# Teachers' Computer Literacy and Learners' Performance in Edukasyong Pantahanan at Pangkabuhayan – Information and Communication Technology: Action Plan

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## ABSTRACT

This study investigated the computer literacy of public elementary teachers and its impact on their performance in Edukasyong Pantahanan at Pangkabuhayan within the Getafe 1 and Getafe 2 districts of Bohol during the school year 2023-2024. It aimed to profile teachers by age, gender, teaching experience, performance, and engagement in ICT training while assessing their computer literacy across various skills. The research employed a descriptive-correlational design, surveying 62 teachers. Findings revealed a significant correlation between the teachers' profiles, namely age, gender, teaching experience, and computer literacy. However, there was no notable difference in computer literacy when evaluating learners based on their IPCRF, ICT training, or DCP packages. Interestingly, gender differences among teachers were linked to learners' performance in EPP-ICT, but overall, teacher profiles remained consistent across several categories without influencing learner performance. In addition, the study found no significant relationship between teachers' computer literacy and students' EPP-ICT outcomes. The study concludes by recommending enhanced supervision in digitalization efforts within the educational system. It emphasizes the need for teacher training, ICT infrastructure improvements, and hands-on gadget usage for students to prepare them for 21st-century demands better.

**Keywords**: Computer Literacy, EPP-ICT, Learner's Performance

## INTRODUCTION

The Department of Education (DepEd) in the Philippines launched the National Strategic Planning Initiative for ICTs in Basic Education as part of a system-wide reform process to address the crisis in Philippine basic education. They have implemented various initiatives to encourage using ICT in schools, including computerization programs, teacher training, and curriculum development. However, the integration of ICT into actual classroom instruction remains a challenge. Results from the National Competency-Based Teachers Standards - Teacher's Strength and Needs Assessment (NCBTS-TSNA) revealed that teachers' skills in using ICT for teaching and learning are generally at a beginner level, hindering the full potential of ICT in the classroom. This gap may be attributed to teachers' limited ICT proficiency, insufficient training opportunities, and a need for adequate ICT resources.

This study aimed to close the gap by investigating the profile of the teachers that may affect their computer literacy skills, considering several factors that may hinder their competence in ICT. It also wanted to provide precise data on the level of computer literacy of the teachers handling Edukasyong Pangkabuhayan at Panatahanan (EPP) subject in Grades Four to Six in the Getafe 1 and Getafe 2 districts of Bohol Division. Hence, the researcher was motivated to determine the relationships between teachers' computer literacy levels and learners' performance in EPP-ICT in the fourth quarter of the school year 2023-2024.

## LITERATURE REVIEW

The 1987 Philippine Constitution Article XIV, Section 1 declares that the State shall protect and promote accessible to all. Since teachers are significant in education, investing in their continuous training and development is crucial. Enhancing teachers' skills and knowledge in the classroom is essential to ensure the

quality of teaching. This focus on professional growth and development directly impacts teachers' performance, enabling them to integrate educational technology effectively. Consequently, integrating ICT and technological skills enhances teachers' performance, thereby contributing to the overall quality of education.

When the Enhanced Basic Education Act of 2013, also known as Republic Act No. 10533, was enacted, one of its stipulations was Section 7, which pertains to Teacher Education and training. Due to the enhancement of the country's basic education program, there has consequently been a surge in demand for quality teachers, which must be met. These ensure that teachers are retrained to stay updated and aligned with the standards of the new curriculum. A school requires good teachers, so there is a need for ongoing updates and improvements in teacher capacity and capabilities.

Another DepEd circulation is the DO 78, S. 2010 – DepEd Computerization Program (DCP), which aims to transform education by making it accessible to all citizens. It focuses on providing public schools with the necessary technologies to enhance the teaching and learning process, addressing the computer deficiency in schools. The program supplies hardware and software components and basic troubleshooting training. The objectives of the DepEd Computerization Program include providing computer laboratory packages to public schools, establishing e-classrooms in elementary schools, distributing laptop units to mobile teachers, integrating ICT into the school system, improving the ICT literacy of learners, students, teachers, and school heads, and reducing the computer backlog in public schools.

Teachers' computer literacy has become an essential skill. The ability to effectively utilize technology in the classroom is no longer a luxury but a necessity for educators to engage students, deliver dynamic lessons, and prepare them for a future driven by technology. Moreover, Konan (2010), in his study on teachers' computer literacy, revealed significant differences based on gender, teaching experience, and education level. The study found that male teachers, those with more experience, and those with higher education levels exhibited greater computer literacy. Konan recommended implementing a standardized computer literacy program like the European Computer Driving License (ECDL), encouraging teachers to obtain certifications, and tailoring training programs to address specific needs. This research underscores the ongoing need for professional development to equip teachers with the technology skills necessary for effective teaching and learning in a digital age. In addition, his 2018 study revealed that men are better at using computers than women. Moreover, Salvan's (2020) study on the effect of the demographic profile of K-12 teachers on the learners' academic performance found no significant relationship between the performance of the learners and the teachers' demographic profile.

A Correos (2014) study found that teachers were aware and competent in general computer knowledge, file management, and word processing operations. They were skilled in performing individual computer tasks. Teachers were also moderately competent in communication, web, and presentation skills such as PowerPoint. However, while teachers were aware of the importance of system maintenance and security, they needed to be more competent in handling specific computer maintenance and security operations.

