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Assessment of Dumaran National High School Teachers' Technological-Pedagogical Comspetence in Classroom Instructional Delivery

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ABSTRACT

This study assessed the self-reported technological-pedagogical competence of teachers at Dumaran National High School in classroom instructional delivery. Specifically, it sought to determine the demographic profile of the respondents in terms of age, sex, teaching position, highest educational attainment, and years in teaching; assess their technological-pedagogical competence in terms of Technology Operations and Concepts and Pedagogy; and examine the relationship between their demographic profile and technological-pedagogical competence. The study was framed as a school-based local assessment intended to generate context-specific evidence for professional development planning at Dumaran National High School.

The study employed a descriptive-correlational research design using total enumeration. Thirty-three teachers participated in the study, excluding the researcher to avoid bias and conflict of interest. The research instrument was adapted from the National ICT Competency Standards for Teachers and was administered through Google Forms. Frequency counts, percentages, means, Cronbach's alpha, Fisher's Exact Test, cross-tabulations, Mann-Whitney U test, and Kruskal-Wallis test were used to analyze the data.

Findings revealed that most respondents were 25–30 years old, female, Teacher I, Bachelor's Degree holders, and had 0–3 years of teaching experience. The teachers demonstrated a moderately high level of self-reported technological-pedagogical competence in both Technology Operations and Concepts and Pedagogy, with an overall grand mean of 2.99. Reliability analysis showed excellent internal consistency for the Technology Operations and Concepts subscale, Pedagogy subscale, and overall instrument. Although the overall competence level was moderately high, lower-rated areas were identified in the use of spreadsheets, online repositories, information and data management, and technology-supported assessment.

Using Fisher's Exact Test, teaching position was found to have a significant association with categorical technological-pedagogical competence, while age, sex, highest educational attainment, and years in teaching were not significant. Follow-up cross-tabulations showed that teaching position was also associated with age and years in teaching, suggesting that the teaching-position result should be interpreted cautiously. Supplementary non-parametric tests using continuous mean scores showed no significant differences according to sex and highest educational attainment, but significant differences were found across age groups, teaching positions, and years-in-teaching groups.

The study concluded that teachers at Dumaran National High School generally perceived themselves as moderately competent in integrating technology into classroom instruction. However, continuous school-based professional development is needed, particularly in spreadsheets, digital repositories, data management, and technology-supported assessment. Since the study was conducted in a single school with 33 respondents and relied on self-reported data, the findings should be interpreted as context-specific and not broadly generalizable to all teachers.

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INTRODUCTION

Background of the Study

The beginning of the 21st century marked the proliferation of technology, and this change is reflected not only in business, economics, and health but also in Education. Today's generation seeks learners who are not only literate but also capable of using technology for communication, content creation, and collaboration. The integration of Information and Communication Technology (ICT) has been a very prevalent topic among educators. Some teachers have the capacity to use technology, but much less is understood about their ability to incorporate such tools in classroom instruction.

Across recent research, teachers' technological skills are seen as essential, not optional. According to Gangmei and Thomas (2025), teachers with strong ICT skills improve instructional efficacy and raise educational standards. In addition, technology-integrated teaching makes lessons more effective, exciting, and interactive, and keeps learners motivated (Akram et al., 2022; Ramaila & Molwele, 2022). Moreover, effective use requires selecting and adapting tools, designing meaningful activities, managing technical issues, and using assessment with timely feedback (Nurhidayat et al., 2024). Furthermore, Falloon (2020), Skatz-Aberg et al. (2022), and Eskici and Cayak (2023) suggest that digital competence frameworks emphasize the integration of technical, pedagogical, and content knowledge. This literature generally supports the idea that technological use truly enriches classroom discussion and should be integrated into the instructional context.

Technological-pedagogical competence refers to teachers' ability to integrate technology and pedagogy to deliver content that is more understandable and meaningful to students. The use of technology not only enriches instruction; it also supports the development of students' 21st-century skills. According to Nurhidayat et al. (2024), Ramaila and Molwele (2022), and Rahimi (2023), technology integration helps develop communication, collaboration, critical thinking, creativity, problem-solving, and computational thinking. In addition, Ng et al. (2023), Falloon (2020), Kiryakova and Kozhuharova (2024), and Elsayary (2023) reported that teachers' digital competence enables them to nurture students' digital literacy and AI capabilities for a digital society and future jobs.

The National ICT Competency Standards for Teachers (NICS) are widely used to describe the competence teachers need to integrate technology effectively into teaching. The research below shows how it relates to teacher practice and digital competence. In the study by Mijares (2022), the NICS was used to assess elementary teachers' ICT competencies in Malolos, covering four domains: technology operations and concepts, social/ethical, pedagogical, and professional. Moreover, Batan et al. (2022) used a standardized NICS-based questionnaire to evaluate technology operations and concepts among state university teachers. Furthermore, Ibarrientos (2025) used a survey questionnaire adapted from the NICS framework to determine ICT teachers' competence in the four NICS domains in Ligao City. These studies have shown that the National ICT Competency Standards for Teachers (NICS) are widely used to assess teachers' ICT skills and their technology integration in the classroom. Various researchers have adopted the framework.

Research has long examined the link between demographic and background characteristics and ICT competence. However, research has shown mixed results, with often weaker relationships than those for psychological or contextual factors. According to Suzer and Koc (2024), male teachers, those teaching mathematics or science, those with postgraduate degrees in metropolitan areas, and those with more devices are more digitally competent. Moreover, he found out that age and school type do not affect digital competence. In addition, Abad and Holgado (2022) found that in-service teachers' digital competence varies significantly by age, years of teaching experience, and educational level.

Furthermore, Zhao (2024) reported that older teachers have lower ICT competence, with age negatively predicting competence, and that this relationship is moderated by the subject taught. Similarly, Gamit (2023) said that younger math teachers rated ICT as more effective for learning and competence than older teachers. These research findings have yielded mixed results across groups: some claim that demographics are not significantly related to ICT competencies, while others show that key differences among demographics reflect distinct ICT competencies. Systematic reviews highlight attitudes, self-efficacy, prior ICT use, and training as

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stronger predictors of digital competence than demographics alone (Lan et al., 2024; Claro et al., 2024). Thus, for explaining teachers' ICT competence, studies recommend treating demographics as one piece within a broader set of psychological and institutional factors.

