



TEACHERS DATA-DRIVEN DECISION-MAKING AS INFLUENCE OF SCHOOL HEAD VISIONARY LEADERSHIP

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Article DOI: <https://doi.org/10.36713/epra23167>

DOI No: 10.36713/epra23167

ABSTRACT

This study examined the relationship between school head's visionary leadership and teacher data-driven decision-making in the Division of Davao del Norte. Utilizing a descriptive-correlational research design, data were gathered from 278 teachers through validated instruments and analyzed using weighted mean, Pearson product-moment correlation, and regression analysis. The findings revealed that both school head's visionary leadership and teacher data-driven decision-making were at an extensive level. Visionary leadership was assessed in three domains: formation of vision, practice of vision, and feedback on vision. Teacher data-driven decision-making was measured through technological infrastructure and hardware, data usage culture, data usage purpose, and data literacy. Results indicated a significant positive relationship between the school head's visionary leadership and teacher data-driven decision-making. Furthermore, regression analysis showed that all domains of visionary leadership significantly influence teacher engagement in data-driven practices, with the practice of vision exerting the strongest influence. These results highlight the pivotal role of school leaders in fostering a data-informed culture that supports instructional improvement and learner outcomes. The study underscores the importance of visionary leadership in promoting evidence-based teaching and provides recommendations for school leaders, policymakers, teachers, and future researchers.

KEYWORDS- Visionary Leadership, Data-Driven Decision-Making, School Leadership, Instructional Improvement, Educational Management, Teacher Empowerment, Educational Leadership

INTRODUCTION

In today's evolving educational landscape, visionary leadership is increasingly seen as a critical factor in advancing school performance through data-driven decision-making (Doğan & Demirbolat, 2021). School heads who embody visionary leadership go beyond traditional management; they serve as catalysts for creating a culture that values data-informed practices. Visionary leaders play a transformative role in establishing an environment where data utilization is prioritized, facilitating improved teaching outcomes and learner success (Hsin-Hao & Shun, 2019). However, achieving the full benefits of data driven decision-making hinges on the quality of leadership guiding these efforts. This study, therefore, seeks to address the gap in understanding how visionary leadership specifically influences teacher data-driven decision-making, with a focus on the mechanisms of vision formation, modeling, and feedback as influential factors (Leithwood & Sun, 2019).

Effective visionary leadership is defined by the ability to communicate a compelling vision, inspire stakeholders, and build supportive structures for innovative practices (Hsin-Hao & Shun, 2019). Leaders with this style significantly affect teacher behaviors, school climate, and the general acceptance of data practices among staff. Research indicates that visionary leadership is associated with higher teacher motivation, job satisfaction, and openness to data-informed instructional changes (Doğan & Demirbolat, 2021). However, many school heads lack the visionary approach needed to lead in this data-centric era, especially in 2 environments where technological and training resources are scarce, presenting a significant barrier to successful data integration in schools (Leithwood & Sun, 2019; OECD, 2020).

Data-driven decision-making involves the systematic use of data to guide educational strategies, policy decisions, and classroom instruction (OECD, 2020). This approach enables educators to tailor teaching practices to meet learner needs, track academic progress, and make evidence-based decisions on interventions. Yet, challenges remain—particularly inadequate technological resources, limited data literacy, and a lack of strong leadership to establish and reinforce a data-centric culture. Studies emphasize that supportive leadership is essential in fostering a culture of data literacy and facilitating data-based decision making practices in schools (Doğan & Demirbolat, 2021). Leaders who can communicate and model a coherent vision for data usage are better positioned to mitigate these challenges and drive school improvement.

Despite its benefits, many educators encounter substantial barriers to adopting data-driven practices. These obstacles are particularly pronounced in settings where visionary leadership is lacking. Leaders who fail to model and support data use often unintentionally create environments where data's potential impact is minimized, resulting in missed opportunities for evidence-based improvements (Hsin-Hao & Shun, 2019). This study thus



focuses on understanding how visionary school heads can shape a school culture that values data, providing insight into the essential role of leadership in encouraging teacher engagement with data-driven decision-making.

The research gap this study aims to fill lies in the limited understanding of how specific dimensions of visionary leadership—vision formation, practice, and feedback—affect the data-driven decision-making abilities of teachers. While global research highlights the role of leadership in promoting data use, there remains a need for localized studies that examine this dynamic in the Philippine context. Here, efforts to promote data-driven practices, such as the Department of Education’s Enhanced Basic Education Information System, are often hindered by resource limitations, insufficient training, and a lack of visionary leadership (Department of Education, 2022; World Bank, 2020). Addressing this gap will offer practical insights for educational leaders and policymakers on fostering a data-use culture within Filipino schools.