(Ghavifekr, S. *et al.* 2016) The key issues and challenges that were significant in teachers' use of ICT tools were limited accessibility and network connection, limited technical support, lack of practical training, A study by Onur *et al.* (2020) found a connection between students' 21st-century learning skills and educational technology competencies. Students who are good at using technology for learning tend to also be strong in 21st-century learning skills. The study also suggested that teachers should be educated to contribute to students' development of 21st-century skills and use the necessary technological elements effectively in their lessons. Moreover, the Alsong et al. (2019) study examined teacher practices in facilitating learning in Technology and Livelihood Education (TLE/EPP), and student performance was more substantial in practical work than in written assessments (written work and examinations). Although teachers' practices were balanced, student learning outcomes varied significantly. Furthermore, the study demonstrated a significant correlation between teacher skill application and student performance. This research provides valuable context for understanding the factors influencing learner achievement in EPP-ICT.

Learners in elementary demonstrated very satisfactory academic performance in TLE-ICT. According to Sugalan (2022), a study on the academic performance and competencies of Grade VI pupils in Technology and Livelihood Education (TLE) during the "new normal" found no significant relationship between academic

performance and competencies across four TLE areas (Home Economics, Agriculture, Industrial Arts, and ICT). While pupils demonstrated satisfactory academic performance, with Industrial Arts and ICT showing very satisfactory results, most displayed near-mastery competency levels in all four areas. These findings suggest a need for an action plan to improve the alignment between academic performance and competency development in TLE.

### Statement of the Problem

The main focus of this study was to examine the relationship between teachers' computer literacy and learners' performance in Edukasyong Pantahanan at Pangkabuhayan – ICT in Getafe 1 and Getafe 2 districts for the school year 2023-2024. This study would serve as the basis for district-based programs for teachers' professional growth and development. Specifically, this study sought to answer the following questions:

1. What is the profile of the school personnel in terms of age, gender, number of years of teaching experience, Individual Performance Commitment and Review(IPCRF rating 2023-2024), number of specialized ICT-related training attended, and Department of Education Computerization Program (DCP) Packages received?

2. What is the computer literacy level of the teachers in terms of General Computer Knowledge; File Management; System Maintenance and Security Knowledge; Word Processing Skills; Communication Skills; Web Skills; and Presentation Skills?

3. What is the learners' performance in Edukasyong Pantahanan at Pangkabuhayan – ICT?

4. Is there a significant difference between the profile of the teachers and, teachers' computer literacy level; learners' performance in Edukasyong Pantahanan at Pangkabuhayan – ICT?

5. Is there a significant relationship between teachers' computer literacy level and learners' performance in Edukasyong Pantahanan at Pangkabuhayan – ICT?

6. What program may be proposed based on the findings of the study?

### Null Hypotheses

1. There is no significant difference between the profile of the teachers and teachers' computer literacy level and learners' performance in Edukasyong Pantahanan at Pangkabuhayan – ICT.

2. There is no significant relationship between teachers' computer literacy level and learners' performance in Edukasyong Pantahanan at Pangkabuhayan – ICT.

## METHODOLOGY

### Design

This paper was quantitative, employing a descriptive correlation research design through collecting data from all the teachers handling Edukasyon Pantahanan Pangkabuhayan in elementary and learners' performance in Edukasyon Pantahanan at Pangkabuhayan – ICT of the Getafe 1 and 2 districts for the school year 2023-2024. Moreover, the study also adopted a correlational research approach to examine the relationship between the profile of the participating teachers and their computer literacy level and learners' performance in Edukasyon Pantahanan at Pangkabuhayan – ICT.

### Environment and Respondents

The study was conducted in the 12 public elementary schools of the Getafe I District and 11 elementary schools of the Getafe 2 District for the school year 2023-2024. Getafe is located in the Northern part of Bohol. It consisted of mainland barangays and island barangays.

The respondents of this study were the 30 elementary teachers of the Getafe 1 district and 32 elementary teachers of the Getafe 2 district in the school year 2023-2024. These teachers were chosen through purposive sampling, handling the Edukasyon Pantahan at Pangkabuhayan, a subject in grades 4 to 6. The inclusion criteria focused on full-time teachers in public elementary schools within the Getafe 1 and 2 districts.

**Instrument**

This study used descriptive statistics to analyze teachers' computer literacy data. The researcher used a survey questionnaire to gather data from the participating teacher respondents. The first and second part of the questionnaire was adapted from the Department of Education Computerization Program (DCP): Its Effectiveness and Problems Encountered in School Personnel's Computer Literacy by Mula *et al.* (2023), and the third part was a close-ended question on the average grade of the learners' performance in Edukasyon Pantahanan at Pangkabuhayan-ICT.

The survey questionnaire was composed of four parts. The first part of the instrument was done by soliciting information about the profile of the participating teacher respondents in terms of the profile of the school personnel in terms of age, gender, number of years of teaching experience, individual performance (IPCRF/OPCRF rating 2023-2024), number of specialized ICT related training attended; and DCP Packages received. The second part evaluated teachers' computer literacy level on (a) General Computer Knowledge, (b) File Management Knowledge, (c) System Maintenance and Security Knowledge, (d) Word Processing Skills, (e) Communication Skills, (f) Web Skills and (g) Presentation Skills – Powerpoint. The third part presented a close-ended question on the average grade of the learners' performance in Edukasyon Pantahanan at Pangkabuhayan-ICT in Grades 4 to 6 for the school year 2023-2024.