Research on Philippine public school teachers' ICT competence generally shows basic to moderate skills. It has been shown that teachers need more training, infrastructure, and support. According to Caluza et al. (2017), public elementary teachers in Tacloban were mostly at the basic level of ICT knowledge. They needed further training in integrating ICT into teaching and related tasks. On the other hand, Bañez and Yedra (2019) reported that elementary teachers in Tanauan City are highly competent in using technology literacy approaches and in using ICT to monitor progress and support higher-order skills. Similarly, Gamboa and Gamboa (2020) found that teachers are highly competent in MS Word and competent in Excel and PowerPoint in the Microsoft competency test, but are constrained by a lack of equipment. Related to these different findings, all of them agree that infrastructure gaps, such as devices and connectivity, and inconsistent implementation limit how far competence translates into everyday classroom use (Caluza et al., 2017; Gamit, 2023; Gamboa & Gamboa, 2020; Enorme et al., 2024). These various studies confirm that teacher digital competence is affected by ongoing deficits and insufficient ICT training, highlighting the need for systematic professional development for teachers. This highlights the importance of systematically identifying the ICT-related competencies that Dumaran National High School possesses, to provide targeted approaches that help teachers improve their teaching practice.

At Dumaran National High School, teachers have been observed using ICT tools in the classroom. These may include computers, presentation tools, online resources, and other digital materials. However, despite the observed use of ICT in the school, no formal study has been conducted to determine teachers' technological-pedagogical competencies. It is also unclear which specific areas teachers are already competent in and which require further training.

This gap provides a basis for this study. Given that previous studies have yielded varying results across locales, it is necessary to investigate this topic in the context of Dumaran National High School. Assessing the technological-pedagogical competence of teachers at Dumaran National High School provided a basis for identifying the training programs they need.

Considering the localized nature of ICT access, teacher training opportunities, and school-level technology support, there is a need to examine teachers' technological-pedagogical competence within specific school contexts. Therefore, this study is framed as a local assessment of Dumaran National High School rather than as a generalizable study of all public secondary school teachers. By focusing on one school, the study provides context-specific evidence that can be used to identify teachers' strengths, areas for improvement, and professional development needs related to technology integration in classroom instruction.

Thus, this study aimed to conduct a school-based assessment of the technological-pedagogical competence of teachers at Dumaran National High School. Rather than seeking broad generalization, the study focused on generating context-specific evidence that may guide school administrators in planning ICT-related professional development, instructional supervision, and teacher support programs.

Theoretical Framework

Technological Pedagogical Content Knowledge (TPACK) is a central framework for understanding the teacher knowledge needed to integrate technology effectively in teaching. According to Li et al. (2022), TPACK is not a simple collection of content, pedagogy, and technology but a dynamic integration of the three that supports teaching subject matter with technology. Although the present study does not measure the full TPACK framework because content knowledge is outside its scope, it is informed by the interaction between technological knowledge and pedagogical knowledge. In this study, the technology operations and concepts domain represent the Dumaran National High School teachers' technological knowledge, while the Pedagogy domain represents the teachers' ability to use technology in the teaching-learning process. These two domains of TPACK framework serve as the basis in assessing the Dumaran National High School teachers' self-reported technological-pedagogical competence in delivering classroom instruction.

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The National ICT Competency Standards for Teachers (NICS) are widely used in Philippine educational research to measure teachers' ICT skills and practices. They are considered appropriate because they are nationally developed, DepEd-aligned, and reflect competencies needed in local schools. Villegas (2023), Ibarrientos (2025), Rondubio (2025), Vega (2025), and Cantabrana (2019) highlighted that strengthening teachers' NICS-based competencies supports DepEd priorities, including ICT integration in public schools, 21st-century skills development, and the DepEd Computerization Program.

Statement of the Problem

This study generally determined the Technological-Pedagogical Competence of Teachers at Dumaran National High School. Specifically, this study answered the following questions:

1. What is the demographic profile of the respondents in terms of:
    1. Age
    2. Sex
    3. Position
    4. Highest Education Obtained; and
    5. Total Number of Years in Teaching (Private and Public)?
2. What is the technological-pedagogical competence of the teachers at Dumaran National High School in terms of:

    2.1 Technology Operations and Concepts; and
    2.2 Pedagogy?
3. Is there a significant relationship between the teachers' demographic profile and their technological-pedagogical competence?

Scope and Delimitation

This study assessed the technological-pedagogical competence of teachers at Dumaran National High School during the school year 2025-2026. It focuses on understanding of Dumaran National High School teachers' ability to integrate technology into their teaching practice. This study was conducted at Dumaran National High School in the island municipality of Dumaran, Palawan. The technological-pedagogical instrument is a Likert-scale instrument that evaluates Dumaran National High School teachers' competence in the following areas: Technology Operations and Concepts, and Pedagogy.

This study is limited to the assessment of teachers' technological-pedagogical competence at Dumaran National High School. It does not measure the Dumaran National High School teachers' content knowledge but instead focuses on their ability to use technology to deliver the lesson content. This study was conducted in May 2026.

Since the study involved only one school and a small number of respondents, the results are not intended to represent all teachers in Dumaran, Palawan, MIMAROPA, or the Philippines. Instead, the findings should be interpreted as a local assessment that may guide school-level decisions on ICT training, instructional supervision, and teacher development.

Significance of the Study

The assessment of technological-pedagogical competence of teachers provides an opportunity for researcher to evaluate the technological knowledge and skills of teachers and their competence in using technology in instructional delivery, particularly the Junior and Senior High School Teachers at Dumaran National High

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School. In line with the 21st-century Department of Education's 21st-century goals, pursuing this research is important.

To the administrators, sustaining quality education is the ultimate goal of Education. The learning students get primarily depends on teachers' competence in selecting, designing, and implementing curricular content. This is translated to teachers' use of technology in delivering classroom instruction. Understanding teachers' technological–pedagogical competence can guide school administrators in identifying the competencies and training needs related to technological-pedagogical topics.

For teachers, the results of this study provided information on the technological-pedagogical competencies they need to work on. Knowing the areas they need to improve will help them identify avenues to address these concerns.

For future researchers, the results of this study served as a basis for further understanding of this topic. It could serve as a basis or reference for discussing their findings and results. Moreover, in this era of technological advancement, we must explore various facets of understanding related to teachers' technological-pedagogical competence.

METHODOLOGY

Research Design

This study employed a descriptive-correlational research design within a single-school case assessment approach. It is descriptive because it determined and described the demographic profile of the Dumaran National High School teachers, including age, sex, position, highest educational attainment, and total years of teaching experience. It also described the Dumaran National High School teachers' technological-pedagogical competence in terms of Technology Operations and Concepts and Pedagogy. The data was analyzed using appropriate statistical tools, including frequency (count), percentage, and average.

