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School leadership support for educational technology: Assessing teachers' readiness in a Philippine public secondary school

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ABSTRACT

Technology integration has become an important concern in improving classroom instruction and supporting effective teaching in secondary education. However, limited school-specific evidence explains how leadership support relates to teachers' readiness to integrate technology at Maconacon National High School. This study examined school leadership support, teachers' readiness, and the relationship between these variables. A descriptive-correlational research design was employed, involving 30 teachers selected through total enumeration. Data were gathered using a researcher-made questionnaire covering resource provision, technical assistance, professional development, instructional guidance, technological competence, confidence, attitudes, and pedagogical preparedness. Weighted means were used to describe the variables, while correlation analysis was intended to determine their relationship. The illustrative findings indicated favorable perceptions of leadership support and teachers' readiness, although resource provision and pedagogical preparedness received comparatively lower ratings. A positive relationship between leadership support and teachers' readiness was also assumed for illustration. School leaders should strengthen technology resources and provide sustained, practice-oriented professional development to improve classroom technology integration.

Keywords: Technology integration, school leadership support, teachers' readiness, classroom instruction, professional development.

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INTRODUCTION

Technology has become an important part of contemporary education. It gives teachers additional ways to present lessons, explain difficult concepts, assess learning, and engage students in classroom activities. Digital presentations, online learning platforms, educational videos, and interactive applications can make lessons more accessible and varied. However,

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the value of these tools depends on how teachers use them to support learning. Simply having computers or internet access does not guarantee meaningful technology integration. Teachers also need appropriate skills, sound pedagogical judgment, and support from their school leaders.

Wohlfart and Wagner (2023) reviewed 23 systematic reviews covering 1,062 primary studies on teachers' roles in educational digitalization. Their findings emphasized the importance of teacher digital literacy, technological pedagogical content knowledge, and the conditions that support technology integration. The review also identified barriers that may prevent teachers from using digital tools effectively. These findings suggest that technology integration should not be treated solely as a matter of equipment provision. It also involves teacher competence, instructional practice, professional development, and school management.

Technology integration is particularly relevant in secondary education, where teachers handle different subject areas and address varied learning needs. Digital resources can support explanations, collaborative activities, formative assessment, and access to supplementary learning materials. When properly selected, they can help teachers connect subject content with learners' experiences. Yet technology is not automatically beneficial. Its contribution depends on the relationship among the tool, the learning objective, the teaching strategy, and the needs of the learners. Teachers therefore need more than basic computer skills. They must also know when and how technology can improve instruction.

International research shows that school leadership is an important part of this process. Schmitz et al. (2023) examined survey data from 2,247 upper secondary teachers in Switzerland. Their findings indicated that transformational leadership was associated with teachers' beliefs about digital technology, technical skills, and ability to teach with digital tools. These factors were, in turn, associated with higher levels of technology integration. The findings point to the importance of leadership practices that encourage teachers, support their professional growth, and establish a school environment conducive to digital teaching.

Kaya-Kasikci et al. (2023) investigated technology integration among 11,245 public school teachers in Türkiye. Their findings indicated that technology leadership helped create a supportive school climate. Teacher self-efficacy also played an important role in technology integration. Leadership may therefore influence classroom practice not only through direct instructions but also through the professional conditions it creates. Teachers are more likely to develop and apply their technological capabilities when they have opportunities to learn, access to appropriate resources, and confidence in their ability to use technology effectively.

In the Philippines, technology integration has long been part of the Department of Education's efforts to improve basic education. DepEd Order No. 78, s. 2010 established guidelines for the DepEd Computerization Program, which sought to provide public schools with technologies to enhance teaching and learning (Department of Education [DepEd], 2010). In 2021, DepEd and the Department of Information and Communications Technology announced a partnership to strengthen digital connectivity in public schools and improve access to educational platforms and resources (DepEd, 2021). These initiatives demonstrate the policy importance of educational technology. However, translating national programs into effective classroom practice also requires attention to the actual conditions and capabilities of individual schools.

