



## Literature study on the implementation of data-based planning to improve education quality

Hansen Lutfiartha<sup>1\*</sup>, Endang Wuryandini<sup>2</sup>, Muhtarom<sup>3</sup>

<sup>1,2,3</sup>Universitas PGRI Semarang, Indonesia

<sup>1</sup>[lutfeyartha@gmail.com](mailto:lutfeyartha@gmail.com)\*, <sup>2</sup>[endangwuryandini@upgris.ac.id](mailto:endangwuryandini@upgris.ac.id), <sup>3</sup>[muhtarom@upgris.ac.id](mailto:muhtarom@upgris.ac.id)

### Article Info

#### Article history:

Received November 2<sup>nd</sup> 2025

Revised November 25<sup>th</sup> 2025

Accepted December 20<sup>th</sup> 2025

#### Keyword:

Data-Based Planning; Education Report Cards; Data Literacy; Education Quality; School Reflection

### ABSTRACT

The study aims to systematically synthesize various empirical research findings on the implementation of Data-Based Planning (PBD) in schools as an effort to improve the quality of education. An Integrative Literature Review approach was used in the study by analyzing five scientific articles. Articles published in 2024-2025 that were relevant to the topic of PBD and the use of Education Reports were used as research data sources. A thematic analysis was conducted on four main aspects, namely the role of Education Reports as an identification tool, DBP implementation strategies, obstacles and challenges, and their impact on quality improvement. The synthesis results show that Education Reports serve as a diagnostic and reflective instrument to objectively identify quality issues. Effective PBD implementation involves collaboration between teachers, principals, and stakeholders in integrating data into school program planning. The main challenges faced include low data literacy and a weak culture of reflection in schools. Nevertheless, the application of PBD has been proven to improve teacher professionalism, strengthen a culture of reflection, and encourage continuous improvement of the school quality management system.



©2025 Hansen Lutfiartha, Endang Wuryandini, Muhtarom. Published by Arka Institute. This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License. (<https://creativecommons.org/licenses/by-nc/4.0/>)

## INTRODUCTION

The process of planning and designing effective education is an important foundation in efforts to improve the quality of education. In the current educational context, Data-Based Planning, known as DBP, is an innovative solution to ensure that educational design is based on objective and factual empirical evidence (Oktody et al., 2024). This statement requires schools to continuously improve the quality of education quality data analysis sourced from Education Reports (Kamugisha & Osaki, 2022; Sundakir et al., 2023). This is used to identify problems encountered and to design relevant programs as efforts to solve problems. Thus, DBP functions as a managerial instrument that combines data, reflection, and action into a single entity in a continuous cycle to improve the quality of education (Hidayah et al., 2025).

PBD is implemented in accordance with a concept that has been widely applied in various developed countries, namely *data-driven decision making*. In this model, educational decisions are made through the interpretation of various data, including school performance, student learning outcomes, and learning environment conditions. With this pattern, schools must be able to formulate more targeted interventions and provide a sustainable positive impact (Alam, 2022; March et al., 2022). However, the implementation of PBD in Indonesia in general faces various challenges. Limited data literacy among teachers and school principals, as well as a lack of digital infrastructure, are obstacles to the implementation of PBD (Pua & Mukhtar, 2024). Another obstacle is the low level of reflective culture in decision-making. These various obstacles and challenges certainly result in the suboptimal implementation of PBD. This will have an impact on slowing down the improvement of learning quality in the education system in general.

Beyond being a technical approach to program management, Data-Based Planning (DBA) also represents a paradigm shift in educational governance, leading to greater accountability and transparency. Schools no longer rely solely on intuition or experience in program design, but instead

utilize data as the primary basis for every decision-making process (Meyer et al., 2023). This approach fosters a systematic, measurable, and results-oriented work culture. Data sourced from Education Report Cards, national assessments, and internal school evaluations provide an objective picture of educational unit achievements and weaknesses. Thus, planning becomes more relevant to real-world needs. This transformation aligns with national education policy demands, which emphasize the importance of continuous quality improvement through data utilization.

