

DepED Computerization Program (DCP): Amplifying public school teachers' proficiency through an ICT management training plan

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ABSTRACT

The current research investigated how the DepEd Computerization Program (DCP) affected the computer literacy and technology integration preparedness of public secondary school teachers in San Francisco District of Cebu Province. A correlational research design was employed to gather data from 155 educators via a validated questionnaire and a competency test consisting of 20 items. Statistical assessments comprised weighted average, Spearman's rank correlation, and Kruskal–Wallis analysis. Findings indicated that educators have a reasonably high level of computer literacy but show only moderate preparedness for technology integration, significantly affected by demographic elements and insufficient ICT training experiences. Important relationships and distinctions were observed among the variables, resulting in the dismissal of all null hypotheses. The results emphasize the necessity for an organized and ongoing ICT Management Training Plan to improve teachers' digital skills and teaching methods. The research aids in enhancing the DepEd Computerization Program and promotes the growth of technology-based education in public schools.

Keywords: DepEd Computerization Program, ICT proficiency, technology integration, teacher readiness, digital literacy.

Date Submitted: April 8, 2026
Date Accepted: April 14, 2026
Date Published: April 20, 2026

INTRODUCTION

The Department of Education Computerization Program (DCP) is a radical and progressive endeavor by the Philippines' government to adopt innovations and incorporate them into the very essence of teaching and learning processes in public schools. The DCP is intended to be implemented through multifarious strategies of creating the necessary conditions and opportunities for using technology in the classroom in order to ensure more inclusive, efficient, and engaging learning experience. Rivera & Palomares (2019) stressed that the implementation of similar reforms is crucial for the availability of digital resources and the improvement of teaching and learning experiences in the Philippines.

The creation of the DCP corresponds to modern global educational trends and reflects the shift from the provision of technology to its pedagogical integration within the process of

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DOI: <http://doi.org/10.69651/PIJHSS05021000>

Recommended citation:

Campomayor, J. M. M. (2026). DepED Computerization Program (DCP): Amplifying public school teachers' proficiency through an ICT management training plan. Pantao (The International Journal of the Humanities and Social Sciences) 5 (2), 1602-1619. <http://doi.org/10.69651/PIJHSS05021000>

curriculum delivery. In accordance with this trend, the implementation of such programs becomes increasingly important for ensuring that teaching and learning experiences become efficient and meet the requirements of modernity. For instance, empirical evidence provided by Cruz & Gomez (2021) demonstrates that the adoption of the DCP contributes significantly to increasing the level of digital literacy both among teachers and students.

Notwithstanding its importance, there is insufficient research on the intricate relationship between large-scale and government-sponsored programs like the DCP and teachers' competencies. In this regard, while general studies on technology integration driven by policies, such as Zhao (2019), offer critical theoretical perspective, there is a need for more rigorous examination on the influence of such program on individual cases. Therefore, addressing this limitation requires more comprehensive research into the intricacies involved in influencing teachers' digital competence, teaching practices, and flexibility of teaching in localized educational environments.

Statement of the Problem

Based on these concerns, the current study is aimed at analyzing the DCP within the district of San Francisco, Cebu. In doing so, the paper is guided by the necessity to examine the program in order to enhance the efficiency of the DCP in promoting technological literacy among the educators amidst the changing environment in the Philippines. The focus on the particular district offers a context-sensitive perspective to understanding both the opportunities and difficulties related to the adoption of the program.

METHODOLOGY

A correlational research design was employed in the current study as it allows for analyzing not only the direction but also the degree of correlation between variables such as digital literacy and teachers' efficacy in incorporating technology into learning processes. Particularly, with this approach, the researcher could determine the degree and direction of association among certain factors affecting teachers' efficacy in technology use such as age, gender, specializations, computer literacy skills, and perceived readiness to adopt new technologies in the classroom setting. The sampling technique used is stratified random sampling, during which subjects were divided into groups depending on specific characteristics such as subject matter taught, grade levels, and years of experience. The current research was carried out in the context of education within the District of San Francisco, Cebu and aimed at identifying secondary teachers. In all, 155 education facilitators have been invited from five different schools based on Cochran's formula.

From there, a 5-Point Likert scale was utilized in order to be able to acquire both quantifiable data as well as the perceptual elements of the variables involved. The survey questionnaire was comprised of two (2) main parts, one of which sought for the demographic information of the participants while the other tested the level of digital literacy, perceived problems, readiness, and effectiveness in using the technology. To assure the quality of the survey tool, a series of measures were conducted, which include a review of literature, expert validation, and pilot testing. Hence, these efforts increased the validity and reliability of the survey tool. The administration of the survey was carried out not only through the use of paper-based questionnaires but also through online platform to ensure greater ease and convenience. Moreover, strict adherence to ethical considerations was practiced during the data gathering.

Data collection was performed using an organized and systematic procedure. Prior to the study, necessary cooperation was achieved with the concerned educational institutions and their administrators to get all required permissions and assistance for the study. Afterwards,

orientation sessions were held to properly inform the respondents regarding the nature, objectives, methodology, and ethical issues of the research. Responses collected through data collection were then sorted out, checked, and processed for statistical analysis. To find the most appropriate method for analysis, the Shapiro-Wilk test was applied to assess whether there was a normal distribution of data. Since some of the variables failed to satisfy the assumptions of normal distribution, statistical analyses were carried out using non-parametric techniques. Specifically, the Spearman's rank correlation coefficient was applied to evaluate correlations among the variables under study, while the Kruskal-Wallis H test was employed to detect differences among demographic groups.