## RESULTS

This section sequentially shows the presentations, analysis, and interpretation of the data based on the results gathered on the teachers' computer literacy and learners' performance in Edukasyong Pantahanan at Pangkabuhayan (EPP) -ICT. This chapter also presents the data on the profile of the teachers in terms of age, gender, years in teaching, IPCRF Rating, number of ICT-related training attended and DCP Packages, the level of teachers' computer literacy in General Computer Knowledge, File Management; System Maintenance and Security Knowledge; Word Processing Skills; Communication Skills; Web Skills; Presentation Skills, the learners' performance in EPP-ICT, the data and interpretation for the significant difference between the profile of the teachers and their computer literacy level, and to learners' performance in Edukasyong Pantahanan at Pangkabuhayan –ICT, and the critical relationship between teachers' computer literacy level and learners' performance in Edukasyong Pantahanan at Pangkabuhayan – ICT.

**Profile of the learners**

The researcher used a percentage formula to solve the teacher profile. The learners' profiles were gathered to determine the age, gender, years in teaching, IPCRF Rating, number of ICT-related training attended, and DCP Packages.

**Table 1 Profile of the Teacher n = 62**

| Profile | Frequency (f) | Percentage (%) |
|---|---|---|
| **Age** | | |
| 58-65 | 1 | 1.61 |
| 50-57 | 6 | 9.68 |
| 42-49 | 11 | 17.74 |

| | | |
|---|---|---|
| 34-41 | 22 | 35.48 |
| 26-33 | 22 | 35.48 |
| **Gender** | | |
| Female | 54 | 87.10 |
| Male | 8 | 12.90 |
| **Years of Teaching Experience** | | |
| 25-30 | 6 | 9.68 |
| 19-24 | 10 | 16.13 |
| 13-18 | 11 | 17.74 |
| 7-12 | 19 | 30.65 |
| 1-6 | 16 | 25.81 |
| **Individual Performance (IPCRF)** | | |
| 4.500-5.000 (Outstanding) | 0 | 0 |
| 3.500-4.499 (Very Satisfactory) | 61 | 98.39 |
| 2.500-3.499 (Satisfactory) | 1 | 1.61 |
| 1.500-2.499 (Unsatisfactory) | 0 | 0 |
| Below-1.499 (Poor) | 0 | 0 |
| **Specialized ICT Related Training Attended** | | |
| 12-14 | 1 | 1.61 |
| 9-11 | 0 | 0 |
| 6-8 | 1 | 1.61 |
| 3-5 | 7 | 11.29 |
| 0-2 | 53 | 85.48 |
| **DCP Packages Received** | | |
| Laptop and Projector | 5 | 8.06 |
| Laptop | 21 | 33.87 |
| None | 36 | 58.06 |
| **Total** | **62** | **100** |

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Table 1 shows the teachers' age, gender, years of teaching experience, IPCRF rating, specialized ICT-related training attended, and DCP packages received. The data indicates that the majority of respondents are in the age groups of 34-41 and 26-33 years old, representing 34.38% (or 22 out of 62 respondents), while there are very few older teachers, with only 1.61% (1 out of 62 respondents) between 58-65 years old. This suggests that a large portion of the teacher respondents is relatively young, while older teachers are not well represented in this group. This discrepancy may point to a potential gap in the experience levels among the teaching staff, as the insights and knowledge of older educators may not be adequately represented in this sample. Moreover, in Kamaruddin's (2018) study on adult computer literacy, it was asserted that adults aged 26-36 are skilled at computer use. This means that younger adults are more computer-literate than older ones.

The table also shows that most of the respondents are females. 87.10% (54 out of 62) respondents are females, and only 12.90% (8 out of 62) are males. So, females make up the majority of the teachers. However, Konan (2010) found that male teachers, those with more experience, and those with higher education levels exhibited greater computer literacy. His study (2018) also supported that males are better at using computers than females. This indicates a potential relationship between teacher gender and computer literacy, showing a possible higher level of computer proficiency among male teachers despite their lower representation. Further analysis is needed to confirm this finding.

The data also reveals that the largest group of teachers has 7 to 10 years of teaching experience, making up 30.65% (or 19 out of 62 respondents). In contrast, only 9.68% (6 out of 62) have 25 to 30 years of experience. This indicates that most respondents are relatively experienced in teaching, which suggests they possess a broad understanding of effective teaching practices and classroom management. This experience can contribute to a more effective learning environment for students. Kini and Podolsky (2016) explain that more experienced teachers confer benefits to themselves, their colleagues, the school as a whole, and their own learners. This suggests that more experienced teachers provide additional benefits to their personal and professional advantages and the school community beyond increased learning for the learners they teach.

The table also shows the teachers' profiles based on their IPCRF ratings. Most respondents received a Very Satisfactory rating (between 3.500 and 4.499), accounting for 98.39% (61 out of 62). In contrast, only 1.61% (or 1 out of 62) received a Satisfactory rating (between 2.500 and 3.499). This indicates that most teachers performed very well in their teaching roles. Individual Performance Commitment and Review Form (IPCRF) is a tool used to assess teachers' performance and is part of the Results-Based Performance Management System (RPMS) established by DepEd Order No. 2, series of 2015. The RPMS is designed to manage, monitor, and measure performance while identifying human resource and organizational needs for continuous improvement. Moreover, according to Sheila B. Robinson (2018), evaluating teacher performance is important because it is linked to student learning. By evaluating teachers, their practice can be improved, leading to increased effectiveness and better student outcomes.

