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Health Diagnosis of School Leadership in the Implementation of Digital-Based

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A B S T R A C T

The digital-based school leadership health diagnosis is a continuation of previous research that developed concepts and instruments for diagnosing school leadership health. The application created in this study utilizes a streamlined process based on the first five stages of Borg and Gall's model, which aims to produce an efficient diagnostic tool. Initially, the application included five stages: self-evaluation, interviews, observations, preparation of recommendations, and implementation of recommendations. However, through limited trials, the diagnosis stages were reduced from five to four, by eliminating the observation stage. The refined process now consists of self-evaluation, interviews, preparation of recommendations, and implementation of recommendations. It was observed that the objectives of the removed observation stage could still be effectively met during the interview process, where the validation, analysis, and discussion of leadership health issues were conducted. This digital application demonstrates an enhanced capacity for diagnosing school leadership health in a more efficient and streamlined manner, without compromising the accuracy of the diagnosis. The results of this study indicate that the application successfully reduces the time needed for analysis while maintaining a high level of diagnostic precision.

1. INTRODUCTION

The research results to date show that school management in Indonesia is currently experiencing serious problems in terms of the implementation process and educational outcomes (Bappenas, 2009; Triatna, 2010; Triatna, 2015). These various studies and studies show that the condition of school management is still experiencing many problems. However, these various problems have not been fully recognized directly by school principals, teachers, school supervisors, and various related parties in the education ecosystem, including policy and program makers at the district/city and provincial education service levels so that efforts to improve school management are carried out inappropriately and unsystematically based on the problems being faced.

The study of the concept of healthy school management, problems in healthy school management, and how to make it healthy is still a topic of discussion among scholars in the field of Educational Administration, especially in Indonesia (Budiharso & Tarman, 2020; Sunarsi et al., 2020). Based on the point of view of school management practitioners, namely school principals, education organizing foundations, and district/city/provincial education offices, knowledge about school management health, school management health indicators, school management health problems, and how to develop them is something that is really needed to create a health map for school management, improve and improve the quality of school management so that school quality issues can be improved systematically and systemically through the school management process.

The National Assessment results, which involved students, educators, and heads of educational units from schools, madrasahs, and equivalent education programs across both basic and secondary education levels, indicated that literacy and numeracy targets still needed to be met. The assessment covered 267,381 educational institutions from all provinces in Indonesia, including 246,430 principals, 3,259,877 teachers, and 6,649,311 students (Pusat Standar dan Kebijakan Pendidikan, 2023). According to research conducted by Kodratillah et al. (2019), school management capacity was found to have a moderate effect on educational quality, contributing 25% to the quality with a significance level (rxy = 0.500). The findings underscore the urgent need for targeted interventions and reforms in teaching methods, curriculum design, and educational resource allocation to address the gaps in learning outcomes. Schools and madrasahs face particular difficulties in adapting to standardized targets, especially in regions with lower access to quality educational tools and training for teachers. Furthermore, the assessment results suggest that there may be systemic issues in the educational framework that hinder progress in these areas, such as inconsistencies in the implementation of policies and inadequate professional development opportunities for educators.

To address these challenges, a multi-faceted approach is necessary. This includes enhancing teacher training programs focused on innovative literacy and numeracy instruction, increasing investment in educational infrastructure, and providing ongoing support for school leaders to improve instructional leadership. Research shows that professional development programs that emphasize active learning, collaboration, and content-specific strategies significantly enhance teacher effectiveness and student achievement in literacy and numeracy (Darling-Hammond et al., 2017). In addition, greater emphasis should be placed on data-driven decision-making at both the local and national

levels to ensure that interventions are tailored to the specific needs of schools and regions. Evidence suggests that schools which implement data-driven practices experience improved instructional decision-making, leading to higher student performance outcomes (Marsh et al., 2006). Such strategies are vital for advancing Indonesia's educational standards on a global scale and fostering equitable access to quality education for all students (OECD, 2019).

Additionally, the research highlights that school leadership is considered a crucial element in effective school management. This view is supported by Sebastian and Allensworth (2012), who emphasized that principal leadership is recognized as a fundamental mechanism for school improvement. The importance of school leadership in facilitating the achievement of school goals requires leadership that is appropriate to the situation and conditions of subordinates so that they can influence their subordinates appropriately (Hidayat et al., 2023; Hoque & Raya, 2023). Leadership like this is often referred to as healthy school leadership as leadership that integrates a task approach with a human relations approach is appropriate to the context and situation and conditions that accompany the interaction process of leaders and people in their environment stated (Do et al., 2023; Erik et al., 2023; Triatna et al., 2021).