RESULTS AND DISCUSSION

This section presents the results and discussion based on data gathered from 155 teacher-respondents. The study employed a quantitative research design using the previously described sampling approach, a survey instrument, and a 20-item computer literacy test to determine the respondents' demographic profile, computer literacy skills, perceived technology integration readiness, perceived effectiveness of technology in the classroom, existing gaps and limitations in technology integration, and the relationships and differences among selected variables. Descriptive statistics such as frequency, percentage, mean, median, mode, standard deviation, and weighted mean were used, while Kolmogorov-Smirnov and Shapiro-Wilk tests were applied to examine normality. Spearman's Rho, Mann-Whitney U Test, Kruskal-Wallis Test, and Post-Hoc Dunn's Test were used to analyze relationships and differences. The discussion is grounded in the data gathered and interpreted in direct relation to the objectives of the study, particularly in understanding how the DepED Computerization Program (DCP) may amplify public school teachers' proficiency through an ICT management training plan.

In terms of age, the respondents were distributed across five age groups. There were 6 respondents or 3.87% who were 21-25 years old, 54 respondents or 34.84% who were 26-30 years old, 36 respondents or 23.23% who were 31-35 years old, 34 respondents or 21.94% who were 36-40 years old, and 25 respondents or 16.13% who were more than 40 years old, for a total of 155 respondents or 100.00%. The data show that the largest group of respondents belonged to the 26-30 years old category, followed by those aged 31-35 years old and 36-40 years old, indicating that most teachers in the San Francisco District were relatively young or in the early to mid-career stage. This age profile is important because younger teachers may have greater exposure to digital tools before entering the profession, as supported by Lopez-Belmonte et al. (2021), who noted that younger teachers tend to demonstrate stronger digital skills and willingness to use ICT. However, the findings should not be interpreted to mean that age alone determines ICT competence, since Zhao (2019) emphasized that technological competency is shaped by several contextual and professional factors. Thus, the DCP should provide differentiated capacity building, where younger teachers may be given advanced ICT integration training while older teachers may receive confidence building, foundational ICT support, and peer mentoring through Learning Action Cells.

In terms of gender, 58 respondents or 37.42% were male, while 97 respondents or 62.58% were female, for a total of 155 respondents or 100.00%. The results show that female teachers comprised the majority of the respondents, reflecting the broader pattern in basic education where women constitute a large proportion of the teaching workforce. This gender composition suggests that the findings on digital literacy and ICT integration readiness substantially reflect the experiences of female teachers. Although both male and female teachers use ICT in instruction, differences may still exist in confidence, technical proficiency,

and adaptability. Therefore, ICT training under the DCP should remain inclusive and responsive to the needs of both genders, ensuring that all teachers have equal access to professional development opportunities regardless of perceived technical confidence or prior exposure.

In terms of area of specialization, 17 respondents or 10.97% specialized in Science, Biology, Biological Science, or General Science; 20 or 12.90% in English; 44 or 28.39% in Mathematics; 44 or 28.39% in TLE (HET/ICT); 11 or 7.10% in Social Sciences, Studies, or Political Science; 1 or 0.65% in Araling Panlipunan; 1 or 0.65% in Agri-Fishery Arts; 1 or 0.65% in Accounting; 9 or 5.81% in Filipino; 2 or 1.29% in MAPEH; 1 or 0.65% in BSIT-Computer Technology; 3 or 1.94% in Education; and 1 or 0.65% in Teaching, for a total of 155 respondents or 100.00%. The largest groups came from Mathematics and TLE (HET/ICT), both at 28.39%, suggesting strong representation from disciplines where digital tools, simulations, productivity applications, and technology-based instruction may be more naturally integrated. Manzano (2023) similarly observed that ICT integration is increasingly practiced across disciplines but is more visible in technical and mathematical subjects. However, the presence of teachers from diverse fields also shows that ICT integration is no longer confined to technology-related areas. This supports the need for both general ICT training and subject-sensitive applications under the DCP, where teachers from Mathematics and TLE may serve as peer mentors while teachers from other specializations receive support suited to their instructional contexts.

In terms of highest educational attainment, 70 respondents or 45.16% were bachelor's degree graduates, 76 or 49.03% had master's degree units, 6 or 3.87% were master's degree graduates, 1 or 0.65% had doctoral degree units, and 2 or 1.29% were doctoral degree graduates, for a total of 155 respondents or 100.00%. The results show that the largest proportion of respondents had earned master's degree units, followed closely by bachelor's degree graduates. This indicates that many teachers were pursuing graduate education, although only a small number had completed master's or doctoral degrees. Basilio and Parcon (2021) emphasized that graduate-level education may contribute to stronger pedagogical expertise and greater confidence in ICT integration. However, the data also imply that formal academic advancement does not automatically guarantee advanced ICT practice unless supported by continuous professional development. Therefore, the DCP should recognize teachers' educational backgrounds while still prioritizing practical, competency-based ICT training.

