



Strengthening Integrated Learning through Data-Based Planning in the Implementation of the Independent Curriculum: A Case Study of an Elementary School

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Article Info

Article history:

Received Jun 25, 2026
Revised Jul 17, 2026
Accepted Jul 30, 2026
Online First Jul 31, 2026

Keywords:

Data-Based Planning
Elementary Education
Evidence-Based Decision Making
Independent Curriculum
School Improvement

ABSTRACT

Purpose of the study: This study aims to analyze how Data-Based Planning supports evidence-based decision-making and improves the implementation of the Independent Curriculum at State Elementary School 65 West Halmahera. The study also examines how data utilization contributes to more effective learning planning and continuous school improvement.

Methodology: This study employed a descriptive qualitative case study approach. Data were collected through semi-structured interviews with the principal and teachers, classroom observations, and document analysis, including the School Work Plan, Education Report Card, and other planning documents. The collected data were analyzed using descriptive qualitative analysis.

Main Findings: The findings indicate that the systematic use of academic and non-academic data enables schools to identify learning problems, develop more appropriate instructional strategies, and improve school planning based on actual needs. Data-Based Planning also strengthens teacher collaboration, encourages reflective practices, and supports continuous improvement in implementing the Independent Curriculum.

Novelty/Originality of this study: This study provides empirical evidence on implementing Data-Based Planning through the Identification–Reflection–Improvement framework in an elementary school. The findings demonstrate that Education Report Card data can support collaborative planning, evidence-based decision-making, and sustainable school improvement, offering practical insights for strengthening integrated learning implementation in primary education.

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1. INTRODUCTION

Improving the quality of education remains one of the primary priorities in Indonesia's national education system [1], [2]. The implementation of the Kurikulum Merdeka represents a strategic policy designed to provide greater flexibility for schools and teachers in creating student-centered learning environments that are responsive to learners' needs [3], [4]. This curriculum encourages educational institutions to continuously improve learning

quality through adaptive instructional practices, meaningful learning experiences, and evidence-based educational planning [5], [6]. Consequently, schools are expected to strengthen their capacity to utilize educational data as the foundation for planning, implementing, and evaluating learning programs.

The successful implementation of the Independent Curriculum depends not only on curriculum changes but also on the ability of schools to make appropriate educational decisions based on reliable information [7], [8]. Data have become an essential resource for identifying learning problems, evaluating school performance, and determining strategic priorities for continuous improvement [9], [10]. A data-based approach enables educational institutions to develop programs that are more objective, transparent, and aligned with actual school needs. In this context, evidence-based planning has become an important strategy for supporting sustainable school improvement and enhancing the quality of learning in elementary education [11], [12].

One of the major initiatives introduced by the Ministry of Primary and Secondary Education to support evidence-based educational planning is Data-Based Planning [13], [14]. This approach utilizes information from the Education Report Card to assist schools in identifying priority problems, conducting systematic reflection, and designing improvement programs that correspond to the school's actual conditions [15], [16]. Through this mechanism, schools are expected to optimize educational resources, improve accountability, and ensure that school operational programs are developed based on measurable evidence rather than subjective assumptions. Furthermore, Data-Based Planning supports more collaborative decision-making by involving school leaders, teachers, and other stakeholders in planning educational improvement programs [17], [18].

Previous studies have reported that the Independent Curriculum provides greater opportunities for implementing student-centered learning and project-based learning, while Data-Based Planning contributes to improving school governance and educational quality [19], [20]. Other studies have also highlighted the important role of the Education Report Card as a source of information for planning school programs and allocating educational resources. However, most existing studies primarily discuss Data-Based Planning from the perspective of educational policy implementation or school management [21], [22]. Empirical evidence regarding how Data-Based Planning is implemented at the elementary school level through the stages of identifying educational problems, reflecting on school performance, and translating educational data into concrete school improvement programs remains relatively limited.

From the perspective of Integrated Social Science Education, school improvement is not solely determined by curriculum implementation but also by collaborative planning, reflective decision-making, and the effective use of educational information to address learning challenges [23], [24]. Data-Based Planning encourages collaboration among school principals, teachers, and other educational stakeholders in analyzing school performance and developing learning improvement strategies [16], [25]. Consequently, the implementation of Data-Based Planning contributes not only to administrative effectiveness but also to strengthening collaborative educational practices that support integrated learning and continuous school development [26], [27]. This perspective is particularly relevant to elementary education, where improving learning quality requires the active participation of all members of the school community.

