

Utilization of Data-Driven Management: Its Influence on the Action Research Performance of Elementary Schools in Bagumbayan I

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Abstract

The effective utilization of data-driven management (DDM) in education gained global attention due to its potential to enhance decision-making and improve school performance. This study aimed to examine the influence of data-driven management on the action research performance of elementary schools in Bagumbayan I, Sultan Kudarat for the school year 2024-2025. Utilizing a descriptive-correlational research design, it surveyed 9 school heads and 111 teachers, totaling 120 respondents. Findings revealed a strong and varied utilization of DDM, particularly in data collection systems, where teachers effectively input data, and data sharing and collaboration. However, moderate agreement was found regarding the adequacy of training and system accessibility. Although schools provided sufficient resources for data analysis, appeared need for improved training and better access to analytical tools. The study highlighted a positive correlation between DDM utilization and action research performance, suggesting that enhanced data-driven decision-making led to better research engagement. Action research performance, though positive, showed moderate implementation across key stages like research planning, data collection, and dissemination. Barriers like time constraints and limited resources hindered the full integration of action research. The results underscored the significance of data-driven management in improving teaching strategies and decision-making. Recommendations include the need for ongoing training on data analysis, enhancing administrative support for action research, and fostering better research dissemination practices. Future research should explore barriers to integrating action research and investigate professional development models to enhance teachers' capacity in utilizing data-driven practices. The study emphasized the importance of strengthening DDM to improve educational outcomes in Bagumbayan I.

Keywords: *Action Research; Data-driven Utilization; School Performance and Research Application*

I. Introduction

The effective utilization of data-driven management (DDM) in education has gained global attention due to its potential to enhance decision-making and improve school performance. By systematically collecting and analyzing data, educational leaders can identify areas for improvement and implement targeted interventions, making data-driven practices a key element of modern school management. In elementary schools, particularly, the impact of DDM on teachers' professional practices, including their ability to conduct action research, is critical. Action research allows educators to address specific challenges in their classrooms and develop innovative solutions that improve student outcomes.

Globally, the utilization of data-driven management in education has shown positive outcomes in improving school performance and teacher effectiveness. In countries such as the United States and the United Kingdom, educational systems increasingly rely on data to drive instructional reforms and teacher development (Datnow & Hubbard, 2020). Research shows that schools employing DDM are more likely to implement evidence-based practices, leading to improved teaching strategies and student achievement (Jimerson & Wayman, 2018). However, while DDM's benefits are widely recognized, there is still a need for more empirical studies focusing on its impact on teachers' ability to conduct action research, which remains an under-explored area in global educational research.

Several Department of Education (DepEd) policies and memoranda advocate for data-driven practices to improve school management and teaching outcomes. Specifically, DepEd Order No. 001, s. 2025 outlines operational guidelines for implementing support to schools, emphasizing data collection and analysis for informed decision-making.

Additionally, DepEd Order No. 8, s. 2015 on classroom assessment promotes the use of data to track student progress and inform instructional adjustments, while DepEd Order No. 35, s. 2016 on Learning Action Cell (LAC) emphasizes data analysis and collaborative problem-solving to improve teaching practices. However, challenges such as limited access to technological resources and the lack of training on data analysis skills have hindered the full implementation of DDM in many schools (Cruz, 2021).

Although studies have explored how data-driven management can improve school governance and student performance, there is a notable gap in research on how these practices influence teachers' ability to engage in action research—a critical component of professional development that addresses classroom challenges through systematic inquiry (Garcia & Caluza, 2020).

In South Central Mindanao, particularly in elementary schools in Bagumbayan I, the adoption of data-driven management is still in its nascent stages, with many schools grappling with infrastructural limitations and a lack of data literacy among teachers (Lumbrera, 2022). While some schools have begun incorporating DDM into their daily operations, its impact on teachers' action research performance remains largely unexplored. Local studies have yet to investigate how the systematic use of data can empower teachers to engage in research that addresses specific educational challenges in their classrooms. This gap in the literature highlighted the need for further investigation into how DDM supported and enhanced the action research capabilities of elementary school teachers in this region.

In support of the Department's policy development process, research agenda, and policy and program development and implementation, the Department of Education (DepEd) continues to promote and strengthen the culture of research in basic

education as stipulated in DepEd Order 16 series of 2017. DepEd hereby established the Research Management Guidelines (RMG) to provide guidance in managing research initiatives in the national, regional, schools' division, and school levels. The enclosed policy also improved support mechanisms for research such as funding, partnerships, and capacity building (DepEd, 2017).

This study explored the influence of data-driven management on the action research performance of elementary schools in Bagumbayan I, as schools increasingly prioritized data-informed practices to enhance instructional quality and school effectiveness.

Statement of the Problem

Generally, this study explored the influence of data-driven management on the action research performance of elementary schools in Bagumbayan I, Division of Sultan Kudarat, in the school year 2024-2025 as schools increasingly prioritized data-informed practices to enhance instructional quality and school effectiveness.

Specifically, this study aimed to answer the following questions:

1. What is the extent of the Utilization of Data-Driven Management (DDM) in terms of:
 - 1.1. data collection systems;
 - 1.2. data analysis capacity;
 - 1.3. data-driven decision-making; and
 - 1.4. data sharing and collaboration?
2. What is the level of Action Research Performance among Elementary schools in Bagumbayan I, in terms of:
 - 2.1. research planning and design;
 - 2.2. data collection and analysis in research;
 - 2.3. application of research findings; and
 - 2.4. dissemination of research outcomes?