In terms of years in the academe, 15 respondents or 9.68% had less than 1 year of experience, 36 or 23.23% had 1-5 years, 83 or 53.55% had 6-10 years, 15 or 9.68% had 11 - 15 years, 3 or 1.94% had 16 - 20 years, and 3 or 1.94% had more than 20 years, for a total of 155 respondents or 100.00%. The findings indicate that most respondents were early to mid-career teachers, with the largest group having 6-10 years of experience. This group may already possess sufficient classroom experience while still being open to technology-enhanced instruction. The results suggest that teaching experience shapes the way teachers balance traditional instructional strategies with digital innovation. Teachers with 6-10 years of experience may be particularly strategic targets for ICT leadership because they combine pedagogical maturity with continuing adaptability. This supports the idea of adaptive expertise, where professional growth involves integrating new tools into established teaching practices.

In terms of grade level taught, 18 respondents or 11.61% handled Grade 7, 7 or 4.52% handled Grade 8, 17 or 10.97% handled Grade 9, 22 or 14.19% handled Grade 10, 20 or 12.90% handled Grade 11, 9 or 5.81% handled Grade 12, and 62 or 40.00% handled multiple grade levels, for a total of 155 respondents or 100.00%. The largest group consisted of teachers handling multiple grade levels, indicating that many respondents needed to adjust instruction across varying learner needs, cognitive levels, and curricular demands. Sanchez and Ramos

(2023) noted that teachers handling multiple grade levels often experience greater workload complexity but may also develop stronger adaptability in managing various learning styles and ICT strategies. This implies that DCP training should be flexible enough to address both junior and senior high school contexts, especially for teachers who move across grade levels and must use technology in varied instructional settings.

In terms of ICT trainings attended, 82 respondents or 52.90% had no ICT training, 37 or 23.87% had attended 1 training, 22 or 14.19% had attended 2 trainings, 7 or 4.52% had attended 3 trainings, 2 or 1.29% had attended 4 trainings, 2 or 1.29% had attended 5 trainings, 1 or 0.65% had attended 6-10 trainings, and 2 or 1.29% had attended more than 10 trainings, for a total of 155 respondents or 100.00%. These results reveal a substantial training gap, as more than half of the respondents reported no ICT training. This suggests that while the DCP provides technological resources, its full instructional impact may be limited if teachers are not consistently trained to use these resources. Arnado and Aviles (2023) similarly reported that Filipino teachers encounter barriers in attending ICT training despite their willingness to use technology. The findings point to the need for sustained, accessible, and school-based ICT professional development rather than isolated training sessions.

The 20-item computer literacy test showed that the respondents obtained a mean score of 17.716, a median of 18, a mode of 19, and a standard deviation of 1.986, with N=155. These results indicate a generally high level of computer literacy among the teachers, as scores were concentrated near the upper end of the 20-item test. The median of 18 and mode of 19 further suggest that many respondents performed strongly, while the standard deviation of 1.986 indicates relatively limited variation in scores. This means that most teachers possessed functional computer literacy, including basic computer use, productivity applications, internet navigation, digital presentations, and related classroom ICT skills. Studies by Novela (2022) and Avila et al. (2021) similarly found moderate to high levels of computer literacy among Filipino teachers. However, high computer literacy does not necessarily mean effective pedagogical ICT integration. Therefore, DCP training should move beyond basic computer skills and focus on learning management systems, data-informed instruction, subject-specific ICT tools, and pedagogically meaningful technology integration.

The respondents' current level of computer literacy showed generally positive self-assessments. For confidence in using basic computer applications such as word processing and spreadsheets, the responses were 1 Not Ready, 7 Less Ready, 38 Neutral, 77 Ready, and 32 Very Ready, with a weighted mean of 3.85 and a description of Agree. For proficiency in navigating and using educational software, the responses were 2 Not Ready, 13 Less Ready, 49 Neutral, 79 Ready, and 12 Very Ready, with a weighted mean of 3.55 and a description of Agree. For regular use of digital tools to enhance lesson planning, the responses were 0 Not Ready, 4 Less Ready, 50 Neutral, 77 Ready, and 24 Very Ready, with a weighted mean of 3.78 and a description of Agree. For comfort in troubleshooting common technical issues independently, the responses were 5 Not Ready, 23 Less Ready, 45 Neutral, 72 Ready, and 10 Very Ready, with a weighted mean of 3.38 and a description of Neutral. For effective use of online resources for professional development, the responses were 2 Not Ready, 9 Less Ready, 40 Neutral, 77 Ready, and 27 Very Ready, with a weighted mean of 3.76 and a description of Agree. For familiarity with online communication tools such as email and video conferencing, the responses were 1 Not Ready, 9 Less Ready, 35 Neutral, 88 Ready, and 22 Very Ready, with a weighted mean of 3.78 and a description of Agree. For confidence in creating digital content for classes such as presentations and videos, the responses were 1 Not Ready, 9 Less Ready, 39 Neutral, 81 Ready, and 25 Very Ready, with a weighted mean of 3.77 and a description of Agree. For capability in using learning management systems to manage classes, the responses

were 1 Not Ready, 12 Less Ready, 44 Neutral, 82 Ready, and 16 Very Ready, with a weighted mean of 3.65 and a description of Agree. For proficiency in using social media for educational purposes, the responses were 3 Not Ready, 8 Less Ready, 51 Neutral, 72 Ready, and 21 Very Ready, with a weighted mean of 3.65 and a description of Agree. For adapting quickly to new technological tools introduced in the teaching environment, the responses were 2 Not Ready, 4 Less Ready, 40 Neutral, 82 Ready, and 27 Very Ready, with a weighted mean of 3.83 and a description of Agree.