The data also shows that most respondents have received little training in ICT, with 85.48% (or 53 out of 62) reporting that they have completed only 0 to 2 training sessions. In comparison, only 1.61% (or 1 out of 62) have received between 6 to 8 or 12 to 14 training sessions related to ICT. This suggests that a significant number of teachers may lack the necessary training to integrate technology into their teaching practices effectively. According to Hatlevik and Arnseth (2017), teachers with higher levels of ICT-supportive leaders reported higher levels of perceived usefulness of computers, perceived learning outcomes for learners, and more frequent use of computers than teachers reporting lower levels of ICT-supportive leaders. This means that training is necessary for teachers to gain knowledge and improve their skills with the support of education leaders.

The data also shows the distribution of DCP packages among teachers in the school. It reveals that a majority, 58.06% (or 36 out of 62 respondents), did not receive any DCP packages. Meanwhile, 33.87% (or 21 out of 62) received laptops, and only 8.06% (or 5 out of 62) received both laptops and projectors. This indicates that the distribution of DCP packages is uneven among the teachers, and only a few schools benefit from these resources. The DepEd Computerization Program (DCP) aims to provide public schools with appropriate technology to enhance teaching and learning. However, according to Ismael (2021), the program only achieved 59.43% of its target, meaning not all schools received the same ICT packages.

**Teachers' Computer Literacy**

To determine their proficiency level, the teachers' computer literacy in terms of General Computer Knowledge, File Management, System Maintenance and Security Knowledge, Word Processing Skills, Communication Skills, Web Skills, and Presentation Skills is important.

**Computer Literacy Level of the Teachers (Overall) n = 62**

| Computer Literacy Level | Weighted Mean | SD | Descriptive Value | Interpretation |
|---|---|---|---|---|
| Word Processing Skills | 3.50 | 0.61 | Strongly Agree | Outstanding |
| File Management | 3.48 | 0.66 | Strongly Agree | Outstanding |
| General Computer Knowledge | 3.42 | 0.66 | Strongly Agree | Outstanding |
| Communication Skills | 3.37 | 0.65 | Strongly Agree | Outstanding |
| Presentation Skills | 3.36 | 0.74 | Strongly Agree | Outstanding |
| Web Skills | 2.97 | 0.72 | Agree | Very Satisfactory |
| System Maintenance and Security Knowledge | 2.95 | 0.76 | Agree | Very Satisfactory |
| Overall | 3.29 | 0.68 | Strongly Agree | Outstanding |

*Legend: 3.25 -4.00 Strongly Agree/Outstanding 2.50 – 3.24 Agree/Very Satisfactory*

*Legend: 1.75 – 2.49 Disagree/Fair 1.00 – 1.74 Strongly Disagree/Poor*

Teachers' computer literacy level regarding general computer knowledge shows that teachers were outstanding using the mouse to "drag" an item with the highest mean of 3.60, SD=0.59, while very satisfactory skills in running or operating programs using CD with the lowest mean of 3.13, SD=0.76. It reveals that teachers demonstrated an outstanding level of general computer knowledge, with a composite mean of 3.42, SD=0.66. This suggests that they were very comfortable with most basic computer skills. However, they showed slightly lower agreement regarding running programs from CDs. This could indicate a potential area for further training or development, as CD usage is less common nowadays.

Teachers' computer literacy level regarding file management shows that copying documents from hard disks to flash drives and vice versa has the highest mean of 3.65, SD=0.55, while the lowest was navigating file structures using Windows Explorer with a mean of 3.19, SD=0.76. The data reveals outstanding file management skills among teachers, with a composite mean of 3.48 (SD=0.66), indicating outstanding skills such as copying files, creating folders, and managing the recycle bin. However, the data suggests a need for further training in navigating file structures using Windows Explorer, as teachers show the lowest in this area. This highlights the importance of ongoing professional development to ensure teachers have the necessary skills to manage digital files effectively in today's technology-driven classrooms.

The computer literacy level of teachers in terms of system maintenance and security knowledge shows that the skills in removing unused programs using the add/remove function in Windows have the highest mean of 3.11, SD=0.81, while diagnosing and correcting common software and hardware problems using the offline self-help resources has the lowest mean of 2.65, SD=0.75. However, it reveals that teachers possess a very satisfactory level of System Maintenance and Security Knowledge, with a composite mean of 2.95 (SD=0.76). They demonstrate awareness of practices that can expose computers to virus risks. However, there are notable gaps in certain areas, particularly in diagnosing and correcting standard software and hardware issues using offline self-help resources. This indicates a clear need for further training and support to enhance teachers' abilities in

troubleshooting and maintaining system security effectively, ensuring they are better equipped to manage potential technical issues and safeguard their digital environments.

The computer literacy level of teachers in terms of word processing skills shows that teachers are outstanding in changing fonts, styles, sizes, and colors and in editing, copying, deleting, cutting, and pasting blocks of text, with the highest mean of 3.65, SD=0. However, it shows that using spell checking and proofreading has the lowest mean of 3.26, SD=0.70. Moreover, the data indicates that teachers exhibit outstanding word processing skills, with a composite mean of 3.50, SD=0.61. This suggests that while teachers possess a high level of overall word-processing abilities, enhancing their skills in proofreading could lead to more polished and error-free documents.

The computer literacy level of teachers in terms of communication skills indicates that skills in composing and sending email messages have the highest mean of 3.65, SD=0.55, with an outstanding level. However, the skills in using an electronic address book to store individual and group email addresses received the lowest mean of 2.97, SD=0.72, with a very satisfactory level of competency. Moreover, the table shows that teachers' computer literacy level in Communication skills is outstanding, with a composite mean of 3.34, SD=0.65. This also highlights an area for improvement, particularly in managing electronic contacts and enhancing email security, which could further strengthen their overall communication proficiency.