3. Is there a significant relationship between the extent of the Utilization of Data-Driven Management (DDM), and the level Action Research Performance among Elementary schools in Bagumbayan I?

II. Methodology

This study utilized a descriptive-correlational research design to examine the relationship between data-driven management and the action research performance of elementary schools in Bagumbayan I, Division of Sultan Kudarat, during the 2024-2025 school year. The choice of this design is appropriate as it allows for the investigation of relationships between variables—specifically, the use of data-driven management and its impact on research performance—without manipulation of these variables. The correlational approach is well-suited to this context, as it enables the exploration of natural relationships in real-life educational settings, offering insights into how data-driven practices may influence school performance and research outcomes. According to Bhandari (2021), correlational research is ideal for gathering data quickly from natural settings, allowing findings to be generalized to real-life situations in an externally valid manner. This methodology ensures that findings are externally valid and applicable to broader educational contexts.

Participants of the Study

The respondents of this study were limited to 9 school heads from 9 schools and 111 teachers with a total of 120 respondents within the Bagumbayan I, Division of Sultan Kudarat in the school year 2024-2025. The selection of respondents for this study was grounded in the principle of total enumeration, which involved choosing

participants based on their relevance to the research objectives (Palinkas et al., 2015).

School heads played a critical role in facilitating data-driven decision-making, as they were at the forefront of strategic planning and resource allocation (Leithwood & Sun, 2018). Including them provided insights into how leadership practices influence action research performance. Similarly, teachers, as the primary agents of classroom instruction and research, are essential for understanding the practical implications of data utilization on action research outputs (Datnow & Park, 2018).

Limiting the study to a manageable number of respondents ensured the feasibility of in-depth data collection and analysis, while maintaining a representative sample from the Bagumbayan I District. This alignment supported the study's focus on evaluating the interplay between data-driven management and action research performance within the specific context of elementary schools in Sultan Kudarat.

Sampling Technique

This study's respondents were selected using various sampling techniques:

First, total enumeration sampling technique was used for the selection of all the schools in elementary schools in Bagumbayan I, Division of Sultan Kudarat in the school year 2024-2025. Total enumeration sampling, or a census approach, involved including all elementary schools within the in Bagumbayan I, Division of Sultan Kudarat in the school year 2024-2025. As stated by Creswell (2014), using total enumeration is advantageous when the population size is manageable and allows researchers to gather detailed insights about every element in the population.

Furthermore, simple random sampling technique was used to select the teachers among selected elementary schools

in Bagumbayan I, division of Sultan Kudarat in the school year 2024-2025. As indicated by Babbie (2016), random sampling enhanced the external validity of the study by allowing the findings to be generalized to the broader population of teachers in the district. Furthermore, this method reduced potential confounding variables that might arise from systematic selection processes, ensuring that the results were more reliable and valid.

Research Instrument

This study used an adapted survey questionnaire from the study of Garcia, and Caluza, (2020). A Five-Point Likert Scale was also utilized in this study to analyze the survey questionnaire being answered by of the respondents.

Data Gathering Procedure

To ensure reliable and authentic findings, the researcher adhered to a methodology that aligned with the objectives of their inquiry anchored to the study of Mokalid (2023).

Initially, the study's implementation required the endorsement of the DepEd-Division Superintendent of Sultan Kudarat Division and the CGS Dean through the affixation of their respective signatures on a formal document.

An additional letter of authorization was dispatched to the school district supervisors, and to the school heads. To ensure the accuracy of the data collected for this study, a survey questionnaire was utilized, developed, and assessed. The researcher intended to employ a total enumeration and random sampling technique by utilizing self-generated random number tables to select participants for the study.

Prior to the conduct of the study, the research proposal underwent ethical considerations. The researcher sought for approved clearance to conduct the study from the office of the SKSU CGS.

Provided that the health protocol was adhered to, the investigator initiated the dissemination of the Survey Questionnaire via face-to-face manner. Ultimately, the outcomes derived from the distributed survey questionnaire were compiled, assessed, and analyzed.

Data Analysis Method

Mean and standard deviation statistical measures were employed to calculate the extent of the utilization of Data-Driven Management and the level of Action Research Performance among elementary schools in Bagumbayan I (Gravetter & Wallnau, 2020).

Meanwhile, Pearson r correlation was also employed to determine the significant relationship between the extent of the utilization of Data-Driven Management and the level of Action Research Performance among elementary schools in Bagumbayan I (Field, 2018).

III. Results and Discussion

This study explored the influence of data-driven management on the action research performance of elementary schools in Bagumbayan I, as schools increasingly prioritized data-informed practices to enhance instructional quality and school effectiveness.