Globally, data-driven decision-making is recognized as a critical tool for improving education. However, its success is hindered by limited resources, inadequate data literacy, and insufficient leadership. Visionary leaders are key to overcoming these barriers, promoting a culture of data use and improving educational outcomes (OECD, 2020; Leithwood & Sun, 2019).

In the Philippines, data-driven decision-making is prioritized through initiatives like the Enhanced Basic Education Information System. However, challenges persist due to insufficient training, technological resources, and visionary leadership. This study highlights the need for school heads to adopt a more visionary approach to bridge these gaps (Department of Education, 2022; World Bank, 2020).

Locally, schools in Panabo City Division face unique challenges, such as limited technological infrastructure and data literacy skills among teachers, which further underline the need for visionary leadership. The absence of visionary school heads compounds these issues, leading to environments where data driven decision-making is underutilized. This study investigates how visionary school leadership can serve as a catalyst for effective data use by teachers, particularly in resource-constrained settings. Understanding this relationship can guide the development of professional learning programs that emphasize visionary leadership and its role in educational improvement.

This research ultimately seeks to deepen the understanding of how school heads’ visionary leadership impacts teacher data-driven decision-making, offering recommendations to support educational leaders in fostering a data-centered culture. The insights gained from this study hold potential value for informing leadership development programs, enhancing educational policy, and improving data utilization practices within schools.

LITERATURE REVIEW

Schools are complex organizations that must navigate the challenges of a rapidly changing world, especially in the 21st century when societal expectations for education quality and functionality are higher than ever. As these expectations evolve, school management must adapt through change and innovation led by effective school leaders. Visionary leadership has emerged as a central philosophy in modern educational leadership, replacing traditional authoritarian approaches that no longer meet contemporary needs (Huma et al., 2023). Visionary school leaders are required to not only adapt to changes but also to anticipate future demands, guiding their organizations towards continuous improvement and growth.

Visionary leadership, particularly in the role of school heads, involves developing and practicing a shared vision that serves as a guiding force for the entire school community. According to research, the principal’s visionary leadership integrates the values and beliefs of teachers and stakeholders, constructing a shared school vision that aligns with the school’s core tasks and processes (Jedi et al., 2022). The visionary leader is responsible for understanding both the internal and external environments, blending personal and collective aspirations, and fostering an environment of collaboration and innovation. This process of leadership extends beyond mere vision formation to include continuous feedback and revisions, ensuring that the school’s direction remains dynamic and responsive to new challenges (Alvernia, 2022).

Visionary leadership in schools is not just about setting goals but also about crafting a future that inspires and engages all members of the organization. A vision is often described as a dream, hope, or possibility that serves as a compass for guiding the organization’s journey (Hambali et al., 2023). Visionary leaders must articulate a clear and compelling vision that aligns with the future development needs of their schools. Senge (2019) highlights that vision is a deeply inspiring force that reflects shared values and guides the collective efforts of an organization. It serves as a rallying point for all stakeholders, driving collective action towards common goals.

In the context of educational leadership, visionary principals are seen as change agents who not only set directions but also coach their organizations towards achieving those visions. According to Liu (2022), visionary leadership is a tool that helps schools achieve their educational missions by integrating the values and beliefs of teachers and other school members into a cohesive and shared vision. This leadership style is crucial in guiding schools through innovation and progress, ensuring that the vision remains at the heart of all school activities and decisions.



The connotations of visionary leadership encompass a cycle of evaluation, communication, practice, and feedback. Visionary leadership is generally divided into three key stages: formation of vision, practice of vision, and feedback on vision. Formation of Vision: At this stage, the principal engages with the school 7 community to identify and articulate the vision, considering the internal and external factors that influence the school environment. This process involves open communication, collaboration, and strategic thinking to align the vision with the needs of the school (Mohammadi, 2022).

Practice of Vision: Once the vision is established, it must be integrated into the daily operations and culture of the school. The principal plays a pivotal role in translating the vision into actionable steps, ensuring that it is reflected in school activities, programs, and decision-making processes. This stage is crucial for creating a new atmosphere within the school that reflects the shared vision (Nimota et al., 2020). Feedback on Vision: The final stage involves continuous monitoring and feedback to refine and adjust the vision as necessary. This feedback loop ensures that the vision remains relevant and responsive to the evolving needs of the school. The principal gathers input from boof th internal and external stakeholders, making necessary revisions to sustain the vision’s momentum and drive long-term success (Liu, 2022).