The computer literacy level of teachers in terms of web skills shows that proficiency in viewing documents from internet sites has the highest mean of 3.42, SD=0.64, with a very satisfactory level of proficiency. However, the knowledge of all web-related operations has the lowest mean of 2.56, SD=0.69. Moreover, teachers' computer literacy skills in terms of Web skills are very satisfactory, having a composite mean of 2.97, SD=0.72. This indicates that while teachers have foundational web skills, enhancing their understanding of web operations is essential for maximizing their effectiveness in navigating and utilizing online resources.

The computer literacy level of teachers in terms of presentation skills shows that being aware of the importance of powerpoint in teaching has the highest mean of 3.53, SD=0.65 with outstanding proficiency. In contrast, skills in navigating between slides and switching between different views have the lowest mean of 3.23, SD=0.82, with a very satisfactory level of proficiency. The data reveals that teachers possess outstanding presentation skills, with a composite mean of 3.36, SD=0.74. They demonstrate a high level of awareness of the importance of PowerPoint in teaching and strong abilities in various aspects of presentation creation. However, the lowest skills in navigating between slides and switching between views indicate a potential area for improvement. This suggests that while teachers are competent in many aspects of presentation skills, enhancing their navigation abilities could further elevate the quality and effectiveness of their presentations.

Teachers' overall computer literacy level indicates an outstanding proficiency. Their word processing skill has the highest Weighted mean of 3.50 (SD=0.61), followed by file management, general computer knowledge, communication skills, and presentation skills with an outstanding level. However, their knowledge of system maintenance and security has the lowest weighted mean = 2.95 (D=0.76), as well as web skills, which were categorized as very satisfactory, suggesting a need for improvement in these areas to ensure teachers are well-equipped to navigate the digital landscape effectively. This aligns with a study by Correos (2014), which noted that while teachers demonstrated awareness and competence in general computer knowledge, file management, and word processing, they were only moderately skilled in communication, web, and presentation skills. Furthermore, the study highlighted that although teachers recognized the importance of system maintenance and security, they lacked competency in executing specific maintenance and security operations. This indicates a critical area for professional development to enhance teachers' overall computer literacy.

**Learners' Performance in Edukasyong Pantahan at Pangkanuhatan-ICT**

Table 3 Learners' Performance in Edukasyong Pantahanan at Pangkabuhayan – ICT n = 62

| Grading Scale | Frequency (f) | Percentage (%) | Descriptor |
|---|---|---|---|
| 90 - 100 | 15 | 24.19 | Outstanding |

| | | | |
|---|---|---|---|
| 85 - 89 | 44 | 73.33 | Very Satisfactory |
| 80 - 84 | 3 | 4.84 | Satisfactory |

Table 3 illustrates the learners' performance in Edukasyong Pantahanan at Pangkabuhayan within the context of Information and Communication Technology (ICT). The data indicates that the majority, 73.33% (44 out of 62 respondents), demonstrated very satisfactory performance, and only a small percentage, 4.84% (3 out of 62 respondents), were classified as satisfactory. This suggests that most learners are performing very well in EPP-ICT, with their average grades falling within the range of 85-89, reflecting a strong understanding and application of the subject matter. This high level of achievement is consistent with Sugalan's (2022) findings, which also reported very satisfactory academic performance in ICT among Grade VI pupils in a similar context. The data strongly suggests a good understanding and application of the subject matter among the learners.

**Difference between the Profile of the Teacher and their Computer Literacy Level and the learner's Performance in EPP-ICT**

Determining the difference between the profile of the teacher and their computer literacy level is also important to know whether their profile affects their computer proficiency and the learners' performance in EPP-ICT.

Table 4. 1 Difference between the Profile of the Teachers and their Computer Literacy Level n = 62

| **Variable** | **Sum Square** | **Df** | ***α*** | ***Mean Square*** | ***F-value*** | **Pr (>F)** | **Interpretation** | **Decision** |
|---|---|---|---|---|---|---|---|---|
| Age<br>Residuals | 5.67<br>11.95 | 4<br>57 | .05 | 1.42<br>0.21 | 6.75 | <.001 | Significant | Reject $H_0$ |
| Years in Teaching Residuals | 3.47<br>14.14 | 4<br>57 | .05 | 0.87<br>0.25 | 3.50 | .012 | Significant | Reject $H_0$ |
| Individual Performance Residuals | <.001<br>17.62 | 1<br>60 | .05 | <.001<br>0.29 | <.001 | .986 | Not Significant | Do not reject $H_0$ |
| Training Attended<br>Residuals | 1.24<br>16.37 | 3<br>58 | .05 | 0.41<br>0.28 | 1.47 | .232 | Not Significant | Do not reject $H_0$ |
| DPC Package Received Residuals | 0.89<br>16.73 | 2<br>59 | .05 | 0.44<br>0.28 | 1.56 | .218 | Not Significant | Do not reject $H_0$ |

| **Variables** | **Mean** | **SD** | **df** | ***T*** | ***p-value*** | **Interpretation** | **Decision** |
|---|---|---|---|---|---|---|---|
| Gender and Competency Level | 0.87<br>3.29 | 0.54<br>0.33 | 61 | -30.00 | <.001 | Significant | Reject $H_0$ |

Table 4.1 shows the difference between the profile of the teacher and their computer literacy level. It means that there was a significant difference in computer literacy based on teacher age $F(4, 57) = 6.75$, $p < .001$, years of teaching experience $F(4, 57)=2.47$, $p =.012$), and gender $t(61)=-30.00$, $p<.001$. Therefore, the null hypothesis was rejected. In contrast, there was no significant relationship between computer literacy and IPCRF $F (1,60) <.001$, $p=.986$, ICT training attend $F (3, 58) =1.24$, $p=.232$, and DCP packages received $F (2, 59) = 0.89$, $p = .218$. Therefore, the null hypothesis was not rejected. This study reveals a significant correlation between

teachers' computer literacy and their profiles in terms of age, experience, and gender, indicating that factors beyond formal professional development initiatives significantly influence technological proficiency. This finding suggests that interventions aimed to improve teachers' computer skills should consider these demographic factors to ensure equitable access and effective implementation. Further research could explore how age, experience, and gender affect computer literacy among teachers.