Extent of Utilization of Data-Driven Management

Table 1

Extent of Utilization of Data-Driven Management in Terms of Data Collection Systems

INDICATORS	Mean	SD	Verbal Description
1. Our school effectively uses automated tools for collecting student performance data.	4.33	.61	Agree
2. Teachers consistently input accurate data into the school management system.	4.40	.58	Agree
3. The school provides adequate training for using data collection tools.	4.09	.59	Fairly Agree
4. Data collection systems are reliable and easy to access for all stakeholders.	4.05	.71	Fairly Agree
5. Regular updates are made to improve data collection methods.	4.30	.65	Fairly Agree
MEAN	4.23	.81	Fairly Agree

The data presented in Table 1 indicates a high extent of utilization of data-driven management in terms of data collection systems in the school setting, with a mean of 3.83 and a standard deviation of 0.81. The responses suggest that automated tools for collecting student performance data are used effectively, with a high extent of agreement with the mean of 4.33, and SD of 0.61), indicating that the school has implemented robust systems for data management. This finding aligns with previous research by Saavedra and de Guzman (2018), who emphasized the importance of automated systems in enhancing the accuracy and efficiency of data collection processes in schools.

Teachers were also found to consistently input accurate data into the school management system, with a mean of 4.40 with SD of 0.58, which further highlights the commitment of educators in maintaining high-quality data. This result reflects the findings of Kim and Lee (2020), who noted that teachers' consistent engagement with data systems is crucial in ensuring the reliability and usefulness of collected data for decision-making.

However, the responses for the adequacy of training on data collection tools and the reliability of these systems are somewhat moderate, with means of 4.09 and SD of 0.59 and 4.05 and SD of 0.71, respectively.

The findings imply that while the school has effectively implemented data-driven management systems—evidenced by the high utilization of automated tools and consistent teacher engagement in data entry—there remains a need for enhanced training and system reliability. This suggests that continuous professional development and system improvements are essential to fully optimize data use for informed decision-making, aligning with best practices.

This is consistent with a study by Munoz et al. (2022), which found that adequate and continuous training is essential for maximizing the potential of data-driven systems in schools, highlighting a gap in ensuring all stakeholders are proficient in utilizing these tools effectively.

The data presented in Table 2 reveals the extent of utilization of data-driven management in schools, specifically focusing on data analysis capacity. The indicators suggest a "Moderate Extent" of utilization across various facets, with a general mean of 3.99 and a standard deviation of 0.71, indicating a fairly consistent perception of data analysis practices in school management.

The first indicator, "The school has sufficient resources for analyzing collected data effectively," scored a mean of 4.02 with a standard deviation of 0.59, indicating that while there is a fair agreement on the adequacy of resources, there is room for improvement. Similarly, the indicator on teacher training for interpreting data analysis results received a mean of 3.94 and a standard deviation of 0.66, suggesting that while training programs exist, their frequency or comprehensiveness may be inconsistent. According to Sianturi & Simatupang (2020), effective data utilization in schools relies heavily on the availability of resources and the skillset of educators in interpreting data to make informed decisions.

Regarding the availability of analytical tools and software with the mean of 3.89 and SD of 0.79, the data indicates that tools are available but possibly not to the extent required for optimal data processing. This aligns with the findings of López et al. (2021), who emphasized that access to

Table 2

Extent of Utilization of Data-Driven Management in Terms of Data Analysis Capacity

Indicators	Mean	SD	Verbal Description
The school has sufficient resources for analyzing collected data effectively.	4.02	.59	Fairly Agree
Teachers and staff are trained in interpreting data analysis results.	3.94	.66	Fairly Agree
Analytical tools and software are available to process school data.	3.89	.79	Fairly Agree

sophisticated analytical tools is critical in enhancing the data processing capacity of schools. Furthermore, the regular review and discussion of data trends by school management with the mean of 3.98 and SD of 0.77 points to a consistent but not exhaustive effort in utilizing data for informed decision-making, as noted by Evans & Healy (2019), who argued that regular engagement with data trends allows for more timely and effective decision-making in educational institutions.

Lastly, the analysis results being shared in a manner that is understandable for decision-making with the mean of 4.13 and SD of .75) highlights that there is a relatively higher degree of transparency in communication, though it remains moderate.

These findings suggest that while schools are making strides in data-driven decision-making, further investment in resources, training, and tools is necessary to fully leverage the potential of data analysis for enhanced management and academic outcomes.

The findings suggest that while schools demonstrate a moderate extent of data analysis capacity, there is a clear need for strengthened support in terms of resources, analytical tools, and teacher training. Although efforts to interpret and communicate data are evident, the current practices are not yet fully optimized, suggesting that more targeted investments in capacity-building and infrastructure are essential to maximize the benefits of data-driven decision-making in school management.

The data presented in Table 3 reveals the extent of utilization of data-driven management in terms of Data-Driven Decision-Making within a school setting. The indicators assess various aspects of how data informs decision-making, teaching strategies, and overall school leadership practices.

The highest mean score of 4.24, with a standard deviation of 0.75, indicates that teachers use data insights to adjust their teaching strategies to a high extent. This suggests that teachers recognize the value of data in shaping their instructional approaches, which aligns with studies highlighting the significant role of data in improving teaching effectiveness and student learning (Harrison & Bart, 2020). Moreover, school leadership encourages using data for problem-solving, also scoring highly at 4.20 and SD of 0.74, which points to a school culture that actively promotes the application of data for addressing challenges. According to the study by DeAngelis (2021), fostering a data-driven environment among school leaders enhances problem-solving capabilities and leads to more effective educational practices.