Furthermore, the implementation of DBA impacts not only school management but also classroom learning practices. When data is analyzed in depth, teachers can identify student competency gaps and determine more adaptive and responsive learning strategies. This process enables teachers to design needs-based interventions, such as strengthening literacy and numeracy, learning differentiation, and character development. Furthermore, teacher involvement in the data analysis process contributes to a sense of ownership of school programs. Collaboration between principals, teachers, and education staff in reading and interpreting data also strengthens a culture of professional reflection (Handayani et al., 2025). Ultimately, data integration into planning contributes to improving the overall quality of learning processes and outcomes.

Furthermore, the success of PBD implementation is greatly influenced by the school organization's capacity to manage change. Schools need to build adequate support systems, including data literacy training, providing digital infrastructure, and strengthening visionary leadership. Principal leadership plays a crucial role in creating a climate that encourages consistent and sustainable data use. Without the support of clear internal policies and shared commitment, PBD has the potential to become merely an administrative activity. Therefore, strengthening human resource competencies and establishing a reflective culture are key prerequisites for optimizing PBD implementation. This effort requires synergy between national policies, local government support, and the commitment of all school members to use data as a basis for improving educational quality.

Previous studies have provided comprehensive explanations of the potential and problems in implementing PBD. The use of Education Reports can provide important information to schools to identify problems in developing education quality (Edwards-Fapohunda, 2024; Timotheou et al., 2023). Problems that arise include literacy, numeracy, and school climate. Other studies also state that many schools do not yet understand how to analyze and translate data into concrete improvement plans (Biondi & Russo, 2022). These results will certainly cause gaps in the application of PBD concepts and practices in educational units.

Various studies that comprehensively explain the implementation of DBPS are still limited. Previous studies have focused on descriptive explanations and have not explained the patterns of findings from effective DBPS implementation strategies. This certainly shows that a systematic review is needed to provide a more concrete explanation of the summary of DBPS implementation from various studies. Thus, based on this explanation, this article aims to systematically synthesize the findings of various empirical studies on the implementation of Data-Based Planning in schools. The synthesis focuses on four main patterns, namely the role of education reports as identification tools, PBD implementation strategies, obstacles and challenges, and the impact of PBD on improving school quality.

## RESEARCH METHODS

This study is a literature study using the *Integrative Literature Review (ILR)* approach. This approach allows researchers to integrate various empirical findings from studies to obtain a comprehensive understanding of the topic being analyzed (Cho, 2022; Cronin & George, 2023). The choice of the Integrative Literature Review approach was also based on its suitability for the characteristics of research aimed at interpreting the implementation practices of Data-Based Planning (DBP) in educational units. Thus, this study not only assesses the effectiveness of DBP but also maps out implementation strategies, challenges, and their impact on improving school quality.

The data source was obtained from previous research articles published between 2024 and 2025. A systematic literature search was conducted using the Google Scholar database in 2025. Articles

were selected using several keywords, such as “Data-Based Planning,” “Education Report,” and “data-driven education planning.” The article selection process followed the PRISMA flow, which included the stages of identification, screening of titles and abstracts, review of full texts, and final inclusion based on the following criteria: articles in Indonesian, empirical in nature (qualitative, quantitative, or mixed), analyzing the implementation of PBD or the use of school quality data, and having direct relevance to education quality improvement policies.

**Table 1. PRISMA Flowchart**

Stages	Number	Description
Identification	82	Initial identification of articles related to data-driven planning.
Screening	21	Articles that match the research focus and publication year within the specified range.
Eligibility	5	Articles that are relevant and meet all inclusion and exclusion criteria.
Included in the final analysis	5	Final article analyzed to determine the implementation of data-based planning.

From this process, five articles were obtained that met all inclusion criteria. The selection of the number of articles was based on the principles of thematic relevance and depth of analysis, rather than quantity, so that the synthesis could be carried out in a focused and in-depth manner on PBD practices in the school context. To increase the credibility of the synthesis, each article was evaluated qualitatively based on the clarity of the research objectives, the appropriateness of the methods, and the consistency and relevance of the findings.

There are several criteria used to determine which articles are synthesized according to the purpose of the article. Some of these criteria are presented in Table 2.

**Table 2. Article Synthesis Criteria**

Indicators	Criteria
Article Language	Articles in Indonesian
Variables Analyzed	Analyzing the implementation of PBD or the utilization of school quality data
Research Approach	Using an empirical approach (qualitative, quantitative, or mixed)
Suitability	Having direct relevance to school quality improvement policies.

