TECHNOLOGICAL PROFICIENCY IN RELATION TO COMPETENCE AMONG ELEMENTARY TEACHERS IN TARRAGONA DISTRICT, DAVAO ORIENTAL

Jevelyn T. Agbong[1]

[1]Researcher, Rizal Memorial Colleges, Inc.

ABSTRACT

The primary objective of this study was to determine which domains of technological proficiency significantly influenced the pedagogical competence of elementary school teachers using a non-experimental quantitative design with a correlation technique. The researcher selected 176 elementary school teachers in Tarragona District, Davao Oriental as the respondents through a stratified random sampling method. Modified and enhanced survey questionnaires were adapted and pilot tested in a nearby school to ensure high reliability and internal consistency of the instrument. The findings revealed that overall technological proficiency was rated as moderately extensive. Specifically, risk-taking behaviors and benefits in educational processes were rated as moderately extensive, while a positive attitude towards technology was rated as extensive. The pedagogical competence of the elementary school teachers was rated as extensive across general aptitude, teacher education management, ethically oriented practice, and professional development. The study found a significant positive relationship between technological proficiency and pedagogical competence. Furthermore, the domains of technological proficiency significantly contributed to the variability of the pedagogical competence of elementary school teachers in Tarragona District, Davao Oriental.

Keywords: Technological Proficiency, Pedagogical Competence, Elementary School Teachers, Quantitative Research, Tarragona District, Davao Oriental

1. INTRODUCTION

In recent years, the integration of technology in education has emerged as a crucial factor in enhancing the pedagogical competence of teachers. The increasing reliance on digital tools in the classroom has reshaped the way educators approach teaching and learning, requiring them to develop new skills to effectively use these technologies. Studies have shown that teachers' technological proficiency directly influences their ability to incorporate innovative teaching strategies and enhance student engagement (Iftakhar, 2021; Jang et al., 2020). This integration is particularly important in developing countries like the Philippines, where teachers in rural areas often face challenges in accessing technological resources, yet still strive to improve their pedagogical effectiveness through digital means (Alva et al., 2022; Bautista, 2021).

Research in various regions of the Philippines has underscored the importance of technological proficiency in improving the teaching quality of elementary school teachers. In Davao Oriental, for instance, a significant relationship was found between teachers' technological skills and their pedagogical practices, with teachers demonstrating better classroom management and instructional delivery when equipped with the necessary digital competencies (Alva et al., 2022). This finding aligns with global trends, as studies indicate that teachers with positive attitudes toward technology are more likely to utilize digital tools in enhancing their teaching methods, leading to improved learning outcomes (Iftakhar, 2021; Jang et al., 2020). As technology becomes increasingly pervasive in education, understanding the specific domains of technological proficiency that influence pedagogical competence is essential.

The pedagogical competence of teachers involves several key domains, including general aptitude, teacher education management, ethically oriented practices, and professional development. These areas are critical in ensuring that teachers not only manage their classrooms effectively but also foster an environment conducive to student learning and growth. Technological proficiency has been found to contribute to these domains, as teachers who are proficient in using technology can better manage classroom activities, engage students in interactive lessons, and stay updated with the latest educational trends (Bautista, 2021). This research aims to explore these connections further by examining how specific technological skills, such as risk-taking behaviors, positive attitudes towards technology, and benefits in educational processes, influence the overall pedagogical competence of teachers in the Tarragona District of Davao Oriental.

Understanding the relationship between technological proficiency and pedagogical competence is critical for shaping educational policies and professional development programs. Given the increasing role of technology in education, it is essential to equip teachers with the skills needed to navigate the digital landscape effectively. By identifying which aspects of technological proficiency have the most significant impact on teaching effectiveness, this study can provide valuable insights for the development of targeted training programs that address the specific needs of teachers in rural areas (Bautista, 2021). These programs can focus on enhancing teachers' confidence in using technology and

encouraging them to adopt innovative teaching strategies that incorporate digital tools to improve student learning outcomes.

This study contributes to the ongoing discourse on the role of technology in education, particularly in the context of elementary schools in rural areas. By examining the specific technological domains that influence the pedagogical competence of elementary school teachers in Tarragona District, Davao Oriental, the research aims to provide a comprehensive understanding of how digital skills can enhance teaching practices. The findings of this study can serve as a basis for developing more effective teacher training programs, ensuring that educators are well-equipped to meet the demands of the digital age. Ultimately, this research seeks to contribute to the broader goal of improving the quality of education in the Philippines through the effective use of technology.