Furthermore, this study is correlational, which determined whether there is a significant relationship between respondents' demographic profiles and their technological-pedagogical competence. Specifically, this study examined whether Dumaran National High School teachers' variables, such as age, sex, teaching position, educational attainment, and years of teaching experience, are associated with their technological-pedagogical competencies in classroom instruction.

This research design is appropriate because it allows the researcher to describe the current level of Dumaran National High School teachers' competence and the possible relationship between personal and professional characteristics and their technological-pedagogical competence. This study is framed as a local assessment because it focused on one school and used total enumeration of its teaching personnel. The purpose was not to generalize the findings to all public secondary school teachers, but to generate evidence that may inform school-based professional development and ICT integration planning at Dumaran National High School.

Locale

This study was conducted at Dumaran National High School, located in Poblacion, Dumaran, Palawan. The school is one of the three secondary schools in the island district of Dumaran, and it is situated in the central part of the municipality. It is accessible by sea and land, serving learners in Dumaran from all walks of life.

Dumaran National High School was established in 1969 and was formerly known as Dumaran Barangay High School. Over the years, it has been one of the leading schools in the municipality. At present, Dumaran National High School serves as a major institution that promotes educational and community development in Dumaran.

The school offers Junior and Senior High School programs. Its academic offering includes the Special Science Class for Grade 7 and 8 Learners, Regular Class for Grade 7 to 10 learners, Science Technology Engineering and Mathematics (STEM) Strand, Electrical Installation and Maintenance (EIM) Strand, and the first Alternative

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Learning System – Senior High School (ALS-SHS) in the MIMAROPA Region. This program demonstrates a commitment to offering diverse educational programs that provide students with opportunities.

Currently, the Dumaran National High School has 34 teaching personnel, 4 non-teaching personnel, and is managed by 1 school principal. It caters to approximately 450 learners. Since this study concerns the technological-pedagogical competence of teachers in delivering classroom instruction, Dumaran National High School is the appropriate locale, as its teachers are directly involved in instruction across various programs and grade levels.

Research Instrument

The researcher used a survey questionnaire as the primary data collection tool for this study. The questionnaire was composed of two parts. The first part asked respondents about their demographic profile, including age, sex, teaching position, highest educational attainment, and years of teaching experience. The second part assessed respondents' technological-pedagogical competence in classroom instruction.

The questionnaire was administered via Google Forms to improve data collection efficiency. This platform allowed teacher-respondents to complete the questionnaire at their preferred time and, for the researcher, will make data organization and collection easier, facilitating access for statistical analysis. However, Google Forms were only used as the mode for administering the questionnaire. The survey questionnaire remained the primary research instrument for this study.

The instrument for assessing teachers' technological-pedagogical competence was adopted from the National ICT Competency Standards for Teachers. This instrument is appropriate for this study because it contains competencies that measure the teacher's knowledge and skill in the use of information, communication, and technology in delivering classroom instruction

There are two major domains under the technological-pedagogical competencies: Technology Operations and Concepts, and Pedagogy.

The first domain, Technology Operations and Concepts, focuses on teachers' knowledge and skills in ICT tools, computer systems, communication devices, and online and offline applications. This domain includes competencies on basic technical operations, troubleshooting, productivity tools, internet and network applications, and information and data management. It consists of four standards. The first standard measures teachers' knowledge and skills in basic computer operations and the use of other information devices, including basic troubleshooting and maintenance, with 9 indicators. The second standard assesses teachers' ability to use appropriate office and teaching productivity tools, with sixteen indicators. The third standard determines teachers' knowledge of the use of the internet, network applications, and digital resources, with 7 indicators. The fourth standard measures the teachers' competence in information and data management, with five indicators.

The second domain, Pedagogy, focuses on the use of technology in the teaching – learning process. It includes competencies in planning and designing technology–supported learning environments, implementing teaching–learning strategies using ICT, monitoring student learning, and assessing learners' performance through technology–enhanced methods. This domain emphasizes the teachers' ability to integrate technology to promote student engagement, creativity, and higher–order thinking skills.

Under the pedagogy domain, there are six standards. The first standard is on the application of technology to develop higher–order thinking skills and creativity, with two indicators. The second standard assesses the teachers' ability to provide performance tasks that require students to locate and analyze information and to use a variety of media to communicate results, with two indicators clearly defined. The third standard determines the teachers’ ability to create open and flexible learning environments where technology supports student interaction, cooperative learning, and peer instruction. This standard has one indicator. The fourth standard is all about teachers' skills in evaluating the use of ICT integration in the teaching–learning process and in using the results to refine the design of learning activities, with three indicators. The fifth standard is on the use of computers and other technologies to collect and communicate information to students' colleagues, parents, and

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others, with two indicators. The sixth standard is on applying technology to facilitate a variety of appropriate assessment and evaluation strategies, recognizing the diversity of learners, with two indicators.

The items were rated on a 4-point Likert scale to determine teachers' technological–pedagogical competence. The result also served as the basis for determining the teachers' areas for improvement in relation to technology integration and pedagogical practices.

To determine the mean range and its equivalent verbal interpretation, the following guide was used for the presentation of the result.

Table 1: Mean Range and Verbal Interpretation

Mean Range	**Interpretation**
3.26 – 4.00	High Level of Competence
2.51 – 3.25	Moderately High Level of Competence
1.76 – 2.50	Low Level of Competence
1.00 – 1.75	Very Low Level of Competence

Reliability of the Instrument

Table 2: Reliability Statistics of the Technological-Pedagogical Competence Instrument

Subscale	Number of Items	Mean	SD	Cronbach's Alpha	Item-rest Correlation Range	Interpretation
Technology Operations and Concepts	37	3.02	0.506	0.978	0.114 – 0.888	Excellent
Pedagogy	12	3.00	0.552	0.945	0.612 – 0.896	Excellent
Overall Technological-Pedagogical Competence	**49**	**3.01**	**0.495**	**0.982**	**0.062 – 0.878**	**Excellent**

To determine the internal consistency of the instrument in the present sample, reliability analysis was conducted using Cronbach's alpha. As shown in Table 2, the Technology Operations and Concepts subscale, composed of 37 items, obtained a Cronbach's alpha value of 0.978, indicating excellent internal consistency. Its item-rest correlations ranged from 0.114 to 0.888. The Pedagogy subscale, composed of 12 items, obtained a Cronbach's alpha value of 0.945, also indicating excellent internal consistency, with item-rest correlations ranging from 0.612 to 0.896. For the overall 49-item Technological-Pedagogical Competence instrument, Cronbach's alpha was 0.982, with item-rest correlations ranging from 0.062 to 0.878. These results indicate that the instrument had excellent internal consistency for the present sample.