These findings show that teachers perceived themselves as generally ready in basic computer use, digital lesson planning, online communication, digital content creation, learning management system use, educational social media use, and adaptation to new tools. The highest weighted mean was 3.85 for confidence in using basic computer applications, followed by 3.83 for adapting quickly to new technological tools. The lowest weighted mean was 3.38 for troubleshooting common technical issues, interpreted as Neutral. This pattern suggests that teachers are operationally literate in routine ICT tasks but less confident in independent technical problem solving. Khlaif et al. (2021) and Tondeur et al. (2020) support this interpretation, noting that teachers in developing contexts often demonstrate adequate basic ICT skills but experience difficulty with troubleshooting and deeper pedagogical integration. Therefore, DCP training should include practical troubleshooting, classroom-based ICT problem solving, and peer-supported technical assistance.

The effectiveness of technology in the classroom was also viewed positively by the respondents. For effectively incorporating digital tools to enhance student engagement, the responses were 1 Not Ready, 8 Less Ready, 46 Neutral, 78 Ready, and 22 Very Ready, with a weighted mean of 3.72 and a description of Agree. For students benefiting from the use of technology in teaching, the responses were 0 Not Ready, 6 Less Ready, 34 Neutral, 83 Ready, and 32 Very Ready, with a weighted mean of 3.81 and a description of Agree. For regularly using technology to differentiate instruction based on students' needs, the responses were 2 Not Ready, 6 Less Ready, 46 Neutral, 82 Ready, and 19 Very Ready, with a weighted mean of 3.71 and a description of Agree. For technology helping teachers better assess and monitor student progress, the responses were 0 Not Ready, 10 Less Ready, 35 Neutral, 75 Ready, and 35 Very Ready, with a weighted mean of 3.87 and a description of Agree. For using digital tools to facilitate collaborative learning among students, the responses were 1 Not Ready, 5 Less Ready, 40 Neutral, 84 Ready, and 25 Very Ready, with a weighted mean of 3.82 and a description of Agree. For technology improving the overall effectiveness of teaching, the responses were 1 Not Ready, 6 Less Ready, 38 Neutral, 75 Ready, and 35 Very Ready, with a weighted mean of 3.88 and a description of Agree. For integrating multimedia elements into lessons to make them more dynamic, the responses were 1 Not Ready, 5 Less Ready, 36 Neutral, 83 Ready, and 30 Very Ready, with a weighted mean of 3.88 and a description of Agree. For students being more motivated when technology is used in lessons, the responses were 1 Not Ready, 5 Less Ready, 32 Neutral, 84 Ready, and 33 Very Ready, with a weighted mean of 3.92 and a description of Agree. For effectively using online resources to supplement teaching materials, the responses were 2 Not Ready, 7 Less Ready, 31 Neutral, 80 Ready, and 35 Very Ready, with a weighted mean of 3.90 and a description of Agree. For improvement in teachers' ability to use technology in the classroom over time, the responses were 1 Not Ready, 6 Less Ready, 29 Neutral, 88 Ready, and 31 Very Ready, with a weighted mean of 3.92 and a description of Agree.

The results indicate that teachers generally agreed that technology improves classroom instruction, student motivation, assessment, collaboration, and access to supplementary resources. The highest weighted means were 3.92 for students being more motivated when technology is used in lessons and 3.92 for teachers' ability to use technology improving over time. These findings suggest that teachers recognize both student-level and teacher-level

benefits of technology integration. The lowest weighted mean was 3.71 for using technology to differentiate instruction based on students' needs, although it was still interpreted as Agree. This implies that while technology is perceived as useful, its application for personalized and differentiated learning remains an area for improvement. Yusuf et al. (2023) similarly emphasized that purposeful technology use can enhance engagement, collaboration, and assessment. However, the findings also caution that positive perceptions should be strengthened through deeper pedagogical integration so that technology does not merely replace traditional tools but transforms instructional practice.

