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Relationship Between Principal Instructional Leadership and Students' 21st Century Skills Performance on the National Achievement Test (NAT)

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Abstract

This study aims to examine the relationship between principal instructional leadership behaviours and students' performance in key 21st Century Skills, as measured by the National Achievement Test (NAT). The sample was selected using a stratified random sampling method, encompassing public schools within the region. The final study group consisted of 11 principals and 327 teachers across various educational institutions, with a total of 670 teachers in the region. To assess principal instructional leadership behaviours, the Principal Instructional Management Rating Scale (PIMRS) was employed, while students' performance in problem-solving, information literacy, and critical thinking was measured using the NAT results. Data analysis was conducted using Spearman's correlation and multiple linear regression. The findings revealed that students exhibited low proficiency levels in all three 21st Century Skills, with mean scores indicating a need for further development in these areas. No significant relationship was found between most principal leadership behaviours and student performance. However, a significant positive correlation was identified between the leadership behaviour of protecting instructional time and teacher performance on the NAT. The study underscores the importance of protecting instructional time as an essential factor in enhancing teacher effectiveness, while suggesting that other leadership practices may not have a direct impact on student achievement. Based on the findings, recommendations for improving instructional leadership and prioritizing 21st-century Skills development have been made.

Keywords: Instructional Leadership; National Achievement Test (NAT); 21st-century skills; PIMRS; Leadership behaviour

INTRODUCTION

The development of 21st-century skills—such as critical thinking, problem-solving, and information literacy—has become a central objective in education systems worldwide. These competencies are increasingly regarded as foundational for students to thrive in a rapidly evolving, knowledge-based global economy. As such, education systems across the globe have adopted mechanisms for evaluating these skills, including large-scale national and international assessments. Tools such as the Program for International Student

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Assessment (PISA), Trends in International Mathematics and Science Study (TIMSS), and various country-specific achievement tests serve as key instruments for gauging the effectiveness of instructional practices and overall student proficiency.

In the Philippines, the National Achievement Test (NAT) serves as a principal tool for monitoring student learning outcomes across core subject areas. Designed to measure minimum proficiency levels (MPL) in subjects such as mathematics, science, and English, the NAT provides policymakers and educators with critical insights into student performance. However, recent results have raised concerns. According to the 2023 NAT data, a significant portion of Grade 6, Grade 10, and Grade 12 students failed to meet the MPL, with only around 30% to 40% achieving passing scores in subjects like science and mathematics (Department of Education, 2023).

These national findings align with international assessments that show similarly low performance among Filipino learners. In the 2018 PISA cycle, the Philippines ranked near the bottom in reading, mathematics, and science, with particularly low scores in problem-solving—a key 21st-century skill. This situation reflects a broader and persistent learning crisis that continues to affect student outcomes in the country.

To address these gaps, scholars and policymakers have turned their attention to instructional leadership—particularly the role of school principals—as a key determinant of educational quality. Instructional leadership encompasses the practices and behaviors that school leaders use to promote effective teaching and learning. One well-established framework for evaluating such leadership is the Principal Instructional Management Rating Scale (PIMRS), which assesses principals' actions across three key domains: defining the school mission, managing the instructional program, and promoting a positive school learning climate. These dimensions are believed to significantly influence teacher effectiveness and, by extension, student achievement.

This study examines the relationship between principals' instructional leadership practices, as measured by PIMRS, and students' academic performance based on NAT results. By exploring this linkage, it aims to contribute to a deeper understanding of the leadership factors that may help mitigate the learning crisis and improve student outcomes in the Philippine context.

LITERATURE REVIEW

The Learning Crisis and the Need for Instructional Leadership

The Philippines continues to face a persistent learning crisis, as demonstrated by poor student outcomes in large-scale assessments such as the Programme for International Student Assessment (PISA) and the Trends in International Mathematics and Science

Study (TIMSS) (Alinsunurin, 2021; Bernardo et al., 2021). These results reflect systemic challenges that include regional disparities, socioeconomic inequality, inadequate school resources, and poor instructional quality (Gumarang Jr. & Gumarang, 2021; Trinidad, 2020). Studies suggest that factors such as students' metacognitive awareness, teacher capacity, and home learning environment also significantly influence learning outcomes (Alampay & Garcia, 2019; Bernardo et al., 2022). Although some reforms have been introduced, the gap between the intended curriculum and actual learning outcomes remains wide.