Principals and all parties related to the principal's leadership really need information regarding the health of the principal's leadership, whether the principal's leadership is healthy or sick. Triatna et al. (2021) explain, "School leadership disease is anything that can hinder and interfere with the principal in carrying out his leadership so that it does not run effectively and on target." To find out the health condition of the school principal's leadership, it is necessary to carry out a health diagnosis of school leadership, namely an effort to predict all potential risks that will occur if the disease is left untreated and suggest alternative healing actions so that school management functions can be returned to an optimal state and prime to achieve the school's goals (Adeoye et al., 2023; Beausaert et al., 2023; Marsh et al., 2023).

This study examines how to determine the health of school leadership using digital-based instruments. The digital assessment process is carried out through a website-based application to make it easier for various related parties to carry out the school leadership health diagnosis process. School leadership illnesses are anything that can hinder and disrupt the principal in carrying out his leadership so that it does not run effectively and on target (Triatna et al., 2019). The dimensions and indicators used in this school leadership health diagnosis instrument are the result of the theory used which was adopted from the NHS Leadership Academy (2013). These dimensions include 1) conveying shared goals; 2) leading with care; 3) evaluating information; 4) relationships with various internal and external parties in the service; 5) conveying the vision; 6) involving the team; 7) analyzing risks; 8) develop abilities; 9) Influence others to achieve better results.

2. METHODOLOGY

The research method employed is descriptive and follows a research and development approach. The stages of research will adhere to the framework outlined by Borg and Gall. The research method employed is descriptive, utilizing a research and development approach to systematically create and refine the study's objectives. The research will follow the stages outlined by Borg and Gall (1989), which involve a comprehensive framework designed to guide the development process. This framework includes detailed phases such as needs assessment, planning, product development, initial field trials, and subsequent revisions.

Each stage is structured to ensure thorough analysis and iterative improvement, allowing for the creation of a well-developed and effective educational tool or intervention. By adhering to this framework, the research aims to produce a robust and practical outcome that addresses the identified needs and contributes to the advancement of knowledge in the field.

Initially, in the research and data collection phase, the team will assess the need for developing a digital-based school leadership diagnosis application. This includes conducting a literature review and identifying potential values from research on school leadership health. Next, in the planning stage, the design for the school leadership diagnosis application will be developed. The subsequent stage involves creating a preliminary version of the product, which includes identifying input for the school leadership health instrument, developing diagnostic procedures, and determining involved parties and expected outcomes.

Initial field trials will be conducted with 1 to 3 school principals, where the diagnostic application will be tested for effectiveness through analysis, interviews, and questionnaires. Following these trials, the test results will be revised to improve or enhance the application. However, the field trials at this stage still need to be conducted as the application development is still in progress after the limited trials. The final stages involve refining the product based on field test results, conducting a field implementation test, and completing the final product field test.

3. RESULT AND DISCUSSION
3.1. School Leadership Health Concept

The term "health," as a noun, denotes a "healthy state" and is derived from the adjective "healthy," which encompasses various meanings such as being free from illness, maintaining good physical condition, and being in a state of recovery from illness. It also refers to something beneficial to the body or indicative of normal functioning. In the context of school management, "health" is understood as a condition in which management functions are carried out smoothly and without disruption, signaling that all aspects of management are effectively handled (Triatna et al., 2018).

Triatna et al. (2018) define "school management health" as the state where school management is free from "diseases" that impede its functions. This condition implies that the management is not only devoid of internal issues but also fully prepared to carry out all its tasks efficiently. The term "healthy" reflects the absence of disease, while "ready" indicates that both the work system and the personnel are equipped to perform their roles effectively. Thus, health in this context signifies a well-functioning management system, with readiness ensuring that all organizational and management functions are fully operational for prompt execution.

Triatna et al. (2019) further elaborate on this concept by identifying three forms of "diseases" affecting educational organizations. They discuss "nonconformity," which involves behaviors within the organization that deviate from its vision, mission, and goals, including inconsistencies with organizational values, societal norms, or policies. They also address "malfunction" or "non-function," which refers to failures in systems or processes within the organization. Additionally, they describe "lack," representing deficiencies that hinder the organization from achieving its full potential. Each of these aspects reflects different types of dysfunction that can affect the effectiveness and health of school management.

3.2. Application Description

The School Leadership Health Diagnosis Application is a web-based tool designed to analyze and map the state of school leadership, determining the extent to which the leadership of school principals is healthy and identifying any corrective actions if signs of dysfunction are detected. The process involves several key stages, starting from self-evaluation through to the implementation of interventions, all integrated within the platform.