The existing gaps and limitations in technology integration were generally interpreted as Neutral. For insufficient technological resources available in school, the responses were 8 Not Ready, 21 Less Ready, 58 Neutral, 57 Ready, and 11 Very Ready, with a weighted mean of 3.27 and a description of Neutral. For inadequate training provided on using new technologies, the responses were 8 Not Ready, 23 Less Ready, 64 Neutral, 53 Ready, and 7 Very Ready, with a weighted mean of 3.18 and a description of Neutral. For frequently encountering technical issues that disrupt teaching, the responses were 9 Not Ready, 27 Less Ready, 71 Neutral, 41 Ready, and 7 Very Ready, with a weighted mean of 3.06 and a description of Neutral. For lacking necessary support when integrating technology into lessons, the responses were 10 Not Ready, 46 Less Ready, 55 Neutral, 37 Ready, and 7 Very Ready, with a weighted mean of 2.90 and a description of Neutral. For significant lack of time allocated for learning new technological tools, the responses were 4 Not Ready, 31 Less Ready, 59 Neutral, 50 Ready, and 11 Very Ready, with a weighted mean of 3.21 and a description of Neutral. For outdated technological infrastructure in school, the responses were 10 Not Ready, 33 Less Ready, 57 Neutral, 48 Ready, and 7 Very Ready, with a weighted mean of 3.06 and a description of Neutral. For professional development programs not addressing specific technological needs, the responses were 8 Not Ready, 36 Less Ready, 60 Neutral, 47 Ready, and 4 Very Ready, with a weighted mean of 3.02 and a description of Neutral. For feeling overwhelmed by the rapid pace of technological changes in education, the responses were 7 Not Ready, 32 Less Ready, 56 Neutral, 45 Ready, and 15 Very Ready, with a weighted mean of 3.19 and a description of Neutral. For the school not providing enough opportunities for collaborative learning about technology, the responses were 19 Not Ready, 42 Less Ready, 50 Neutral, 40 Ready, and 4 Very Ready, with a weighted mean of 2.79 and a description of Neutral. For finding it challenging to keep up with new digital tools and platforms, the responses were 6 Not Ready, 29 Less Ready, 45 Neutral, 62 Ready, and 13 Very Ready, with a weighted mean of 3.30 and a description of Neutral.

These findings indicate that the respondents experienced moderate concerns regarding technology integration. The most notable concern was difficulty in keeping up with new digital tools and platforms, with a weighted mean of 3.30, followed by insufficient technological resources, with a weighted mean of 3.27, and lack of time for learning new technological tools, with a weighted mean of 3.21. Although all indicators were interpreted as Neutral, the results do not necessarily mean that problems were absent. Rather, they may suggest that teachers have normalized constraints such as limited resources, insufficient training, technical disruptions, outdated infrastructure, and limited collaborative opportunities. Ahmad and Ranjan (2022) and Cho and Lee (2021) similarly identified inadequate access, weak institutional support, insufficient time, and limited technical assistance as barriers to effective ICT integration. These results reinforce the need for the DCP to be accompanied by infrastructure improvement, responsive professional development, and collaborative school-based ICT support systems.

The normality tests provided important guidance for choosing appropriate statistical procedures. For computer literacy skill, the Kolmogorov-Smirnov statistic was .202 with Df =

155 and Sig. = .000, while the Shapiro-Wilk statistic was .886 with Df = 155 and Sig. = .000. Since both p values were statistically significant at the 0.05 level, computer literacy skill significantly deviated from normality. For perceived technology integration readiness, the Kolmogorov-Smirnov statistic was .060 with Df = 155 and Sig. = .200*, while the Shapiro-Wilk statistic was .984 with Df = 155 and Sig. = .071. Since the reported significance values exceeded 0.05, perceived technology integration readiness was treated as normally distributed. These results justified the use of non-parametric procedures, particularly because computer literacy skill did not meet the assumption of normality. Alrezami (2024) emphasized that non-parametric approaches such as Kruskal-Wallis and Chi-square tests are appropriate when data deviate from normality. The use of non-parametric tests in this study therefore strengthened the validity of the analysis.

The Q-Q plot of computer literacy skill further supported the normality test results by showing that computer literacy skill was not normally distributed. Although some middle points aligned with the diagonal line, deviations were observed in the upper part of the graph, indicating non-normality and suggesting variation in computer literacy performance among teachers. This finding implies that while many teachers demonstrated adequate or strong computer literacy, the distribution was not even across all respondents. Mahdy (2022) emphasized that non-parametric statistics are suitable for educational data with skewed patterns because they do not rely on strict normality assumptions. In this study, the distributional evidence justified the use of non-parametric analyses and supported a more cautious interpretation of differences and relationships involving computer literacy skill. It is also important to note that among the profile variables, gender was the only variable that exhibited a significant relationship with computer literacy, with $p = -0.173$ and $p = .031$.

Using Spearman's Rho, the relationship between profile variables and computer literacy skill was examined at the 0.05 level of significance. Age of respondents had a correlation coefficient of -0.142 and a p-value of 0.078, interpreted as Not Significant. Gender of respondents had a correlation coefficient of -0.173 and a p-value of 0.031, interpreted as Significant. Field of specialization had a correlation coefficient of -0.014 and a p-value of 0.862, interpreted as Not Significant. Highest educational attainment had a correlation coefficient of 0.02 and a p-value of 0.983, interpreted as Not Significant. Number of years in the academe had a correlation coefficient of 0.029 and a p-value of 0.723, interpreted as Not Significant. Grade level taught had a correlation coefficient of -0.015 and a p-value of 0.851, interpreted as Not Significant. Number of ICT trainings had a correlation coefficient of -0.108 and a p-value of 0.183, interpreted as Not Significant. Based on the stated decision rule that if the p-value is less than 0.05 ($p < 0.05$), reject the null hypothesis/not significant, and if the p-value is greater than 0.05 ($p > 0.05$), accept the null hypothesis/significant, the data nevertheless show that only gender reached statistical significance at the 0.05 level.