State Elementary School 65 West Halmahera has implemented the Independent Curriculum and adopted Data-Based Planning using information from the Education Report Card in preparing its School Work Plan and Budget. The school provides an appropriate context for examining how educational data are utilized to identify learning problems, conduct reflection, formulate improvement programs, and support the implementation of the Independent Curriculum [28], [29]. Investigating this process is expected to provide practical insights into how evidence-based planning can contribute to improving educational quality at the elementary school level.

Based on the existing literature and the practical context described above, this study addresses the limited empirical evidence regarding the implementation of Data-Based Planning in elementary schools. Unlike previous studies that mainly discussed the concept or policy of Data-Based Planning, this research explores its implementation through the Identification, Reflection, and Improvement stages at State Elementary School 65 West Halmahera. Therefore, this study aims to analyze the implementation of Data-Based Planning in supporting the Independent Curriculum through evidence-based planning and continuous school improvement. The findings are expected to contribute to strengthening data-informed educational planning and improving learning quality in elementary schools.

2. RESEARCH METHOD

This study employed a descriptive qualitative approach using a case study design to examine the implementation of Data-Based Planning in supporting the Independent Curriculum at State Elementary School 65 West Halmahera, Indonesia. A qualitative case study was selected because it enables an in-depth exploration of planning practices, decision-making processes, and the implementation of educational policies within their real-life context [30], [31]. The study focused on understanding how Data-Based Planning was implemented through the Identification, Reflection, and Improvement stages in preparing the School Work Plan and Budget.

The research was conducted at State Elementary School 65 West Halmahera, one of the elementary schools implementing the Independent Curriculum and utilizing the Education Report Card as the basis for Data-Based Planning. The school was purposively selected because it had adopted Data-Based Planning in its educational planning process, making it an appropriate setting for investigating the implementation of evidence-based planning in elementary education [13], [32]. Data were collected through semi-structured interviews, direct observations, and document analysis. Interviews were conducted with the school principal and teachers to obtain information regarding the implementation of Data-Based Planning, the challenges encountered, and the strategies adopted during the planning process. Observations were undertaken to understand how planning activities were carried out within the school environment [33], [34]. In addition, document analysis was conducted on the Education Report Card, School Work Plan and Budget, and other relevant planning documents to support and verify the findings obtained from interviews and observations.

The collected data were analyzed using descriptive qualitative analysis. The analysis involved organizing and interpreting information obtained from interviews, observations, and documents to identify patterns related to the implementation of Data-Based Planning [35], [36]. The findings were then classified according to the three main stages of the Identification, Reflection, and Improvement framework: Identification, which focused on recognizing priority educational problems based on Education Report Card indicators; Reflection, which explored the underlying causes of the identified problems; and Improvement, which examined how the school formulated and implemented strategic improvement programs through the School Work Plan and Budget. This analytical framework enabled a systematic understanding of how educational data were translated into practical actions for school improvement.

To enhance the credibility of the findings, data from interviews, observations, and document analysis were compared to ensure consistency of information [37], [38]. The use of multiple data sources allowed the researchers to obtain a comprehensive understanding of the implementation of Data-Based Planning and minimized potential bias arising from a single source of evidence. The findings are presented descriptively to illustrate the implementation process, supporting factors, challenges, and contributions of Data-Based Planning in improving learning quality through the implementation of the Independent Curriculum.

3. RESULTS AND DISCUSSION

3.1. The Role of Data-Based Planning in Learning Planning at State Elementary School 65 West Halmahera

The findings indicate that Data-Based Planning has become an essential component of educational planning at State Elementary School 65 West Halmahera. The implementation of Data-Based Planning enables the school to identify priority educational problems using data from the Education Report Card before determining improvement programs. Rather than relying solely on experience or assumptions, school planning is based on verified educational data, allowing school leaders and teachers to develop more appropriate strategies to improve learning quality.

The planning process begins with identifying priority indicators presented in the Education Report Card. The school analyzes both academic and non-academic indicators to determine areas requiring improvement. Academic data are used to evaluate student learning achievement, while non-academic information assists the school in understanding classroom conditions and other factors influencing learning quality. Based on this analysis, the school determines priority programs that are incorporated into the School Work Plan and Budget.

The implementation of Data-Based Planning also promotes collaborative decision-making among school stakeholders. The school principal, teachers, and other education personnel participate in identifying educational problems, discussing possible solutions, and determining improvement priorities. This collaborative process encourages shared responsibility for achieving school improvement goals and ensures that planning decisions reflect the actual needs of the school community. Such collaboration represents an important element of integrated educational planning because educational improvement is achieved through collective participation rather than individual decision-making.