Visionary leadership is characterized by its ability to adapt to rapid changes and to inspire a proactive response among school members. It is essential for school leaders to communicate the direction of future development clearly, motivating the organization’s members to embrace change and innovate. Visionary leadership also fosters resilience, creativity, and a culture of continuous learning, which are vital for achieving educational goals and objectives in today’s dynamic environment (Yeliz, 2021).

In the context of educational organizations, visionary leadership is a strategic approach that enables schools to navigate complex changes and challenges. Effective visionary leaders create a mental picture of the desired future, aligning the school’s goals with broader educational trends and societal expectations (Mohammadi, 2022). They play a critical role in guiding the organization through transitions, whether in mission, strategy, or operations, by communicating a clear vision and mobilizing resources and people towards achieving it.

Statement of the Problem

This study determined the relationship between the school head’s visionary leadership and teacher data-driven decision-making. More specifically, it sought to answer the following questions:

1. What is the extent of school head’s visionary leadership in terms of:
 - 1.1. Formation of Vision,
 - 1.2. Practice of Vision, and
 - 1.3. Feedback on Vision
2. What is the extent of teacher data-driven decision making in terms of:
 - 2.1. Technological Infrastructure and Hardware,
 - 2.2. Data Usage Culture,
 - 2.3. Data Usage Purpose, and
 - 2.4. Data Literacy
3. Is there a significant relationship between the school head’s visionary leadership and teacher data-driven decision making?
4. Which of the domains of the school head’s visionary leadership significantly influence teacher data-driven decision making?

METHODOLOGY

Research Design

In this study, a quantitative research approach was employed, specifically utilizing a descriptive correlational design. Quantitative research methods involve the systematic collection of numerical data and the application of statistical tools to analyze and interpret these data, as emphasized by Creswell and Creswell (2019). This approach is particularly suitable for studies aiming to quantify variables and identify relationships among them, offering a structured way to understand phenomena through objective measurement and analysis (Apuke, 2019). By leveraging this approach, the study seeks to provide empirical evidence on the dynamics between school head’s visionary leadership and teacher data driven decision-making.

The descriptive correlational design is employed to explore and describe the relationships among variables without altering the study conditions, allowing for an accurate portrayal of real-world dynamics (Davis, 2021). This design is particularly useful in educational research as it permits an examination of how school leadership characteristics are associated with teacher practices, without the 45 interference of experimental manipulation. Descriptive research is primarily focused on observing and detailing the current state of variables, helping to outline their characteristics and distributions within the study context (Korrapati, 2019). In this study, the descriptive component provides a comprehensive picture of the extent and manifestation of visionary leadership in schools, alongside the prevalent data-driven decision-making practices among teachers.

Correlational research, on the other hand, delves into the examination of potential associations between variables, enabling the study to identify whether a relationship exists between the visionary leadership of



school heads and the decision-making approaches of teachers (Kabir, 2019). The correlational aspect of the design seeks to determine whether variations in leadership practices are statistically linked to changes in how teachers utilize data in their instructional decisions. This method does not imply causation but rather highlights the degree and direction of association between the two sets of variables, which is crucial for educational leaders seeking to enhance teacher performance through targeted leadership interventions (Johnson & Christensen, 2020).

Research Respondents

The research respondents of this study consist of approximately 278 teachers from selected schools. Teachers were chosen as respondents due to their significant role in the educational process, specifically in the context of data driven decision-making. Their involvement in daily instructional practices and decision-making processes provides crucial insights into how visionary leadership from school heads can influence and enhance data utilization within educational settings (Luo, et al., 2020). By focusing on teachers, this study aims to capture how leadership behaviors directly impact classroom practices, particularly in the use of data to inform instruction.

Teachers are at the forefront of implementing data-driven decisions, making them key informants in understanding the dynamics between school leadership and data usage. According to Wayman et al. (2021), teachers' ability to interpret and apply data to their instructional practices significantly affects learner outcomes. This makes them an ideal group for examining the effectiveness of visionary leadership in fostering a culture of data-driven decision-making. Furthermore, teachers' experiences and perceptions provide valuable feedback on how leadership initiatives influence their approach to integrating data into their teaching methods (Datnow & Park, 2019).