Additionally, the statement "Data-driven decisions have improved student outcomes in our school" also achieved a mean score of 4.20 and SD of 0.67, suggesting that there is strong agreement that data utilization has positively impacted student outcomes. This finding is consistent with research by Lemke and Schrum (2018), who emphasize that data-driven decision-

Table 3

Extent of Utilization of Data-Driven Management in Terms of Data-Driven Decision-Making

Indicators	Mean	SD	Verbal Description
Decisions in our school are often guided by analyzed data.	4.20	.70	Fairly Agree
Data-driven practices are emphasized during school planning sessions.	4.16	.78	Fairly Agree
Teachers use data insights to adjust teaching strategies.	4.24	.75	Agree
School leadership encourages using data for problem-solving.	4.20	.74	Agree

making contributes to better academic performance and more personalized learning experiences for students. While the overall mean score of 4.19 and SD of 0.73 indicates a moderate extent of agreement, the data reflect that data-driven decision-making is an integral part of school operations, particularly in guiding decisions, improving teaching strategies, and enhancing student performance.

The findings convey that data-driven decision-making is well-integrated into the school's operational and instructional practices, with teachers and school leaders actively using data to guide teaching strategies and solve problems. The high mean scores suggest a strong culture of utilizing data to enhance student outcomes, though continued efforts are needed to further solidify and sustain these practices. This underscores the importance of maintaining a supportive environment where data use is encouraged and consistently linked to instructional improvement and student achievement.

Table 4

Extent of Utilization of Data-Driven
Management in Terms of Data Sharing and
Collaboration

Indicators	Mean	SD	Verbal Description
Data is shared transparently among all stakeholders (teachers, parents, and students).	4.32	.72	Agree
Collaboration on data sharing is encouraged within and across grade levels.	4.34	.70	Agree
The school fosters a culture of teamwork in using shared data for planning.	4.34	.67	Agree
Data-sharing tools and platforms are user-friendly and accessible.	4.21	.69	Agree
Stakeholders value shared data for informed decision-making and planning.	4.13	.71	Fairly Agree
Section Mean	4.27	.70	Agree

The data in Table 4 reflects a high extent of utilization of data-driven management in terms of data sharing and collaboration within the school environment. The overall mean score of 4.27, with a standard deviation of 0.70, indicates that the participants generally agree that data sharing and collaboration are integral parts of the school's management system. Among the specific indicators, the statement "Data is shared transparently among all stakeholders (teachers, parents, and students)" received the highest mean score of 4.32, suggesting that transparency in data sharing is a key strength in the school environment. Similarly, the indicators "Collaboration on data sharing is encouraged within and across grade levels" and "The school fosters a culture of teamwork in using shared data for planning" both scored 4.34, highlighting the emphasis on collaborative efforts to enhance data-driven decision-making.

The indicator "Data-sharing tools and platforms are user-friendly and accessible" also received a strong score of 4.21, suggesting that the tools used for data sharing are considered practical and easy to navigate by stakeholders. However, the statement "Stakeholders value shared data for informed decision-making and planning" had a slightly lower mean of 4.13, indicating a moderate extent of agreement. This suggests that while stakeholders generally appreciate the role of shared data, its full potential in decision-making may not yet be fully realized.

The findings indicate that data sharing and collaboration are highly practiced within the school, promoting transparency and teamwork among stakeholders. The strong agreement on the accessibility of data-sharing tools and the encouragement of collaboration across grade levels reflects a well-established culture of collective data use. However, the slightly lower perception of stakeholders fully

valuing shared data suggests the need for further efforts in promoting its significance in planning and decision-making to maximize its impact on educational outcomes.

These findings align with recent research on the importance of data-driven management in educational settings. According to Ekanem and Ofoegbu (2019), effective data sharing and collaboration among stakeholders significantly contribute to improved decision-making and educational outcomes. Furthermore, studies have shown that fostering a culture of teamwork around data use can enhance organizational learning and improve student achievement (Harris et al., 2021). Similarly, research by Ndlovu et al. (2020) emphasizes that accessible and user-friendly data-sharing platforms enhance stakeholder engagement and participation, which can lead to more informed and timely decision-making.

Table 5
Summary on the Extent of the Utilization of
Data-Driven Management

Indicators	Mean	SD	Verbal Description
Data Collection System	4.23	.63	Fairly Agree
Data Analysis Capacity	3.99	.71	Fairly Agree
Data-Driven Decision-Making	4.19	.73	Fairly Agree
Data Sharing and Collaboration	4.27	.70	Fairly Agree
Mean	4.17	.69	Fairly Agree

The data in Table 5 presents a summary of the extent of the utilization of data-driven management, as assessed through four key indicators: data collection system, data analysis capacity, data-driven decision-making, and data sharing and collaboration. The overall mean score of 4.17 and SD of 0.69 indicates that respondents "fairly agree"

on the implementation of data-driven management practices in their institution. Among the indicators, data sharing and collaboration received the highest mean score of 4.27 and SD of 0.70, suggesting that institutions prioritize the exchange of information among stakeholders. Meanwhile, data analysis capacity had the lowest mean score of 3.99 and SD of 0.71, implying that while data is collected and shared effectively, there may be challenges in interpreting and utilizing it for decision-making.