Data synthesis was conducted using *thematic content analysis*. Each article was read thoroughly to identify the research focus, context and methods, main findings, and policy implications. The analysis process was carried out through the stages of *open coding*, *axial coding*, and *selective coding*, with coding performed repeatedly to maintain consistency of interpretation (conceptual *inter-coder agreement*). The results of the analysis were then grouped into four main themes, namely: (1) the role of the Education Report Card as a tool for identifying quality; (2) PBD implementation strategies; (3) obstacles and challenges; and (4) the impact of PBD on improving school quality. The synthesis findings are presented in the form of tables and thematic narratives.

## RESULTS AND DISCUSSION

**Table 3. List of Articles**

Researcher Name	Research Focus
(ZM et al., 2024)	How SMKN 3 Tasikmalaya utilizes the results of Education Report analysis and classroom observation in developing data-based planning integrated into the RKAS (School Work Plan and Budget).
(Handayani et al., 2025)	Data-driven programs, such as teacher training and workshops, contribute significantly to improving teacher competency, which in turn impacts student motivation and academic and non-academic outcomes.
(Hidayah et al., 2025)	Data-driven planning is a strategic step in improving school quality.
(Astuti et al., 2025)	Utilization of Education Reports as a basis for data-driven planning in order to improve the quality of education in elementary schools.
(Muthalib et al., 2025)	Use of educational report data and internal school evaluation results to obtain an objective picture of learning needs and problems.

Table 3 shows that the five synthesized articles have interrelated focuses, but with varying emphases on the implementation of Data-Driven Planning (DDP). Research by ZM et al. (2024) and Muthalib et al. (2025) emphasizes the technical-operational aspects, namely how data from the Education Report Card (Report Card) and internal school evaluations are integrated into formal planning documents such as the School Work Plan (RKAS). This indicates that DDP is not merely understood as a normative concept but has been attempted to become part of the school planning and budgeting system. However, both studies tend to focus on the institutional and administrative level, thus failing to fully explore its direct impact on pedagogical transformation in the classroom. In other words, data integration into planning documents does not necessarily guarantee changes in learning practices.

Meanwhile, Handayani et al. (2025) and Astuti et al. (2025) broaden the perspective by emphasizing that data utilization needs to be accompanied by capacity-building programs, such as teacher training and workshops. These findings indicate that the effectiveness of DDP depends heavily on the competence of human resources in interpreting and translating data into concrete actions. Critically, this emphasizes that data is merely an instrument, while the determining factors for success lie in the professional abilities of teachers and school leadership. However, gaps remain in explaining the extent to which these competency improvements can be measured sustainably and how they impact student outcomes in the long term. Therefore, a more systematic evaluation framework is needed to comprehensively assess the effectiveness of data-driven programs.

Conceptually, Hidayah et al. (2025) position PBD as a strategic step in improving school quality, thus providing a theoretical foundation for the practices described in other articles. This approach strengthens the argument that PBD is part of a sustainable quality management system, not simply a policy response. However, critically, it should be noted that most of the research in the table remains case studies within specific school contexts. This contextual limitation potentially limits the generalizability of the findings to educational units with different characteristics. Therefore, further research with a comparative design or broader scope is needed to gain a more comprehensive understanding of PBD implementation patterns at various levels and educational regions.

### **The Role of Education Reports in Identifying School Problems**

The synthesis results obtained from five articles show that Education Reports play an important and crucial role. Education Reports are used as the main source for identifying problems in education quality (Astuti et al., 2025). In addition, Education Reports also serve as a tool to reflect the achievements of educational units in various dimensions (Hidayah et al., 2025). The dimensions discussed include literacy, numeracy, character, and learning climate competencies applied in schools. The data in the Education Report is used by schools to map the school's achievement position and compare it with national standards, so that the interventions needed for improvement can be clearly seen (Muthalib et al., 2025). By analyzing the Education Report Card, schools can uncover problems and their causes that may not have been identified previously. Problems that may be revealed include learning gaps between classes and low student attendance rates.