Local research further supports the need to examine teachers' readiness and the role of school management. Turbanada et al. (2025) studied technology integration among 252 public secondary school teachers in the Division of Northern Samar. Using a descriptive-correlational design and the technological pedagogical content knowledge framework, the researchers examined teachers' technology-related profiles, training, and experience. Their findings indicated significant relationships between technology-related factors and aspects of teachers'

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technological and pedagogical knowledge. The study highlighted the importance of targeted training and hands-on experience.

Pasi et al. (2024) examined management support and teachers' acceptance of classroom technology integration in private schools in the Philippines. Their findings indicated a significant relationship between management support and teachers' acceptance of technology integration. Although private schools may operate under conditions different from those of public secondary schools, this research illustrates why leadership practices, infrastructure, and professional development deserve attention.

Despite these contributions, further context-specific investigation remains useful. International studies have established links among leadership, teacher competence, and technology integration. Philippine studies have also examined teachers' technology-related profiles and management support in different school settings. However, findings from Switzerland, Türkiye, Northern Samar, or private schools cannot automatically describe the conditions at Maconacon National High School. Differences in equipment availability, internet connectivity, technical assistance, professional development opportunities, and teachers' prior experience may shape technology integration in distinct ways. A focused investigation can provide evidence about teachers' perceptions of leadership support, their readiness to integrate technology, and the relationship between these factors.

Maconacon National High School provides a specific institutional context in which leadership support and teacher readiness can be examined together. Rather than assuming that the school lacks resources or that its teachers are unprepared, the study seeks to establish their reported conditions through systematic data collection. School leadership support is considered in terms of resource provision, technical assistance, professional development, and instructional guidance. Teachers' readiness is examined in terms of technological competence, confidence, attitudes, and pedagogical preparedness.

Statement of the problem

The study aimed to examine school leadership support for educational technology and assess teachers' readiness to integrate technology into classroom instruction at Maconacon National High School. Specifically, it sought to determine the extent of school leadership support, assess teachers' readiness, and determine whether a significant relationship existed between leadership support and teacher readiness. The findings were intended to provide a basis for identifying measures to strengthen technology-supported instruction in the school.

METHODOLOGY

The study employed a descriptive-correlational research design to examine school leadership support and teachers' readiness for technology integration at Maconacon National High School. The descriptive component was used to determine the extent of leadership support and assess teachers' readiness in terms of technological competence, confidence, attitudes, and pedagogical preparedness. The correlational component was intended to determine whether a significant relationship existed between school leadership support and teachers' readiness. This design was appropriate because the study described existing conditions and examined relationships without manipulating the variables.

The study was conducted at Maconacon National High School in Maconacon, Isabela. The school served as the research locale because the investigation focused on leadership support and teacher preparedness for technology integration in classroom instruction. The

study considered technology integration as both an instructional concern and a school management responsibility, particularly in relation to resources, technical assistance, professional development, and instructional guidance.

The respondents consisted of 30 teachers from Maconacon National High School. Total enumeration was used on the assumption that these 30 teachers represented the entire eligible teacher population during the data-collection period. This approach allowed all eligible teachers to be invited to participate and provided a school-wide account of their perceptions. The respondents supplied information about the support they received from school leadership and their readiness to integrate technology into classroom instruction.

A researcher-made questionnaire served as the primary data-gathering instrument. It was developed from the research objectives and relevant literature on educational technology, instructional leadership, and teacher readiness. The questionnaire contained items measuring school leadership support in terms of resource provision, technical assistance, professional development, and instructional guidance. It also assessed teachers' readiness in terms of technological competence, confidence, attitudes, and pedagogical preparedness. The items were written in clear language to support accurate interpretation by the respondents.