These findings indicate that educational data function not merely as administrative information but also as an important basis for evidence-based educational planning. The use of verified data enables schools to formulate more targeted programs, improve resource allocation, and strengthen accountability in implementing the Independent Curriculum. This finding supports previous studies emphasizing that educational data contribute significantly to improving school planning and educational quality. However, this study extends previous findings by demonstrating how educational data are translated into concrete planning activities through the Identification–Reflection–Improvement process in an elementary school context.

3.2. Implementation of the Independent Curriculum through Data-Based Planning

The findings further reveal that the implementation of the Independent Curriculum at State Elementary School 65 West Halmahera is supported by systematic Data-Based Planning. The school applies the Independent

Curriculum gradually while adjusting learning programs according to the needs identified through the Education Report Card. This approach allows educational planning to become more responsive to actual learning conditions and encourages continuous improvement in instructional practices. Teachers play a central role in implementing the curriculum by translating planning results into classroom learning activities. Data obtained from school evaluations assist teachers in determining learning priorities, selecting appropriate instructional strategies, and designing learning activities that better accommodate students' characteristics. Consequently, educational planning is closely connected to classroom practice rather than functioning solely as an administrative requirement. The findings also show that the Independent Curriculum provides greater flexibility for schools in designing learning activities according to local educational needs. Data-Based Planning supports this flexibility by ensuring that educational decisions are based on objective evidence rather than routine practices. As a result, planning activities become more systematic and contribute to improving learning quality.

3.3. Implementation of the Identification–Reflection–Improvement Process

The implementation of Data-Based Planning at State Elementary School 65 West Halmahera follows three major stages: Identification, Reflection, and Improvement. During the identification stage, the school analyzes Education Report Card indicators to determine priority problems requiring immediate attention. The reflection stage involves examining the underlying causes of these problems through collaborative discussions among teachers and school leaders. Finally, the improvement stage focuses on developing strategic programs that are incorporated into the School Work Plan and Budget and implemented throughout the academic year. The study also identifies several supporting factors contributing to the successful implementation of Data-Based Planning, including strong leadership from the school principal, active teacher participation, effective human resource management, and the utilization of educational technology. Nevertheless, several challenges remain, such as limited facilities, insufficient technological infrastructure, and the need to strengthen teachers' competencies in educational data analysis. These findings indicate that successful implementation of Data-Based Planning requires not only reliable educational data but also institutional commitment, collaborative leadership, and continuous professional development for educators.

The findings demonstrate that Data-Based Planning plays a significant role in improving educational planning and supporting the implementation of the Independent Curriculum at State Elementary School 65 West Halmahera. The systematic use of Education Report Card data enables the school to identify priority problems, formulate improvement strategies, and develop school programs that are aligned with actual educational needs [39], [40]. This indicates that educational planning becomes more objective and accountable because decisions are supported by empirical evidence rather than intuition or routine administrative practices.

One important finding of this study is that the implementation of Data-Based Planning encourages collaborative decision-making among school stakeholders. The involvement of the school principal, teachers, and other educational personnel during the stages of identification, reflection, and improvement creates opportunities for shared responsibility in planning educational programs [41], [42]. Such collaboration is essential for achieving sustainable school improvement because educational quality cannot be enhanced through individual efforts alone. Instead, continuous communication, collective reflection, and shared commitment become key elements in developing effective educational planning.

The study also demonstrates that the Education Report Card serves not only as an evaluation instrument but also as a strategic source of information for school development. By utilizing verified educational data, schools are able to identify weaknesses in learning implementation, prioritize improvement programs, and allocate available resources more effectively [43], [44]. This finding supports previous studies emphasizing that evidence-based planning contributes to more transparent, accountable, and effective educational management. However, the present study extends this understanding by illustrating how educational data are translated into practical actions through the Identification–Reflection–Improvement framework within an elementary school context.

Another important finding concerns the relationship between Data-Based Planning and the implementation of the Independent Curriculum. The flexibility offered by the Independent Curriculum requires schools to make educational decisions that are responsive to students' learning needs and school conditions [45], [46]. The findings indicate that Data-Based Planning facilitates this process by providing systematic information for designing learning improvement programs. Consequently, curriculum implementation becomes more adaptive because educational planning is based on actual school performance rather than generalized assumptions. This condition supports continuous improvement in learning quality and strengthens schools' capacity to respond to educational challenges.

