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Evaluation of the Implementation of the Independent Curriculum Using the CIPP Model

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Abstract

The implementation of the Merdeka Curriculum in vocational schools requires systematic evaluation to ensure its effectiveness and relevance to industry needs. This study aimed to evaluate the implementation of the Merdeka Curriculum in the Welding Engineering Department of SMK Negeri 1 Bengkalis using the CIPP (Context, Input, Process, Product) evaluation model. A quantitative descriptive method was employed, involving teachers, students, and stakeholders as respondents. The context evaluation showed that curriculum goals were highly relevant and aligned with welding industry demands (85%, Very Good). Input evaluation indicated adequate teacher competence and learning materials, but limited infrastructure support (68%, Fair). The process evaluation revealed effective application of project-based learning, with high student engagement and active participation. Product evaluation showed that students achieved strong learning outcomes and welding competencies, and expressed general satisfaction with the curriculum. Overall, the results suggest that the Merdeka Curriculum is suitable for vocational education and supports student-centered learning. However, improvements in infrastructure and supervision are needed to strengthen the implementation. This study highlights the importance of ongoing curriculum evaluation to ensure alignment with industry expectations and the successful development of student competencies.

INTRODUCTION

Vocational education plays a crucial role in preparing skilled human resources who are ready to meet the demands of the industrial world. In Indonesia, the government has introduced the *Merdeka Curriculum* (Independent Curriculum) as a strategic reform to promote flexibility, student-centered learning, and stronger connections between education and industry (Dwi, Haryono, and

Florentinus 2018; Keskin 2020). This curriculum emphasizes competence development, creativity, and contextual learning through project-based approaches, particularly in vocational schools such as SMK (Sekolah Menengah Kejuruan). In the Welding Engineering Department, aligning curriculum content with industry standards is vital to ensure that students acquire both theoretical knowledge and hands-on skills (Munawaroh and Kurniawati 2022).

Recent studies have explored the implementation of the Merdeka Curriculum across general education and some vocational contexts, highlighting its potential to transform conventional teaching approaches. Research by Aslan and Uygun (2019); Ebtesam and Foster (2019) pointed out positive impacts on student motivation and autonomy. However, most existing research focuses on early implementation phases or general classroom strategies, with limited attention given to systematic curriculum evaluation models that can assess implementation quality in technical departments such as welding. This reveals a need for a more structured assessment approach to understand how the curriculum functions in specific vocational contexts (Sibuea et al. 2023).

One proven evaluation model for assessing educational programs is the CIPP model Context, Input, Process, Product developed by Stufflebeam. This model provides a comprehensive framework for evaluating not only outcomes but also the conditions and processes leading to those outcomes (Asdi and Saputra 2025; Rasid, Mukhibat, and Daryono 2024). While CIPP has been widely used in evaluating educational programs internationally, its application in evaluating the Merdeka Curriculum in Indonesian vocational schools remains limited. There is a gap in empirical studies that apply this model to measure the curriculum's alignment with industry requirements and its effectiveness in supporting vocational learning.

This study offers a novel contribution by applying the CIPP model to evaluate the implementation of the Merdeka Curriculum specifically in the Welding Engineering Department at SMK Negeri 1 Bengkalis. Unlike previous research that only assesses learning activities or student responses, this study provides a holistic analysis of curriculum implementation across all four components of the CIPP model. By doing so, it offers valuable insights into the curriculum's relevance, supporting resources, instructional processes, and student learning outcomes (Musolin, Fauzi, and Muflihin 2023; Wiyono et al. 2025).

Therefore, the objective of this research is to evaluate the implementation of the Merdeka Curriculum in the Welding Engineering Department using the CIPP model. The evaluation focuses on how well the curriculum aligns with industry needs, the adequacy of available inputs, the quality of the implementation process, and the effectiveness of its outcomes (Al-Shanawani 2019; Yusuf 2025). The findings are expected to inform future curriculum improvements and support more effective vocational education strategies in Indonesia.

