The study delves into the capacity to create learning media and apply teaching methods that enhance student performance in both competence and independence. Furthermore, a distinctive aspect of this study is its use of curriculum evaluation as a strategic step to meticulously identify the strengths and weaknesses in the implementation of the Merdeka curriculum. This approach is intended to contribute to the enhancement of education quality, particularly in Medan, and foster improvements in the overall success of education in the region.

Research Questions

Based on the summarized research issues pertaining to the evaluation of the implementation of the Merdeka Curriculum in secondary and high schools in Medan, the research questions to be addressed are as follows:

1. How can the planning and development of the Merdeka curriculum in middle and high schools in Medan align with educational goals and cater to the needs of students effectively?
2. How does the implementation of the Independent Curriculum in middle and high schools in Medan contribute to enhancing the quality of learning and the academic outcomes achieved by students?
3. What are the primary obstacles and challenges encountered by schools, teachers, and students in implementing the Merdeka curriculum in middle and high schools in Medan, and how do these factors influence the implementation of the Independent Curriculum?

Review of Literature

Educational Evaluation Theory

This theoretical framework encompasses commonly employed educational evaluation methods designed to measure the effectiveness of curriculum implementation (Cufer et al., 2023; Mogale, 2023; Thi et al., 2023). Educational assessment encompasses diverse evaluation methods and tools,

including assessment of student learning outcomes, curricular analysis, the integration of technology in education, and the efficiency and efficacy of resources (Benstead et al. 2023; Makuvire et al., 2023; Neto et al., 2023; Seitbatkalova et al., 2023; Sekerbayeva et al., 2023). This theoretical framework will serve as a valuable tool in evaluating the degree to which the Merdeka Curriculum attains its objective of enhancing the quality of education in primary and secondary schools in Medan (Ken et al., 2023; Shiao et al., 2023). The educational evaluation theory serves as a framework employed to measure, analyze, and assess the effectiveness of education, encompassing education systems, curricula, learning programs, and teaching practices (Chen, et. al., 2023; Wang et al., 2023). This theoretical framework aids in ascertaining the extent to which educational goals are realized, offering comprehensive insights into various facets of education (Nieuwelink & Schuitema, 2023; Salgado, et. al., 2023). One of the primary aims of educational evaluation is to assess the extent to which educational objectives have been accomplished (Mackenzie et al., 2023; Wang et al., 2023). These objectives may encompass improvements in the quality of education, enhancements in student learning outcomes, increased resource efficiency, or advancements in educational decision-making processes (Blank & Petr, 2023; Ilgen et al., 2023).

This theoretical framework encompasses a range of evaluation methods, including testing and assessing student learning outcomes, surveys, observations, curriculum analysis, and the integration of technology in education (Ravindiran et al., 2023; Salman & Salonia, 2023). The theory of educational evaluation underscores the significance of assessing the curriculum (Allen et al., 2023; Del et al., 2023). This theoretical framework incorporates the analysis of curriculum structure and content, evaluating the extent to which the curriculum aligns with student needs and effectively addresses them. Student learning outcomes are typically assessed through examinations, assignments, projects, or portfolios (Meng et al., 2023; Vellingiri et al., 2023). The Educational Evaluation Theory further underscores the significance of curriculum evaluation. This involves analyzing the structure and content of the curriculum, assessing its alignment with student needs, and determining the extent to which it achieves the established educational goals (Liff, 2023; Salgado et. al., 2023).

Furthermore, educational evaluations encompass considerations of the effectiveness and efficiency in the utilization of resources, including funds, facilities, and teaching staff (Chen et al., 2023; Terkamo-moisio et al., 2022). The objective is to guarantee that available resources are utilized

optimally to enhance the quality of education. The educational evaluation theory underscores that the outcomes of evaluations should be utilized for decision-making and improvements (Donkoh et al., 2023; Fields et al., 2023). The results of the evaluation should be leveraged to provide recommendations for enhancing the performance of the education system (Novelli, 2023; Zhao & Cheah, 2023). Education Evaluation Theory proves highly relevant when evaluating the implementation of the Merdeka Curriculum in primary and secondary schools in Medan. It facilitates the assessment of the program's efficacy in achieving its objectives, guides considerations about potential curriculum adjustments, tracks the evolution of student learning outcomes, and evaluates the efficient utilization of resources (Ramadan et al., 2023; Stephen & Yuichi, 2023). A well-structured evaluation framework empowers stakeholders to make informed decisions aimed at enhancing the quality of education in the region (Jaekel, 2023; Neto et al., 2023).

Policy Implementation Theory

This theoretical framework centers on the facets of implementing educational policies, such as the Free Curriculum, and its impact on educational institutions (Henderson et al., 2023; Storm et al., 2023). It delves into the implementation of policies at the school level, explores interactions among stakeholders, and scrutinizes the evolution of learning practices (Iivari et al., 2023; Perisic et al., 2023). The Policy Implementation Theory can provide valuable insights into comprehending the challenges and opportunities in the implementation of the Merdeka Curriculum in Medan. This involves analyzing the factors that influence policy implementation (Fischer-sch, 2023; Nieuwelink & Schuitema, 2023).

Policy Implementation Theory is an analytical approach that focuses on the practical execution of public or educational policies at the executive level, particularly within educational institutions like primary and secondary schools (Iivari et al., 2023; Oguro et al., 2023). The primary objective of this theory is to comprehend the factors influencing the transformation of government-formulated policies into tangible actions on the ground (Ravindiran et al., 2023; Whittaker, et. al., 2022). According to Policy Implementation Theory (Chen et al., 2023; Del et al., 2023), the policy implementation process includes stages such as planning, organization, financing, implementation, monitoring, and evaluation. The implementation of the Merdeka Curriculum encompasses various elements, including teacher training, resource provision, and curriculum adjustments (Cufer et al.,

2023; Vellingiri et al., 2023). Policy Implementation Theory proposes that various actors and stakeholders involved in policy implementation may not be adequately engaged (Ken et al., 2023; Salman & Salonia, 2023). These actors can include local government, central government, teachers, students, parents, and community groups. In the context of evaluating the Merdeka Curriculum in Medan, these actors play a crucial role in both the implementation and impact of the curriculum (Del et al., 2023; Fields et al., 2023). Policy implementation, as suggested by Policy Implementation Theory, can be influenced by both internal and external factors (Allen et al., 2023; Salman & Salonia, 2023). Internal factors encompass elements like authority commitments, human resources, and school infrastructure. External factors, on the other hand, comprise occurrences beyond the control of educational institutions, such as political changes, societal shifts, and national policies (Del et al., 2023; Ken et al., 2023).