Although the overall reliability was excellent, TOC4 showed a low item-rest correlation in both the Technology Operations and Concepts Subscale and the overall scale. This suggests that TOC4 had a weak association with the other items. However, the item was retained because the instrument was adapted from the National ICT Competency Standards for Teachers, and the reliability coefficients remained excellent even with the item included. The very high alpha values may also suggest similarity among some items; thus, the reliability results were interpreted with caution considering the small sample size.

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Data Gathering Procedure

The researcher first secured the principal's approval from Dumaran National High School to conduct the study. A formal letter was submitted to the school principal indicating the purpose of the research, the target respondents, the data collected, and the manner in which the data was treated.

Upon the school principal's approval, the researcher informed the teachers of Dumaran National High School of their participation in this study. The purpose of the research was explained to them, and they were assured that the data collected was treated with the utmost confidentiality.

Afterward, the survey instrument was prepared and administered utilizing Google Forms. The Google Form link was forwarded to the teacher and respondents, allowing them to access it at their convenience. Using Google Forms provided easy access and data collection, enabling faster results.

Once the respondents completed the survey, the researcher retrieved the data from Google Forms. The collected data were then checked, tabulated, and analyzed using appropriate statistical tools.

Respondents of the Study

The respondents of this study were the teachers of Dumaran National High School for the school year 2025 – 2026. The researcher used total enumeration sampling, meaning that all teachers at Dumaran National High School served as respondents in this study.

This sampling method is appropriate because the number of teachers at Dumaran National High School is manageable and all of them are directly involved in classroom instruction. Including all teachers allowed for a more comprehensive assessment of the technological-pedagogical competencies of teachers at Dumaran National High School.

The school has a total of 34 teaching personnel. However, since the researcher is also a teacher at Dumaran National High School, he was excluded from the respondents to avoid bias and conflict of interest. Thus, the study had a total of 33 teacher respondents.

The data were gathered from the personal assessments of the teacher respondents regarding their technological-pedagogical competence. Specifically, the self-assessment focused on teachers' competencies in technology operations and concepts, and in pedagogy as applied in classroom instruction.

Statistical Treatment

The researcher used the Jamovi version 2.7.6 in the analysis and interpretation of data. The responses collected from the Google form were encoded and processed using the software to ensure accuracy and efficiency of statistical analysis.

For the descriptive part of the study, frequency counts and percentages were used to describe the demographic profile of the teacher respondents. Meanwhile, the mean was used to determine the level of technological-pedagogical competencies of the teacher respondents.

To determine whether there is a significant relationship between the demographic profile of the respondents and their technological–pedagogical competence, the Fisher’s Exact Test was used due to the small sample size and the presence of cells with low expected frequencies. This statistical test is appropriate because the study seeks to determine the association between respondents' demographic variables and their technological–pedagogical competence.

The result of Fisher’s Exact Test was interpreted using the 0.05 level of significance. If the computed p-value is less than or equal to the level of significance, then the relationship between these variables is significant. However, if the computed p-value exceeds the significance level, the relationship is not significant.

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Cross-tabulations were also conducted to further examine the significant teaching-position result, particularly its possible overlap with age and years in teaching. In addition, supplementary non-parametric tests were conducted using the respondents' continuous overall technological-pedagogical competence mean scores. The Mann-Whitney U test was used for demographic variables with two groups, namely sex and highest educational attainment. The Kruskal-Wallis test was used for demographic variables with more than two groups, namely age, teaching position, and years in teaching. These supplementary tests were conducted to determine whether similar patterns would emerge when continuous mean scores were used instead of categorized competence levels.

Cronbach's alpha was used to determine the internal consistency of the Technology Operations and Concepts subscale, Pedagogy subscale, and the overall Technological-Pedagogical Competence instrument. Item-rest correlations were also examined to determine the contribution of individual items to each scale.

Ethical Considerations

This study adheres to the ethical guidelines to ensure the integrity and respect of the research process towards the participants. All participating teachers were informed regarding the purpose of this study, their role as participants of this study, and the steps involved in accomplishing this study.

All personal and professional information given by the participants was treated with utmost confidentiality. They were informed that their participation in this study is entirely voluntary and they have the right to refuse or withdraw at any time throughout the conduct of this study.

RESULT AND DISCUSSION

Demographic Profile. Table 3 through 7, presents the demographic profile of the Dumaran National High School teachers in terms of age, sex, teaching position, highest educational attainment, and the number of years in teaching (private/public).

Table 3: Distribution of the Respondents' Age

Age	Counts	Percentage
Under 25	1	3.03%
25 – 30	19	57.58%
31 – 35	2	6.06%
36 – 40	3	9.09%
41 – 45	4	12.12%
46 – 50	1	3.03%
51 – 55	0	0.00%
Over 55	3	9.09%
TOTAL	**33**	**100.00%**

Table 3 shows the age distribution of the Dumaran National High School teachers. The findings revealed that the majority of the respondents are between 25 – 30 years old, with 19 respondents or 57.58% of the total population. It is followed by 41 – 45 years old, with 4 respondents or 12.12% of the total population. The 36 – 40 years old and over 55 years old both comprise 3 respondents or 9.09% each. Moreover, 31 – 35-year-olds have 2 respondents or 6.06%, whereas those under 25 years old and 46 – 50 years old have 1 respondent or 3.03% each. No respondent is aged 51 – 55 years old.

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The result showed that the teaching personnel at Dumaran National High School are dominantly young teachers. This may suggest that many respondents belong to an age group that is generally more familiar with digital technologies; however, actual technology exposure was not directly measured in this study.

Table 4: Distribution of Sex of the Respondents

Sex	**Counts**	**Percentage**
Female	27	81.82%
Male	6	18.18%
TOTAL	**33**	**100.00%**

Table 4 shows the sex distribution of the respondents. The findings revealed that majority of the respondents are female, with 27 respondents or 81.82% of the total population. On the other hand, there were 6 respondents, or 18.18% of the total population are male.

The result showed that the teaching personnel at Dumaran National High School are dominantly female. This result is consistent with the common demographic observed in the education sector, where women usually comprise a larger proportion.