Amid these challenges, instructional leadership has gained increasing attention as a potential lever for educational improvement. School leaders, particularly principals, are viewed as critical actors in improving teaching and learning, especially when their focus shifts from administrative functions to academic leadership (Mestry, 2017; Shatzer et al., 2014). Instructional leadership entails guiding curriculum, overseeing teaching practices, and fostering school-wide learning goals. Thus, understanding how principals' instructional behaviors correlate with student performance is essential, especially in a context where student achievement is consistently underwhelming.

Instructional Leadership Measured Through PIMRS

The Principal Instructional Management Rating Scale (PIMRS) is one of the most widely used instruments to assess instructional leadership. It is based on the framework proposed by Hallinger and Murphy (1985), which categorizes leadership behaviors into three dimensions: (1) defining the school mission, (2) managing the instructional program, and (3) promoting a positive school learning climate. These dimensions encompass activities such as goal setting, supervision of instruction, curriculum coordination, monitoring student progress, and providing incentives for teachers and students.

Numerous studies have linked instructional leadership practices, as captured by the PIMRS, to improved educational outcomes. For instance, research has shown that goal setting and monitoring instruction can create environments conducive to professional collaboration and high expectations (Gordon & Hart, 2022; Sigilai, 2023). Principals who engage in regular classroom observations, provide timely feedback, and align professional development with school goals have been found to positively influence teacher effectiveness and, indirectly, student achievement (Ajani, 2023; Meng, 2023; Yuliana, 2024).

In the Philippine context, however, the implementation of instructional leadership varies widely. While some principals demonstrate strong instructional leadership, others struggle to balance administrative duties with pedagogical oversight (Arrieta et al., 2020; Mendoza & De Jesus, 2024). Studies in similar contexts have emphasized that leadership is most effective when it promotes stakeholder engagement, data-driven decision-making, and recognition of teacher performance (Campoli & Darling-Hammond, 2022; Pratiwi &

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Warlizasusi, 2023). Despite the growing body of evidence supporting the positive role of instructional leadership, the direct relationship between specific leadership behaviors and student performance, particularly in large-scale assessments like NAT, remains underexplored.

Student Performance Measured by the National Achievement Test (NAT)

The National Achievement Test (NAT) is the primary large-scale assessment used in the Philippines to evaluate student performance across various subject areas at key stages of basic education. It measures not only content knowledge but also critical thinking, problem-solving, and literacy skills aligned with 21st-century competencies. While designed to assess minimum proficiency levels, results from the NAT have consistently shown that a large proportion of students do not meet expected standards (Department of Education, 2023).

Several studies have explored factors influencing NAT performance. For example, Cuajao (2024) and Gain and Ancho (2019) found that school leadership, professional collaboration, and budget utilization significantly affect NAT outcomes. However, concerns persist about the test's validity in capturing deeper competencies like reasoning and information literacy (Cuajao, 2024). Gaps in NAT performance are further exacerbated by unequal school funding, differences in teacher quality, and students' socioeconomic status (Magulod, 2017; Mirasol et al., 2021).

Despite these limitations, NAT remains a key benchmark for assessing school effectiveness and informing policy. Its alignment with core subject competencies provides a basis for linking student achievement with instructional leadership. As such, examining how leadership behaviors—such as curriculum coordination or feedback mechanisms—relate to students' NAT scores can offer meaningful insights into school performance dynamics.

Relationship of Instructional Leadership and Student Achievement

The relationship between school leadership and student achievement has been the subject of extensive empirical inquiry. While early research primarily focused on transformational leadership, more recent work underscores the stronger and more direct impact of instructional leadership on academic outcomes (Shatzer et al., 2014). Principals who set clear goals, manage the instructional program effectively, and foster a culture of accountability are more likely to influence student performance positively.