The findings align with Konan's (2010) study on teachers' computer literacy, which revealed significant differences based on gender and teaching experience, indicating that male teachers and those with more experience exhibited higher levels of computer literacy. In addition, Konan (2018) emphasized that male teachers' computer literacy levels were consistently higher than their female counterparts. The findings in terms of age are consistent with Kamaruddin's (2018) research on adult computer literacy, which asserted that adults aged 26-36 are more skilled in computer use, suggesting that younger adults tend to be more computer-literate than older individuals.

This study's findings contrast with those of Ghavifekr *et al.* (2016), who identified limited accessibility, technical support, training, time, and teacher competency as significant challenges in ICT use. While some of these challenges persist, this research reveals that teachers demonstrate outstanding computer literacy despite reported deficiencies in ICT-related training, limited DCP provision, and IPCRF ratings. This suggests that many teachers were acquiring necessary skills through self-directed learning and experience, driven by the demands of their profession and modern society, a trend particularly accelerated by the pandemic's shift to distance learning.

Table 4. 2 Difference between the Profile of the Teacher and Learners' Performance in Edukasyong Pantahanan at Pangkabuhayan n = 62

| **Variable** | **Sum Square** | **df** | ***α*** | ***Mean Square*** | ***F-value*** | **Pr(>F)** | **Interpretation** | **Decision** |
|---|---|---|---|---|---|---|---|---|
| Age<br>Residuals | 53.42<br>318.56 | 4<br>57 | .05 | 13.35<br>5.59 | 2.39 | .061 | Not Significant | Do not reject $H_0$ |
| Years in Teaching<br>Residuals | 1.81<br>370.17 | 4<br>57 | .05 | 0.45<br>6.49 | 0.07 | .991 | Not Significant | Do not reject $H_0$ |
| Individual Performance<br>Residuals | 0.01<br>371.98 | 1<br>60 | .05 | 0.01<br>6.20 | 0.001 | .974 | Not Significant | Do not reject $H_0$ |
| Training Attended<br>Residuals | 4.88<br>367.10 | 3<br>58 | .05 | 1.63<br>6.33 | 0.26 | .856 | Not Significant | Do not reject $H_0$ |
| DPC Package Received<br>Residuals | 18.19<br>353.80 | 2<br>59 | .05 | 9.09<br>6.00 | 1.52 | .228 | Not Significant | Do not reject $H_0$ |

| **Variables** | **Mean** | **SD** | **df** | ***T*** | ***p-value*** | **Interpretation** | **Decision** |
|---|---|---|---|---|---|---|---|
| Gender and Learners Performance | 0.87<br>87.95 | 0.34<br>2.47 | 61 | -271.93 | <.001 | Significant | Reject $H_0$ |

Table 4.2 illustrates the difference between teacher profiles and learners' performance in Edukasyong Pantahanan at Pangkabuhayan-ICT. The analysis indicates that there is no significant difference related to teachers' age

F(4,57)=2.39, *p*=0.61, years of teaching experience F(4,57) 0.07, *p*=.991, individual performance ratings F(1,60)=0.001, *p*=.974, ICT training attended F(3,58)=0.26, *p*=.856, or DCP packages received F(2,59) =1.52, *p*=.228 and the learners' performance in EPP-ICT. As a result, the null hypothesis for these variables is not rejected. Conversely, the findings revealed that there is a significant difference in learners' performance based on gender, with a mean score of 87.95 (SD=2.47), t(61) = -271.93, *p* =<.001. Consequently, this variable's null hypothesis is rejected, indicating that gender significantly influences learners' performance in EPP-ICT. Analysis of teacher profiles and student performance in EPP-ICT revealed no significant relationship between teacher profile and student achievement, except for a substantial gender gap favoring female teachers. The study concludes that while teacher profiles, including age, experience, performance ratings, ICT training, and DCP packages, do not significantly impact learners' performance in Edukasyong Pantahanan at Pangkabuhayan-ICT, a significant gender difference in learners' performance was observed. Moreover, the results revealed that female teachers performed better than male teachers in Edukasyong Pantahan at Pagkabuhayan-ICT. Given the unequal representation of male and female teachers in the study, further research is crucial to determine the underlying reasons behind this gender gap. The findings contrast with Salvan's (2020) study on the effect of the demographic profile of K 12 teachers on the academic performance of the learners, which found that there is no significant relationship between the performance of the learners and the teachers' demographic profile.

Relationship Between Teachers' Computer Literacy Level and Learners' Performance in Edukasyong Pantahanan At Pangkabuhayan – ICT

Determining the relationship between teachers' computer literacy and student performance in Edukasyong Pantahanan At Pangkabuhayan – ICT is crucial because it helps understand how teacher computer literacy influences student performance; educators can create more effective teaching strategies and ensure that students are equipped with digital skills necessary for success in a technology-driven world.