In selecting the respondents, stratified random sampling was employed to ensure representation across various grade levels and subject areas, allowing for a comprehensive analysis of how visionary leadership affects different teaching contexts. This sampling approach helps capture a wide range of perspectives, which is essential for drawing valid and generalizable conclusions about the relationship between school head's visionary leadership and teacher data-driven decision-making (Creswell & Creswell, 2019).

The sample size of 278 teachers was determined using Cochran's formula, considering a 95% confidence level and a 5% margin of error. This sample size is sufficient to provide reliable insights into the study's research questions, ensuring that the findings are statistically significant and reflective of the broader teacher population. Engaging a robust sample size of teachers helps to identify patterns and relationships between the independent variable (school head's visionary leadership) and the dependent variable (teacher data-driven decision-making), contributing to a deeper understanding of how leadership can shape educational practices (Bryk et al., 2020).

Research Instrument

The primary instrument for data collection was a structured questionnaire designed to measure both, school head's visionary leadership and teacher data driven decision-making. The questionnaire consisted of closed-ended questions with Likert-scale items to quantify perceptions and experiences. For data collection, this study utilized an adapted survey questionnaire. The questionnaire that was employed in this undertaking was divided into two sets. The first set focused on the extent of school structure mechanisms. The second set focused on effective teacher leadership.

School Head's Visionary Leadership. The school head's visionary leadership questionnaire was adapted from Hsin-Hao & Shun (2019). The instrument consisted of 20 items. It had three indicators namely; formation of vision (1-10), practice of vision (1-7), and feedback on vision (1-3). The school head's visionary leadership questionnaire was subjected to pilot testing to ensure its reliability and validity before being used in the main study. The pilot testing involved a sample of 30 respondents, and the results yielded a Cronbach's alpha coefficient of 0.92, suggesting that the items have a high level of internal consistency. This indicates that the questionnaire effectively measures the constructs of formation of vision, practice of vision, and feedback on vision with a reliable degree of accuracy. The high internal consistency also implies that the items are well-aligned and reflect the underlying dimensions of visionary leadership as perceived by teachers, thus supporting its use in assessing the impact of school heads' visionary leadership on educational practices.

Teacher Data-driven Decision Making. The teacher data-driven decision making questionnaire was adapted from Doğan & Demirbolat (2021). The instrument consisted of 23 items. It had four indicators namely technological infrastructure and hardware (1-6), data usage culture (1-7), data usage purpose (1-6), and data literacy (1-4).

The teacher data-driven decision-making questionnaire underwent pilot testing with a sample of 30 participants to evaluate its reliability. The instrument demonstrated a Cronbach's alpha coefficient of 0.86, indicating excellent internal consistency among its 23 items. This result suggests that the questionnaire reliably measures the four indicators: technological infrastructure and hardware, data usage culture, data usage purpose, and data literacy. The strong internal consistency underscores the tool's effectiveness in capturing teachers' experiences and practices regarding data-driven decision-making. These results affirm that the questionnaire is well-suited for examining how teachers utilize data in decision-making processes, providing a solid foundation for drawing meaningful conclusions in the main study.



Data Analysis

To address the research questions and test the hypotheses in this study, various statistical tools and methods were employed to analyze the collected data effectively. The selection of these tools is aligned with the nature of the variables and the research objectives, ensuring a comprehensive analysis of the relationship between school head's visionary leadership and teacher data-driven decision making.

Descriptive Statistics. Descriptive statistics, including measures of central tendency (mean, median) and variability (standard deviation), was used to determine the extent of school head's visionary leadership and the extent of 58 teacher data-driven decision-making. Descriptive analysis will provide a clear picture of how the variables are distributed and the average level of each indicator.

Pearson Correlation Coefficient. To address the first hypothesis (Ho1), the Pearson Correlation Coefficient was used to assess the relationship between the overall score of school head's visionary leadership and teacher data-driven decision-making. This statistical test is appropriate for measuring the strength and direction of the linear relationship between two continuous variables (Mukaka, 2012). A positive or negative correlation value will indicate the nature of the relationship between the independent and dependent variables, while the p-value will determine the significance of this relationship.

Multiple Linear Regression Analysis. To address the second hypothesis (Ho2) and identify which domains of school head's visionary leadership significantly influence teacher data-driven decision-making, multiple linear regression analysis was employed. This statistical technique allows for the examination of the predictive power of each independent variable (Formation of Vision, Practice of Vision, and Feedback on Vision) on the dependent variable (teacher data-driven decision-making). Regression coefficients, t-values, and significance levels (p-values) will indicate which domains are significant predictors. This method is particularly useful for understanding the contribution of each leadership dimension in shaping data-driven decision-making behaviors among teachers (Tabachnick & Fidell, 2019).

