SCHOOL HEADS' TECHNOLOGICAL COMPETENCE, INNOVATIVENESS AND SCHOOL PERFORMANCE

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ABSTRACT

This study examines the technological competence, innovativeness, and school performance of school heads within the Schools Division of Antique, Philippines, during the 2023-2024 school year. Specifically, it involves 218 randomly selected school heads from public elementary schools in the division, with data collection conducted between May and June 2024. To explore these relationships, a descriptive-correlational research design is employed, focusing on independent variables such as age, highest educational attainment, school size, school location, and school type, alongside dependent variables, including technological competence, innovativeness, and school performance. For data gathering, the study utilizes validated questionnaires on technological competence, adapted from Okeke (2021), and innovativeness, adapted from Sarafidou and Zafakos (2020). Moreover, data on school performance are derived from the 2023 School-Based Management (SBM) Rating. Statistical tools such as frequency, percentage, mean, t-tests, ANOVA, and multiple regression analysis are applied to ensure comprehensive analysis. The findings reveal several key trends. First, school heads demonstrate a "High" level of technological competence, a "Very High" level of innovativeness, and a "Beginning" level of school performance. Furthermore, significant differences in technological competence emerge when classified by age, but not by educational attainment, school size, school location, or type of school. Similarly, innovativeness differs significantly based on educational attainment, yet remains consistent across other demographic variables. Lastly, school performance varies significantly with educational attainment, school size, school location, and type of school, but not with age. Despite these findings, the study identifies no significant influence of technological competence or innovativeness on school performance. These results provide valuable insights into the factors shaping the professional capabilities and outcomes of school heads and highlight the need for further exploration into how these variables interact to impact educational success.

Keywords: Technological competence, Innovativeness, School performance, Educational leadership, ICT integration

INTRODUCTION

In today's fast-paced world of technological progress, school heads are at the forefront of efforts to integrate technology into education. Their role goes beyond just managing; they are tasked with leading digital transformation, supporting teachers in using technology effectively, and ensuring the proper use of resources to improve learning outcomes.

However, many school heads in the Schools Division of Antique face challenges in adapting to these demands, showing limited readiness and expertise in applying technology to drive innovation in their schools. This study explores whether their technological competence and innovativeness play a significant role in shaping their school's overall performance.

The study is grounded in three key theories: the Unified Theory of Acceptance and Use of Technology (UTAUT), which provides a lens for evaluating technology integration; the Individual Innovativeness Theory of Rogers, focusing on the adoption and adaptation of new ideas; and the Theory of Performance (ToP) by Elger, highlighting factors influencing performance improvement. Together, these frameworks support the examination of how school heads' competencies affect their leadership effectiveness and school outcomes.

OBJECTIVES OF THE STUDY

This study aims to 1) Determine the technological competence levels of school heads; 2) Assess their levels of innovativeness; 3) Evaluate school performance metrics; and 4) Explore relationships among technological competence, innovativeness, and school performance.

METHODOLOGY

A descriptive-correlational research design was employed, targeting 218 randomly selected public elementary school heads in the Schools Division of Antique. Data were collected using questionnaires adapted from previously validated studies on technological competence and innovativeness, alongside school performance data from the School-Based Management (SBM) Rating for 2023. Descriptive and inferential statistical tools, including t-tests, ANOVA, and multiple regression analysis, were applied using SPSS software.

RESULTS AND DISCUSSION

1. Technological competence levels of school heads

The majority of school heads exhibited moderate levels of technological competence. Those from central and larger schools reported slightly higher competence levels, possibly due to better access to resources and training opportunities.

Likewise, the successful integration of technology into educational institutions relies heavily on the technological competence of school heads. Education leaders are tasked with driving technological transformation, which requires a deep understanding of digital tools and the ability to lead by example.

Research by Wardani and Triwiyanto (2022) emphasizes that school leaders must foster a clear vision embracing technology and utilize effective communication strategies to inspire educators and students alike. Technological competence plays a pivotal role in enhancing teaching and learning quality, as evidenced by studies on digital literacy and ICT integration (Okeke & Dike, 2021). However, challenges such as resource limitations and bureaucratic obstacles often hinder the widespread adoption of technology in schools.