METHODS

This study employed a quantitative descriptive research design to evaluate the implementation of the Merdeka Curriculum in the Welding Engineering Department at SMK Negeri 1 Bengkalis. The CIPP (Context, Input, Process, Product) evaluation model developed by Stufflebeam was used as the analytical framework. This model allows for a comprehensive evaluation by examining the relevance of curriculum goals (context), the adequacy of resources and support systems (input), the quality of instructional implementation (process), and the effectiveness of learning outcomes

(product). Data were collected through structured questionnaires distributed to teachers, students, and curriculum implementers within the department.

The data collection instrument consisted of Likert-scale items measuring key indicators within each CIPP component. The indicators were developed based on curriculum guidelines and previous studies on vocational education evaluation. The collected data were analyzed using descriptive statistics to determine the average percentage scores and categorize the results into qualitative categories such as "Very Good," "Good," "Fair," or "Needs Improvement." Each result was then interpreted in relation to the success and challenges of the curriculum implementation. This method ensured that the evaluation captured both quantitative trends and practical insights that could guide future improvements.

RESULT AND DISCUSSION

The evaluation of the Merdeka Curriculum implementation in the Welding Engineering Department of SMK Negeri 1 Bengkalis was conducted using the CIPP model, encompassing four key components: context, input, process, and product. Data were collected from various stakeholders, including teachers and students, to assess the effectiveness and relevance of the curriculum. Each component was analyzed based on specific indicators to determine the strengths and areas for improvement in the curriculum's implementation. The results are presented in a series of tables, each followed by an explanation to provide a clearer understanding of how the Merdeka Curriculum performs in real educational settings. Overall, the findings reflect a generally positive implementation, with certain elements needing further enhancement to ensure long-term success and alignment with vocational education goals.

Table 1. Context Evaluation Results

Indicator	Score Category	Percentage (%)	Interpretation
Relevance of curriculum objectives	Very Good	88%	Highly aligned with needs
Clarity of curriculum goals	Good	82%	Well-defined
Alignment with welding industry demands	Very Good	90%	Strong relevance
Stakeholder needs identification	Good	80%	Adequate

The context evaluation shows that the Merdeka Curriculum implemented in the Welding Engineering Department is highly relevant to industry needs and educational goals. With an average score in the "Very Good" category (85%), the curriculum objectives are clear, appropriate, and well aligned with stakeholders' expectations, particularly with the demands of the welding industry. This alignment indicates a strong foundation for curriculum implementation.

Table 2. Input Evaluation Results

Indicator	Score Category	Percentage (%)	Interpretation
Availability of teaching materials	Good	78%	Sufficient
Teacher competence and readiness	Very Good	86%	Highly competent
Facility and infrastructure support	Fair	68%	Needs improvement
Curriculum socialization	Good	80%	Adequate dissemination

The input evaluation reveals that while teachers are generally well-prepared and instructional materials are adequately provided, the availability of supporting facilities remains an area requiring improvement. The infrastructure scored only 68%, falling under the “Fair” category. Effective curriculum socialization was evident, but more structured dissemination efforts are recommended to ensure comprehensive stakeholder understanding.

Table 3. Process Evaluation Results

Indicator	Score Category	Percentage (%)	Interpretation
Learning implementation	Good	82%	Well-executed
Use of project-based learning (PBL)	Very Good	89%	Effectively implemented
Supervision and mentoring	Good	79%	Satisfactory
Student engagement and participation	Very Good	85%	Highly active

Process evaluation indicates that the implementation phase is being carried out effectively. Project-based learning, a hallmark of the Merdeka Curriculum, is well-integrated with high levels of student involvement. Despite the overall success, there is still room to improve consistency in supervision and mentoring, as well as deeper integration across different learning modalities.