The significant relationship between gender and computer literacy skill, $p = -0.173$, $p = .031$, indicates a weak negative association. Although the relationship was statistically significant, the low coefficient suggests that gender explains only a limited degree of variation in computer literacy. The other profile variables did not show significant relationships with computer literacy skill, indicating that age, field of specialization, highest educational attainment, number of years in the academe, grade level taught, and number of ICT trainings were not significantly associated with actual computer literacy performance. Alruwais et al. (2021) similarly noted that gender may show slight statistical differences in technical competence, while other static demographic variables may not consistently predict digital literacy. These findings imply that ICT interventions should be primarily competency-based rather than purely demographic, although gender-sensitive support may still be considered where skill differences appear.

Spearman's Rho was also used to examine the relationship between profile variables and perceived technology integration readiness at the 0.05 level of significance. Age of respondents had a correlation coefficient of -0.165 and a p-value of 0.040, interpreted as Significant. Gender of respondents had a correlation coefficient of -0.61 and a p-value of 0.453, interpreted as Not Significant. Field of specialization had a correlation coefficient of -0.173 and a p-value of 0.031, interpreted as Significant. Highest educational attainment had a correlation coefficient of 0.006 and a p-value of 0.945, interpreted as Not Significant. Number of years in the academe had a correlation coefficient of -0.187 and a p-value of 0.020, interpreted as Significant. Grade level taught had a correlation coefficient of 0.066 and a p-value of 0.417, interpreted as Not Significant. Number of ICT trainings had a correlation coefficient of 0.167 and a p-value of 0.038, interpreted as Significant. These results show that age, field of specialization, number of years in the academe, and number of ICT trainings were significantly related to perceived technology integration readiness, while gender, highest educational attainment, and grade level taught were not significantly related.

The negative correlation between age and perceived technology integration readiness, $\rho = -0.165$, $p = .040$, suggests that younger teachers tended to report higher readiness. The negative correlation for field of specialization, $\rho = -0.173$, $p = .031$, indicates that specialization was associated with perceived readiness, although the direction depends on the coding of specialization categories. The relationship between number of years in the academe and perceived readiness was reported as $\rho = 0.167$, $p = .038$ in the discussion, while the table presented -0.187 and $p = 0.020$, both indicating a significant relationship but differing in coefficient and p value; therefore, both reported values must be retained as part of the original data. The number of ICT trainings also showed a significant relationship, $\rho = 0.167$, $p = 0.038$, indicating that greater exposure to ICT training was associated with stronger perceived readiness. Galaraga and Alpuerto (2022) similarly emphasized that ICT training and specialization may influence readiness more strongly than fixed demographic traits. These findings suggest that readiness is shaped by exposure, experience, and opportunities for continuous learning.

The Mann-Whitney U Test was used to test gender-based differences. For the null hypothesis stating that there is no significant difference in Computer Literacy Skill between male and female respondents, the significance value was 0.032, interpreted as Significant. Since $p = 0.032$ is less than 0.05, the null hypothesis was rejected, indicating a significant gender-based difference in computer literacy skill. For the null hypothesis stating that there is no significant difference in Perceived Technology Integration Readiness between male and female respondents, the significance value was 0.452, interpreted as Not Significant. Since $p = 0.452$ is greater than 0.05, the null hypothesis was accepted, indicating that male and female respondents did not differ significantly in perceived readiness. These findings imply that gender may be linked to actual ICT skill differences but not necessarily to teachers' perceived willingness or readiness to integrate technology. Weinberger et al. (2023) discussed gendered patterns in digital competence, but the present finding on readiness suggests that institutional exposure and shared teaching demands may equalize perceptions of ICT integration.

The Kruskal-Wallis Test was used to examine age-based differences. For the null hypothesis stating that there is no significant difference in Computer Literacy Skill across categories of age of respondents, the significance value was 0.004, interpreted as Significant. Since $p = 0.004$ is less than 0.05, the null hypothesis was rejected. For the null hypothesis stating that there is no significant difference in Perceived Technology Integration Readiness across categories of age of respondents, the significance value was 0.025, interpreted as Significant. Since $p = 0.025$ is less than 0.05, the null hypothesis was also rejected. These

results indicate that teachers' computer literacy skill and perceived technology integration readiness differed significantly across age categories. Sharma and Rathore (2021) similarly observed that younger educators tend to demonstrate higher digital literacy and openness to technology-based teaching, although the experience of older teachers remains valuable when supported by appropriate training.

The Post-Hoc Dunn's Test further clarified the age-based differences. For ICT test score, teachers aged 21-25 years old had a mean rank of 39.583 and ranked 5, teachers aged 26-30 years old had a mean rank of 91.046 and ranked 1, teachers aged 31-35 years old had a mean rank of 74.458 and ranked 3, teachers aged 36-40 years old had a mean rank of 82.956 and ranked 2, and teachers more than 40 years old had a mean rank of 57.400 and ranked 4. For perceived technology integration readiness, teachers aged 21-25 years old had a mean rank of 94.750 and ranked 1, teachers aged 26-30 years old had a mean rank of 86.945 and ranked 2, teachers aged 31-35 years old had a mean rank of 77.351 and ranked 4, teachers aged 36-40 years old had a mean rank of 84.500 and ranked 3, and teachers more than 40 years old had a mean rank of 58.620 and ranked 5. These findings show that teachers aged 26-30 years old had the highest actual ICT test score, while teachers aged 21-25 years old had the highest perceived readiness but the lowest actual ICT test score. This gap suggests that younger teachers may feel confident with technology due to frequent exposure but may still need support in translating familiarity into instructional competence. Teachers more than 40 years old had the lowest perceived readiness and a relatively low ICT test score, indicating the need for sustained and confidence-building ICT support.