However, findings in the Philippine context remain mixed. Some studies report no significant relationship between principals' leadership behaviors and NAT outcomes (Suyitno, n.d.), while others highlight positive correlations between instructional leadership

and school performance (Adlaon, 2020; Anub, 2020). Additionally, discrepancies between principals' self-perceptions and teachers' views of leadership behaviors complicate the interpretation of these relationships (Gurley et al., 2016). This complexity suggests that contextual factors—such as school location, resource availability, and teacher capacity—may moderate the effect of leadership on student outcomes.

While existing studies recognize the potential of instructional leadership to improve student outcomes, relatively few have explicitly explored how leadership behaviors, as measured by the PIMRS, relate to performance in 21st-century skills such as critical thinking, problem-solving, and information literacy. Moreover, there is limited evidence on how both principals' and teachers' perceptions of leadership behaviors influence student achievement in national standardized tests like the NAT. Addressing this gap is crucial in advancing evidence-based leadership development strategies in the Philippine education system.

This study, therefore, aims to examine the relationship between principals' instructional leadership behaviors—as assessed through the PIMRS—and students' performance in 21st-century skills, as measured by the National Achievement Test (NAT).

PURPOSE OF THE STUDY

The primary purpose of this study is to examine the relationship between principals' instructional leadership behaviors and students' academic performance in key 21st-century skills, namely problem-solving, information literacy, and critical thinking—as measured by the National Achievement Test (NAT). Guided by the formulated hypotheses, the study seeks to determine whether significant associations exist between instructional leadership practices, as perceived by both principals and teachers, and student achievement in these core competencies. By analyzing these relationships, the study aims to contribute to a deeper understanding of how leadership behaviors influence measurable learning outcomes and to inform school leadership practices that enhance student performance in the context of 21st-century education.

HYPOTHESES

The following hypotheses were posited based on the review of relevant literature and the objectives of the present study:

Hypothesis 1: There is a significant relationship between principals' instructional leadership behaviors, as perceived by principals themselves, and students' academic performance in 21st-century skills—specifically problem-solving, information literacy, and critical thinking—as reflected in National Achievement Test (NAT) results.

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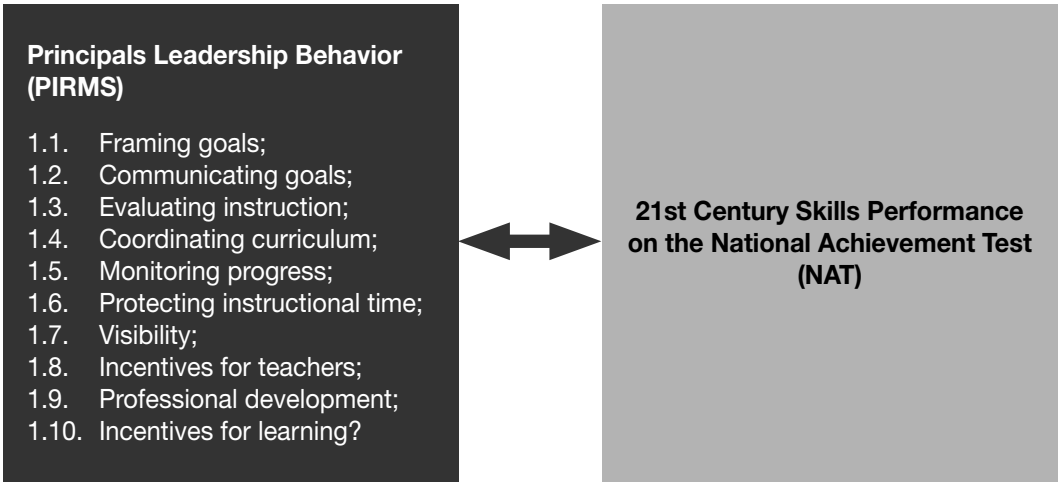
Hypothesis 2: There is a significant relationship between principals' instructional leadership behaviors, as perceived by teachers, and students' academic performance in 21st-century skills based on NAT results.

Figure 1

Research Conceptual Framework



The conceptual framework illustrates the relationship between principal instructional leadership behaviors, by school leaders and teachers, and their impact on student performance as measured by the 2023 National Achievement Test (NAT). It emphasizes the critical role of principals in improving the teaching and learning process through specific actions such as setting and communicating goals, supervising instruction, coordinating the curriculum, monitoring progress, protecting instructional time, and providing incentives for both teachers and students.