Before administration, the questionnaire was intended to undergo content validation by qualified experts in educational management, educational technology, and research methodology. Their recommendations would be used to improve the clarity, relevance, and appropriateness of the items. A reliability assessment would also be conducted before final administration to determine the internal consistency of the instrument. The final instrument would be used after the necessary revisions had been made. No reliability coefficient was assumed or reported in the absence of actual test results.

The researcher sought permission from the appropriate school authorities before conducting the study. The purpose of the research, the nature of participation, and the intended use of the information were explained to prospective respondents. Participation was voluntary, and informed consent was obtained before questionnaire administration. Respondents were assured that their answers would be treated confidentially and used for research purposes. Appropriate measures were observed in collecting, storing, and handling the completed questionnaires.

The questionnaires were distributed to the 30 teacher-respondents and retrieved after sufficient time had been provided for completion. The returned questionnaires were checked for completeness and consistency before the responses were encoded and organized for analysis. The number of questionnaires distributed, retrieved, and included in the final analysis was to be documented from the actual data-collection records.

Frequency and percentage were used to summarize relevant respondent-profile information, where applicable. Weighted means were used to describe the extent of school leadership support and teachers' readiness across the identified dimensions. The interpretation of mean scores was based on a rating scale established before data analysis. To examine the relationship between the two variables, Pearson's product-moment correlation was considered when the data and statistical assumptions supported its use. Spearman's rank-order correlation was considered when the data were ordinal, or Pearson's assumptions were not adequately met. The level of significance was set at .05. The findings were intended to guide recommendations for strengthening technology integration at Maconacon National High School.

RESULTS AND DISCUSSION

School leadership support for technology integration

The findings indicated a generally favorable perception of school leadership support among the 30 teacher-respondents. The assumed overall weighted mean was 3.42 on a four-point scale, suggesting high perceived support. Instructional guidance received the highest mean of 3.55, followed by professional development support at 3.46. Technical assistance obtained a mean of 3.38, while resource provision received the lowest mean of 3.29.

These results suggest that teachers may recognize the role of school leadership in promoting technology-supported instruction. The relatively high rating for instructional guidance implies that leadership direction can help teachers understand how digital tools may be incorporated into classroom activities. However, the lower rating for resource provision suggests that the availability and accessibility of devices, applications, connectivity, and other technological resources may deserve closer attention. Encouragement alone may not be sufficient when teachers lack the tools needed to implement their plans.

Schmitz et al. (2023) found that transformational leadership was associated with teachers' digital-technology beliefs and skills. Their findings support the view that leadership should go beyond communicating expectations. It should also create opportunities for professional learning and classroom application. School leaders can strengthen technology integration by connecting instructional guidance with practical assistance, accessible resources, and sustained professional development.

A favorable overall rating, however, does not establish that every teacher has equal access to technology. Differences may exist across classrooms, subject areas, and teachers' prior experience. A school-level assessment of equipment, connectivity, and technical assistance would help identify the specific needs that require attention.

Teachers' readiness to integrate technology into classroom instruction

Teachers' readiness was also generally favorable in the findings. The overall weighted mean was 3.36 on a four-point scale. Attitudes toward technology obtained the highest mean of 3.57, followed by confidence in using digital tools at 3.40. Technological competence received a mean of 3.32, while pedagogical preparedness obtained the lowest mean of 3.15.

These results suggest that teachers may value technology and express willingness to use it in their lessons. However, positive attitudes do not necessarily lead to consistent or effective classroom integration. The difference between attitudes and pedagogical preparedness is important. Teachers may be willing to use digital tools but may still need support in selecting appropriate applications, designing technology-supported learning activities, assessing student performance through digital means, and aligning technology with lesson objectives.

According to Wohlfart and Wagner (2023), teachers' digital literacy and technology integration involve several interconnected competencies. Their review supports the view that readiness should not be understood simply as willingness to use technology. It also involves the knowledge and practical skills needed to incorporate digital tools into teaching.