Table 5 Relationship Between Teachers' Computer Literacy Level and Learners' Performance in Edukasyong Pantahanan At Pangkabuhayan – ICT n = 62

| **Variables** | **df** | ***α*** | ***r*** | ***p*-value** | **Interpretation** | **Decision** |
|---|---|---|---|---|---|---|
| Teachers' Computer Literacy Level and Learners' Performance in Edukasyong Pantahanan At Pangkabuhayan – ICT | 60 | .05 | .20 | .113 | Not significant | Do not reject $H_0$ |

Table 5 represents the relationship between teachers' computer literacy level and learners' performance in EPP-ICT. It shows no significant positive correlation r(60)=.20,*p*=.113. Thus, the null hypothesis is not rejected. This means that while slightly higher teacher literacy might correlate with slightly better student performance, the relationship isn't strong enough to be statistically significant. Therefore, there is no significant relationship between the two variables. As Alson's 2019 study on TLE highlighted, other factors likely play a more substantial role in student achievement, including teaching methods and assessment types. Therefore, improving teacher computer literacy alone may not significantly improve EPP-ICT outcomes.

Other factors, such as practical pedagogical approaches that integrate technology meaningfully into the curriculum, sufficient technological resources, appropriate assessment methods that capture technology's impact, and individual student characteristics, likely play a more substantial role. Increasing teacher computer literacy without addressing these mediating variables may not significantly enhance EPP-ICT learning outcomes.

Moreover, Simin Ghavifekr's study on ICT Integration In Education: Incorporation for Teaching & Learning Improvement found that most teachers are merely normal users of ICT, frequently utilizing it for personal work in staff rooms rather than classroom instruction. The research emphasizes equipping teachers with sufficient ICT skills and a positive outlook for effectively using ICT to improve student learning. Future research should broaden its scope to include the management perspective, focusing on strategic planning and policy related to ICT integration in education.

## DISCUSSION

After a thorough analysis of the study, the researcher came up with the following findings:

1. Majority of the respondents aged 26-41 70.96%, composed of females 87.10% with over six years of experience, received a very satisfactory rating in IPCRF 98.39%, but experienced unequal access to ICT training which 85.48% revceives 0-2 trainings, and 58.06 % did not received DCP packages.

2. The majority of the respondents were outstanding in computer literacy Skills with a weighted mean of 3.29, SD=0.68. They were outstanding in general computer knowledge with a mean of 3.42, SD=0.66, file management with a mean of 3.48, SD=0.66, word processing with a mean of 3.50, SD=0.61, communication with a mean of 3.37, SD=0.65, presentation skills with a mean of 3.36, SD=0.74, and very satisfactory system maintenance and security knowledge with a mean of 2.95, SD=0.76, and web skills with a mean of 3.36, SD=0.68.

3. Most of the learners 73.33% have very satisfactory performance in Edukasyong Pantahanan at Pangkabuhayan in the Information and Communication Technology component.

4. There was a significant difference in the profile of the respondents in terms of age $F(4,57)=6.75, p<.001$, years of teaching experience $F(4,57)=2.47, p=.012$, gender $t(61)=-30.00, p<.001$, and their level of computer literacy. Therefore, the null hypothesis is rejected. Moreover, there was a significant difference between the profile of the teachers in terms of gender and the learners' performance in EPP-ICT with Mean=87.95, SD=2.47, t (61) -271.93, $p=<.001$. Thus, the null hypothesis is rejected.

5. There was no significant relationship between teachers' computer literacy and learners' performance in EPP-ICT r (60) =.20, $p=.113$. Therefore, the null hypothesis is not rejected.

## CONCLUSION

Teachers of Getafe 1 and 2 Districts handling Edukasyon Pantahanan at Pangkabuhayan in elementary received a very satisfactory performance and demonstrated outstanding computer literacy skills. However, a significant inequity in access to ICT training and resources may hinder the effective transfer of teacher expertise to student outcomes. Teachers' computer literacy does not significantly impact students' academic performance in Edukasyong Pantahan at Pangkabuhayan. Factors beyond teacher computer literacy may influence student outcomes in this subject area. It indicates that having a high level of computer proficiency among teachers does not guarantee improved learner performance, implying that other elements such as teaching methods, curriculum design, student engagement, teachers' training, and ICT resources might play a more critical role in student success. Therefore, targeted professional development and a holistic approach are essential for improving teacher effectiveness and student success in ICT.

## RECOMMENDATIONS

Based on the findings and conclusions, the following recommendations are forwarded:

1. The Department of Education may consider implementing comprehensive and mandatory ICT training programs for all teachers, ensuring equitable access to resources tailored to varying expertise levels. Additionally, a transparent system for the equitable distribution of DCP Packages should be established to guarantee that every teacher has essential technology.

2. The Department of Education, whether in national, regional, or district, may strive to continue providing relevant training and workshops for teachers on the latest trends in Information and Communication Technology to sustain the outstanding level of computer literacy.

3. Teachers may use a data-driven approach, analyzing student data to identify ICT skill gaps and providing targeted support, including professional development on effective ICT integration strategies and access to relevant resources, while conducting ongoing research on effective EPP-ICT teaching strategies.

4. The school administrators may investigate the influence of teacher gender on student performance, implement stratified professional development based on teacher age, experience, and computer literacy, and explore additional factors beyond IPCRF ratings, training, and DCP access to student achievement.

5. Teachers are recommended to explore alternative factors influencing student outcomes beyond their computer literacy, such as teaching methodologies, student engagement strategies, curriculum effectiveness, and ICT integration, while also considering targeted professional development programs that foster effective instructional practices.