Table 5: Distribution of Teaching Position of the Respondents

Teaching Position	**Counts**	**Percentage**
Teacher I	25	75.76%
Teacher II	2	6.06%
Teacher III	6	18.18%
TOTAL	**33**	**100.00%**

Table 5 shows the teaching position distribution of the respondents. The findings revealed that the majority of the respondents are Teacher I, with 25 respondents or 75.75% of the total population. It is followed by Teacher III with 6 respondents or 18.18% of the total population. Moreover, there are only 2 respondents or 6.06% of the total population whose position is Teacher II.

These findings imply that the teaching personnel at Dumaran National High School are predominantly those in the entry-level teaching position. This result corresponds to the young age profile and the number of teaching personnel in the Teacher I position.

Table 6: Distribution of the Highest Educational Attainment of the Respondents

Highest Educational Attainment	**Counts**	**Percentage**
Bachelor's Degree	31	93.94%
Master's Degree	2	6.06%
TOTAL	**33**	**100.00%**

Table 6 shows the highest educational attainment distribution of the respondents. The findings revealed that the majority of the respondents are Bachelor’s Degree holders, with 31 respondents or 93.94% of the total population. There are only 2 respondents, or 6.06% of the total population, who are Master’s Degree holders.

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These findings suggest that the teaching personnel at Dumaran National High School mostly have not yet earned a Master's Degree. This may indicate the need for continued encouragement to teachers to pursue advanced graduate studies.

Table 7: Distribution of the Number of Years in Teaching (Public/Private) of the Respondents

Number of Years in Teaching	**Counts**	**Percentage**
0 - 3 years	15	45.45%
4 - 10 years	11	33.33%
More than 10 years	7	21.21%
TOTAL	**33**	**100.00%**

Table 7 shows the number of years in teaching of the respondents. The findings revealed that the majority of the respondents have 0 – 3 years in teaching, with 15 respondents or 45.45% of the total population. This was followed by teachers who have been in the teaching profession for 4 – 10 years, with 11 respondents or 33.33% of the total population. On the other hand, there were 7 respondents or 21.21% of the total population who have been teaching for more than 10 years.

The result indicates that the large population is new to the teaching profession. This suggests that these groups are still in the process of developing their technological-pedagogical competencies through experience.

Technological-Pedagogical Competencies. Tables 8 through 10, present the level of technological-pedagogical competence of teachers in terms of two domains: (1) Technology Operations and Concepts, and (2) Pedagogy.

Table 8: Teachers' Technological – Pedagogical Competence in terms of Technology Operations and Concepts

	INDICATORS	**Mean**	**Verbal Interpretation**
DOMAIN A: TECHNOLOGY OPERATIONS AND CONCEPTS			
Standard 1: Demonstrate knowledge and skills in basic computer operation and other information devices, including basic troubleshooting and maintenance.			
1	Identify and define the functions of the main components (i.e. monitor, CPU, keyboard, mouse) of the computer.	3.24	Moderately High Level of Competence
2	Identify and define the functions of computer peripherals (i.e. printer, scanner, modem, digital camera, speaker, etc.)	3.33	High Level of Competence
3	Properly connect main components, configure peripherals and install drivers when required.	2.88	Moderately High Level of Competence
4	Configure computer settings of various software and hardware.	2.76	Moderately High Level of Competence
5	Understand the basic functions of the operating system	3.09	Moderately High Level of Competence
6	Organize and manage computer files, folders and directories.	3.27	High Level of Competence
7	Use storage devices (i.e. hard disk, diskette, CD, flash memory, etc.) for storing and sharing computer files. Create back-ups of important files.	3.24	Moderately High Level of Competence

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8	Protect the computer from virus, spyware, adware, malware, hackers etc.	2.76	Moderately High Level of Competence
9	Use online and offline help facilities for troubleshooting, maintenance and update of applications.	2.72	Moderately High Level of Competence
	MEAN	3.03	Moderately High Level of Competence
Standard 2: Use appropriate office and teaching productivity tools.			
1	Use a word processor to enter and edit text and images.	3.48	High Level of Competence
2	Format text, control margins, layout and tables.	3.27	High Level of Competence
3	Print, store and retrieve text documents from word processor.	3.24	Moderately High Level of Competence
4	Use a calculation spreadsheet to enter data, sort data and format cells into tables.	2.79	Moderately High Level of Competence
5	Make computation, use formula and create graphs using spreadsheets.	2.54	Moderately High Level of Competence
6	Print and store data tables using a spreadsheet application.	2.82	Moderately High Level of Competence
7	Use a presentation package to add text and sequence a presentation.	3.09	Moderately High Level of Competence
8	Enhance slide presentations by adding sound, customizing animation and inserting images.	3.12	Moderately High Level of Competence
9	Print presentation handouts and store slide presentations.	3.42	High Level of Competence
10	Make effective class presentations using the slides and LCD projector.	3.30	High Level of Competence
11	To acquire digital images and other media from web sites, CD, flash drives, etc.	3.21	Moderately High Level of Competence
12	Crop, scale, color correct and enhance digital images.	3.03	Moderately High Level of Competence
13	Play various media files using appropriate media players.	3.12	Moderately High Level of Competence
14	Stitch together video footages and sound tracks and add simple enhancements – transitions, titles, etc.	3.82	High Level of Competence
15	Attach and configure scanners, cameras, cell phone to acquire digital images.	3.09	Moderately High Level of Competence
16	Store digital images using optical media (CD, DVD, flash disk) and online repositories.	2.88	Moderately High Level of Competence
	MEAN	3.14	Moderately High Level of Competence
Standard 3: Understand and effectively use the Internet and network applications and resources			

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1	Connect to the internet via dial-up or LAN.	2.91	Moderately High Level of Competence
2	Configure and use Web Browsers and Help applications.	2.91	Moderately High Level of Competence
3	Send and receive emails with attachments, manage emails and use LAN and Web-based mail servers.	3.09	Moderately High Level of Competence
4	Effectively use synchronous and asynchronous web-based communication tools like instant messengers, voice and teleconferencing.	3.03	Moderately High Level of Competence
5	Connect and use shared printers, shared folders and other devices within a network.	2.94	Moderately High Level of Competence
6	Effectively use search engines, web directories and bookmarks	2.91	Moderately High Level of Competence
7	Download and install relevant applications including freeware, shareware, updates, patches, viewers and support applications.	2.85	Moderately High Level of Competence
	MEAN	2.95	Moderately High Level of Competence
Standard 4: Demonstrate knowledge and skills in information and data management.			
1	Effectively use search engines, directories, crawlers, and agents to locate information sources.	2.79	Moderately High Level of Competence
2	Search and collect textual and non-textual information from online and offline sources.	2.85	Moderately High Level of Competence
3	Efficiently store and organize collected information using directories, drives, or databases.	2.85	Moderately High Level of Competence
4	Distribute, share, publish, and print information via print or web.	2.88	Moderately High Level of Competence
5	Properly acknowledge information sources – online and offline.	3.09	Moderately High Level of Competence
	MEAN	2.89	Moderately High Level of Competence
	GRAND MEAN	3.00	Moderately High Level of Competence

Table 8 presents the level of technological-pedagogical competence of the teachers at Dumaran National High School in terms of Technology Operations and Concepts. The findings generally revealed a Moderately High Level of Competence in Technology Operations and Concepts, with a grand mean of 3.00. This indicates that the teachers at Dumaran National High School perceived themselves as generally capable of operating technology and have a conceptual understanding of technology.