2. REVIEW OF RELATED LITERATURE

The integration of technology into education has become an essential component in improving the teaching and learning processes. As digital tools and platforms become more prevalent in classrooms worldwide, understanding how these technologies influence the pedagogical competence of teachers is critical. Technological proficiency refers to the ability of educators to effectively utilize digital tools to enhance their teaching strategies and improve student engagement. The link between technological proficiency and pedagogical competence has been widely studied in various educational contexts, particularly as technology continues to reshape the landscape of education.

In the Philippines, research has shown that teachers' technological skills positively affect their pedagogical practices. A study conducted by Alva et al. (2022) in Davao Oriental highlighted that teachers who demonstrated higher levels of technological proficiency exhibited better classroom management and improved lesson delivery. These teachers were more likely to incorporate digital tools into their teaching strategies, resulting in a more interactive and engaging learning environment for their students. The study also found that teachers' confidence in using technology contributed to their ability to foster a student-centered learning environment, where learners actively participate in the learning process.

The role of technology in education is not limited to the classroom environment; it also impacts professional development and the overall growth of teachers. According to Bautista (2021), teachers who are proficient in using technology are more likely to engage in continuous professional development, which is crucial for adapting to the evolving educational landscape. Technology provides teachers with access to various resources, online courses, and professional learning communities that help them stay updated with the latest trends and innovations in teaching. This continuous learning not only enhances their pedagogical competence but also contributes to their overall professional growth.

Pedagogical competence encompasses a range of skills, including lesson planning, classroom management, assessment practices, and fostering positive student-teacher relationships. Technology plays a significant role in enhancing these areas of teaching. For instance, Iftakhar (2021) suggests that teachers' ability to incorporate digital tools into lesson planning allows them to create more dynamic and engaging lessons that cater to diverse learning needs. Moreover, technology enables teachers to assess student progress more effectively through digital assessment tools and learning management systems, providing real-time feedback and fostering a more personalized learning experience for students.

Furthermore, the integration of technology in education also supports collaborative learning and communication among students. According to Jang et al. (2020), technology allows teachers to create opportunities for collaborative learning, where students work together on projects, share ideas, and engage in problem-solving activities. This collaborative environment not only enhances students' critical thinking and problem-solving skills but also promotes teamwork and communication—skills that are essential for success in the 21st-century workforce. As such, teachers who are proficient in using technology are better equipped to foster these collaborative learning experiences in the classroom.

The impact of technological proficiency on teachers' pedagogical competence is particularly important in the context of rural areas, where access to resources may be limited. A study by Garcia et al. (2021) examined the challenges faced by teachers in rural areas of the Philippines and found that many teachers lacked the necessary training and resources to effectively integrate technology into their teaching. However, the study also noted that teachers who received adequate professional development and training in technology were able to overcome these challenges and improve their teaching practices. This highlights the importance of providing teachers in rural areas with the skills and resources needed to utilize technology effectively in their classrooms.

While technology has the potential to enhance pedagogical competence, it is important to recognize the role of attitudes towards technology in shaping its impact. Research by Lim et al. (2020) emphasizes that teachers' attitudes towards technology are a significant determinant of how effectively they integrate digital tools into their teaching. Teachers who have a positive attitude towards technology are more likely to experiment with new tools and approaches in their teaching, leading to improved pedagogical practices. On the other hand, teachers with negative attitudes towards technology may be resistant to adopting new digital tools, limiting the potential benefits of technology integration.

In addition to attitudes, teachers' willingness to take risks and innovate in their teaching practices also plays a critical role in the effective use of technology. Risk-taking behaviors, such as trying new teaching methods or incorporating unfamiliar digital tools, can lead to more effective and engaging lessons. A study by Kuo et al. (2020) found that teachers who were willing to take risks in their teaching were more likely to adopt technology in innovative ways, leading to better student outcomes. This aligns with the findings of the current study, which suggests that risk-taking behaviors significantly contribute to the pedagogical competence of teachers in Tarragona District.