Table 4. Product Evaluation Results

Indicator	Score Category	Percentage (%)	Interpretation
Achievement of learning outcomes	Very Good	87%	Exceeds expectations
Graduate competence in welding practices	Very Good	90%	Professionally competent
Student creativity and innovation	Good	81%	Encouraging development
Student satisfaction toward curriculum	Good	83%	Generally satisfied

The product evaluation affirms that the Merdeka Curriculum has yielded positive outcomes. Students have achieved high competency levels in both academic and practical aspects, particularly in welding techniques. Moreover, students demonstrate growing creativity and innovation. While satisfaction is generally positive, further personalization and flexibility within the curriculum could enhance student experience and ownership of learning.

Discussion

The evaluation of the *Merdeka Curriculum* implementation using the CIPP model in the Welding Engineering Department at SMK Negeri 1 Bengkalis shows that the curriculum is contextually relevant to industry needs. The curriculum goals are well aligned with the competencies required in the welding sector, ensuring that students are being prepared for real-world demands. Stakeholders, including teachers and industry partners, affirm the clarity and significance of the curriculum objectives (Setiadi 2024; Tika et al. 2022). This alignment suggests that the curriculum was designed with a strong understanding of the local and global job market, making it responsive to vocational education demands (Dizon 2023; Muliani, Yadnyawati, and Indiani 2024).

From the input perspective, the research highlights the adequate readiness of educators and the availability of learning materials (Kiong et al. 2024; Safitri and Rokhimawan 2024). The

teachers demonstrated strong competence and showed enthusiasm for applying the new curriculum model. However, there are notable limitations in the availability and quality of workshop infrastructure, which could hinder the maximum execution of practical learning activities. While curriculum dissemination efforts were considered satisfactory, improving internal communication and increasing stakeholder involvement during early implementation stages can help create a more unified understanding of the curriculum framework (Hutahaeen, Telaumbanua, and Tamba 2022; Mulyadi et al. 2024).

Process evaluation showed that the learning implementation aligns well with the intended principles of the Merdeka Curriculum. Project-based learning (PBL) is effectively applied and contributes significantly to enhancing student engagement and motivation. The increased participation and activeness of students indicate a shift toward learner-centered approaches, which is a core goal of the curriculum. Nevertheless, periodic mentoring and formative supervision must be strengthened to ensure continuous improvement and to accommodate students who require more support in adapting to independent and collaborative learning environments (Dianto, Hamengkubuwono, and Fathurrochman 2024; Wahidah et al. 2023).

In terms of outcomes, the product evaluation reveals that the curriculum has produced promising results. Students achieved strong competencies in both theoretical and practical aspects of welding, indicating that the curriculum objectives have been successfully met. Creativity and innovation are also beginning to emerge among students, supported by flexible learning activities. The level of student satisfaction is encouraging, though feedback suggests a need for more adaptive learning pathways and differentiated instruction. These findings underscore the importance of ongoing evaluation and refinement to sustain and enhance the success of the Merdeka Curriculum in vocational schools (Khairi et al. 2023; Nurrahman et al. 2023).

CONCLUSIONS

Based on the results of the evaluation using the CIPP model, it can be concluded that the implementation of the Merdeka Curriculum in the Welding Engineering Department at SMK Negeri 1 Bengkalis is generally effective and well-aligned with vocational education goals. The curriculum demonstrates strong contextual relevance to industry needs, is supported by competent teaching staff and adequate materials, and is implemented through engaging, student-centered learning processes. However, some areas, such as infrastructure and supervision, require improvement to optimize learning outcomes. This evaluation provides valuable insights for school administrators and policymakers to enhance the quality and effectiveness of curriculum implementation in vocational education settings.

CONFLICTS OF INTEREST STATEMENT

Regarding this study, the author declares that there is no conflict of interest.

AUTHOR CONTRIBUTIONS

Study concept and design: Armizal Yanriko. Acquisition of data: Waskito Waskito. Analysis and interpretation of data: Arwizet Karudin. Drafting the manuscript: Armizal Yanriko. Critical revision of the manuscript for important intellectual content: M. Giatman. Statistical analysis: Armizal Yanriko.

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