This theory acknowledges that different stakeholders may harbor distinct goals, interests, and perspectives throughout the policy implementation process (Allen et al., 2023; Chen, et. al., 2023). Such divergences can lead to either disagreement or collaboration in the policy implementation (Cufer et al., 2023; Meng et al., 2023). Varied opinions among stakeholders, particularly concerning the old and new approaches presented by the Independent Curriculum, may surface during its evaluation in high schools and secondary schools in Medan (Schaper et al., 2022; Thi et al., 2023). Policy Implementation Theory underscores the significance of monitoring and evaluation throughout the policy implementation process (Chen et al., 2023; Kong,et. al., 2022). Evaluations are conducted to assess how effectively the policy aligns with the plan and accomplishes its objectives (Donkoh et al., 2023; Ramadan et al., 2023). The outcomes of the evaluation serve as a basis for making adjustments in the policy implementation and offering recommendations for improvement (Guti, 2023; Shiao et al., 2023).

The Policy Implementation Theory offers a valuable foundation for comprehending how policies, such as the Free Curriculum, are implemented in educational institutions in Medan (Fischer-sch, 2023; Nieuwelink & Schuitema, 2023). Decision-makers can enhance their understanding of the factors influencing implementation, thereby contributing to the achievement of educational policy goals (Fischer-sch, 2023; Ying et al., 2022).

Student Empowerment Theory

This theory acknowledges the importance of student-centered learning, providing students with greater control over their learning process (Henderson et al., 2023; Storm et al., 2023). The evaluation of the Merdeka curriculum in secondary and high schools in Medan can determine whether the program succeeds in enhancing student engagement, empowering them in the learning process, and developing skills and knowledge that are better suited to future needs (Silva, 2023; Thi et al., 2023). The student empowerment theory is an educational approach that emphasizes active role of students in the learning process (Chen et al., 2023; Schaper et al., 2022). This theory recognizes that students should not only receive information passively, but also actively participate in their learning processes. Student empowering includes providing students with the opportunity to have greater control over their learning, increasing their motivation, improving their social skills, and fostering self-sufficiency (Donkoh et al., 2023; Tchouchu & Ahenkan, 2023). According to the theory of theory of student empowerment, students should not engage in passive participation in the learning process (Iivari et al., 2023; Tchouchu & Ahenkan, 2023). Instead, they are encouraged to actively participate in the learning process by exploring, asking questions, speaking, and engaging in discussions. Student-centered learning involves shifting the focus from teacher-centered teaching to student-centric learning. In this approach, teachers function as facilitators and guides, assisting students in understanding the material (Liff, 2023; Stephen & Yuichi, 2023).

The theory of student empowerment aims to foster student independence, encompassing students' ability to manage time, organize resources, and take initiative during the learning process (Bad, 2022; Silva, 2023). It guides students to become independent learners capable of setting their own goals and devising strategies to achieve them (Schaper et al., 2022; Terkamo-moisio et al., 2022). Motivation is a crucial component of empowering students. Those who perceive control over their learning are generally more motivated (Oguro et al., 2023; Weerasekara et al., 2023). When students believe that their learning is relevant and significant, their motivation to study tends to increase (Mackenzie et al., 2023; Wang et al., 2023). The theory also acknowledges the significance of social skills in facilitating students' interaction, collaboration, and communication during the learning process (Fischer-sch, 2023; Livingston et al., 2023).

This theory underscores the importance of making learning relevant to students' everyday lives, emphasizing how the subject matter can be connected to their daily experiences and needs (Suntana

& Priatna, 2023; Whittaker, et. al., 2022). By providing support, students have the opportunity to deepen their understanding of the subject, fostering deep questions and critical thinking (Chen, et. al., 2023; Vellingiri et al., 2023).

Assessments that prioritize students' comprehension and abilities rather than mere recall of facts are integral to student empowerment (Liff, 2023; Scheffelaar, et. al., 2023). These assessments involve measurements based on a student's project, task, or performance, facilitating the application of acquired knowledge (Salgado, et. al., 2023; Thi et al., 2023).

The student empowerment theory has served as the foundation for various modern educational approaches, such as project-based education, a problem-based approach, and a flipped classroom approach (Hamakali & Josua, 2023; Irene, 2023; Ravindiran et al., 2023). It is also pertinent for evaluating the implementation of a free curriculum because its emphasis on student empowerment can assist in assessing the extent to which the program fosters student motivation, encourages active participation, and develops skills aligned with the curriculum (Irene, 2023; Ken et al., 2023).

Methods

Design

This study employed an evaluation research design with the objective of examining education policy in preparing the readiness of workforce outcomes as proposed by Sax (1989). Specifically, the study applied the Context, Input, Process, Product, Outcome (CIPPO) model of program evaluation, as developed by Sax (1989). Evaluation research is deemed appropriate for assessing policy programs (Sax, 1989), and CIPPO represents a modified version of the CIPP (Context, Input, Process, Product) model defined by Stufflebeam and Shinkfield (1985).

The CIPPO program evaluation model encompasses five key evaluation components: context, input, process, product, and outcome, forming an integral part of assessing the program (Dressel et al., 2020; Jollymore et al., 2018). In this evaluation, outcome serves as the ultimate measure of performance, gauged by the success level achievable based on the output of the implemented programs or activities.

The assessment of the CIPPO program undeniably involved an evaluation of its impact (Jollymore et al., 2018). This study was conducted at the Workforce Training Center in Medan, West Sumatra, Indonesia, and the operationalization of CIPPO in this study appears in Table 2.