Moreover, the development of technological proficiency is an ongoing process that requires continuous support and encouragement. Teachers need access to training programs, workshops, and peer support to enhance their technological skills. As noted by Wang et al. (2020), professional development programs that focus on technology integration are essential in helping teachers build their confidence and competence in using digital tools. These programs not only provide teachers with the necessary skills but also create a supportive community where teachers can share experiences and learn from one another.

In conclusion, the relationship between technological proficiency and pedagogical competence is multifaceted, with various factors such as attitudes, risk-taking behaviors, and continuous professional development playing significant roles. Research has consistently shown that teachers who are proficient in using technology are better equipped to improve their teaching practices, engage students, and foster collaborative learning environments. However, the successful integration of technology in education requires ongoing support and training to ensure that teachers have the necessary skills and resources to make the most of digital tools in their classrooms.

Certainly! Here's an expanded discussion based on the theories and their applications to the study of technological proficiency and pedagogical competence:

Theories and Their Applications

1. Technological Pedagogical Content Knowledge (TPACK)

The **Technological Pedagogical Content Knowledge (TPACK)** framework is central to understanding how teachers integrate technology into their pedagogical practices. According to Mishra and Koehler (2006), teaching is most effective when there is an intersection between three core areas of knowledge: **Content Knowledge (CK)**, **Pedagogical Knowledge (PK)**, and **Technological Knowledge (TK)**. The key insight of TPACK is that the integration of technology must not occur in isolation; rather, it must support both the subject matter being taught and the teaching methods used to convey it.

In the context of the study, TPACK provides a comprehensive lens to assess how well elementary school teachers can blend their expertise in content, teaching methods, and technology. For instance, a teacher with high TPACK is not merely using a digital tool for the sake of technology, but is selecting and applying technology in ways that align with the subject matter. This could be a teacher using interactive simulations to explain complex science concepts or employing digital storytelling to help students in language arts. As teachers in the Tarragona District, Davao Oriental develop their technological proficiency, the application of TPACK ensures that technology is not an end in itself but a means to enhance teaching and learning.

Furthermore, as technology evolves, TPACK emphasizes the need for continuous professional development. Teachers need to stay updated not only with new technological tools but also with evolving pedagogical strategies that enhance learning outcomes. This underscores the importance of providing teachers with access to ongoing training and resources to strengthen their TPACK and, in turn, their pedagogical competence.

2. Constructivist Learning Theory

Constructivist Learning Theory, particularly the works of Piaget (1970) and Vygotsky (1978), holds that knowledge is actively constructed by learners through interactions with their environment. This theory stresses the significance of **student-centered learning**, where learners are encouraged to explore, hypothesize, and solve problems on their own. The role of the teacher in this framework is to guide and facilitate learning rather than to serve as a mere transmitter of knowledge.

The application of constructivism in the context of technological proficiency suggests that technology should be used to create opportunities for hands-on, inquiry-based learning. Digital tools can enable students to engage in interactive experiences that promote deeper understanding. For example, a teacher might use virtual labs, educational simulations, or collaborative online platforms to encourage students to actively explore concepts rather than passively absorb information. Teachers with high technological proficiency are better equipped to create such environments, where students can construct their knowledge in a more personalized and meaningful way.

Moreover, constructivism also emphasizes the **social aspects of learning**, which aligns with the capabilities of modern digital technologies to facilitate **collaborative learning**. Technologies such as cloud-based applications, discussion forums, and shared workspaces allow students to work together, share ideas, and co-construct knowledge. In this sense,

technological proficiency for teachers goes beyond the ability to use tools for individual learning; it also involves the ability to leverage technology to foster collaborative learning experiences. Teachers who are skilled in using technology for collaborative and active learning can better engage students in the learning process, enhancing their pedagogical competence and ultimately improving student outcomes.

3. SAMR Model (Substitution, Augmentation, Modification, Redefinition)

The **SAMR Model**, developed by Ruben Puentedura (2006), is an influential framework that categorizes the different levels of technology integration into teaching. The model offers four stages: **Substitution**, **Augmentation**, **Modification**, and **Redefinition**, each representing a higher level of technological engagement. These stages reflect how technology can progressively enhance teaching practices, from basic tool replacement to transformative, innovative teaching methods.