For field of specialization, the Kruskal-Wallis Test showed no significant differences. For the null hypothesis stating that there is no significant difference in Computer Literacy Skill across categories of field of specialization of respondents, the significance value was 0.131, interpreted as Not Significant. Since $p = 0.131$ is greater than 0.05, the null hypothesis was accepted. For the null hypothesis stating that there is no significant difference in Perceived Technology Integration Readiness across categories of field of specialization of respondents, the significance value was 0.203, interpreted as Not Significant. Since $p = 0.203$ is greater than 0.05, the null hypothesis was also accepted. These findings indicate that teachers from different specializations demonstrated comparable computer literacy skills and perceived readiness. Haelermans et al. (2021) similarly found that specialization does not necessarily predict digital competence when institutional support and training opportunities are broadly available. Thus, while subject-sensitive applications remain useful, the DCP may implement district-wide ICT training that benefits teachers across disciplines.

For highest educational attainment, the Kruskal-Wallis Test showed no significant differences. For the null hypothesis stating that there is no significant difference in Computer Literacy Skill across categories of highest educational attainment of respondents, the significance value was 0.999, interpreted as Not Significant. Since $p = 0.999$ is greater than 0.05, the null hypothesis was accepted. For the null hypothesis stating that there is no significant difference in Perceived Technology Integration Readiness across categories of highest educational attainment of respondents, the significance value was 0.866, interpreted as Not Significant. Since $p = 0.866$ is greater than 0.05, the null hypothesis was also accepted. These findings indicate that bachelor's degree graduates, teachers with master's degree units, master's degree graduates, teachers with doctoral degree units, and doctoral degree graduates did not significantly differ in computer literacy skill or perceived readiness. Konig et al. (2020) emphasized that ICT competence is more closely linked to continuing professional education and practical exposure than to formal academic degree level alone. Therefore, ICT training should be provided to all teachers regardless of educational attainment.

For number of years in the academe, the Kruskal-Wallis Test showed mixed results. For the null hypothesis stating that there is no significant difference in Computer Literacy Skill

across categories of number of years in the academe, the significance value was 0.003, interpreted as Significant. Since $p=0.003$ is less than 0.05, the null hypothesis was rejected. For the null hypothesis stating that there is no significant difference in Perceived Technology Integration Readiness across categories of number of years in the academe, the significance value was 0.057, interpreted as Not Significant. Since $p=0.057$ is greater than 0.05, the null hypothesis was accepted. These findings suggest that years of teaching experience significantly influenced actual computer literacy skill but did not significantly affect perceived readiness. Tondeur et al. (2021) similarly emphasized that operational ICT skills and readiness for integration may not always develop in the same way. Thus, professional development should separately address technical competence and pedagogical readiness.

The Post-Hoc Dunn's Test for computer literacy skill across years in the academe showed that teachers with less than 1 year of experience had a mean rank of 46.411 and ranked 4, those with 1-5 years had a mean rank of 84.353 and ranked 2, those with 6-10 years had a mean rank of 86.831 and ranked 1, those with 11 - 15 years had a mean rank of 67.867 and ranked 3, those with 16 - 20 years had a mean rank of 26.667 and ranked 6, and those with more than 20 years had a mean rank of 42.667 and ranked 5. These results show that teachers with 6-10 years of experience had the highest computer literacy skill, followed by those with 1-5 years. Teachers with 16 - 20 years had the lowest mean rank. This pattern suggests that early to mid-career teachers may be at the strongest point for ICT skill development because they have sufficient teaching experience and continuing exposure to digital tools. Lin et al. (2022) similarly found that mid-career teachers often participate more actively in professional development and institutional ICT initiatives. These results support a tiered ICT training model, where early to mid-career teachers may be trained for leadership and mentoring, while novice and longer-serving teachers may receive more guided ICT support.

For grade level taught, the Kruskal-Wallis Test showed no significant differences. For the null hypothesis stating that there is no significant difference in Computer Literacy Skill across categories of grade level taught, the significance value was 0.413, interpreted as Not Significant. Since $p=0.413$ is greater than 0.05, the null hypothesis was accepted. For the null hypothesis stating that there is no significant difference in Perceived Technology Integration Readiness across categories of grade level taught, the significance value was 0.565, interpreted as Not Significant. Since $p=0.565$ is greater than 0.05, the null hypothesis was also accepted. These findings indicate that teachers handling Grade 7, Grade 8, Grade 9, Grade 10, Grade 11, Grade 12, or multiple grade levels had comparable ICT skills and readiness. Alshammari and Alasmari (2021) similarly found that ICT competence may be relatively consistent across grade-level assignments when teachers operate within the same institutional system. However, even if differences were not statistically significant, DCP training should still consider the different instructional needs of junior high school, senior high school, and multiple-grade teachers.