METHODOLOGY

Participants

The participants of this study included secondary school principals and teachers from public secondary schools in the province of Isabela for the school year 2024–2025. Schools were selected from those categorized as large and mega schools across Legislative Districts 1 to 6. A total of 11 secondary school principals participated, one from each identified school. In addition, a sample of 327 teachers was selected from a population of 670 using Cochran's formula to ensure statistical reliability at a 95% confidence level with a 5% margin of error. Systematic proportional random sampling was applied to ensure representative distribution across districts.

The sample allocation per district was as follows: Legislative Districts 1, 2, 3, 5, and 6 each included two schools, contributing a total of 55 teacher respondents per district, while District 4 included one school with 52 teacher respondents. This proportional representation facilitated comparative analysis of instructional leadership practices across districts.

Table 1

Allocation of Principal and Teacher Respondents

SCHOOL	Principal	Population Size (Teachers)	Sample Size (Teachers)	Percent
Legislative District 1	2	110	55	16.82
Legislative District 2	2	120	55	16.82
Legislative District 3	2	141	55	16.82
Legislative District 4	1	52	52	15.90
Legislative District 5	2	150	55	16.82
Legislative District 6	2	97	55	16.82
Grand Total	**11**	**670**	**327**	**100**

Instruments

Two primary instruments were used for data collection: the Principal Instructional Management Rating Scale (PIMRS) and the National Achievement Test (NAT) results.

The PIMRS, developed by Hallinger (1982), measures principals' instructional leadership behavior through three core domains: defining the school mission, managing the instructional program, and promoting a positive school learning climate. Each domain consists of subscales such as setting academic goals, supervising instruction, coordinating curriculum, monitoring student progress, protecting instructional time, and recognizing teacher and student accomplishments. The instrument includes 50 items rated on a 5-point Likert scale (1 = almost never, 5 = almost always).

Two modified versions of the PIMRS were used: one for principals (self-assessment) and one for teachers (assessment of their principal). The principal version also collected demographic data such as years in service and administrative experience. The teacher's version included years of teaching and the duration of working with the current principal. Permission to adopt and adapt the tool was secured from Dr. Philip Hallinger.

The PIMRS has demonstrated strong psychometric properties in multiple studies. Hallinger (2008) reported internal consistency values ranging from 0.78 to 0.90 across

subscales, with Cronbach's Alpha exceeding the 0.80 reliability threshold set by Latham and Wexley (1981). Content validity was established through expert consensus of at least 80% for item categorization (Hallinger, 1982). Discriminant validity was also confirmed using ANOVA, showing that ratings varied more between schools than within schools, except for two subscales: "Professional Development" and "Academic Standards."

The second instrument involved secondary data: school-level NAT scores from Grades 10 and 12 for the most recent academic year (2022–2023). These were obtained via a Freedom of Information (FOI) request from the Department of Education–Bureau of Education Assessment (DepEd–BEA). NAT scores were analyzed concerning 21st-century skills indicators such as problem-solving, information literacy, and critical thinking in core subjects (English, Filipino, Mathematics, Science, and Araling Panlipunan)

Procedures

The study employed a quantitative correlational research design to explore the relationship between principals' instructional leadership practices and students' academic performance. Before data collection, approval was sought from relevant education authorities in Isabela. After receiving institutional consent, the researcher distributed the PIMRS surveys to both principals and their teachers. Teachers were selected based on proportional allocation and systematic random sampling. Surveys were administered either in-person or via official school email channels, depending on accessibility.

NAT data were requested and retrieved through an FOI application process to DepEd–BEA. The average school-level performance in Grades 10 and 12 was extracted and analyzed for alignment with 21st-century skills.

Data were encoded and analyzed using the Statistical Package for Social Sciences (SPSS). To describe participants' responses to PIMRS items, weighted mean scores were calculated. To determine the relationship between instructional leadership practices and student achievement, the Spearman Rank Correlation Coefficient was used, a non-parametric test suitable for ordinal or non-normally distributed data.