Table 2
Stages of CIPPO design

Stage	Description
Context	Identification of the background and purpose of the Merdeka Curriculum in secondary and high school in Medan, and collects data related to the educational conditions in the region, including student participation rates, school infrastructure, and student characteristics.
Input	The analysis of policy documents related to the Merdeka Curriculum in Medan, such as implementation guidelines and regulations; the human resources, resources, and supplies available to support the implementation of the Merdeka curriculum; and the training or professional development that has been provided to teachers and school staff relating to the curricula.
Process	Implementation process of the Merdeka Curriculum in various schools in Medan. The implementation of the curriculum, the teaching strategies used, and the use of educational technology; insights into their experience in implementing the Merdeka Curriculum; and data on the measurement and assessment methods used in this curriculum
Product	Analysis of student learning outcomes measured using the Free Curriculum. Compare these results with established educational standards; evaluate the results of students' work, projects, or tasks produced in this curriculum; and the activity of teachers and school staff in evaluating the effectiveness of curricula in achieving the educational goals set.
Outcomes	Evaluation of the long-term impact of the Free Curriculum on students, including their ability to advance to higher education or enter the workplace; the impact on the development of student competence beyond academic aspects, such as critical thinking skills, social skills, and student empowerment; and the challenges or problems that may arise during the implementation of free curriculum and suggestions for improvement.

Study Participants

The study included 40 participants, comprising 20 students from SMP (middle school) and 20 students from SMA (high school), all of whom were enrolled in the Workforce Training Center in Medan, Indonesia. The profile of the study participants is presented in Table 3.

Table 3
Participant of the Study

Criteria	Middle school	High school
Total participant	20	20
Female	11	8
Male	9	12
Age of Participant	Average more than 13 years	Average more than 16 years
13-15 years (Middle school)	15	-
16-18 years (high school)	1	13
More than 20 years (teacher, headmaster, parent)	4	7
Status of Participant		
Student	15	13
Teacher	2	3
Headmaster	2	3
Parent	1	1

Instruments

Observation Grid

The research instruments employed in this study consisted of grids designed to guide observations and interviews. The observation grid comprised five observation objects with 19 indicators. It is

essential to note that the observation grid was created by the researcher and underwent a review process by experts. Please refer to Table 4 for further details.

Table 4*Blueprint of Observation Grid*

No	Object of observation	Indicator
1	Context	1.1 The identification of the background and purpose of the Merdeka Curriculum in secondary and high school in Medan, 1.2 Collects data related to the educational conditions in the region, 1.3 Student participation rates, 1.4 School infrastructure, 1.5 Student characteristics
2	Input	2.1 Regulations of the human resources, resources, and supplies available to support the implementation of the Merdeka curriculum; 2.2 The training or professional development that has been provided to teachers 2.3 School staff relating to the curricula
3	Process	1.1 The teaching strategies used, 1.2 The use of educational technology; 1.3 Data on the measurement 1.4 Assessment methods used in this curriculum
4	Product	4.1 Students' work, 4.2 Student projects, 4.3 The activity of teachers and school staff in evaluating the effectiveness of curricula in achieving the educational goals set.
5	Outcome	5.1 Ability to advance to higher education or enter the workplace; 5.2 The impact on the development of student competence beyond academic aspects, 5.3 The challenges or problems that may arise during the implementation of free curriculum 5.4 Suggestions for improvement

Interview Guide

Similar to the observation grid, the interview guide developed by the researcher underwent a review process by experts and received a favorable opinion. The interview guide, outlined in Table 5, consists of 5 questions and 17 indicators. (See Table 5).

Table 5.*Blueprint of Interview Guide*

No	Questions	Resource of data
1	Context	1.1 Educational conditions in the region, 1.2 Student participation rates, 1.3 School infrastructure, 1.4 Student characteristics
2	Input	2.1 Curriculum 2.2 Student 2.3. Teacher and headmaster 2.4. parent
3	Process	3.1 School facility 3.2 Laboratory 3.3 Equipment of school 4.3. Teaching method
4	Product	4.1 Graduate 4.2 Media of education
5	Outcome	5.1 Alumni 5.2 Worker 5.3 Alumni family association (IKA)

Data Collection

The primary data for this study comprised documents related to the examination of regulations, student involvement, training programs, and monitoring results. The evaluation of the data was conducted using the Evaluation Instrument outlined in Minister of Manpower and Transmigration Mo. 8 Year 2014.

Drawing from the instrument grids in this study, the observation stage was carried out to observe students' activities during the training process, the tools utilized for training, and the overall facilities of the training equipment. The interviews primarily aimed to corroborate activities, tools, and the outcomes of monitoring. To this end, qualitative data were integrated into the document analysis, and numerical data were tabulated to identify their tendencies.

Each aspect of the CIPPO model was assessed through specific grids, serving as the primary data collection procedures. Data related to the context included: (1) the foundation of the training program, (2) characteristics of the training program, and (3) program sustainability. The input aspect encompassed: (1) infrastructure, (2) the selection process of training participants, (3) instructor competency, (4) curriculum, and (5) funding. The process aspect involved four components: (1) planning of the training program, (2) implementation of the training program, (3) supervision of the program, and (4) monitoring of the program.

The product aspect focused on the competency of the trainees, while the outcome aspect indicated the level of the graduate program required to achieve a 70% readiness level for the international market. Table 6 delineates the aspects of CIPPO and their respective indicators, as summarized from the standardized evaluation instrument provided by the Minister of Manpower and Transmigration No. 8 Year 2014.