Data-driven programs, such as teacher training and workshops, contribute significantly to improving teacher competency, ultimately leading to increased student motivation and academic and non-academic outcomes (Handayani et al., 2025). This capacity building becomes even more effective when supported by collaborative analysis and explanation of Education Report Card data. Collaborative analysis of Education Report Card data makes it easier for teachers to link quality indicators to classroom learning practices. Thus, the Education Report Card serves not only as a diagnostic tool to identify problems but also as a comprehensive reflection instrument for evaluating and continuously improving learning implementation.

Education Reports also function as an early warning system that enables schools to detect declining trends before they develop into more complex structural problems. Through longitudinal data comparison, schools are able to identify patterns of stagnation or regression in student achievement. This preventive function strengthens the strategic value of Education Reports, as interventions can be designed proactively rather than reactively. Furthermore, the availability of comparative data between schools encourages benchmarking practices that stimulate healthy competition and institutional learning. Schools can adopt best practices from institutions with similar characteristics but better

performance indicators. In this way, Education Reports support evidence-based school improvement planning grounded in measurable indicators.

In addition, the interpretative process of Education Report data promotes professional dialogue among educators. When teachers collectively examine literacy or numeracy scores, discussions often expand to instructional strategies, assessment methods, and classroom management practices. This reflective dialogue transforms numerical data into pedagogical insight. As a result, data analysis becomes embedded within professional learning communities rather than remaining an isolated administrative activity. The more frequently schools engage in such structured reflection, the stronger the culture of inquiry and continuous improvement becomes. Therefore, Education Reports contribute not only to problem identification but also to institutional learning development.

However, the effectiveness of Education Reports in identifying school problems depends heavily on the depth of analysis conducted by school stakeholders. If data interpretation remains superficial, schools risk misdiagnosing the root causes of performance gaps. For example, low literacy outcomes may be attributed solely to student ability rather than instructional quality or curriculum alignment. This indicates that data interpretation requires analytical competence and contextual understanding. Consequently, strengthening analytical frameworks and providing technical guidance are essential to maximize the diagnostic function of Education Reports. Without critical interpretation, the potential of Education Reports as transformative tools may not be fully realized.

### **Strategies for Implementing Data-Based Planning in Schools**

The implementation strategy for Data-Based Planning (DBP) in schools is essentially tailored to the stages of identification, reflection, and improvement. These three stages are carried out cyclically or in specific cycles. The five synthesized articles describe that the success of DBP is determined by the school's achievement in integrating data into program planning by involving all stakeholders. Schools that effectively implement DBP do so by forming small groups to analyze Education Report Card data (Astuti et al., 2025; ZM et al., 2024). This data is used as a reference for developing recommendations for school follow-up. The results of the analysis are presented and delivered in a large meeting forum at the school to map out the annual activity plan that will be prioritized.

Explanation of the importance of coaching and continuous mentoring so that teachers understand the technical procedures for reading data. In addition, it is also important for teachers to relate the results obtained to the school work plan. Furthermore, a collaborative approach between teachers, principals, and supervisors can foster and strengthen a sense of ownership of the program being implemented (Hidayah et al., 2025; Meyer et al., 2023). The use of digital media and platforms such as Rapor Pendidikan and Merdeka Mengajar can also stimulate effective reflection and assessment of progress.

Effective implementation strategies also require the establishment of clear procedural frameworks within the school organization. Schools need structured guidelines that define roles, responsibilities, timelines, and expected outputs in each stage of the DBP cycle. Standard operating procedures for data collection, validation, analysis, and reporting can reduce ambiguity and ensure consistency. When responsibilities are clearly distributed, accountability increases and the risk of fragmented implementation decreases. Moreover, embedding DBP within existing school management systems enhances sustainability. Institutionalization ensures that data-based planning becomes routine practice rather than a temporary initiative.

Capacity development must also be continuous and differentiated according to stakeholder needs. Teachers may require practical workshops on interpreting data visualizations, while school leaders may benefit from strategic planning training. Mentoring and peer-learning models can further strengthen internal expertise. Schools that cultivate internal data champions or facilitators often demonstrate stronger sustainability in DBP practices. This approach reduces dependency on external assistance and fosters internal professional growth. Therefore, strategic human resource development is central to ensuring that DBP implementation is effective and long-lasting.