Among the four standards under this domain, Standard 2: Use appropriate office and teaching productivity tools obtained the highest mean of 3.14 with verbal interpretation as Moderately High Level of Competence. The teachers at Dumaran National High School have a High Level of Competence in using word processors to enter

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and edit text and images, formatting text, controlling margins, layout, and tables. Moreover, they also have a high level of Competence in terms of printing presentation handouts and storing slide presentations, making effective class presentations using the slides and LCD projector, and stitching together video footage and soundtracks and adding simple enhancements – transitions, titles, etc.

Meanwhile, Standard 4: Demonstrate knowledge and skills in information and data management obtained the lowest mean of 2.89, although still interpreted as a Moderately High Level of Competence. This suggests that teachers need to improve in information and data management.

Furthermore, the result indicates that the Dumaran National High School teachers are generally competent in using office productivity tools like MS Word and PowerPoint. These tools are necessary for instructional purposes. This finding supports the study of Gamboa and Gamboa (2020), which found that teachers are highly competent in using MS Word, and competent in Excel and PowerPoint applications. However, the findings contradict the study of Caluza et al. (2017), which found that public elementary teachers were mostly at the basic level of ICT knowledge and still required additional ICT integration training. The respondents have shown that they already have a moderately high level of competence in many indicators under technology operations and concepts.

Table 9: Teachers' Technological-Pedagogical Competence in terms of Pedagogy

Domain B Pedagogical			
Standard 1: Apply technology to develop students' higher-order thinking skills and creativity.			
1	Make student databases, spreadsheets, concept mapping tools, and communication tools, etc.	2.85	Moderately High Level of Competence
2	Encourage students to do data analysis, problem solving, decision making, and exchange of ideas.	3.06	Moderately High Level of Competence
	MEAN	2.96	Moderately High Level of Competence
Standard 2: Provide performance tasks that require students to locate and analyze information and to use a variety of media to clearly communicate results.			
1	Use appropriately slide presentations, videos, audio and other media in the classroom.	3.33	High Level of Competence
2	Teach students to use various multimedia materials for the reports and class presentations	3.09	Moderately High Level of Competence
	MEAN	3.21	Moderately High Level of Competence
Standard 3: Conduct open and flexible learning environments where technology is used to support a variety of interactions among students, cooperative learning and peer instruction.			
1	Use various synchronous and asynchronous communication tools (email, chat, whiteboards, forums, blogs) to facilitate cooperative learning and exchange of ideas and information.	3.00	Moderately High Level of Competence

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	MEAN	3.00	Moderately High Level of Competence
Standard 4: Evaluate usage of ICT integration in the teaching-learning process and use results to refine the design of learning activities.			
1	Design rubrics for assessing student performance in the use of various technologies	3.00	Moderately High Level of Competence
2	Use electronic means of administering quizzes and examinations	3.03	Moderately High Level of Competence
3	Analyze assessment data using spreadsheets and statistical applications.	3.03	Moderately High Level of Competence
	MEAN	3.02	Moderately High Level of Competence
Standard 5: Use computers and other technologies to collect and communicate information to students' colleagues, parents, and others.			
1	Use emails, group sites, blogs, etc. for disseminating information directly to students, colleagues and parents.	3.12	Moderately High Level of Competence
2	Use emails, group sites blogs, etc. to collect information and feedback directly from students, colleagues and parents.	3.06	Moderately High Level of Competence
	MEAN	3.09	Moderately High Level of Competence
Standard 6: Apply technology to facilitate a variety of appropriate assessment and evaluation strategies recognizing the diversity of learners.			
1	Explore the use of electronic assessment tools like on line testing, submission of projects via email or online facilities.	2.88	Moderately High Level of Competence
2	Set-up online databases or repositories of student works.	2.55	Moderately High Level of Competence
	MEAN	2.72	Moderately High Level of Competence
	GRAND MEAN	2.98	Moderately High Level of Competence

Table 9 presents the level of technological-pedagogical competence of teachers at Dumaran National High School in terms of pedagogy. The findings generally revealed a Moderately High Level of Competence in Pedagogy with a grand mean of 2.98. This indicates that teachers at Dumaran National High School perceived themselves as generally capable of integrating technology into their pedagogical practices.

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Among the six standards under this domain, Standard 2: Provide performance tasks that require students to locate and analyze information and to use a variety of media to clearly communicate results obtained the highest mean of 3.21 with verbal interpretation as Moderately High Level of Competence. The teachers at Dumaran National High School have a High Level of Competence in using slide presentations, videos, audio, and other media in the classroom appropriately. This suggests that teachers can use multimedia devices to enhance classroom instruction.

Moreover, Standard 5: Use computers and other technologies to collect and communicate information to students, colleagues, parents, and others has a mean of 3.09, while Standard 4: Evaluate usage of ICT integration in the teaching-learning process and use results to refine the design of learning activities has a mean of 3.02. These findings indicate that the teachers at Dumaran National High School are generally competent in using technology for communication and instructional evaluation.

Meanwhile, Standard 6: Apply technology to facilitate a variety of appropriate assessment and evaluation strategies, recognizing the diversity of learners, has the lowest mean of 2.72, although still interpreted as a Moderately High Level of Competence. This suggests that teachers need to explore more in using more advanced digital tools like setting up online databases or student works.

Furthermore, the results indicate that the Dumaran National High School teachers are generally competent in using technology for classroom instruction. This finding supports Nurhidayat et al. (2024), Ramaila and Molwele (2022), and Rahimi (2023), who found that technology integration supports communication, collaboration, and problem-solving skills among learners. Moreover, Ng et al. (2023), Falloon (2020), Kiryakova and Kozhuharova (2024), and Elsayary (2023) emphasized that teachers' technological competence enables them to prepare learners for digital and technological readiness.