Table 6
CIPPO Evaluation Instrument

CIPPO Aspects	Indicators
Context	
Foundation training program	The clear foundation of program objectives against laws, regulations, and government policies
Characteristics of the training Program	The principle of the training program issued by the Minister of Manpower and Transmigration No 8. Year 2014
Program suitability	Suitability of program objectives and identification of training program needs
Input	
Infrastructure	The infrastructure and equipment for practice tools and materials using the standards of the Minister of Manpower and Transmigration No. 8 the Year 2014

Training participant selection process	The selection of training participants based on the Standard Operating Procedure (SOP) in the Regulation of the Minister of Manpower and Transmigration No. 8 the Year 2014
Instructor competence	Instructor Competence by the Minister of State Apparatus Empowerment Regulation No. 36 of 2003 concerning Instructor Functional Positions and Credit Scores
Curriculum	Competency-based curriculum by National Qualification Framework
Fund	Availability during for the whole training process
Process	
Training program planning	Planning stages as defined by the standards of the Minister of Manpower and Transmigration No. 8 the Year 2014
Implementation of training programs	Implementation of the standards training program of the Minister of Manpower and Transmigration No. 8 the Year 2014
Supervision of the implementation of the training programs	Implementation of monitoring standard of the Minister of Manpower and Transmigration No. 8 the Year 2014
Product	
Competency of trainees	Participants mastery on the competency units according to the training field they were already served
Outcome	
	Graduates program training, placed in world industry by 70% on Standard Service, Minimum Employment for Placement Service of the world workforce

Data Analysis

In terms of data analysis, the researcher adhered to the evaluation research model proposed by Sax (1989) for both the CIPPO and CIPP models by Stufflebeam and Shinkfield (1985). The analysis involved a combination of qualitative data, placing more emphasis on discovering the rules or patterns of a program. Quantitative data in this study were analyzed using descriptive statistics, presenting information in tables, diagrams, and percentage rates. The data analysis prioritized a descriptive analysis based on percentages, comparing the success guidelines derived from each CIPPO phase of 80%, the level of attendance, and the program attendance rate. To contextualize the program policy, an evaluation instrument defined by the Minister of Manpower and Transmigration of Indonesia was employed (refer to Table 5 and Table 6).

Results and Discussion

Research Question 1:

Planning and Development of Merdeka Curriculum in High and High Schools in Medan

Implementation of primary and secondary schools in Medan faces various challenges and opportunities that significantly affect the progress and development of education in the region (Majety et al. 2023; Neto et al. 2023). Some of the challenges identified in Medan, according to the informants interviewed, include: *First*, a large number of villagers lacking easy access to

primary and secondary education (Delprato, 2023; Jaekel, 2023). They have to cover a considerable distance to reach secondary and high schools, navigating unpaved, broken, and non-concrete roads. Many of them use motorcycles, inadequate public transportation, and some even have to walk to reach school (Delprato, 2023; Neto et al., 2023). *Second*, the quality of teachers in rural areas is also less than maximum.

Many teachers, especially older Army teachers, lack proficiency in technology and are resistant to adapting to technological advancements (Blank & Petr, 2023; Meng et al., 2023). Consequently, the lesson material delivered relies solely on textbooks, which are often delayed in their development process (Fields et al., 2023; Guti, 2023). *Third*, the school infrastructure is suboptimal, evident in factors such as the overall school atmosphere, study room temperature, laboratory facilities, internet access, library resources, and other learning amenities (Majety et al., 2023; Stephen & Yuichi, 2023). This deficiency is attributed to the low commitment of the local government to providing necessary facilities and resources (Majety et al., 2023; Neto et al., 2023). To successfully implement the Merdeka curriculum, there is a critical need for serious attention from the provincial and central governments to enhance the quality of educational facilities and infrastructure in Medan, particularly in rural areas (Jaekel, 2023; Neto et al., 2023). Despite the challenges, there are various opportunities for Medan in the adoption of the Merdeka curriculum. *First*, the wealth of natural and economic resources in Medan should be harnessed more effectively to support the successful implementation of the Merdeka curriculum, particularly in enhancing educational facilities and infrastructure as needed (Fields et al., 2023; Nisselle et al., 2021). This potential also creates opportunities for much-needed job creation for the graduates (Blank & Petr, 2023; Livingston et al., 2023).

Second, Medan exhibits a growing culture and a strong support for the implementation of the Merdeka curriculum (Mackenzie et al., 2023; Ramadan et al., 2023). Despite the presence of numerous ethnic groups in Medan, creating a multi-ethnic and multi-cultural environment (Iivari et al., 2023; Moti & Mekonnen, 2023), there is a cohesive and supportive atmosphere for the curriculum.

Third, collaboration between local governments, private and public entities in the form of corporate social responsibility or other initiatives can offer financial support to enhance the availability and quality of educational facilities. This collaboration is crucial to ensure the optimal implementation of the Merdeka curriculum (Ramadan et al., 2023; Salgado, et. al., 2023). With

such support, schools can procure the necessary technologies and information, ensuring that students are not left behind in the advancements related to Artificial Intelligence (Ken et al., 2023; Salman & Salonia, 2023).

Fourth, there is a very high level of public participation in the implementation of education in Medan, ensuring the successful implementation of the Merdeka curriculum (Blank & Petr, 2023; Omran et al., 2023). Through active community involvement in planning, implementation, evaluation and result utilization, the quality of education in Medan can be enhanced, contributing to the success of the Merdeka curriculum (Fields et al., 2023; Nisselle et al., 2021).

Based on the above description, the planning and implementation of the Merdeka curriculum in Medan encounter both supportive and hindering aspects. It is crucial for all education stakeholders, including teachers, school principals, supervisors, district education departments, provincial education offices, and the central government ministries of education, culture, research, and technology, to comprehensively understand these factors (Terkamo-moisio et al., 2022; Zhao & Cheah, 2023).

The planning and implementation of the free curriculum at the secondary and high school levels in Medan has been conducted through various discussions involving all stakeholders, as mentioned above, and can be considered fundamentally successful (Cufer et al., 2023; Del et al., 2023). Examination of the elements of the container and the input of the Merdeka curriculum implementation in Medan is presented in Table 7 and Diagram 1.