RESULTS AND DISCUSSION

The main focus of the study was to determine the significance of the relationship between school head's visionary leadership and teacher data-driven decision-making. The study was conducted with the selected teachers from the Division of Davao del Norte. There were two hundred seventy-eight (278) teachers who participated in this study. A descriptive correlational method of research was used in utilizing adopted research instruments. The said instruments were validated by the panel of experts and subjected to pilot testing before it was made ready for administration. Weighted mean, Pearson product moment correlation, and regression analysis were statistical tools used in analyzing the data. The hypotheses in this study were tested at a 0.05 level of significance.

The major findings of the study were the following: the extent of the school head's visionary leadership of the teachers is extensive. Meanwhile, the extent of the teacher data-driven decision-making is also extensive. It was found that there is a significant relationship between school head's visionary leadership and the teacher data-driven decision-making. The hypotheses of no significant relationship between school head's visionary leadership and teacher data-driven decision-making and none of the domains of school head's visionary leadership significantly influence the teacher data-driven decision-making were rejected.

Conclusions

Based on the findings of this study, the following conclusions were offered: The extent of school head's visionary leadership is extensive, which implies that it is oftentimes evident. All three of school head's visionary leadership which include formation of vision, practice of vision and feedback of vision, are at an extensive level, which means it is oftentimes evident. Meanwhile, the extent of teacher data-driven decision-making is also extensive, which means that it is oftentimes evident. All dimensions of teacher data-driven decision-making are oftentimes evident. Both variables call for all school members to work hand in hand to strengthen the existing status of the school head's visionary leadership and teacher data-driven decision-making.

Based on the findings, school head's visionary leadership, and teacher data-driven decision-making are correlated. Also, school head's visionary leadership significantly influences teacher data-driven decision-making. All domains of school head's visionary leadership, namely, formation of vision, practice of vision, and feedback of vision significantly influence teacher data-driven decision-making by registering a p-value of .017 which is less than .05 in the level of significance. This leads to the rejection of the null hypotheses. Further, the result indicates that for every unit increase in the three domains of school head's visionary leadership, teacher data-driven decision-making also increases.

Recommendations

The following suggestions were offered based on the conclusions of the study: For higher officials in the Department of Education, it is crucial to prioritize leadership development programs that enhance visionary leadership among school heads. This includes offering professional development opportunities that focus on forming a strategic vision, effective vision implementation, and continuous feedback mechanisms. Given the significant influence of visionary leadership on teacher data-driven decision-making, it is essential to establish national and regional policies that reinforce the integration of data-driven practices in schools. Moreover, DepEd should ensure



the availability of technological infrastructure and allocate resources to support schools in adopting data-driven systems, which are critical for improving instructional outcomes. By doing so, DepEd can foster a culture of innovation and informed decision-making across all educational institutions.

For school principals as key implementers of visionary leadership, are encouraged to continuously develop and refine their leadership skills to inspire and guide teachers effectively. Principals should focus on clearly articulating and practicing a shared vision that aligns with the school's goals and priorities. Regular feedback sessions should be institutionalized to engage teachers and other stakeholders in the evaluation and refinement of the school's vision. Furthermore, principals should cultivate a culture that values data by providing training on data literacy and ensuring that necessary technological tools are accessible to teachers. Building a supportive and collaborative school environment will empower teachers to utilize data more effectively in their decision-making processes, ultimately improving learner outcomes.

For teachers, as teachers play a crucial role in actualizing the vision set by school heads, should actively engage in professional development activities to enhance their data literacy skills. Understanding, analyzing, and applying data to improve instructional strategies should become an integral part of their practice. Teachers are encouraged to collaborate with their school leaders and peers in fostering a data-driven culture within their schools. By doing so, they can contribute to creating a dynamic learning environment that meets the diverse needs of students. Additionally, teachers should provide constructive feedback to school heads regarding the school's vision to ensure its relevance and alignment with educational priorities.

Future researchers are encouraged to further explore the interplay between visionary leadership and data-driven decision-making, particularly in other educational contexts and levels. Conducting longitudinal studies could provide deeper insights into the long-term impact of visionary leadership on teacher practices and student outcomes. Researchers may also consider examining additional variables, such as the influence of school culture, teacher collaboration, and technological advancements, to gain a more comprehensive understanding of the factors contributing to effective data utilization in schools. Expanding the scope of this research to include other regions or countries could also provide comparative insights that enrich the body of knowledge in educational leadership and data-driven practices.

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