Ethical Considerations

Ethical clearance for this study was secured from the Institutional Ethics Review Board of the Polytechnic University of the Philippines–Open University. Participation was voluntary, and informed consent was obtained from all respondents. Anonymity and confidentiality were ensured throughout the research process. Participants were assured that all data would be used solely for academic purposes, and they could withdraw at any stage without penalty. The use of NAT complied with DepEd's data-sharing policy under the Freedom of Information Act.

RESULTS AND DISCUSSION

The findings from the National Achievement Test (NAT) indicate that students are performing at low levels in key 21st Century Skills, including problem-solving, information literacy, and critical thinking. This aligns with the broader research indicating that these skills often require significant improvement (Ni Putu Parmini et al., 2023). In response to these deficiencies, school principals play a critical role in implementing instructional leadership strategies aimed at enhancing student outcomes.

Table 2

Assessment of Students' Proficiency in 21st Century Skills from the National Achievement Test (NAT)

National Achievement Test	Mean Percentage Score	Level of Proficiency
Problem-Solving	46.06	Low
Information Literacy	45.05	Low
Critical Thinking	42.14	Low

To address the low proficiency levels revealed in the NAT results, principals may focus on strengthening teacher competence through targeted professional development, such as certification programs and collaborative training initiatives (Supadi, 2022). By enhancing teachers' pedagogical skills and content knowledge, principals can create a more effective learning environment that fosters the development of students' problem-solving and critical thinking abilities. Furthermore, principals themselves must also prioritize the development of their leadership competencies, particularly in technical, conceptual, and human domains, to effectively guide and support their staff in integrating 21st Century Skills into their teaching practices (Riswanti Rini et al., 2023). This holistic approach to instructional leadership is essential for creating a school culture that prioritizes the cultivation of these vital skills among students.

Correlation analysis between principal instructional leadership practices and student performance on the National Achievement Test (NAT)

Utilizing Spearman's correlation, the findings reveal that none of the assessed leadership practices exhibit statistically significant correlations with student achievement scores. Specifically, the practice of framing school goals presents a moderate positive correlation coefficient of 0.499; however, the corresponding p-value of 0.118 indicates that this relationship is not statistically significant, suggesting that establishing clear goals does not have a verified impact on student outcomes in this sample. Similarly, communicating

school goals shows a weak to moderate positive correlation of 0.359, yet the p-value of 0.278 confirms the lack of statistical significance.

Supervision and evaluation of instruction display a weak positive correlation of 0.259, with a p-value of 0.442, further underscoring the absence of a significant relationship. Coordination of the curriculum yields a moderate correlation of 0.417, but the p-value of 0.202 again leads to the acceptance of the null hypothesis, indicating no meaningful impact on National Achievement Test (NAT) scores. Monitoring student progress, with a correlation of 0.339 and a p-value of 0.307, also fails to establish statistical significance. The practice of protecting instructional time shows a moderate correlation coefficient of 0.393, yet this too is not significant, as evidenced by a p-value of 0.232. Similarly, maintaining high visibility has a weak correlation of 0.229, with a p-value of 0.498, denoting a lack of significant association. Moreover, providing incentives for teachers and promoting professional development have weak correlations of 0.183 and 0.358, respectively, both of which are statistically non-significant, with p-values of 0.590 and 0.280. Lastly, providing incentives for learning demonstrates a moderate positive correlation of 0.390 but, like the others, lacks significance (p-value = 0.236).

Overall, while some leadership practices show modest correlations with student performance, none of these associations reach statistical significance, implying that the instructional leadership practices examined do not have a demonstrable impact on NAT performance.

While some studies report a positive correlation in student academic performance—such as Gatama et al. (2023), who found that instructional leadership accounted for 16.7% of the variation in academic performance in Kenyan schools, and Cox and Mullen (2022), who observed that principals' practices directly impacted student achievement in rural, high-poverty schools—the current analysis suggests a different narrative. In contrast, the findings from Sultan et al. (2022) reveal a weak negative correlation between headmasters' instructional leadership and school performance in Malaysian primary schools, which align with the lack of significant relationships observed in the current analysis.