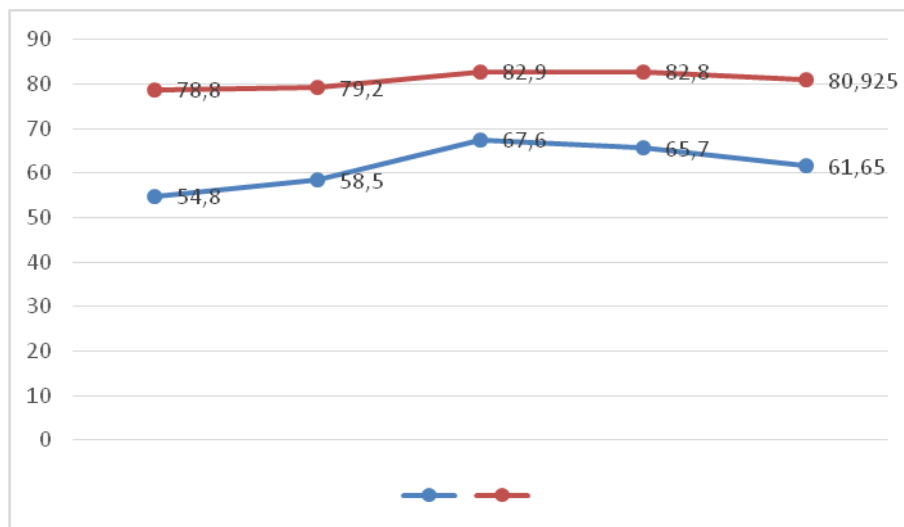
Table 7

Curriculum Context Merdeka in High School and High School in Medan

No	Aspect	Targets	Level of achievement	%
1	The objectives of the Independent Curriculum	80	76	95%
2	Educational conditions in middle and high schools	80	77	96%
3	Level of student participation	80	78	98%
4	School infrastructure	80	75	94%
5	Student characteristics	80	76	95%
	Average	80	76	95%

Source: Primer data, 2023

Analyzing the data presented in Table 7 reveals that although not all indicators of the framework have been fully met, the overall achievement stands at 76%, surpassing the target of 80%. This success rate corresponds to 95%, indicating a high level of accomplishment.

**Diagram 1**

Context of the Independent Curriculum in Middle and High Schools in Medan

Examining the input phase, Table 8 illustrates the degree of input availability in the execution of the Merdeka curriculum as follows.

Table 8*Merdeka Curriculum Input in Medan*

No	Aspect	Targets	Achievement	%
1	Completeness of policy documents related to the Independent Curriculum	80	76	95%
2	Implementation guidelines and regulations	80	77	96%
3	Human Resources,	80	78	98%
4	Available facilities and infrastructure	80	75	94%
5	Training or professional development that has been provided to teachers	80	76	95%
6	Development of school staff related to curriculum	80	74	93%
	Average	80	76	95%

Sources: research primer data, 2023

Table 8 accurately indicates that the Merdeka curriculum implementation input in Medan, with a target of 80%, has achieved 76%, reaching a success rate of 95%. This can be considered very high.

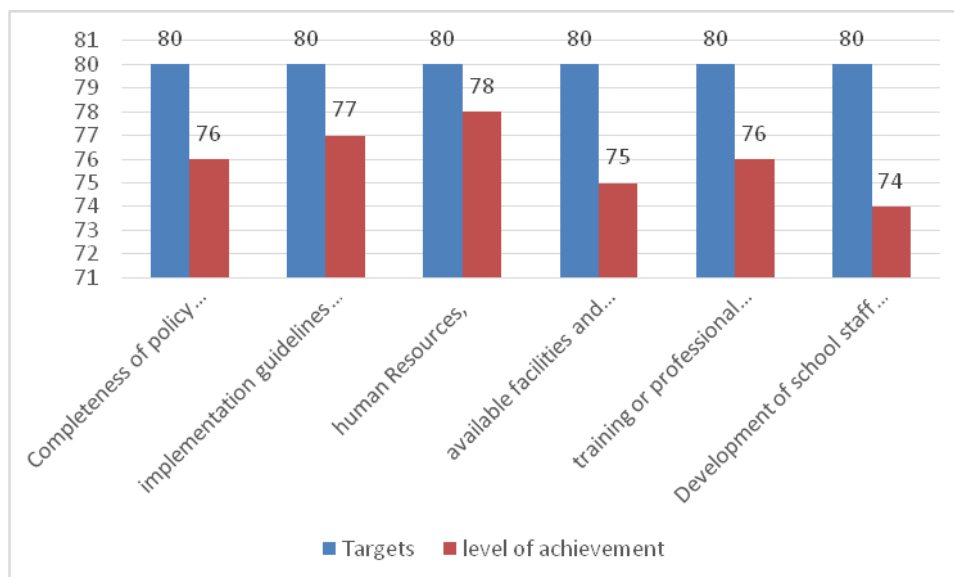


Diagram 2
Independent Curriculum Input in Medan

Research Question 2:
Implementation of the Independent Curriculum in Middle and High Schools in Medan Influences the Quality of Learning

The implementation of the Merdeka curriculum in middle and high schools in Medan has been successful, thanks to the active involvement of schools, teachers, students, and other crucial stakeholders like school committees, parents, and education offices at different administrative levels (Liff, 2023; Thi et al., 2023).

The stages of implementing the Merdeka curriculum in Medan are outlined based on the findings of Fields et al. (2023) and Silva (2023). First, teachers in middle and high schools in Medan undergo comprehensive training to understand and implement the curriculum. This training equips teachers with additional knowledge on applying student-centered (Alexandro & Basrowi, 2024b, 2024a; Hamdan & Basrowi, 2024; Kittie & Basrowi, 2024), project-based, problem-solving-based and fun learning methods, holistic evaluation, and development of cross-subject skills, among others (Benstead et al., 2023; Stephen & Yuichi, 2023). Second, teachers undergo training to create lesson materials aligning with the principles of implementing the Merdeka curriculum, emphasizing student competence, competitiveness, and independence (Ilgen et al., 2023; Ramadan et al., 2023). The materials developed by teachers must genuinely reflect advancements in science and technology and be connected to children's interests and motivation (Iivari et al., 2023;

Mackenzie et al., 2023). Third, during the planning and implementation of the curriculum, schools adopt cooperative learning methods, student-centered approaches, emphasize problem-solving, engage in specific project work, utilize portfolio-based and contextual evaluations, and ensure students comprehend using a cross-subject approach (Mackenzie et al., 2023; Ramadan et al., 2023). Fourth, teachers are tasked with training students to think critically, creatively, communicate effectively, and collaborate (Henderson et al., 2023; Ken et al., 2023). This thinking approach should encompass various subjects using interactive learning media to enable holistic evaluation. Additionally, students are encouraged to actively provide feedback on lesson materials, fostering effective and in-depth interactions with the teacher (Nieuwelink & Schuitema, 2023; Schaper et al., 2022). (Table 9).