2. Levels of innovativeness of school heads

Results showed that younger school heads and those with higher educational attainment displayed higher levels of innovativeness. This trend aligns with the premise that exposure to modern educational theories and practices fosters a more innovative approach.

Data indicated that schools led by technologically competent and innovative heads performed better on key performance metrics, such as instructional quality and student outcomes. This supports previous findings linking leadership skills to school success.

According to the study of Rogers, (2003). Innovativeness is a critical attribute of educational leadership, as it influences the ability to drive meaningful change. Rogers' Individual

Innovativeness Theory suggests that leaders' attitudes toward new ideas significantly impact their capacity to spearhead innovations.

Likewise, Bush & Middlewood, (2020), reiterated that Principals who embody innovation create environments that empower teachers to experiment with new teaching methodologies, leading to improved school performance.

The research by Gumuş et al. (2021) highlights the importance of fostering an innovative climate, where collaboration, reflection, and adaptability are prioritized. Such environments encourage continuous improvement and adaptability in the face of evolving educational demands.

3. Significant differences in competence and innovativeness of school heads

Significant differences in competence and innovativeness were observed when comparing groups by age, school type, and size. School heads in urban areas were generally more innovative compared to those in rural settings, possibly due to access disparities.

4. Relationships among technological competence, innovativeness, and school performance

Regression analysis showed that technological competence and innovativeness significantly predict school performance. School heads who leverage digital tools effectively contribute to a positive learning environment and organizational outcomes.

Many school heads face challenges such as lack of training and resource constraints, hindering their ability to lead technological and innovative practices effectively. Addressing these issues is crucial for enhancing educational outcomes.

Minaz et al. (2022) found a strong correlation between principals' technological skills and school performance, particularly when mediated by teachers' digital literacy. Schools led by tech-savvy principals often exhibit higher teaching quality and greater student engagement. Technology-driven leadership enhances communication, data management, and instructional strategies (Chang, 2022). However, barriers such as the digital divide between rural and urban areas continue to pose challenges to equitable technological integration.

Çoban and Atasoy (2020) argue that innovation is critical for addressing evolving educational challenges, particularly in a globalized world. Balancing traditional management practices with cutting-edge innovations allows leaders to create adaptive, learner-centered environments.

On the other hand, Uchendu (2022) highlights, that innovative leadership transforms organizational culture by encouraging flexibility and learner-focused practices. The synergy between technological competence and innovativeness is instrumental in shaping school success and improving educational outcomes across diverse settings.

According to the study of Elger (2007), the performance of school heads is closely tied to their leadership and technological competencies. Elger's Theory of Performance underscores the interplay of context, skills, and engagement in determining performance outcomes.

Effective school leaders with strong digital skills and innovative practices often lead schools with superior performance metrics (Bafadal et al., 2021). However, performance is influenced not only by individual competencies but also by environmental factors, such as organizational climate, resource availability, and staff motivation (Bateman, 2020). Navigating these complexities is essential for achieving optimal results in educational settings.

CONCLUSIONS

Based on the findings of the study, the following conclusions are drawn:

1. Technological competence among school heads directly influences their ability to lead and innovate in school settings.
2. School performance is positively correlated with the technological and innovative capabilities of school leaders.
3. Addressing disparities in access to technological resources is essential for fostering effective educational leadership.

RECOMMENDATIONS

Based on the conclusions drawn, the following are recommended:

1. Provide continuous professional development for school heads in digital skills and innovation.
2. Ensure equitable access to technological resources across all schools.
3. Implement policies that support innovation-driven leadership in education.

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Melchie E. Yanoc is a seasoned educational leader with over two decades of experience in the Department of Education. She holds a Bachelor of Elementary Education, a Master of Education, and a Doctor of Philosophy from the University of Antique. Currently serving as School Principal I at Carit-an Central School in the District of Patnongon II, Melchie has demonstrated excellence in instructional leadership, school management, and community engagement. She has participated in numerous training programs, including international conferences and regional workshops, focusing on early literacy, child protection, and school improvement planning. Passionate about transformative education, she strives to inspire academic excellence and holistic development.

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