Furthermore, a meta-analysis by Pietsch et al. (2023), covering 75 countries, revealed that the mean correlation between instructional leadership and student achievement was nearly zero, indicating significant variability across different cultural contexts and levels of human development. This broader perspective underscores the complexities inherent in the relationship between instructional leadership and student outcomes.

The analysis also reveals insights into the relationship between principal instructional leadership practices and teachers' performance on the NAT, utilizing the Principal Instructional Management Rating Scale. The study applies Spearman's correlation to

measure the strength and direction of these relationships, alongside p-values to determine their statistical significance. The findings indicate that most leadership practices exhibit weak or insignificant correlations with teachers' NAT performance. Specifically, framing school goals has a near-zero correlation (0.012) with a p-value of 0.825, highlighting no significant relationship. Similarly, communicating school goals shows a weak positive correlation (0.030) and a non-significant p-value of 0.590. Supervision and evaluation of instruction yield a weak correlation (0.053) with a p-value of 0.341, while coordinating the curriculum demonstrates a slightly higher correlation of 0.086 but remains statistically non-significant ($p = 0.121$).

Monitoring student progress presents a correlation of 0.100, yet the p-value of 0.071 indicates no significant association. Notably, protecting instructional time emerges as the only statistically significant relationship, with a weak positive correlation of 0.112 and a p-value of 0.042, suggesting a meaningful yet modest impact on teachers' NAT performance. In contrast, maintaining high visibility, providing incentives for teachers, and promoting professional development all exhibit weak correlations (0.059, 0.013, and 0.055, respectively) and non-significant p-values. Lastly, providing incentives for learning has a weak correlation (0.079) with a non-significant p-value of 0.156.

These results imply that, while instructional leadership practices are often emphasized in educational management, most practices analyzed do not show significant associations with teacher performance on the NAT, except for protecting instructional time. The significant impact of protecting instructional time aligns with Cuajao's (2024) study in the Philippines, which emphasized that safeguarding instructional periods has a measurable effect on enhancing teachers' effectiveness, subsequently improving student outcomes. However, this result contrasts with international research, such as Bietenbeck and Collins (2023), which suggests that the benefits of increased instructional time on student achievement may be less pronounced in broader global contexts.

Moreover, the effectiveness of instructional time appears to depend on how teachers allocate class activities. Burgess et al. (2022) underscore that making activities, such as individual practice and assessments, can boost math scores, while classroom discussions are more beneficial for English performance. This finding highlights the necessity for principals not only to protect instructional time but also to guide teachers in optimizing the use of that time effectively. Despite these potential benefits, Cuajao (2024) also reported a troubling decline in NAT scores for Filipino subjects in Zamboanga City, signalling the need for curriculum reviews and targeted teacher training to address subject-specific challenges.

Nochefranca (2022) further reinforces the critical link between teacher performance and student achievement, emphasizing the importance of high teaching standards. These

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studies collectively suggest that while protecting instructional time is a crucial and significant leadership practice, as evidenced by the current analysis, its effectiveness is ultimately tied to how that time is utilized, necessitating strategic curriculum planning and continuous professional development for teachers to maximize student learning outcomes.

CONCLUSION AND RECOMMENDATIONS

The NAT results indicate a concerning level of proficiency among students in critical 21st-century skills. Scores in problem-solving (46.06), information literacy (45.05), and critical thinking (42.14) reflect a low performance, underscoring the need for instructional leadership to focus on enhancing these competencies. This finding highlights a pressing need for strategic interventions aimed at improving students' academic outcomes through targeted instructional practices.

The analysis indicates that both principals' and teachers' perceptions of instructional leadership practices do not exhibit a statistically significant correlation with student achievement as measured by the National Achievement Test (NAT). While certain practices, such as "framing goals," "coordinating curriculum," and "monitoring progress," showed moderate correlations, their p-values suggested no significant impact on student performance. This finding implies that principal leadership behaviors alone may not directly influence student outcomes on standardized assessments, highlighting the need for a more integrative approach to leadership that encompasses additional factors, such as classroom dynamics and resource availability.