Table 9*Merdeka Curriculum Implementation Process in West Sumatera*

No	Aspect	Targets	Level of achievement	%
1	Process of implementing the Independent Curriculum	80	77	96%
2	Experiences of teachers, school staff and administrators in implementing the Independent Curriculum	80	79	99%
3	Measurement and assessment methods used in the curriculum	80	78	98%
	Average	80	77	96%

Sources: Research primer data, 2023.

Table 9 shows that the implementation target of the Merdeka curriculum in Medan is set at 80%, and the actual achievement stands at 77%, resulting in a success rate of 97%. This suggests that the implementation process of the Merdeka curriculum in Western Java has been highly successful.

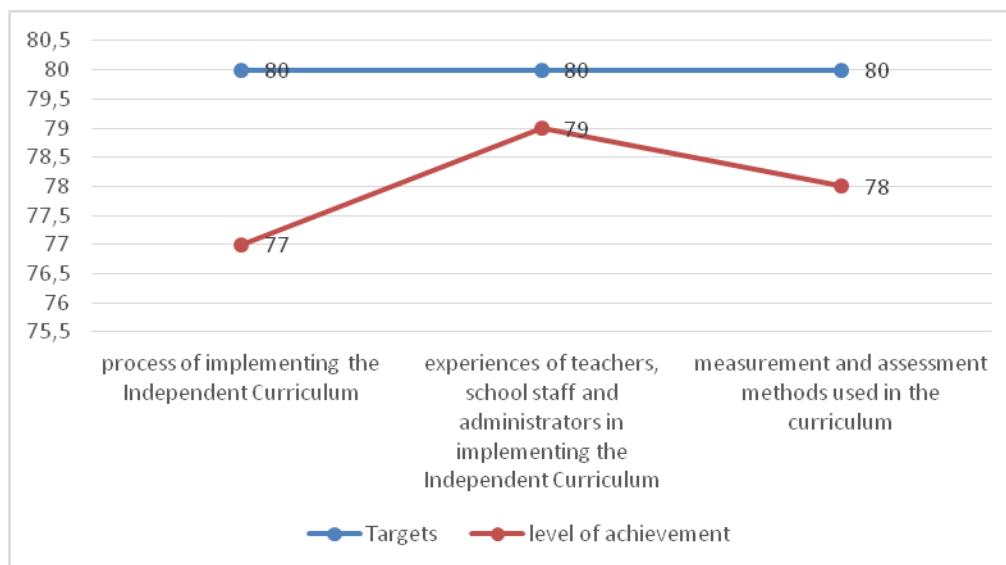


Diagram 3
Product of Implementing the Independent Curriculum in Medan

Regarding the outcomes of implementing the Merdeka curriculum in Medan at both junior and senior high school levels, the details can be observed in Table 10.

Table 10
Merdeka Curriculum Implementation in Medan

No	Aspect	Targets	Level of achievement	%
1	Student work results	80	74	93%
2	Student produced projects	80	73	91%
3	Assignments completed by students	80	78	98%
	Average	80	75	94%

Source: Primer data of research, 2023.

Table 10 presents valuable data indicating that the products resulting from the implementation of the Merdeka curriculum at the middle and high school levels can be considered satisfactory. The set target was 80%, and it has been attained at 75%, resulting in a success rate of 94%. In essence, the implementation of the Merdeka curriculum in Medan has successfully contributed to the development of students' high competence, independence, and competitiveness.

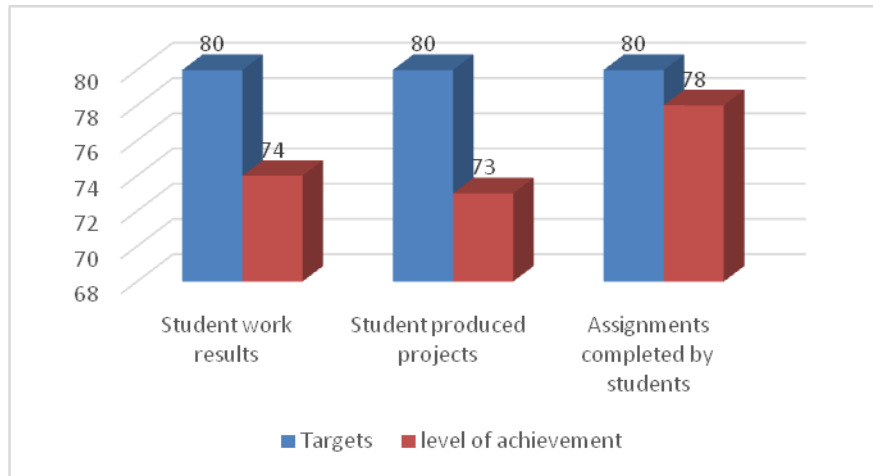


Diagram 4
Merdeka Curriculum Implementation in Medan

Regarding the outcomes of the implementation of the Merdeka curriculum in Medan, both at the high school and secondary school levels, a detailed presentation is available in Table 11.

Table 11
Outcome of Merdeka Curriculum Implementation in Medan

No	Aspect	Targets	Level of achievement	%
1	Level of student participation,	80	76	95%
2	School infrastructure	80	74	93%
3	Student characteristics	80	78	98%
	Average	80	76	95%

Source: Research primer data, 2023

Table 11 indicates that the achievement of outcomes in the implementation of the Merdeka curriculum at the upper secondary and high school levels in Medan has reached 76%, surpassing the set target of 80%. This signifies a high achievement rate of 95%.