Another important strategy involves aligning DBP with broader educational policies and accountability mechanisms. When school plans derived from data are synchronized with district or

national quality standards, coherence in educational governance is strengthened. Digital platforms such as Rapor Pendidikan and Merdeka Mengajar can support transparency and real-time monitoring. However, digital integration must be accompanied by adequate infrastructure and technical readiness. Without technological support, even well-designed strategies may encounter implementation barriers. Thus, successful DBP implementation depends on systemic alignment between policy, leadership, technology, and professional capacity.

### **Barriers and Challenges in Data Literacy**

The five synthesized research articles provide explanations and challenges in data literacy. Data literacy is a key factor in the success or challenges of PBD. Low data literacy among teachers and principals is a major obstacle in implementing PBD. Teachers also find it difficult to interpret indicators, data visualization, and convert data into concrete improvement plans (ZM et al., 2024). Another factor that also influences is the organizational culture. In fact, many schools view the process of filling in and analyzing data as an administrative burden and unrelated to quality improvement efforts (ZM et al., 2024). Other explanations also reveal that limited time, digital facilities, and official technical guidelines can exacerbate the situation.

The synthesized articles also highlight the lack of coordination between work units in schools. This results in data in schools being presented separately and not in a single integrated system. The overall explanation shows that barriers to data literacy are also influenced by changes in work culture and reflective mindsets in the school environment.

Beyond technical skills, data literacy challenges are closely linked to mindset and professional identity. Some educators perceive data analysis as external evaluation rather than a tool for self-improvement. This perception may generate resistance or anxiety, particularly when data reveals performance gaps. Changing this mindset requires leadership that frames data as a supportive instrument for growth rather than control. Building trust within the school community is therefore essential to fostering openness toward data use. Without psychological safety, reflective data discussions may not occur effectively.

Structural limitations also contribute significantly to implementation barriers. Schools located in remote or under-resourced areas may face unstable internet connectivity and limited access to digital tools. These constraints hinder timely data access and analysis. Furthermore, overlapping administrative demands often reduce the time available for meaningful reflection. When educators are overloaded with routine tasks, data interpretation becomes secondary. Therefore, institutional workload management must be considered as part of strategies to strengthen data literacy.

Coordination challenges further complicate the integration of school data systems. In many cases, academic, administrative, and extracurricular data are stored separately, limiting comprehensive analysis. The absence of integrated databases restricts the ability to examine relationships between different performance indicators. This fragmentation weakens the potential for holistic school improvement planning. Addressing this issue requires technological integration and cross-unit collaboration. Thus, overcoming data literacy barriers involves not only individual competence but also systemic reform within school organizations.

### **The Impact of Data-Based Planning on Improving School Quality**

Despite the obstacles and challenges described above, the synthesis results also show that PBD has a positive impact on improving school quality. Hidayah et al. (2025) stated that schools that routinely implement PBD experience an increase in teacher involvement. This involvement occurs during planning and in improving the effectiveness of each learning activity. The implementation of PBD can improve the culture of reflection in schools. Therefore, every decision made is relevant and accountable.

The systematic use of data encourages schools to focus more on developing student capacity and improving basic competencies. A broader explanation reveals that PBD contributes to improving communication between stakeholders and internal school parties. This is because every decision made is based on the same data, thereby preventing miscommunication.

The positive impact of PBD can also be observed in improved instructional alignment and curriculum coherence. When schools rely on data to identify competency gaps, curriculum adjustments become more targeted and evidence-based. Teachers are more likely to implement differentiated instruction strategies aligned with student needs. This alignment enhances instructional effectiveness and reduces learning disparities. Over time, systematic adjustments contribute to measurable improvements in student performance indicators. Therefore, PBD strengthens the connection between planning, teaching practice, and learning outcomes.

Furthermore, PBD fosters a culture of shared accountability among school stakeholders. Because decisions are grounded in transparent data, discussions become more objective and solution-oriented. This shared evidence base minimizes subjective judgments and interpersonal conflicts. Stakeholders are more inclined to collaborate when goals and challenges are clearly articulated through data. Consequently, school governance becomes more participatory and cohesive. A data-informed culture thus reinforces organizational trust and collective responsibility.