The findings in Table 5 imply that while data-driven management practices are generally well-implemented—particularly in data sharing and collaboration—there is a pressing need to enhance data analysis capacity among educators and school leaders. The lower score in this area suggests that without sufficient skills in interpreting data, the full potential of collected and shared information may not be realized. Strengthening analytical competencies through training and fostering a data-literate culture is essential to support more effective, evidence-based decision-making in schools.

These findings align with the study of Jiménez et al. (2020), which emphasizes that organizations with strong data-sharing mechanisms tend to have more effective decision-making processes, as collaboration fosters transparency and evidence-based strategies. Similarly, Nguyen and Walker (2021) highlight that while many educational institutions have established data collection systems, their ability to analyze and utilize the data for informed decision-making remains a challenge, particularly due to a lack of expertise in data analytics. Furthermore, according to Dede et al. (2019), data-driven decision-making enhances organizational efficiency and improves institutional performance, yet its success depends largely

on the organization's capacity to systematically analyze and interpret data.

Action Research Performance among Elementary Schools in Bagumbayan I

Table 6
Level of Action Research Performance in Terms of Research Planning and Design

Indicators	Mean	SD	Verbal Description
Teachers create well-structured action research plans for their classrooms.	3.86	.86	Fairly Agree
The goals of the action research are clearly aligned with identified issues.	3.86	.87	Fairly Agree
The school provides training on how to design effective action research projects.	4.01	.85	Fairly Agree
Collaboration is encouraged during the planning phase of action research	3.91	.89	Fairly Agree
Resources are available to support research design and planning.	3.78	.88	Fairly Agree
Section Mean	3.88	.87	Fairly Agree

The data presented in Table 6 shows the level of action research performance among elementary schools in Bagumbayan I, specifically in terms of research planning and design. The results reveal a "Fairly Agree" level of performance across all indicators, with a moderate extent of action research planning and design practices in place. The mean scores for each indicator range from 3.78 to 4.01, reflecting that while the schools show some positive engagement with action research, there is still room for improvement in fully integrating these practices.

One key finding is that teachers in the area tend to create well-structured action research plans for their classrooms with the mean of 3.86, suggesting that they recognize the importance of research in their teaching but may face challenges in crafting comprehensive plans. This finding aligns with previous research by Singh and Avasarala (2019), which highlighted that while teachers are generally willing to engage in action research, they often struggle with the intricacies of planning and design,

especially without adequate support. Similarly, the moderate level of agreement regarding the alignment of action research goals with identified issues with the mean of 3.86 suggests that while teachers have a clear understanding of their goals, they may not always effectively match them to the immediate challenges faced in their classrooms (Pang, 2020).

The availability of training with the mean of 4.01 and resources with the mean of 3.78 to support research design reflects a recognition of the need for professional development in research skills. However, the "fairly agree" responses indicate that these provisions might not be fully optimized or universally accessible. The findings are consistent with those of Peña and Cruz (2022), who emphasized that training and resources significantly influence the effectiveness of action research in educational settings, though gaps often remain in ensuring that all teachers can take full advantage of these opportunities. The moderate level of collaboration with the of mean = 3.91 during the planning phase underscores the importance of peer support, though it also points to potential barriers in creating a collaborative environment for action research planning.

Overall, the data suggests that while action research performance in Bagumbayan I elementary schools is relatively strong, efforts to enhance teacher training, resource accessibility, and collaboration could further strengthen research planning and design, ultimately improving the effectiveness of action research initiatives in the district.

Table 7
Level of Action Research Performance in Terms of Data Collection and Analysis in Research

Indicators	Mean	SD	Verbal Description
Teachers effectively gather data relevant to their research questions.	3.92	.86	Fairly Agree
Appropriate tools are used for data collection during action research.	3.93	.85	Fairly Agree
Teachers analyze collected data accurately and effectively.	3.98	.87	Fairly Agree
School leadership supports teachers in analyzing their research data.	3.93	.90	Fairly Agree
Findings from data analysis are reviewed to ensure validity and reliability.	3.92	.89	Fairly Agree
Section Mean	3.93	.87	Fairly Agree

The data from Table 7 indicate that the level of action research performance among elementary schools in Bagumbayan I, particularly in terms of data collection and analysis, is rated as "Fairly Agree" with a moderate extent. The mean scores for all indicators ranged from 3.92 to 3.98, suggesting that teachers are somewhat effective in the research processes but still face room for improvement. Specifically, teachers in these schools reported a moderate ability to gather relevant data with the mean of 3.92 and SD of 0.86 and use appropriate tools for data collection with the mean of 3.93 and SD of 0.85. Furthermore, they acknowledged analyzing the data accurately and effectively with the mean of 3.98 and SD of 0.87, although these activities could still be optimized for more comprehensive research outcomes.

The level of support from school leadership in data analysis is another significant factor, with a mean of 3.93 and SD of 0.90, suggesting that while leadership provides moderate support, the collaboration between leadership and teachers could be strengthened for more robust research processes. In terms of validity and reliability, the findings show that teachers review their data to some extent with the mean = 3.92 and SD of 0.89), although further efforts are needed to enhance the rigor of the review process.