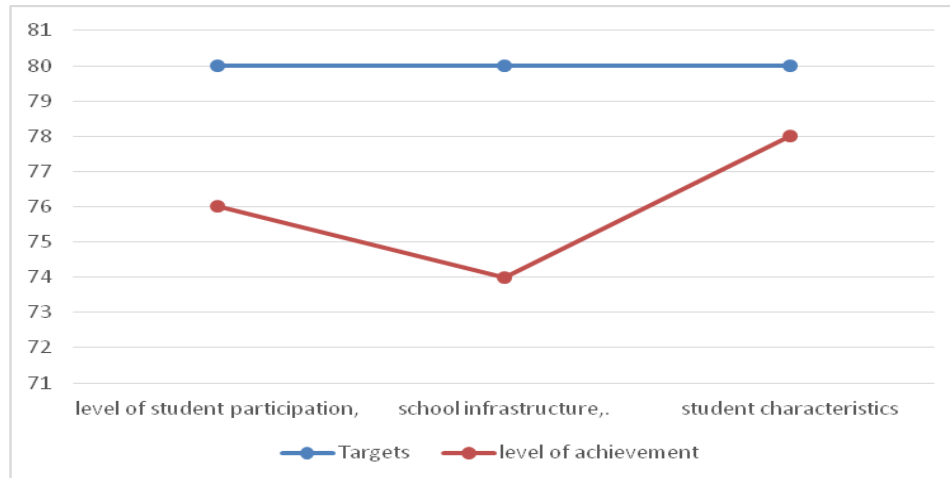


Diagram 5
Outcome of Merdeka Curriculum Implementation in Medan

The implementation of the Merdeka curriculum in Medan has notable implications, particularly in enhancing the quality of education. It contributes to an increased level of students' comprehension of the teaching material delivered by teachers (Tchouchu & Ahenkan, 2023; Ying et al., 2022). Moreover, the implementation of the Merdeka curriculum positively impacts the improvement of learning approaches presented by teachers. Teachers are now capable of applying research-based learning methods, engaging students in projects, cases, and discussions (Novelli, 2023; Vellingiri et al., 2023). Through the implementation of the Merdeka curriculum, students acquire and develop cross-cutting teaching skills, including critical thinking, creativity, communication, and collaboration. These skills are not only applicable within the school environment but also extend to various contexts, encompassing the community and other settings (Benstead et al., 2023; Storm et al., 2023).

Through the implementation of the Merdeka curriculum, students actively engage in learning through real projects, problem-solving, research, and the application of interesting and relevant concepts, thereby enhancing their overall learning experience (Fields et al., 2023; Iivari et al., 2023). Additionally, teachers are equipped to leverage educational technology to improve the quality of teaching (Cufer et al., 2023; Omran et al., 2023). This includes utilizing software resources, online materials, and electronic-based learning platforms, all of which contribute to enhancing the learning journey for students (Guti, 2023; Terkamo-moisio et al., 2022). Through the implementation of the Merdeka curriculum, teachers can holistically assess student progress in learning (Neto et al., 2023; Zhou et al., 2023). Holistic evaluation encompasses academic

evaluation, skills, problem solving abilities, projects, portfolios, and more (Wang et al., 2023; Weerasekara et al., 2023). The more interactive and contextual learning approaches in the Free Curriculum contribute to increased motivation and engagement of students in the learning process, thereby positively impacting their learning outcomes (Weerasekara et al., 2023; Zhou et al., 2023). In the implementation of the Merdeka curriculum, teachers play a crucial role motivation and participation of students in the learning process. Increased motivation and active engagement lead to improved student performance, as evidenced by the significant advancements in the portfolio materials they produce (Fischer-sch, 2023; Storm et al., 2023).

Research Question 3:**The main obstacles and challenges faced by teachers, students and schools in implementing the Independent Curriculum in Medan**

The implementation of the Merdeka curriculum in middle and high schools in Medan encounters similar challenges as in other provinces. The primary obstacle faced by teachers is the need for training in various aspects of curriculum interpretation, development of suitable learning materials aligned with the Merdeka curriculum, selection of effective learning methods, portfolio evaluation, authentic and holistic evaluation, and the integration of subjects (Majety et al., 2023; Oguro et al., 2023).

Teachers also encounter challenges related to the availability of suitable textbooks aligned with the Merdeka curriculum. Limited textbooks that integrate multiple subjects, provide examples of holistic and authentic evaluations, and demonstrate various student-centered methods, project-based assignments, and problem-solving approaches pose obstacles to effective curriculum implementation (Nisselle et al., 2021; Shiao et al., 2023).

Students encounter challenges in adapting to diverse learning methods. While traditional approaches focused primarily on lesson materials, the Merdeka curriculum emphasizes project-based and problem-solving methods (Jaekel, 2023; Wang et al., 2023). Students need to develop discipline in collecting portfolio evidence of their work, establish connections between subjects, and actively engage in group activities when working on projects (Fischer-sch, 2023; Ying et al., 2022). Schools encounter challenges related to accessing financial resources. Junior high schools face obstacles in obtaining funds from the Regency and City, while high schools rely on funding sources from the Province (Silva, 2023; Wang et al., 2023).

Adequate financial resources are imperative for the successful implementation of the Merdeka curriculum. Mere reliance on traditional lecture methods in the classroom is insufficient; instead, a diverse range of cooperative and student-centered learning approaches is essential. Emphasizing students' problem-solving abilities and engagement in specific projects is crucial for effective execution (Omran et al., 2023; Terkamo-moisio et al., 2022).

During the assessment process, schools should employ apt evaluation methods that comprehensively address the diverse competencies exhibited by students (Ravindiran et al., 2023; Shiao et al., 2023). The adoption of new teaching and assessment methodologies can pose administrative challenges for schools, necessitating adjustments in scheduling and examination administration (Neto et al., 2023; Zhou et al., 2023).

It is imperative for schools to guarantee that the Merdeka curriculum is flexible enough to cater to the diverse needs and abilities of students. At this level, schools should possess the capacity to monitor the entire spectrum of curriculum implementation, spanning from contextual considerations, input, implementation to evaluation, results and outcomes (Henderson et al., 2023; Majety et al., 2023). Effective collaboration is essential among schools, principals, teachers, students, parents, and school committees to address the diverse challenges encountered in the proper implementation of the Merdeka curriculum (Majety et al., 2023; Tchouchu & Ahenkan, 2023). Additionally, district and city governments play a crucial role in ensuring an adequate supply of human resources, including teachers and education staff, to support the implementation of the curriculum (Shiao et al., 2023; Weerasekara et al., 2023).