From the perspective of Integrated Social Science Education, the findings indicate that Data-Based Planning contributes to strengthening collaborative educational practices within the school community. Planning activities require communication, participation, collective reflection, and cooperation among school stakeholders [47], [48]. These processes represent important characteristics of integrated educational practices because they encourage schools to solve educational problems collectively through evidence-based decision-making. Therefore,

the contribution of Data-Based Planning extends beyond administrative planning to support a collaborative school culture that promotes continuous learning and institutional development.

Despite these positive findings, the study also identifies several challenges affecting the implementation of Data-Based Planning. Limited technological infrastructure, inadequate facilities, and varying levels of teachers' ability to analyze educational data remain significant obstacles. These findings suggest that successful implementation of Data-Based Planning depends not only on the availability of educational data but also on continuous professional development, institutional support, and adequate educational resources. Therefore, strengthening teachers' competencies in educational data analysis should become a strategic priority for schools and educational authorities.

Overall, this study provides practical evidence that Data-Based Planning can support evidence-based educational planning and improve the implementation of the Independent Curriculum in elementary schools. The findings contribute to the growing body of knowledge on school improvement by demonstrating that the effective utilization of educational data encourages collaborative planning, strengthens institutional accountability, and supports continuous improvement in learning quality [49], [50]. These findings are expected to provide useful insights for school leaders, teachers, and policymakers seeking to optimize educational planning through the effective use of educational data.

The findings of this study have several practical implications for educational stakeholders. For school principals, Data-Based Planning provides a systematic framework for making strategic decisions based on evidence rather than subjective judgment, thereby improving the effectiveness of school management and resource allocation. For teachers, the implementation of Data-Based Planning encourages reflective teaching practices by utilizing Education Report Card data to identify students' learning needs and design more appropriate instructional strategies. Furthermore, the collaborative planning process strengthens communication and shared responsibility among school stakeholders, supporting continuous school improvement. At the policy level, the findings highlight the importance of strengthening teachers' competencies in educational data analysis and providing continuous professional development to ensure the successful implementation of the Independent Curriculum. These practical implications demonstrate that Data-Based Planning is not merely an administrative requirement but also an effective strategy for promoting evidence-based educational planning and improving the quality of learning in elementary schools.

This study has several limitations that should be considered when interpreting its findings. First, the research was conducted in only one elementary school, limiting the generalizability of the findings to other educational contexts with different institutional characteristics. Second, the study employed a qualitative case study approach; therefore, the findings provide an in-depth understanding of the implementation process rather than statistical generalization. Third, the study primarily relied on interviews, observations, and document analysis conducted within a specific period of implementation, meaning that changes in school policies or educational practices over time were not examined. Future studies are therefore encouraged to involve multiple schools from different regions, apply mixed-method or comparative research designs, and investigate the long-term impact of Data-Based Planning on learning quality, teacher professional development, and school improvement.

4. CONCLUSION

This study concludes that the implementation of Data-Based Planning plays an important role in supporting the implementation of the Independent Curriculum at State Elementary School 65 West Halmahera. Through the Identification–Reflection–Improvement process, the school is able to utilize Education Report Card data to identify priority educational issues, formulate evidence-based improvement strategies, and integrate these strategies into the School Work Plan and Budget. This systematic planning process enables schools to make more objective and accountable educational decisions while continuously improving the quality of learning. The findings further demonstrate that the successful implementation of Data-Based Planning depends not only on the availability of educational data but also on effective leadership, active teacher participation, collaborative planning, and institutional commitment. Although several challenges remain, including limited facilities, technological infrastructure, and teachers' capacity to analyze educational data, these constraints can be addressed through continuous professional development and stronger support from educational authorities.

This study contributes to the implementation of evidence-based educational planning by providing empirical evidence of how Data-Based Planning can be translated into practical school improvement programs in an elementary school context. The findings also highlight the importance of collaboration among school stakeholders in strengthening educational planning and supporting continuous improvement within the implementation of the Independent Curriculum. Therefore, Data-Based Planning should be viewed not merely as an administrative requirement but as a strategic approach to improving educational quality through systematic, collaborative, and data-informed decision-making. Future research is recommended to involve a larger number of schools with diverse educational contexts and to employ comparative or mixed-method research designs. Such

studies would provide broader evidence regarding the effectiveness of Data-Based Planning and its long-term contribution to improving learning quality and school development in Indonesian elementary education.

ACKNOWLEDGEMENTS

The authors would like to express their sincere gratitude to the principal, teachers, and staff of State Elementary School 65 West Halmahera for their valuable cooperation and support throughout the research process. The authors also appreciate all individuals who contributed to the successful completion of this study.

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