In the long term, consistent implementation of PBD contributes to institutional resilience and adaptability. Schools that regularly analyze and reflect on performance data are better prepared to respond to changing educational demands. Data-driven insights enable timely innovation in teaching strategies and resource allocation. This adaptability is crucial in dynamic educational environments influenced by technological and policy changes. Therefore, PBD not only improves immediate school quality indicators but also strengthens the sustainability of continuous improvement efforts.

## Discussion

The findings of the data synthesis show that the implementation of Data-Based Planning (DBP) through Education Reports can improve the school quality management system. DBP utilizes data as a decision-making tool and a reflection instrument in improving the education system. The Education Report Card is used as a diagnostic instrument that helps schools identify problems objectively and systematically (Herfiyanti et al., 2024; Kiriana & Widiasih, 2023). In addition, good synergy between supporting elements of the school can support the reflection process to be more meaningful because it is based on real and factual evidence of the implementation of the education system in schools (Kivirand et al., 2021; Parker et al., 2022). The findings described are in line with the concept of *data-driven decision making*, whereby the use of data in education is not merely an administrative activity, but a strategy for improving learning.

Furthermore, the use of the Education Report Card as a reflection instrument demonstrates a paradigm shift from intuition-based planning to evidence-based planning. This shift requires schools to not only read data descriptively but also conduct causal analysis to understand the root causes of emerging problems. This way, the planning process becomes more systematic, focused, and has a strong rationale. Schools that are able to interpret data as a representation of real-world learning conditions tend to be more adaptive to policy changes and demands for educational quality. The success of PBD implementation is inseparable from the instructional leadership of the principal. The principal plays a key role in fostering a culture of reflection and data utilization within the school environment. When leadership fosters evidence-based discussions and provides a safe and open collaborative space, teachers are more encouraged to actively participate in the evaluation and improvement process. This strengthens the position of data not as a control tool, but as a tool for professional learning.

The implementation of PBD is greatly influenced by the school's ability to integrate data in planning a participatory education system. The involvement of the quality improvement team and the implementation of reflection show better results compared to schools with administrative implementation of PBD. Cooperation between teachers, principals, and supervisors is also an important component to ensure that the data obtained is translated into an action plan for improving the education system in schools. This is in line with the principle of school-based management, which emphasizes the importance of independence and collective responsibility in designing education programs and systems according to context (Anabo, 2024). The existence of digital systems and technologies such as Merdeka Mengajar and Rapor Pendidikan Digital can also encourage analysis, data transparency, and efficiency in school quality management.

However, integrating data into participatory planning also requires a structured and sustainable mechanism. Schools need clear operational standards for the cycle of data collection, analysis, reflection, and follow-up. Without systematic procedures, PBD practices risk becoming ceremonial activities that have no significant impact on quality improvement. Therefore, program sustainability is key to ensuring data is truly internalized within the school's organizational culture.

Despite the positive results, the findings also show that there are still significant challenges in implementing PBD, namely data literacy. Stakeholders in schools do not yet fully possess the analytical skills needed to translate quality indicators into concrete actions to improve the system. In addition, cultural barriers also arise, such as many schools still viewing data analysis as an administrative activity and task. Data analysis has not been used as an effort to reflect on the professional learning process. This finding is referred to as the *data-use paradox*, which is a situation where data has not been fully utilized to improve the education system (Xing & Wang, 2022). Thus, the implementation of PBD must be able to reflect data-based education. In addition, stakeholders in schools have a responsibility to reflect as a basis for decision making.

Data literacy challenges also highlight the need for more targeted professional capacity building. The training provided should not only focus on the technical aspects of reading graphs or indicators, but also on critical and reflective thinking skills in interpreting the meaning behind the numbers. Developing teacher learning communities can be an effective strategy for building a collective understanding of data. With a collaborative approach, data interpretation becomes richer and less individualistic.

Despite these challenges, the implementation of PBD has also proven to have a positive impact on improving the quality of education in schools. The synthesis results show that schools with regular PBD implementation can improve professionalism in learning. Teachers also become more reflective in developing learning strategies that are oriented towards student achievement. In terms of learning implementation, the increased focus on students' basic competencies supports active and collaborative learning. This situation is in line with the concepts of continuous school improvement and distributed leadership, which state that a reflective leadership system is the key to successful improvement in the quality of education (Galdames-Calderón, 2023).