The findings suggest that while teachers demonstrate a fair level of competence in gathering, using tools, and

analyzing data, there remains a need to improve the depth and accuracy of these practices. Moderate support from school leadership and limited attention to data validity and reliability further suggest areas for development. Strengthening leadership involvement, enhancing teacher capacity in data handling, and reinforcing rigorous data validation practices are key to improving research quality and impact.

Supporting literature emphasizes the importance of effective data collection and analysis in action research. According to Rappaport (2020), teachers' ability to utilize appropriate data collection tools directly impacts the quality of action research outcomes. Similarly, the role of school leadership in providing necessary support is critical to research success. Lee & Chang (2019) found that strong leadership support leads to improved data analysis skills and enhanced action research effectiveness. Additionally, Garrison (2021) highlights the need for continuous validity checks to ensure reliable findings, especially in action research contexts where teacher autonomy is pivotal.

Table 8
Level of Action Research Performance in
Terms of Application of Research Findings

Indicators	Mean	SD	Verbal Description
Findings from action research are implemented in classroom practices.	3.90	.90	Fairly Agree
Research results are used to inform school policy and strategy.	3.93	.84	Fairly Agree
Teachers use research findings to improve teaching and learning outcomes.	3.99	.86	Fairly Agree
The school leadership monitors the application of research findings.	3.82	.83	Fairly Agree
Successful applications of research findings are shared among faculty members.	3.89	.89	Fairly Agree
Section Mean	3.90	.85	Fairly Agree

The findings from Table 8 indicate that the application of action research findings among elementary schools in Bagumbayan I is at a moderate level, with ratings generally classified as "Fairly Agree." The implementation of research findings in classroom practices (M = 3.90, SD = 0.90),

the use of research to inform school policy ($M = 3.93$, $SD = 0.84$), and its role in improving teaching and learning outcomes ($M = 3.99$, $SD = 0.86$) suggest that while research is being utilized, its integration remains partial and not fully optimized.

Several challenges hinder the full application of action research findings in practice. Pineda and Tabada (2021) note that time constraints, insufficient resources, and limited professional development opportunities restrict teachers' ability to implement research-based improvements effectively. Similarly, Mangahas and Pineda (2022) highlight the gap between research production and its practical application, emphasizing that without sufficient follow-up and leadership support, the integration of findings remains inconsistent.

School leadership plays a crucial role in ensuring that research findings are not only applied but also sustained and shared among faculty members. However, leadership monitoring of research applications received a relatively lower mean score ($M = 3.82$, $SD = 0.83$), indicating the need for stronger administrative involvement. Delos Santos (2020) emphasizes that effective leadership fosters a research-oriented school culture, where findings are systematically incorporated into policy and decision-making.

The findings signify that while elementary schools in Bagumbayan I are making efforts to apply action research findings, the moderate level of implementation indicates a need for more systemic and sustained integration into classroom practices and policy development. This partial utilization suggests that despite recognizing the value of research in improving teaching and learning, barriers such as limited time, resources, and professional development persist. Moreover, the relatively low rating on leadership

monitoring underscores the critical role of school administrators in fostering a research-driven culture. Strengthening institutional mechanisms, enhancing leadership support, and promoting collaborative practices among educators are essential steps to bridge the gap between research production and practical application. Without these efforts, the transformative potential of action research in driving evidence-based improvements in education may remain underutilized.

Overall, while action research is moderately applied in schools, further efforts are needed to strengthen institutional support, leadership engagement, and faculty collaboration. As Esguerra and Caballero (2019) suggest, without these critical factors, the potential of action research in enhancing educational practices and improving student outcomes may not be fully realized.

Table 9
Level of Action Research Performance in
Terms of Dissemination of Research
Outcome

Indicators	Mean	SD	Verbal Description
Teachers present their research findings during school meetings or seminars.	3.81	.93	Fairly Agree
Research outcomes are shared through school publications or newsletters.	3.64	.92	Fairly Agree
The school encourages teachers to publish their research findings externally.	3.85	.89	Fairly Agree
Collaboration with other schools to share research outcomes is promoted.	3.78	.91	Fairly Agree
Research outcomes are presented in a way that stakeholders can easily understand.	3.69	.92	Fairly Agree
Section Mean	3.75	.91	Fairly Agree

The data from Table 9 indicates a moderate level of action research performance among elementary schools in Bagumbayan I, specifically in terms of the dissemination of research outcomes. The mean scores for each indicator reflect a consistent trend where teachers, schools, and stakeholders engage in the dissemination process at a "Fairly Agree" level, signifying moderate extent participation. The highest mean score was recorded for the

encouragement of teachers to publish their research findings externally with 3.85, suggesting a positive attitude towards external dissemination.

However, the lowest score was for presenting research outcomes in a way that stakeholders can easily understand with 3.69, indicating that there may be room for improvement in simplifying research results for broader audiences.

The findings imply that while action research dissemination in Bagumbayan I schools is moderately practiced, there is a need to improve how research findings are presented to stakeholders. Encouraging external publication is commendable, but simplifying research outputs will enhance understanding, engagement, and the practical impact of research on school improvement.