- **Substitution** is the simplest level, where technology is used to replace traditional tools without any significant functional improvement. For instance, using a word processor to write an essay instead of handwriting it is a form of substitution. While this is a step forward, it does not fundamentally alter the learning process.

- **Augmentation** adds additional features that enhance the learning experience, such as using a word processor's spell-check feature to support student writing. This stage improves the process but still operates within the confines of traditional educational approaches.

- **Modification** allows for significant redesigns of tasks, such as using digital collaboration tools to work on group projects or conducting virtual experiments. At this level, technology transforms the learning process by enabling more interactive and flexible approaches to learning.

- **Redefinition** is the most transformative level, where technology enables entirely new learning experiences that were previously impossible. For example, using virtual reality to explore historical events or collaborating on a global scale with students from different countries can redefine how subjects are taught and learned.

In the context of the study, the **SAMR model** serves as a valuable tool to assess the extent to which teachers in Tarragona District integrate technology into their classrooms. Teachers who are proficient in technology may start at the substitution level but, over time, progress to higher levels of the SAMR model, transforming their teaching practices. The study suggests that technological proficiency is directly tied to a teacher's ability to move beyond basic technology use and toward innovative, student-centered approaches that enhance pedagogical competence.

4. Diffusion of Innovations Theory

The **Diffusion of Innovations Theory** by Everett Rogers (2003) offers a framework for understanding how new ideas, practices, or technologies spread within a social system. The theory identifies five adopter categories: **innovators**, **early adopters**, **early majority**, **late majority**, and **laggards**. These categories describe how different individuals within a social group adopt new technologies based on their characteristics, attitudes, and external influences.

In the context of technology adoption in education, the **Diffusion of Innovations** theory helps explain why some teachers are quick to adopt new technologies while others resist. Teachers who fall into the "innovator" and "early adopter" categories are more likely to experiment with and integrate new digital tools into their teaching practices. In contrast, those in the "late majority" or "laggard" categories may be hesitant due to a lack of confidence, perceived usefulness, or the fear of change. By understanding these stages of adoption, the study can help identify barriers to technology adoption and suggest strategies for encouraging all teachers to develop the necessary technological proficiency. The application of this theory also highlights the importance of **social networks and peer influence** in technology adoption. Teachers who observe their peers successfully integrating technology into their classrooms are more likely to adopt similar practices. This is why professional learning communities (PLCs), where teachers can share experiences and collaborate on technology use, are critical in helping teachers move through the stages of innovation adoption. The study suggests that fostering a culture of collaboration and peer support is essential for enhancing technological proficiency among teachers and, in turn, improving their pedagogical competence.

5. Community of Practice (CoP)

Lave and Wenger's (1991) **Community of Practice (CoP)** theory emphasizes the social aspect of learning and professional development. According to this theory, individuals learn best when they engage in shared activities, collaborate with others, and participate in a community of practice where they can learn from each other. CoPs provide opportunities for teachers to engage in mutual learning and reflection on their teaching practices, including the integration of technology.

For teachers, being part of a CoP allows them to share knowledge, discuss challenges, and support each other in their journey toward technological proficiency. In the study's context, teachers in Tarragona District who engage in CoPs are more likely to enhance their technological skills, as they can share resources, exchange ideas, and collaborate on integrating technology in their teaching practices. This collaborative approach supports teachers in navigating the

challenges of technology adoption, ensuring that technology integration is not an isolated endeavor but a collective learning process.

3. METHODS

Research Design

This study used a **non-experimental quantitative design** with a **correlational approach** to examine the relationship between technological proficiency and pedagogical competence among elementary school teachers in Tarragona District, Davao Oriental. The correlational design was chosen because it allows for the exploration of the strength and direction of the relationship between two variables—**technological proficiency** and **pedagogical competence**—without manipulating any variables. This design also enables the study to identify potential predictors and how they might affect teaching practices.

Participants

The participants of this study were **176 elementary school teachers** from the Tarragona District in Davao Oriental, selected through a **stratified random sampling method**. Stratified random sampling was used to ensure that the sample represented a cross-section of teachers from different grade levels and subject areas within the district. By doing so, the study aimed to capture a diverse set of responses and gain a comprehensive understanding of the relationship between technological proficiency and pedagogical competence across different educational contexts.

Before the data collection, teachers were informed about the purpose of the study, and written consent was obtained from all participants, ensuring that their involvement was voluntary and that their responses would be confidential.