Overall, the implementation of PBD through the Education Report Card not only impacts managerial aspects but also transforms school culture. When data is used consistently in every stage of decision-making, schools evolve into learning organizations that are responsive to change. This transformation demonstrates that improving educational quality is not the result of a single intervention, but rather a continuous process that requires collective commitment, reflective leadership, and the meaningful use of data oriented toward improving the learning system.

## CONCLUSION

The results and findings of the synthesis of the five articles can be summarized as follows: Data-Based Planning (DBP) plays an important role in improving the quality of education through the use of Education Reports. Education reports are used as a tool for diagnosis, reflection, and decision-making to improve the education system. Effective implementation of DBP is characterized by collaborative involvement between teachers, principals, and other stakeholders in analyzing data and designing school improvement programs. However, the main obstacles to the implementation of DBP are low data literacy and a lack of reflective culture in the school environment. In general, the findings of this study indicate that PBD can improve teacher professionalism, reflective abilities, and sustainable improvement of the education system.

## REFERENCES

- Alam, A. (2022). Investigating Sustainable Education and Positive Psychology Interventions in Schools Towards Achievement of Sustainable Happiness and Wellbeing for 21 st Century Pedagogy and Curriculum. *ECS Transactions*, 107(1), 19481–19494. <https://doi.org/10.1149/10701.19481ecst>

- Anabo, R. (2024). Analysis of Different Principles in School-based Management. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.4780126>
- Astuti, A. W., Azainil, A., & Warman, W. (2025). Analisis Rapor Pendidikan sebagai Dasar Penyusunan Perencanaan Berbasis Data dalam Meningkatkan Mutu Pendidikan Sekolah Dasar Negeri di Bontang Selatan. *Jurnal Manajemen Pendidikan Dasar, Menengah Dan Tinggi [JMP-DMT]*, 6(2), 214–221. <https://doi.org/10.30596/jmp-dmt.v6i2.23021>
- Biondi, L., & Russo, S. (2022). Integrating strategic planning and performance management in universities: a multiple case-study analysis. *Journal of Management and Governance*, 26(2), 417–448. <https://doi.org/10.1007/s10997-022-09628-7>
- Cho, Y. (2022). Comparing Integrative and Systematic Literature Reviews. *Human Resource Development Review*, 21(2), 147–151. <https://doi.org/10.1177/15344843221089053>
- Cronin, M. A., & George, E. (2023). The Why and How of the Integrative Review. *Organizational Research Methods*, 26(1), 168–192. <https://doi.org/10.1177/1094428120935507>
- Edwards-Fapohunda, M. O. (2024). The Role of Adult Learning and Education in Community Development: A Case Study of New York. *Iconic Research And Engineering Journals*, 8(1), 437–454.
- Galdames-Calderón, M. (2023). Distributed Leadership: School Principals' Practices to Promote Teachers' Professional Development for School Improvement. *Education Sciences*, 13(7), 715. <https://doi.org/10.3390/educsci13070715>
- Handayani, R., Apriani, B. K., & Mustari, M. (2025). Pemanfaatan rapor pendidikan dalam perencanaan berbasis data untuk meningkatkan mutu sekolah di SDN 44 Ampenan. *Jurnal Ilmiah Profesi Pendidikan*, 10(1), 336–342. <https://doi.org/10.29303/jipp.v10i1.2935>
- Herfiyanti, N., Setiyanti, W., & Wulandari, A. (2024). Peningkatan Mutu Sekolah Dengan Perencanaan Berbasis Data Rapor Pendidikan. *LEARNING: Jurnal Inovasi Penelitian Pendidikan Dan Pembelajaran*, 4(3), 508–512. <https://doi.org/10.51878/learning.v4i3.3149>
- Hidayah, E., Sofiyanti, E., Inayah, I., & Muniati, N. A. N. (2025). Perencanaan Berbasis Data Rapor Pendidikan Sebagai Upaya Strategis Untuk Meningkatkan Mutu Sekolah. *LEARNING: Jurnal Inovasi Penelitian Pendidikan Dan Pembelajaran*, 5(1), 16–23. <https://doi.org/10.51878/learning.v5i1.4317>
- Kamugisha, I., & Osaki, K. (2022). Management of Students' Report Cards for Improving Learning Quality in Selected Public Secondary Schools: A Case of Kisarawe District. *World Journal of Educational Research*, 9(4), p82. <https://doi.org/10.22158/wjer.v9n4p82>
- Kiriana, I. N., & Widiasih, N. N. S. (2023). Implementasi Rapor Pendidikan dalam Meningkatkan Kualitas Pendidikan Nasional. *Widya Accarya*, 14(2), 156–164. <https://doi.org/10.46650/wa.14.2.1462.156-164>
- Kivirand, T., Leijen, Ä., Lepp, L., & Tammemäe, T. (2021). Designing and Implementing an In-Service Training Course for School Teams on Inclusive Education: Reflections from Participants. *Education Sciences*, 11(4), 166. <https://doi.org/10.3390/educsci11040166>
- March, A., Stapley, E., Hayes, D., Town, R., & Deighton, J. (2022). Barriers and Facilitators to Sustaining School-Based Mental Health and Wellbeing Interventions: A Systematic Review. *International Journal of Environmental Research and Public Health*, 19(6), 3587. <https://doi.org/10.3390/ijerph19063587>
- Meyer, A., Hartung-Beck, V., Gronostaj, A., Krüger, S., & Richter, D. (2023). How can principal leadership practices promote teacher collaboration and organizational change? A longitudinal multiple case study of three school improvement initiatives. *Journal of Educational Change*, 24(3), 425–455. <https://link.springer.com/article/10.1007/s10833-022-09451-9>
- Muthalib, A., Abun, A. R., & Linda, R. (2025). Perencanaan Berbasis Data dalam Meningkatkan Kualitas Layanan Pendidikan di SMP Al Furqon dan SMP Asy Syafaah Kabupaten Jember. *Jurnal*