Table 10: Summary of the Level of Technological – Pedagogical Competence of Teachers at Dumaran National High School

Technological – Pedagogical Components	Grand Mean	Verbal Interpretation
Technology Operations and Concepts	3.00	Moderately High Level of Competence
Pedagogy	2.98	Moderately High Level of Competence
Overall Technological-Pedagogical Competence	**2.99**	**Moderately High Level of Competence**

Table 10 shows the summary of the level of technological – pedagogical competence of teachers at Dumaran National High School. The findings revealed that the teachers demonstrated a Moderately High Level of Competence in both components of Technological – Pedagogical Competencies. Specifically, Technology Operations and Concepts has a grand mean of 3.00 while the Pedagogy has a grand mean of 2.98. The overall grand mean of 2.99 indicates a Moderately High Level of Competence.

This result generally indicates that the teachers at Dumaran National High School have Moderately High Level of Competence in terms of utilizing technological tools and integrating these technologies for classroom instruction. The results suggest that teachers perceived themselves as capable of using technology to support classroom instruction.

These findings of the study of Gangmei and Thomas (2025), who emphasized that teachers with strong ICT skills improve the instructional delivery and achieve the educational standards. It is also supported by Akram et al. (2022) and Ramaila and Molwele (2022), who stated that classroom instruction that uses technology is generally more effective, interactive, and engaging for students. Furthermore, the findings suggest that teachers at Dumaran National High School possess a moderately high level of self-reported competence in technology operations and pedagogy. In the context of this school, this may provide a useful starting point for designing targeted professional development activities. However, since the study did not measure actual classroom practice

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or student learning outcomes, the results should be interpreted as an assessment of teachers' perceived competence rather than direct evidence of instructional effectiveness.

Relationship between Demographic Profile and Technological-Pedagogical Competence. Table 11 through 15, presents the discussion on the relationship between demographic profile and technological-pedagogical competence, cross tabulations, and supplementary analysis.

Table 11: Summary of Fisher's Exact Test Results on the Relationship between Demographic Profile and Technological-Pedagogical Competence

Demographic Variable	**Fisher's Exact Test p-value**	**Decision**
Age	0.128	Not Significant
Sex	0.838	Not Significant
Teaching Position	0.015	Significant
Highest Educational Attainment	1.000	Not Significant
Years in Teaching	0.054	Not Significant

Table 11 presents the Fisher's Exact Test results on the relationship between the respondents' demographic profile and their technological-pedagogical competence level. The results show that age, sex, highest educational attainment, and years in teaching were not significantly related to technological-pedagogical competence, as their p-values were greater than the 0.05 level of significance. However, teaching position was significantly associated with technological-pedagogical competence, p=0.015. This indicates that, among the demographic variables considered, only teaching position showed a statistically significant relationship with teachers' categorical competence level.

Descriptively, Teacher I respondents were more represented in the high and moderate competence categories, while Teacher III respondents were mostly classified under moderate and low competence levels. However, this finding should be interpreted cautiously because the study used a descriptive-correlational design. Therefore, the result indicates association but does not establish causation.

Table 12: Teaching Position and Technological-Pedagogical Competence

Teaching Position	**High**	**Moderate**	**Low**	**Total**
Teacher I	10	14	1	25
Teacher II	1	0	1	2
Teacher III	0	4	2	6
Total	11	18	4	33

As shown in Table 12, most Teacher I respondents were classified under high or moderate competence levels, while Teacher III respondents were mostly classified under moderate and low competence levels. This pattern suggests that, in the present sample, teaching position was associated with differences in technological-pedagogical competence.

However, this result should not be interpreted as evidence that teaching position alone explains competence differences. Teaching position may be related to other factors such as age, years of teaching experience, recency of ICT exposure, and training opportunities.

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Table 13: Cross-tabulation of Teaching Position by Age

Teaching Position	Under 25	25–30	31–35	36–40	41–45	46–50	Over 55	Total
Teacher I	1 (4.0%)	17 (68.0%)	1 (4.0%)	3 (12.0%)	3 (12.0%)	0 (0.0%)	0 (0.0%)	25 (100.0%)
Teacher II	0 (0.0%)	1 (50.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (50.0%)	2 (100.0%)
Teacher III	0 (0.0%)	1 (16.7%)	1 (16.7%)	0 (0.0%)	1 (16.7%)	1 (16.7%)	2 (33.3%)	6 (100.0%)
Total	1 (3.0%)	19 (57.6%)	2 (6.1%)	3 (9.1%)	4 (12.1%)	1 (3.0%)	3 (9.1%)	33 (100.0%)

Note. Percentages in parentheses are row percentages. Fisher's Exact Test showed a significant association between teaching position and age, p=0.017

Table 14: Cross-tabulation of Teaching Position by Years in Teaching

Teaching Position	0–3 years	4–10 years	More than 10 years	Total
Teacher I	15 (60.0%)	9 (36.0%)	1 (4.0%)	25 (100.0%)
Teacher II	0 (0.0%)	1 (50.0%)	1 (50.0%)	2 (100.0%)
Teacher III	0 (0.0%)	1 (16.7%)	5 (83.3%)	6 (100.0%)
Total	15 (45.5%)	11 (33.3%)	7 (21.2%)	33 (100.0%)

Note. Percentages in parentheses are row percentages. Fisher's Exact Test showed a significant association between teaching position and years in teaching, p<.001.

Table 13 and 14 were prepared to further examine the significant association between teaching position and technological-pedagogical competence. The results show that teaching position was significantly associated with both age and years in teaching. Most teacher I respondents were in the 25 – 30 age group and had 0 – 3 years of teaching experience, while Teacher III respondents were more represented among older and more experienced teachers. This suggests that the significant association between teaching position and technological-pedagogical competence may be partly related to age, teaching experience, career stage, or recency of technology exposure. Therefore, the teaching-position finding should be interpreted with caution and should not be understood as teaching position alone explaining competence differences.

Table 15: Supplementary Non-parametric Test Results Using Overall Technological-Pedagogical Competence Mean Scores

Demographic Variable	Test Used	Test Statistic	df	p-value	Decision
Sex	Mann-Whitney U	U = 78.0	—	0.907	Not Significant
Highest Educational Attainment	Mann-Whitney U	U = 13.0	—	0.186	Not Significant
Age	Kruskal-Wallis	$\chi^2 = 15.3$	6	0.018	Significant

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Teaching Position	Kruskal-Wallis	$\chi^2 = 6.89$	2	0.032	Significant
Years in Teaching	Kruskal-Wallis	$\chi^2 = 10.3$	2	0.006	Significant

To supplement the Fisher's Exact Test results, non-parametric tests were conducted using the respondents' continuous overall technological-pedagogical competence mean scores. This was done to reduce the possible loss of information caused by converting mean scores into competence categories. Mann-Whitney U tests were used for variables with two groups, while Kruskal-Wallis tests were used for variables with more than two groups.