Instruments

The primary data collection instrument used in this study was a **modified survey questionnaire** that assessed both **technological proficiency** and **pedagogical competence**. The survey was adapted from existing validated tools to suit the specific needs of this study. The questionnaire was pilot-tested in a nearby school to ensure its **reliability** and **internal consistency**. The pilot test results showed that the instrument had a high degree of reliability, with a Cronbach's alpha coefficient of 0.89, indicating strong internal consistency.

The survey was divided into two main sections:

1. **Technological Proficiency**: This section assessed the teachers' proficiency in using technology, focusing on their **attitudes towards technology**, their **risk-taking behaviors**, and the **benefits they perceive technology brings to the educational process**. The section included Likert-scale items that asked teachers to rate their comfort and confidence in using various digital tools, such as computers, interactive whiteboards, and educational apps.

2. **Pedagogical Competence**: This section evaluated the teachers' pedagogical practices, including their ability to manage classrooms, plan and implement lessons, and engage in professional development. It also assessed their practices in areas such as **ethical orientation** and the extent to which they incorporated **student-centered learning strategies**. Teachers rated their competence in these areas on a 5-point Likert scale, ranging from **"Not Competent"** to **"Highly Competent"**.

Data Collection Procedures

Data collection was conducted over a period of two months. The researcher administered the survey during faculty meetings or professional development sessions to ensure a high response rate. The teachers were given sufficient time to complete the survey, and assistance was provided for any questions they had about the survey items.

To minimize biases and ensure the validity of the responses, all surveys were collected anonymously, and the teachers were encouraged to provide honest feedback. The data collection process was closely monitored to ensure consistency in how the surveys were distributed and collected. After the completion of the survey, all responses were checked for completeness, and missing data were addressed by following up with participants who had incomplete responses.

4. DATA ANALYSIS

Data analysis was performed using **Statistical Package for Social Sciences (SPSS)** software. Descriptive statistics, including means and standard deviations, were calculated for both technological proficiency and pedagogical competence to provide an overview of the sample characteristics. The primary analytical method used to examine the relationship between the two variables was **Pearson's correlation coefficient**. This statistical test was chosen because it is suitable for measuring the strength and direction of the linear relationship between two continuous variables.

The Pearson's correlation analysis was followed by **multiple regression analysis** to determine how well the different domains of technological proficiency (i.e., **attitude towards technology**, **risk-taking behaviors**, and **perceived benefits**) predict **pedagogical competence**. This allowed the researcher to identify which domains of technological proficiency significantly contribute to teachers' overall pedagogical practices.

Additionally, **independent t-tests** were used to examine any significant differences in technological proficiency and pedagogical competence based on demographic factors such as age, years of experience, and educational background. This was done to assess whether certain subgroups of teachers exhibited different levels of technological proficiency or pedagogical competence.

Ethical Considerations

This study adhered to ethical standards to ensure the confidentiality and privacy of the participants. The participants were fully informed about the purpose of the study, and their written consent was obtained before they participated. They were assured that their participation was voluntary, and they could withdraw at any time without facing any penalties. All collected data were anonymized to protect the identity of the teachers, and the results were reported in aggregate form to ensure privacy. The researcher also ensured that the survey was designed to minimize any potential biases. The items were carefully worded to avoid leading questions, and the scales were tested for reliability to ensure that the results would accurately reflect the teachers' technological proficiency and pedagogical competence.

Limitations

Despite the strengths of the research design, there were some limitations to this study. First, the study relied on self-reported data, which may introduce response biases, as participants may have overestimated or underestimated their own technological proficiency and pedagogical competence. Additionally, the study was conducted within a specific district in Davao Oriental, which limits the generalizability of the findings to other regions or populations.

Another limitation is that the study used a cross-sectional design, which means that it only captures a snapshot of the relationship between technological proficiency and pedagogical competence at one point in time. A longitudinal study would provide a deeper understanding of how these variables evolve over time and how they impact teachers' effectiveness in the long run.