Research dissemination is essential in ensuring the utility of action research in improving educational practices. As affirmed by Robles (2020), effective dissemination of research findings not only informs educational strategies but also empowers educators to collaborate and learn from one another's experiences. Furthermore, promoting research dissemination aligns with the assertion of Nisperos and Punzalan (2021) that engaging with external and broader academic communities fosters professional development and supports the practical application of findings. This is further supported by Bacani et al. (2019), who highlighted the importance of research dissemination in promoting a culture of continuous improvement and knowledge sharing within educational settings.

Overall, while there is a clear effort to disseminate research outcomes within the school and externally, there is an indication that the presentation of research findings needs to be simplified to enhance comprehension, especially for stakeholders

without specialized knowledge. Schools can improve by implementing targeted training on effectively communicating research findings in more accessible formats to increase the impact and understanding of research outcomes.

Table 10
Summary on the Level of Action Research Performance of Data-Driven Management

Indicators	Mean	SD	Verbal Description
Research and Planning	3.88	.87	Fairly Agree
Data Collection and Analysis in Research	3.93	.87	Fairly Agree
Application of Research Findings	3.90	.85	Fairly Agree
Dissemination of Research Outcome	3.75	.91	Fairly Agree
Mean	3.86	.87	Fairly Agree

The findings in Table 10 illustrate the level of action research performance in data-driven management, with all indicators receiving a mean score within the "Fairly Agree" range. Among the four indicators, *Data Collection and Analysis in Research* obtained the highest mean of 3.93 and SD of 0.87, suggesting that respondents are relatively confident in gathering and analyzing research data. This aligns with the study of Creswell and Creswell (2020), which highlights that data literacy plays a crucial role in enhancing research quality and decision-making processes in educational management.

Meanwhile, the *Application of Research Findings* with the mean of 3.90 and SD of 0.85 and *Research and Planning* with the Mean of 3.88 and SD of 0.87 also scored high, indicating that educators and administrators recognize the importance of utilizing research-driven insights to guide their strategies. According to Goddard and Miller (2019), integrating research findings into school policies and management practices fosters a culture of continuous

improvement, leading to data-informed decision-making.

On the other hand, the *Dissemination of Research Outcomes* received the lowest mean, with the Mean of 3.75 and SD of 0.91, suggesting that challenges remain in effectively sharing research results. This supports the findings of Zhao et al. (2021), who emphasize that many educators struggle with disseminating their research due to limited platforms, time constraints, and lack of institutional support.

Overall, the general mean score with the Mean of 3.86 and SD of 0.87 indicates that while there is a moderate level of engagement in action research within data-driven management, improvements are needed, particularly in the dissemination of findings. Strengthening support systems, enhancing research communication skills, and providing institutional incentives could further enhance research engagement and utilization in educational settings.

The findings suggest that while schools in Bagumbayan I moderately engage in action research for data-driven management—especially in data collection and analysis—there is a need to improve the dissemination of research outcomes. Strengthening support systems, simplifying communication of findings, and encouraging wider sharing can help maximize the impact of research on school improvement and decision-making.

Relationship between Utilization of Data-Driven Management (DDM) and Action Research Performance

Table 11
Relationship between the extent of the Utilization of Data-Driven Management (DDM), and the Level of Action Research Performance among Elementary Schools in Bagumbayan I

	N	Mean	SD	r	p-value
Interpretation					
Utilization of Data-Driven Management	120	4.17	.52		
Correlation				.691	.000
Level Action Research Performance	120	3.86	.76		Moderate Significant

.05 level of Significance (2 tailed)

The data presented in Table 11 reveals a moderate, significant relationship between the extent of the utilization of Data-Driven Management (DDM) and the level of Action Research Performance among elementary schools in Bagumbayan I. With a correlation coefficient (r) of 0.691 and a p -value of 0.000, the results suggest that as the utilization of data-driven management increases, the performance in action research also improves. This indicates that the use of data-driven strategies in school management plays a vital role in enhancing the effectiveness of action research initiatives.

The results infer a significant moderate positive relationship between the extent of Data-Driven Management (DDM) and Action Research Performance among elementary schools in Bagumbayan I. This suggests that enhancing data utilization in school management can lead to improved research practices. Strengthening DDM strategies may, therefore, serve as a key lever for boosting research effectiveness and driving continuous improvement in teaching and learning.

This finding aligns with previous studies that emphasize the importance of data utilization in educational settings. For instance, a study by Spector (2018) highlights how data-driven decision-making helps educational leaders in enhancing teaching practices and academic outcomes. By using data to inform decisions, schools can identify areas for improvement, tailor interventions, and monitor progress, which directly influences the quality of action research and other educational initiatives. Similarly, a study by Chen et al. (2021) asserts that when teachers and administrators use data effectively, they are better equipped to

identify student needs and foster an environment conducive to continuous improvement, leading to higher performance in academic and research-related activities. Moreover, the work of Polikoff and Porter (2019) underscores that a strong data-driven approach in school management contributes significantly to evidence-based practices that elevate the overall quality of educational programs, including action research.

In conclusion, the significant and moderate correlation observed in this study supports the argument that data-driven management is an essential tool for improving action research performance in schools. This finding suggests that incorporating robust data utilization strategies into the school management framework could lead to more effective teaching, research, and student outcomes.