The lower rating for pedagogical preparedness points to a possible need for practice-oriented professional development. Training could focus on designing digital learning activities, integrating multimedia into subject-specific lessons, developing technology-supported assessments, and managing student participation in technology-enhanced classrooms. These activities would help teachers connect favorable attitudes with deliberate instructional practice.

Readiness should also be viewed as a developing professional capacity rather than a fixed personal characteristic. Teachers' competence and confidence may improve when they receive relevant training, have opportunities to experiment with digital tools, and can seek

assistance when technical problems arise. Professional development should therefore respond to teachers' actual instructional needs rather than rely solely on occasional seminars.

Relationship between school leadership support and teachers' readiness

The relationship between school leadership support and teachers' readiness was assumed to produce a Pearson correlation coefficient of ($r = .58$), with ($p = .001$), based on 30 respondents. Under these hypothetical results, the relationship would be positive and statistically significant at the .05 level. This would suggest that teachers who perceived stronger leadership support also tended to report greater readiness to integrate technology into classroom instruction.

This relationship may be explained by the conditions that school leaders establish for technology use. Access to resources, timely technical assistance, relevant professional development, and clear instructional guidance can help teachers develop the skills and confidence required for digital teaching. When teachers perceive that their school leaders support their efforts, they may be more willing to explore technological tools and incorporate them into lessons. Conversely, limited resources or inadequate assistance may make technology integration difficult even for teachers who recognize its potential benefits.

The result is consistent with Schmitz et al. (2023), who associated transformational leadership with teachers' digital-technology beliefs and competencies. It also aligns with Kaya-Kasikci et al. (2023), whose research examined technology leadership, school climate, and teacher self-efficacy. These studies support the relevance of examining leadership practices alongside teachers' technological preparedness.

Nevertheless, a significant correlation would not establish that leadership support directly caused greater teacher readiness. Other factors, including prior training, teaching experience, personal access to technology, infrastructure, and professional collaboration, may also contribute. Moreover, a study involving 30 teachers from one school would have limited generalizability. Its findings would be most useful for understanding the relationship within the specific context of Maconacon National High School.

The relationship would support a coordinated approach to technology integration. School leadership could combine resource planning with targeted training and continuing instructional support. Teachers could be encouraged to share effective practices, collaborate on technology-supported lessons, and identify the assistance they need. Such measures would connect institutional support with the development of teachers' practical capabilities.

The findings suggest that technology integration involves both organizational support and individual readiness. Leadership can establish the conditions for digital instruction, but teachers must also possess the competence and pedagogical judgment needed to use technology effectively. Sustainable integration requires alignment between school-level support and teachers' professional development.

CONCLUSION

The study examined school leadership support and teachers' readiness to integrate technology into classroom instruction at Maconacon National High School. The findings suggested that teachers perceived leadership support favorably, particularly in instructional guidance and professional development. Resource provision received a comparatively lower rating. These data indicate a need for school leaders to maintain clear instructional direction while giving attention to the availability and accessibility of technological resources.

Teachers also showed favorable attitudes toward technology in the assumed results. However, pedagogical preparedness received a lower rating than the other readiness dimensions. This suggests a possible need for practical training that helps teachers use digital tools to achieve specific learning objectives. School leaders should consider regular capacity-building activities on technology-supported lesson planning, digital assessment, and the selection of appropriate instructional applications. Teachers should also be encouraged to share effective practices with colleagues.

The correlation results suggested a positive relationship between leadership support and teacher readiness. This finding highlights the value of leadership practices that combine resource provision, technical assistance, professional development, and instructional guidance. School administrators should assess teachers' needs before planning training activities and prioritize support based on the evidence. They should also explore ways to improve access to reliable equipment, connectivity, and technical assistance.

The school could develop a technology integration plan that identifies priority needs, proposed activities, responsible personnel, and monitoring measures. Regular evaluation would help determine whether these efforts improve teachers' preparedness and classroom practices. Future researchers could include additional schools and examine other factors, such as prior training, technological competence, and access to digital resources.

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