Promptly addressing the challenges encountered by schools, teachers, and students necessitates an enhancement in teachers' comprehension of the accurate implementation of the Merdeka curriculum. Given that teachers bear the primary responsibility for executing the Merdeka curriculum in middle and high schools, it is crucial to equip them with the skills to select and implement student-centered learning methods, employ problem-solving techniques, and administer project assignments effectively (Bad, 2022; Neto et al., 2023).

In the realm of assessment, teachers undergo various training to enable them to evaluate student portfolios and conduct authentic and contextually relevant assessments. Furthermore, in the development of learning materials, teachers receive training to create web-based resources accessible to students anytime and anywhere (Jaekel, 2023; Weerasekara et al., 2023). An additional challenge lies in the deficiency of facilities, resources, and infrastructure essential for

supporting the implementation of the Merdeka curriculum, particularly in rural areas situated at a considerable distance from urban centers (Majety et al., 2023; Wang et al., 2023).

In this area, a significant number of teachers lack internet access, impeding the integration of technology and information into the educational environment. This limitation has repercussions on students' capacity to actively participate in the learning processes aligned with the Merdeka curriculum (Henderson et al., 2023; Ying et al., 2022).

Yet another challenge stems from the insufficient attention given by local governments to the implementation of the Merdeka curriculum. The capacity of local governments to provide the necessary facilities for schools in executing the curriculum remains inadequate (Salman & Salonia, 2023; Tchouchu & Ahenkan, 2023).

Improvements are essential in internet networks, laboratories, libraries, and various other learning facilities. Overcoming this obstacle promptly is crucial to ensuring the successful implementation of the Merdeka curriculum (Chen et al., 2023; Fields et al., 2023). The aforementioned efforts encompass resource allocation, supervision, and provision of necessary training (Delprato, 2023; Guti, 2023).

Students need to be adequately prepared to wholeheartedly engage in the Merdeka curriculum, fostering a positive perception. Such readiness will cultivate enthusiasm, dedication, and innovation in their minds, ensuring a successful adoption of the Merdeka curriculum-based learning process (Neto et al., 2023; Shiao et al., 2023).

The implementation of the Independent Curriculum may necessitate a shift in the culture and mindset within the educational sphere (Fields et al., 2023; Wang et al., 2023). Teachers, students, and schools must be prepared to embrace these changes and transition to alternative learning approaches (Jaekel, 2023; Zhou et al., 2023). Previously relying on lecture-based and question-and-answer learning methods, the Merdeka curriculum now mandates the utilization of project-based and problem-solving approaches, fostering active student involvement in a student-centered learning process.

Educational assessment, which was previously centered on students' proficiency in responding to mid-term and final exam questions, has evolved with Merdeka curriculum. Now, students are required to meticulously compile and present portfolios that comprehensively reflect their performance throughout the semester, ensuring that grades are genuinely authentic.

The oversight of the learning process through academic supervision by the school principal for both teachers and students must persist in a systematic and sustainable fashion. The outcomes of evaluation and supervision serve as valuable inputs for continuous improvement (Delprato, 2023; Nisselle et al., 2021).

The significance of a school's capacity to adapt to diverse student needs and shifts in learning methodologies cannot be overstated, as it constitutes a pivotal factor in the efficacy of curriculum implementation (Kemper & Renold, 2024; Storm et al., 2023). Upon reviewing the research findings and discussions presented above, it becomes apparent that the efficacy of implementing the Merdeka curriculum in middle and high schools in Medan is significantly influenced by a myriad of interconnected factors (Neto et al., 2023; Schaper et al., 2022).

These factors collectively address diverse constraints and barriers encountered in the implementation of the Merdeka curriculum, leading to the discovery of effective approaches. This ensures that all aspects of preparation, implementation, evaluation, follow-up, and development can progress optimally in a positive direction (Chen et al., 2023; Fischer-sch, 2023).

This study identifies the government's role as a facilitator in addressing the community's needs for competence and knowledge development through tailored training programs that align with professional community competencies (Echols et al., 2018). When training programs are aligned with interests and needs, the achievement of professional competency levels is likely to be realized.

The results of this study have practical and policy implications. From a practical perspective, ensuring consistency in implementing the Merdeka Curriculum to prepare Indonesian secondary school students with international qualifications requires improvements in the curriculum content, aligning it with global market competencies. In the midst of the issues surrounding the potential discontinuation of the Merdeka Curriculum, it is practical for the new Education Minister to collaborate with the Minister of Manpower and Transmigration to conduct a thorough review of the Merdeka Curriculum.

In terms of policy implications, the implementation of the Merdeka Curriculum, connecting secondary school graduates, should be transparently managed with funds allocated from the national budget. Historically, the Merdeka Curriculum has been limited to trial applications, with constraints on quality, process, and the scope of implementation, focusing on selected schools.

Conclusion

Based on the results of the data analysis, it can be concluded that the planning and development of the Merdeka Curriculum in middle and high schools in Medan has progressed well and is in accordance with the established criteria. However, it has not fully achieved the fulfillment target. In the context aspect, it has only reached 76% of the specified target, which was set at 80%. Similarly, in terms of input, it has only reached 76% of the specified target, also set at 80%. The implementation of the Merdeka Curriculum in middle and high schools in Medan has proceeded smoothly; however, the outcomes have not met the specified targets. In terms of the process, it has achieved only 77% of the specified target, which was set at 80%. Similarly, on the product side, it has reached only 75% of the specified target, also set at 80%. Regarding the outcome, it has achieved only 76% of the specified target, set at 80%.

There are several obstacles hindering the successful implementation of the Merdeka curriculum in Medan, affecting teachers, students, and school officials. One major challenge is the insufficient availability of facilities and infrastructure, particularly in schools located in remote areas. Many teachers lack handbooks containing lesson materials related to various subjects, as well as resources for authentic, factual, and portfolio-based assessments. Additionally, the adoption of problem-solving methods, project-based learning, and other innovative approaches is impeded.

This study has a limitation in that it investigated a limited number of graduates from General Secondary School in Medan, which may affect the generalizability of the results to different subjects and areas. Future research is suggested to employ a survey research design that can encompass a larger sample size, specifically focusing on students from Vocational High Schools for a more comprehensive understanding of the study subjects.

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