For number of ICT trainings attended, the Kruskal-Wallis Test also showed no significant differences. For the null hypothesis stating that there is no significant difference in Computer Literacy Skill across categories of ICT Trainings attended, the significance value was 0.112, interpreted as Not Significant. Since $p=0.112$ is greater than 0.05, the null hypothesis was accepted. For the null hypothesis stating that there is no significant difference in Perceived Technology Integration Readiness across categories of ICT Trainings attended, the significance value was 0.248, interpreted as Not Significant. Since $p=0.248$ is greater than 0.05, the null hypothesis was also accepted. These findings suggest that the number of ICT trainings attended did not significantly differentiate teachers' computer literacy skills or readiness. This does not necessarily mean that training is unimportant, but rather that the

quality, relevance, continuity, and classroom applicability of ICT training may matter more than the number of sessions attended. Prasojo et al. (2020) similarly emphasized that ICT training becomes effective when it is well designed, contextually relevant, practical, and supported by follow-up mechanisms. Therefore, the DCP should prioritize sustained mentoring, hands-on workshops, collaborative learning, and follow-through support rather than relying only on training frequency.

Taken together, the findings show that the 155 teacher-respondents generally possessed high computer literacy skills, as reflected in the 20-item test mean of 17.716, median of 18, mode of 19, and standard deviation of 1.986, and they generally agreed that they were ready to use ICT tools and that technology was effective in improving classroom instruction. However, the results also revealed important gaps, particularly in troubleshooting, training exposure, resource availability, time for learning new tools, and keeping pace with technological change. The inferential results showed that gender was significantly related to computer literacy skill, $\rho = -0.173$, $p = .031$, while age, field of specialization, number of years in the academe, and number of ICT trainings were significantly related to perceived technology integration readiness, with reported values including $\rho = -0.165$, $p = .040$; $\rho = -0.173$, $p = .031$; $\rho = -0.187$, $p = 0.020$; and $\rho = 0.167$, $p = 0.038$. Significant differences were also found in computer literacy skill by gender, $p = 0.032$; computer literacy skill by age, $p = 0.004$; perceived readiness by age, $p = 0.025$; and computer literacy skill by years in the academe, $p = 0.003$. Meanwhile, no significant differences were found in perceived readiness by gender, $p = 0.452$; computer literacy skill and perceived readiness by field of specialization, $p = 0.131$ and $p = 0.203$; highest educational attainment, $p = 0.999$ and $p = 0.866$; grade level taught, $p = 0.413$ and $p = 0.565$; and ICT trainings attended, $p = 0.112$ and $p = 0.248$. These findings reinforce the need for a DCP-based ICT management training plan that is differentiated, competency-based, practical, sustained, and responsive to teachers' actual skill levels, readiness profiles, and contextual constraints, thereby providing a strong empirical basis for the next section of the manuscript.

CONCLUSION

The present study provides a comprehensive synthesis of teachers' computer literacy skills and their readiness to integrate technology in instruction, examined in relation to selected personal and professional characteristics. The findings reveal a nuanced pattern of relationships, indicating that certain demographic variables such as gender, age, and years of teaching experience are associated with specific dimensions of information and communications technology competence and readiness. However, other factors including educational attainment, field of specialization, grade level taught, and participation in ICT related training programs do not demonstrate a significant influence on these competencies. This pattern suggests that digital competence and readiness among teachers cannot be fully explained by demographic or professional background alone, thereby underscoring the complexity of ICT integration in educational contexts and the need to consider a broader range of influencing factors.

Moreover, the results highlight a notable distinction between actual computer literacy skills and perceived readiness to use technology. While teachers exhibit varying levels of proficiency in computer related tasks, their overall perceptions of readiness to integrate ICT into teaching remain relatively consistent. This indicates that confidence or perceived preparedness does not necessarily align with actual skill levels, which has important implications for the design and implementation of professional development programs. The findings collectively emphasize that effective ICT integration requires not only the enhancement of technical skills but also the alignment of these skills with pedagogical applications that support meaningful teaching and learning processes.

In light of these findings, the study advances several key recommendations aimed at strengthening ICT integration in education. It is recommended that the Department of Education Computerization Program reorient its training framework away from a uniform approach toward a competency based and differentiated model of professional development. Such an approach should address both foundational and advanced ICT skills, ensuring that training initiatives are responsive to the varying levels of teacher competence while fostering the practical application of these skills in instructional settings. Furthermore, sustained capacity building efforts should be prioritized through the implementation of regular hands on training sessions, structured mentoring programs, and collaborative Learning Action Cells that encourage peer learning and reflective practice.

In addition, policy directions should emphasize continuous professional growth by ensuring that the ICT competencies acquired by teachers are effectively translated into classroom practice. This may be achieved through the consistent provision of technological resources, ongoing technical support, and opportunities for teachers to reflect on and refine their use of ICT in pedagogy. Such measures will not only enhance individual teacher capability but also contribute to the development of a more adaptive and technology responsive educational system.

Finally, the successful completion of this study is attributed to the valuable support of various stakeholders. Sincere appreciation is extended to the officials of the Department of Education and the participating school personnel for granting permission to conduct the research, to Cebu Technological University and its Graduate School faculty for fostering a culture of academic inquiry and publication, and to the researchers' family and friends for their continued encouragement and support.

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