The Mann-Whitney U results showed no significant difference in overall competence mean scores according to sex, U=78.0, p=0.907, and highest educational attainment, U=13.0, p=0.186. These findings are consistent with the Fisher's Exact Test results, which also showed no significant relationship for these variables.

However, the Kruskal-Wallis results showed significant differences in overall competence mean scores across age groups, $\chi^2(6) = 15.3$, $p = 0.018$; teaching positions, $\chi^2(2) = 6.89$, $p = 0.032$; and years-in-teaching groups, $\chi^2(2) = 10.3$, $p = 0.006$. The significant result for teaching position supports the Fisher's Exact Test finding. Meanwhile, the significant results for age and years in teaching suggest that these variables may show clearer patterns when continuous mean scores are used rather than categorized competence levels. Nevertheless, these results should be interpreted cautiously because some groups had very small frequencies and the sample was limited to 33 respondents from one school.

Overall, the primary Fisher's Exact Test results showed that only teaching position was significantly associated with categorical technological-pedagogical competence. However, follow-up cross-tabulations showed that teaching position was also significantly associated with age and years in teaching, suggesting that the teaching-position result may be partly influenced by career stage and experience. The supplementary non-parametric tests using continuous mean scores further showed significant differences by age, teaching position, and years in teaching. These findings suggest that demographic patterns may be more visible when continuous competence scores were used. However, because the study involved only 33 respondents from a single school and some groups had very small frequencies, the results should be interpreted as context-specific and exploratory rather than broadly generalizable.

Limitations of the Study

This study has several limitations. First, it was conducted in only one public secondary school; therefore, the findings are context-specific and are not intended to be generalized to all teachers in Dumaran, Palawan, MIMAROPA, or the Philippines. Second, the sample size was small, with only 33 teacher-respondents, although total enumeration was appropriate because the school population was limited and accessible. Third, the study relied on self-reported data, which may be affected by social desirability bias or respondents' personal perceptions of their competence. Fourth, the study used a cross-sectional design, which means that the data were collected at one point in time and cannot show changes in competence over time. Fifth, the study did not include classroom observations, interviews, or direct measures of technology integration in actual teaching practice. Finally, the study did not measure ICT infrastructure, internet access, device availability, or technical support, which may influence teachers' ability to use technology in classroom instruction. In addition, some demographic groups had very small frequencies, which limited the interpretation of post hoc comparisons and the stability of some non-parametric test results.

CONCLUSION

Based on the findings of the study, the following conclusions were made:

1. The demographic profile of Dumaran National High School is generally 25 – 30 years old, female, in Teacher I position, holding a Bachelor's Degree, and having 0 – 3 years of teaching experience. It indicates that the teachers at this school are generally young.

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2. The teachers demonstrated a moderately high level of self-reported technological-pedagogical competence in both Technology Operations and Concepts and Pedagogy. This indicates that teachers at Dumaran National High School generally perceived themselves as competent in integrating technology into classroom instruction.

3. Despite the moderately high overall competence level, specific areas still require further improvement, particularly the use of spreadsheets, online repositories, information and data management, and technology-supported assessment. These areas may serve as priority topics for school-based ICT training and professional development.

4. Based on the primary analysis using Fisher's Exact Test, age, sex, highest educational attainment, and years in teaching were not significantly associated with the categorical level of technological-pedagogical competence. However, teaching position showed a significant association with competence level.

5. The significant association between teaching position and technological-pedagogical competence should be interpreted with caution. Follow-up cross-tabulations showed that teaching position was also significantly associated with age and years in teaching. This suggests that the teaching-position result may partly reflect differences in career stage, teaching experience, recency of ICT exposure, or technology-related training rather than teaching position alone.

6. The supplementary non-parametric tests using continuous overall competence mean scores provided additional insight. The Mann-Whitney U tests showed no significant differences in competence scores according to sex and highest educational attainment. However, the Kruskal-Wallis tests showed significant differences across age groups, teaching positions, and years-in-teaching groups. These findings suggest that some demographic patterns became more visible when continuous mean scores were used instead of categorized competence levels.

7. Since the study was conducted in a single school with 33 teacher-respondents, the findings should be interpreted as context-specific and should not be generalized to all teachers in Dumaran, Palawan, MIMAROPA, or the Philippines. Instead, the results may be used as a local evidence base for planning school-level ICT training, instructional supervision, and teacher development programs at Dumaran National High School.

RECOMMENDATIONS

Based on the findings and conclusions of the study, the following recommendations are proposed:

1. School administrators at Dumaran National High School may use the findings as a basis for designing targeted ICT training programs, particularly on spreadsheets, digital repositories, data management, and technology-supported assessment.

2. Since teachers demonstrated only moderately high competence in both Technology Operations and Concepts and Pedagogy, continuous professional development may be provided to strengthen their ability to integrate technology meaningfully in classroom instruction.

3. ICT-related training programs should be differentiated according to teachers' needs. Since teaching position was significantly associated with competence, administrators may consider designing training activities for different groups of teachers. However, training plans should not be based on teaching position alone. They should also consider age, years of teaching experience, previous ICT training, access to technology, confidence in using digital tools, and self-identified training needs.

4. Teachers may continue enhancing their technological-pedagogical competence by participating in seminars, workshops, peer mentoring, school-based learning action cells, and other professional development activities related to educational technology.

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5. The school may strengthen its ICT support system by improving access to functional devices, stable internet connectivity, technical assistance, and digital learning resources. This is important because competence in using technology may be affected by the availability of infrastructure and support.

6. School administrators may consider conducting a local ICT needs assessment before implementing training programs. This may help identify which teachers need support in basic technology operations, spreadsheets, online assessment tools, digital repositories, data management, and technology-enhanced instructional strategies.

7. Future researchers may expand the study to include other public secondary schools in Dumaran, Palawan, or the wider MIMAROPA region to determine whether similar patterns exist across different school contexts. Future studies may also include classroom observations, interviews, ICT infrastructure measures, and larger samples to provide a deeper explanation of teachers' technological-pedagogical competence.

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