The first stage is Self-Evaluation, where school principals assess their leadership health by completing a questionnaire within the application. This self-assessment allows them to reflect on various indicators related to their leadership performance. The result of this stage is an understanding of the current condition of the principal's leadership based on these predefined health indicators. The second stage is the Interview phase. Researchers conduct in-depth interviews with principals, vice principals, teachers, and school administrative staff (SAS). These interviews are designed to explore the indicators provided by the respondents further, offering deeper insights into the leadership dynamics within the school. This stage provides a comprehensive description of the leadership environment, capturing multiple perspectives from various school stakeholders (Sebastian & Allensworth, 2012).

Following the interviews, the Observation phase is conducted. Researchers perform field observations focused on various aspects such as the school environment, behaviors, and work performance. The purpose of this phase is to directly analyze the health of the school's leadership by observing real-time conditions and interactions within the school context. Observations ensure that the behaviors and practices discussed in the interviews are aligned with what is happening on the ground (Harris et al., 2020). The data gathered from the interviews and observations are then subjected to meta-analysis in the Recommendation Formulation stage. Here, the findings from the evaluation, interviews, and observations are systematically analyzed to identify patterns, correlations, and potential areas for improvement. This analysis leads to the formulation of tailored recommendations for improving school leadership health (Leithwood, 2010).
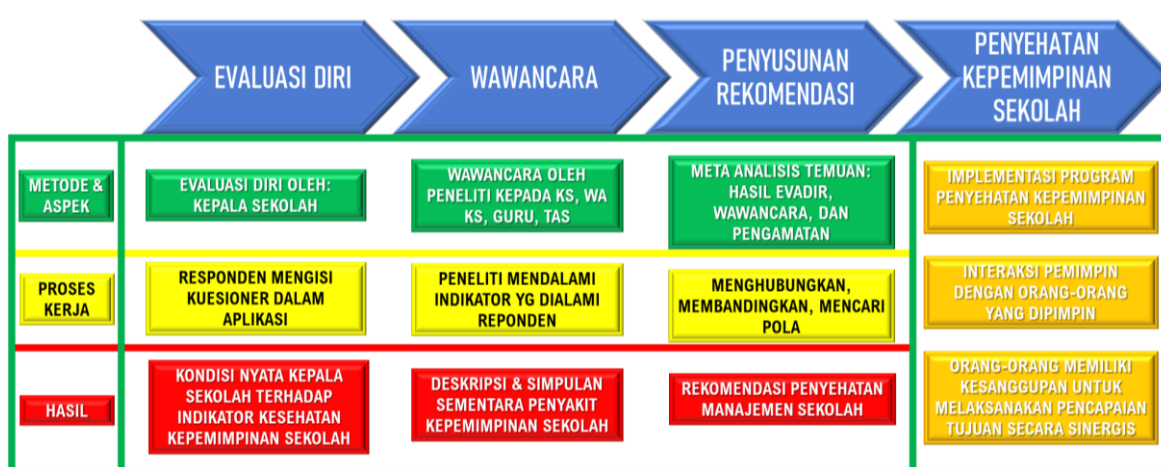

Figure 1. Stages of School Leadership Health Diagnosis and Improvement Process

The final stage is School Leadership Improvement, where the recommendations from the previous stage are implemented as part of a broader leadership improvement program. This involves fostering constructive interactions between the school leader (the principal) and the staff they lead, promoting collaboration among all stakeholders. The ultimate goal of this

stage is to establish a synergistic and healthy relationship between the principal and the broader school community, thereby ensuring sustainable and effective leadership (Leithwood & Sun, 2012).

Overall, the School Leadership Health Diagnosis Application follows a systematic process that includes self-evaluation, interviews, observation, and meta-analysis, culminating in the implementation of evidence-based interventions. This comprehensive approach ensures that school leadership is accurately assessed and provides the necessary corrective measures to maintain or restore leadership health where needed (Bush & Glover, 2014).

Thats stage shows that there is a problem after testing by three respondents, namely the flow for carrying out a diagnosis is too long so that the functioning of digital technology becomes less meaningful, especially in increasing the speed and accuracy of diagnosis results. Therefore, the flow of this application was then changed to be as follows:

Figure 1. Revise Stages of School Leadership Health Diagnosis and Improvement Process

Based on input from the limited trial, one stage in the form of observation was discarded to become four stages, namely: self-evaluation stage, interview, preparation of recommendations, and strengthening school leadership. After one stage is removed, the time to use the application becomes shorter and faster.

The dimensions and indicators used in this school leadership health diagnosis instrument are the result of the theory used which was adopted from the NHS Leadership Academy (2013). These dimensions include: 1) conveying shared goals; 2) lead with care; 3) evaluate information; 4) relationships with various internal and external parties in the service; 5) convey the vision; 6) involve the team; 7) analyze risks; 8) develop abilities; 9) Influence others to achieve better results.