Similarly, while teachers generally rated principals' instructional leadership behaviors highly, the analysis revealed predominantly weak or non-significant correlations with student performance. The practice of "protecting instructional time" was the only behavior to demonstrate a statistically significant relationship with NAT scores, suggesting that managing instructional time effectively may have a meaningful impact on student achievement. The overall limited significance of the other practices suggests that while instructional leadership is crucial, its direct effect on student achievement may be influenced by contextual factors, such as how leadership practices are applied in the classroom and the availability of resources. Therefore, a more holistic and context-specific approach to instructional leadership may be necessary to drive measurable improvements in student performance.

Based on the conclusions drawn from the study, several recommendations are proposed to enhance instructional leadership and student achievement. Firstly, school principals must prioritize the protection of instructional time by minimizing disruptions and ensuring that scheduled teaching hours are effectively utilized. This entails the development and enforcement of policies that limit non-instructional interruptions, thereby

maximizing opportunities for student learning. Secondly, it is essential to provide continuous professional development opportunities for both principals and teachers, with a focus on data-driven decision-making, goal setting, and curriculum alignment. The integration of peer mentoring programs and collaborative workshops is likewise encouraged to cultivate a culture of shared learning and pedagogical innovation. Lastly, instructional strategies should be implemented to strengthen students' 21st-century skills, particularly in the areas of problem-solving, information literacy, and critical thinking. These efforts must be aligned with large-scale assessment frameworks, such as the National Achievement Test (NAT), to adequately prepare learners for standardized evaluations and future academic demands.

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1. **Funding details.** No funding was received for this research.

2. **Disclosure statement.** The authors report that there are no competing financial or non-financial interests that could have appeared to influence the work reported in this paper.

3. **Ethical Approval:** This study adhered to ethical guidelines concerning human research. Ethical approval was obtained from the Institutional Ethics Committee of the Polytechnic University of the Philippines - Open University System. All participants were informed of the purpose and procedures of the study, as well as their rights, in accordance with ethical research practices

4. **Declaration of Generative Artificial Intelligence (AI) in Scientific Writing**. The authors acknowledge the use of generative AI tools in the preparation of this manuscript. Specifically, ChatGPT (developed by OpenAI) was used for grammar refinement and clarity improvement, while Elicit AI assisted in identifying relevant literature and organizing the research review. All intellectual content, analysis, and final interpretations are the original work of the authors, who take full responsibility for the integrity and accuracy of the manuscript.

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APPENDIX

Correlation analysis between principal instructional leadership practices and student performance outcomes on the National Achievement Test (NAT), using the Principal Instructional Management Rating Scale.

Type	Principal Instructional Management Rating Scale	Spearman Correlation	p-value	Decision	Remarks
Principal	Frame the School Goals	.499	.118	Accept Ho	Not Significant
	Communicate the School Goals	.359	.278	Accept Ho	Not Significant
	Supervise & Evaluate Instruction	.259	.442	Accept Ho	Not Significant
	Coordinate the Curriculum	.417	.202	Accept Ho	Not Significant
	Monitor Student Progress	.339	.307	Accept Ho	Not Significant
	Protect Instructional Time	.393	.232	Accept Ho	Not Significant
	Maintain High Visibility	.229	.498	Accept Ho	Not Significant
	Provide Incentives for Teachers	.183	.590	Accept Ho	Not Significant
	Promote Professional Development	.358	.280	Accept Ho	Not Significant
	Provide Incentives for Learning	.390	.236	Accept Ho	Not Significant
Teacher	Frame the School Goals	.012	.825	Accept Ho	Not Significant
	Communicate the School Goals	.030	.590	Accept Ho	Not Significant
	Supervise & Evaluate Instruction	.053	.341	Accept Ho	Not Significant
	Coordinate the Curriculum	.086	.121	Accept Ho	Not Significant
	Monitor Student Progress	.100	.071	Accept Ho	Not Significant
	Protect Instructional Time	***.112****	***.042***	***Reject Ho***	***Significant***
	Maintain High Visibility	.059	.288	Accept Ho	Not Significant
	Provide Incentives for Teachers	.013	.809	Accept Ho	Not Significant
	Promote Professional Development	.055	.322	Accept Ho	Not Significant
	Provide Incentives for Learning	.079	.156	Accept Ho	Not Significant