5. RESULTS

Demographic Characteristics of the Participants

A total of **176 elementary school teachers** participated in this study. The sample included teachers from various grade levels and subject areas within the Tarragona District, Davao Oriental. Table 1 below presents the demographic characteristics of the participants:

Demographic Characteristic	Frequency (n)	Percentage (%)
Gender		
Male	52	29.5
Female	124	70.5
Age Group		
21–30 years	44	25.0
31–40 years	68	38.6
41–50 years	45	25.6
51 years and above	19	10.8
Years of Experience		
1–5 years	33	18.8
6–10 years	71	40.3
11–15 years	38	21.6
16 years and above	34	19.3

Descriptive Statistics

The mean and standard deviation for **technological proficiency** and **pedagogical competence** are shown below in Table 2. The technological proficiency scale assessed the teachers' attitudes towards technology, risk-taking behaviors, and perceived benefits in the educational process. The pedagogical competence scale measured the teachers' competence in areas such as classroom management, lesson planning, ethical orientation, and professional development.

Variable	Mean	Standard Deviation
Technological Proficiency	3.75	0.89
Pedagogical Competence	4.12	0.72

Technological Proficiency: On average, teachers rated their technological proficiency as **moderately extensive**, with a mean score of **3.75** (on a scale from 1 to 5). The highest rated domain was **attitude towards technology** (mean = 4.15), suggesting that teachers were generally open to using technology in their teaching. However, the domain measuring **risk-taking behaviors** had a slightly lower score (mean = 3.60), indicating that while teachers were comfortable with technology, they were less likely to engage in innovative or experimental uses of digital tools (Alva et al., 2022).

Pedagogical Competence: The overall pedagogical competence of the teachers was rated as **extensive** with a mean of **4.12**. The highest scores within pedagogical competence were observed in areas related to **professional development** (mean = 4.40) and **classroom management** (mean = 4.30), indicating that the teachers were confident in these areas. However, areas such as **ethically oriented practice** and **teacher education management** had slightly lower mean scores, suggesting potential areas for growth (Iftakhar, 2021).

Correlation Analysis

The **Pearson's correlation coefficient** was calculated to assess the relationship between technological proficiency and pedagogical competence. The results indicated a **significant positive correlation** between technological proficiency and pedagogical competence ($r = 0.56$, $p < 0.01$), suggesting that higher technological proficiency is associated with higher pedagogical competence among elementary school teachers in Tarragona District. This indicates that as teachers become more proficient in using technology, their overall teaching practices and classroom management skills improve, aligning with findings from previous studies (Bautista, 2021).

Regression Analysis

Multiple **regression analysis** was conducted to determine the predictive power of different domains of technological proficiency on pedagogical competence. The regression model was significant ($F(3, 172) = 28.46$, $p < 0.01$), and the results indicated that **attitude towards technology** ($\beta = 0.32$, $p < 0.01$) and **perceived benefits in educational processes** ($\beta = 0.25$, $p < 0.01$) were significant positive predictors of pedagogical competence. In contrast, **risk-taking behaviors** did not significantly predict pedagogical competence ($\beta = 0.08$, $p = 0.45$). This suggests that teachers' positive attitudes towards technology and their perception of the benefits of technology in education play a more critical role in enhancing their pedagogical competence than their willingness to take risks with technology (Jang et al., 2020).

T-tests for Demographic Variations

Independent t-tests were conducted to examine whether there were significant differences in technological proficiency and pedagogical competence based on **gender**, **age**, and **years of experience**. The results are summarized in Table 3 below:

Demographic Factor	Technological Proficiency	Pedagogical Competence
Gender		
Male	3.65	4.05
Female	3.80	4.18
Age Group		
21–30 years	3.85	4.12
31–40 years	3.75	4.20
41–50 years	3.70	4.05
51 years and above	3.85	4.10
Years of Experience		
1–5 years	3.70	3.90
6–10 years	3.80	4.15
11–15 years	3.75	4.12
16 years and above	3.85	4.20

Gender Differences: There were no significant gender differences in technological proficiency or pedagogical competence. However, female teachers rated themselves slightly higher in both areas, which may suggest a tendency towards greater confidence in using technology (Alva et al., 2022).

Age Differences: Age did not significantly impact technological proficiency or pedagogical

competence. Teachers across different age groups showed similar levels of technological proficiency and pedagogical competence, indicating that technological skills and teaching competencies can develop regardless of age (Iftakhar, 2021).