Based on the feedback obtained from limited trials, it was found that the original five-step diagnostic process for assessing the health of school leadership was too time-consuming, largely due to the inclusion of a separate observation phase. To address this issue, the observation phase was eliminated, condensing the workflow into four key stages: self-evaluation, interview, recommendation formulation, and school leadership improvement. This modification not only streamlined the process but also significantly reduced the overall time required for diagnosis, thereby enhancing the efficiency of the application.

The self-evaluation stage remains the first step of the diagnostic process. In this phase, school principals are asked to complete a questionnaire within the application, which assesses

their leadership health based on predefined indicators. This step allows principals to critically reflect on their performance and provides a structured way to collect data on their leadership styles, strengths, and areas for improvement. The outcome of this stage is a clear picture of the principal's leadership health, offering a baseline for further analysis.

Following the self-evaluation, the interview stage is conducted. In this phase, researchers engage in structured interviews with key school stakeholders, including the principal, vice principals, teachers, and administrative staff. The goal of this stage is to gather qualitative insights into the leadership dynamics of the school, exploring how different individuals perceive the principal's leadership and how it impacts the overall functioning of the school. By engaging multiple perspectives, this step provides a more comprehensive view of leadership health, complementing the data collected during the self-evaluation phase.

With the data gathered from the self-evaluation and interview phases, the next step is to conduct a meta-analysis to identify patterns, correlations, and leadership health indicators that require attention. This phase synthesizes the information into a set of concrete, actionable recommendations aimed at improving leadership health. The recommendations are designed to address any identified weaknesses and reinforce strengths, providing a roadmap for the principal and school management to follow in order to enhance overall leadership effectiveness. By eliminating the observation stage, this phase now relies more heavily on the in-depth interview data, but it still retains its ability to provide meaningful and tailored suggestions for improvement.

The final stage of the revised process focuses on the implementation of the recommendations. This phase involves putting into practice the suggested leadership interventions and strategies. It emphasizes interaction between the principal and the stakeholders they lead, fostering a healthy and synergistic leadership environment. The goal is to ensure that the principal's leadership is not only effective but also aligned with the needs of the school community. The success of this stage is measured by the extent to which the leadership interventions result in improved school outcomes and relationships between the leadership team and other staff members.

The removal of the observation phase has significantly accelerated the overall diagnostic process, making the application more user-friendly and time-efficient. Previously, the observation phase extended the timeline and added complexity to the diagnosis. By condensing the process into four stages, the application can now deliver faster results while still maintaining the depth of analysis needed to produce actionable insights. This change ensures that digital technology is used to its full potential, enhancing the speed and accuracy of leadership health diagnoses without sacrificing the quality of the recommendations.

Moreover, this streamlined process allows educational institutions to quickly address leadership challenges, leading to more timely interventions and improvements. The absence of the observation phase places greater emphasis on the data collected during the interview process, ensuring that critical insights into leadership health are gathered efficiently. This approach not only reduces the time required for data collection but also minimizes the administrative burden on schools, making it easier for principals and stakeholders to engage with the diagnostic process. By focusing on the most relevant aspects of leadership health, the application can offer precise, targeted recommendations that are both practical and feasible to implement.

In addition, the use of digital tools enhances the scalability of the application, allowing it to be deployed across a wide range of educational settings. This flexibility is particularly valuable in regions where resources for leadership assessments are limited, as it ensures that

all schools, regardless of their size or location, can benefit from accurate and timely leadership diagnoses. As a result, schools are better equipped to implement leadership improvement strategies that align with their specific needs, ultimately contributing to a more effective and cohesive educational environment. The reduction of diagnostic complexity also increases the likelihood of sustained use, as school leaders are more likely to engage with a process that delivers quick and accurate results without overwhelming their daily operations. In the long term, this enhancement has the potential to significantly improve the overall health of school leadership significantly, leading to better educational outcomes for students and stronger, more resilient educational systems.

4. CONCLUSION

The school leadership health diagnosis application organizes the diagnostic process into four streamlined stages: self-evaluation, interviews, preparation of recommendations, and implementation of recommendations. This structured flow allows for a more focused and efficient assessment, enabling school principals and stakeholders to identify leadership health issues more quickly and accurately. By simplifying the steps without sacrificing the depth of analysis, the application ensures that essential data is gathered effectively and used to create tailored recommendations for leadership improvement.

These four stages have proven to be beneficial in enhancing both the speed and accuracy of the diagnosis process. The elimination of unnecessary steps, such as a separate observation phase, has significantly reduced the time needed for the assessment while maintaining high standards of diagnostic precision. This balance between speed and thoroughness makes the application a valuable tool for school leadership development, ultimately contributing to more effective management practices and healthier school environments.

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