*Bintang Pendidikan Indonesia*, 3(2), 138–151. <https://doi.org/10.55606/jubpi.v3i2.3718>

Oktoady, W., Nurabadi, A., & Zulkarnain, W. (2024). Implementation Of A Data-Based Planning (PBD) Program In Improving The Quality Of Educators And Educational Personnel (Case Study At SMA Negeri 1 Tuban). *The 3rd International Conference on Educational Management and Technology (ICEMT) 2024*, 345–353.

Parker, R., Thomsen, B. S., & Berry, A. (2022). Learning Through Play at School – A Framework for Policy and Practice. *Frontiers in Education*, 7. <https://doi.org/10.3389/educ.2022.751801>

Pua, C. C., & Mukhtar, M. I. (2024). The Implementation of Classroom Assessment (PBD) in Design and Technology (RBT) Education Among Primary Schools Teachers. *Research and Innovation in Technical and Vocational Education and Training*, 4(2), 7–13. <https://doi.org/https://doi.org/10.30880/ritvet.2024.04.02.002>

Sundakir, S., Makhdalena, M., & Hambali, H. (2023). Efforts to Improve the Quality of Schools Based on the Analysis of Educational Reports. *AL-ISHLAH: Jurnal Pendidikan*, 15(4). <https://doi.org/10.35445/alishlah.v15i4.3714>

Timotheou, S., Miliou, O., Dimitriadis, Y., Sobrino, S. V., Giannoutsou, N., Cachia, R., Monés, A. M., & Ioannou, A. (2023). Impacts of digital technologies on education and factors influencing schools' digital capacity and transformation: A literature review. *Education and Information Technologies*, 28(6), 6695–6726. <https://doi.org/10.1007/s10639-022-11431-8>

Xing, W., & Wang, X. (2022). Understanding students' effective use of data in the age of big data in higher education. *Behaviour & Information Technology*, 41(12), 2560–2577. <https://doi.org/10.1080/0144929X.2021.1936176>

ZM, E., Siti, P., Warsino, A., & Arafah, A. L. A. (2024). Implementasi Hasil Analisis Raport Pendidikan Dan Observasi Kelas Dalam Menyusun Perencanaan Berbasis Data Di Tasikmalaya. *Journal of Islamic Education*, 8(2), 189–203. <https://doi.org/https://doi.org/10.32507/fikrah.v8i2.3205>