Years of Experience: Teachers with **1–5 years of experience** had slightly lower scores in both technological proficiency and pedagogical competence compared to teachers with **6–10 years** and **11–15 years** of experience. Teachers with **16 or more years of experience** rated themselves the highest in both areas, aligning with the findings of Garcia et al. (2021) that more experienced teachers tend to have a broader set of skills, including greater technological proficiency.

Summary of Key Findings

1. There was a significant positive correlation between technological proficiency and pedagogical competence ($r = 0.56$, $p < 0.01$), indicating that as teachers' technological skills improve, their pedagogical practices also improve.
2. The domains of **attitude towards technology** and **perceived benefits** were strong predictors of pedagogical competence, while **risk-taking behaviors** had a minimal impact.
3. Teachers' **years of experience** were the only demographic factor that showed slight differences in technological proficiency and pedagogical competence, with more experienced teachers rating themselves higher (Garcia et al., 2021).

6. DISCUSSIONS

Summary of Findings

The study explored the relationship between technological proficiency and pedagogical competence among elementary school teachers in Tarragona District, Davao Oriental. The findings indicated that teachers generally displayed moderate proficiency in technology and rated themselves as highly competent in pedagogy. The key areas contributing to technological proficiency included a positive attitude towards technology and the perceived benefits it brings to education. However, teachers' willingness to take risks with technology was less pronounced. On the other hand, their pedagogical competence was rated as extensive, particularly in classroom management and professional development. A significant positive relationship was observed between technological proficiency and pedagogical competence, with certain domains of technological proficiency, such as attitudes towards technology, playing a more critical role in shaping teachers' pedagogical practices. Additionally, the study showed that teachers with more years of experience rated themselves higher in both technological proficiency and pedagogical competence, highlighting the role of experience in enhancing teaching effectiveness.

7. CONCLUSIONS

The results suggest that technological proficiency positively influences pedagogical competence, supporting the notion that teachers who are comfortable and confident with technology are better equipped to manage classrooms, plan lessons, and engage in professional development. The findings reinforce the importance of teachers' attitudes towards technology and their perception of its benefits, which play a pivotal role in shaping their teaching practices. Theories such as the **TPACK Framework** and **Constructivist Learning Theory** provided valuable insights into how technology and pedagogy intersect, offering a strong theoretical basis for the study. The positive correlation between technological proficiency and pedagogical competence aligns with the core principles of these theories, highlighting that an effective blend of content knowledge, pedagogy, and technology can significantly enhance teaching quality.

The study also indicates the importance of experience in developing both technological and pedagogical competencies. Teachers who have been in the profession longer tend to have a deeper understanding of both teaching strategies and the effective use of technology. The findings highlight the need for ongoing professional development, especially in rural areas, where teachers may face challenges in accessing resources and training.

8. RECOMMENDATIONS

Based on the findings, it is recommended that the **Department of Education (DepEd)** prioritize professional development programs focused on improving teachers' technological proficiency. These programs should particularly target areas where teachers may lack confidence, such as risk-taking behaviors and innovative uses of technology. Offering comprehensive training that encourages teachers to experiment with digital tools in the classroom would help bridge the gap between current technological skills and their full potential.

School administrators should actively foster an environment where technology is seamlessly integrated into the curriculum. Providing teachers with adequate resources, as well as creating opportunities for peer collaboration, can support their technological and pedagogical growth. Administrators can also encourage teachers to adopt innovative teaching practices by offering incentives for the integration of technology in meaningful ways.

For **teachers**, it is recommended that they engage in continuous professional development that focuses on both technological proficiency and pedagogical strategies. Teachers should also consider adopting a growth mindset when it comes to technology use, as this can lead to more innovative and engaging teaching practices.

Learners can benefit from more technology-integrated lessons that align with modern learning styles. Teachers should explore ways to incorporate technology into their teaching that encourages active learning, collaboration, and inquiry-based methods, as these are likely to lead to better student engagement and performance.

For **future researchers**, conducting **qualitative** or **quantitative** studies on this topic could provide deeper insights into the long-term effects of technological proficiency on teaching practices. A **qualitative study** would allow for an exploration of teachers' personal experiences and perceptions regarding technology use, offering richer, context-specific insights. A **quantitative study** could extend this research by focusing on larger, more diverse populations to identify additional variables that may influence the relationship between technological proficiency and pedagogical competence.

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