IV. Conclusion

The effective utilization of data-driven management (DDM) in education has gained global attention due to its potential to enhance decision-making and to improve school performance. The study was quantitative in nature, namely a descriptive-correlational to determine the influence of data-driven management on the action research performance of elementary schools in Bagumbayan I, division of Sultan Kudarat in the school year 2024-2025. The respondents of this study were limited to 9 school heads from 9 schools and 111 teachers with a total of 120 respondents within the Bagumbayan I, division of Sultan Kudarat in the school year 2024-2025. The study was conducted in DepEd Bagumbayan District I, Sultan Kudarat Division for the school year 2024-2025. This study employed an adapted e survey questionnaire. the mean and standard deviation statistical measures were employed to calculate the extent of the utilization of Data-Driven Management and

the level of Action Research Performance among elementary schools in Bagumbayan I. Meanwhile, Pearson r correlation was employed to determine the significant relationship between the extent of the utilization of Data-Driven Management and the level of Action Research Performance among elementary schools in Bagumbayan.

The data presented demonstrated a strong and varied utilization of data-driven management in elementary schools in Bagumbayan I, focusing on different aspects such as data collection systems, data analysis capacity, data-driven decision-making, and data sharing and collaboration. The results showed a high extent of utilization in several areas, particularly in data collection systems where teachers effectively input data into management systems and automated tools were widely used. However, moderate agreement was found regarding the adequacy of training and system accessibility for all stakeholders. Similarly, while the school provided sufficient resources for data analysis and shared analysis results effectively, there remained room for improvement in ensuring comprehensive teacher training and better access to analytical tools. In terms of decision-making, data was utilized extensively for adjusting teaching strategies and improving student outcomes, highlighting the importance of data in the school's strategic operations. Finally, the utilization of data sharing and collaboration is highly regarded, with teachers, parents, and students benefiting from transparent and accessible platforms.

Further, the overall action research performance among elementary schools in Bagumbayan I are characterized by a moderate extent of engagement across all key areas: research planning and design, data collection and analysis, application of research findings, and dissemination of

research outcomes. Teachers generally created well-structured research plans, collected and analyzed data effectively, and implemented research findings in classroom practices. However, challenges remained in fully optimizing resources, enhancing leadership support, and fostering collaboration. The findings indicated that while action research was being utilized, its application and dissemination, including the sharing of outcomes, could be further strengthened to achieve greater impact. Teachers acknowledged the value of action research, but barriers such as time constraints, limited resources, and insufficient leadership support hindered full integration. Research dissemination practices, while present, could benefit from more extensive sharing beyond school walls.

Furthermore, the results indicated a moderate significant correlation between the utilization of Data-Driven Management (DDM) and the level of action research performance among elementary schools in Bagumbayan I, with a correlation coefficient (r) of 0.691 and a p -value of 0.000, which was below the 0.05 significance level. The mean score for DDM utilization was 4.17 and SD of 0.52, indicating a relatively high utilization, while the mean score for action research performance was 3.86 (SD = 0.76), reflecting a moderate level of implementation. The significant positive correlation suggests that as the utilization of DDM increases, the performance in action research also improves, highlighting the importance of data-driven decision-making in enhancing educational practices.

In the light of the findings of this study, the following conclusions were drawn:

The utilization of data-driven management in schools in Bagumbayan I has shown a substantial impact, particularly in improving teaching strategies, decision-

making, and collaborative practices. However, there were still areas for improvement, especially in the training and accessibility of data analysis tools. Further investments in these areas helped maximize the full potential of data-driven approaches for enhancing school management and academic outcomes.

The action research performance in Bagumbayan I elementary schools showed a positive yet moderate level of implementation across key research stages. While teachers and leadership demonstrated commitment to action research, improvements in resource accessibility, collaborative efforts, and leadership involvement were essential for maximizing the potential impact of research initiatives and fostering a culture of continuous improvement in teaching and learning.

The effective utilization of Data-Driven Management played a significant role in improving action research performance among elementary schools in Bagumbayan I. This finding underscored the value of leveraging data to inform educational strategies, suggesting that schools with stronger data management practices tended to exhibit more robust action research engagement and outcomes.

ACKNOWLEDGMENT

Deepest gratitude is extended to those who made this study possible. Special thanks to Samson D. Molao, EdD, University President and Chairperson of the Examining Committee, for his valuable contributions; Mildred F. Accad, PhD, Dean of the Graduate School and Research Adviser, for her unwavering support, guidance, and patience; and Cristobal C. Ambayon, EdD-ELT, Critic Reader and Language Editor, for his insightful remarks.

Appreciation is also given to Nancy B. Espacio, EdD, Program Chairperson, for

her time and assistance in finalizing the manuscript; Cherry Vanessa M. Ventura, MMEM, for their valuable advice and guidance; and Eferen C. Flores, PhD, for her expertise in data analysis.

Heartfelt gratitude is accorded to Jeeb T. Abelito, PhD, and Gideon S. Sumayo, PhD, for their expertise and support in crafting this manuscript. Special thanks to Crispin A. Soliven JR., CESE, Schools Division Superintendent, for granting research permission; Salim C. Salbaton, Public Schools District Supervisor, for facilitating the study; and Emma E. Panza, School Principal I, for her encouragement.

Sincere appreciation goes to all school principals, school heads, teachers, and ICT coordinators of Bagumbayan District I for their support and cooperation. I extend my gratitude to all for your invaluable contributions that significantly enhanced the quality of the paper.

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