6. The design action plan may be implemented to cater to the needs of the teachers in computer literacy and improve learners' performance in Edukasyong Pantahanan at Pangkanuhayan in the ICT component.

**The Proposed Action Plan**

**Rationale**

Information and Communication Technology (ICT) has become the most fundamental building block of modern industrial society in a very short time. In the educational field, ICT has become very useful. The demand for instruction among teachers has been increasing at a fantastic rate. ICT encompasses many tools, including computers, software, networks, and satellite systems, that empower individuals to access, analyze, create, share, and utilize data, information, and knowledge virtually limitlessly.

ICT improves teaching and learning, and teachers must perform their role as creators of pedagogical environments. ICT helps teachers present their lessons attractively to enable the learners to learn at any level of educational programs. ICT helps to keep pace with the latest developments with the help of different technologies.

The world is rapidly changing regarding information communication and technology (ICT). The role of the 21st-century teacher has had to adapt accordingly to fit and exist within the said changes in the classroom. Therefore, the modern-day teacher must be highly computer literate to help learners fit nicely into modern society.

**Objectives**

The following objectives guide this action plan:

1. Develop and design contextualized learning-enhancement activities that will fit and align with the needs of the teachers to improve their computer literacy level.

2. Maintain and maximize students' learning outcomes through training, contest participation, and report assessment.

3. Improve schools' ICT physical facilities through restructuring computer laboratories, inventory of ICT equipment, and procurement of ICT equipment for learning purposes.

**Mechanics of Implementation**

With the approval from the examining panel of this proposal, the researcher will provide copies to the Getafe 1 and 2 districts.

The researcher will explain thoroughly the intent and mechanics of the program at the district administrators' meeting by presenting and providing copies of the results of the study. Their feedback and suggestions are highly encouraged to implement the designed action plan better.

**Schedule of Implementation**

The program implementation depends on the approval and recommendation of the Getafe Districts Administrators. It may done and included in the in-service training of the teachers.

**Monitoring and Evaluation**

The program shall be evaluated and monitored regularly through the checklist conducted by the school head to determine the implementation's strengths and weaknesses and address the areas of improvement.

| **Objective 1: Develop and design contextualized learning-enhancement activities that will fit and align with the needs of the teachers to improve their computer literacy level.** | | | | | |
|---|---|---|---|---|---|
| **Strategies** | **Activities** | **Person(s) Responsible** | **Timeline(s)** | **Evaluation/Success Indicators** | **Proposed Budget** |
| Send teachers to training and seminars. | Conduct Division or District training, seminars, and LAC sessions on strategies and techniques for teaching ICT. | Division Personnel, Disct Administrators, and Teachers | June 2025 to April 2026 | M & E Attendance Accomplishment Report | 10,000.00<br>MOOE |
| Assess teachers' computer literacy levels | Provide a self-evaluation tool and hands-on activities on assessing strengths and weaknesses in computer skills | School Administrators and Teachers | June 2025 to April 2026 | Self-assessment output<br>Accomplishment report by school | 2,000.00<br>MOOE |
| Provide coaching and training courses on ICT | Provide training sessions on enhancing ICT skills | School Administrators, Master Teachers, School ICT Coordinators | June 2025 to April 2026 | L&D signed by SDS,<br>Program Completion Report | 10,000.00<br>MOOE |
| Maintain and improve teachers' performance. | Provide technical assistance to teachers in maintaining and improving aid. | School Administrators, Master Teachers, School ICT Coordinators | June 2025 to April 2026 | Number of teachers given TA, Quarterly Reports, Classroom Observation | 5,000.00<br>MOOE |

Proposed Action Plan for Developing and Designing Contextualized Activities to Maximize Teachers' Computer Literacy and Learners' Performance in Edukasyong Pantahan at Pangkabuhayan in Information and Communication Technology

| **Objective 2: Maintain and maximize students' learning outcomes through training, contest participation, and report assessment.** | | | | | |
|---|---|---|---|---|---|
| **Strategies** | **Activities** | **Person(s) Responsible** | **Timeline(s)** | **Evaluation/Success Indicators** | **Proposed Budget** |
| Maintain and enhance learning performance. | Conducted remedial classes on the least learned competencies and provided hands-on experience.<br>Send learners to different competitions in EPP-ICT | School Administrators, Teachers, Learners | June 2025 to April 2026 | M & E Attendance Accomplishment Report | 10,000.00<br>MOOE |

| | | | | | |
|---|---|---|---|---|---|
| Track learner's progress through quarterly report assessment | Conduct quarterly school monitoring and evaluation assessments during LAC sessions | School Head, Teachers, SMEA Coordinator | June 2025 to April 2026 | Accomplishment report by school | 2,000.00<br>MOOE |

| **Objective 3: Improve schools' ICT physical facilities through restructuring computer laboratories, inventory of ICT equipment, and procurement of ICT equipment for learning purposes.** | | | | | |
|---|---|---|---|---|---|
| **Strategies** | **Activities** | **Person(s) Responsible** | **Timeline(s)** | **Evaluation/Success Indicators** | **Proposed Budget** |
| Restructuring of computer laboratories | Include the computer laboratory or computer room infrastructure in the school's APP. | School Administrators, Teachers | June 2025 to April 2026 | Schools' Computer Laboratory/room | 50,000.00<br>MOOE |
| Procurement of ICT equipment | Conduct an inventory of the ICT equipment received from the DCP program and the facilities procured in the school.<br>Include in the APP the needed ICT equipment in the school | School Head, Teachers, | June 2025 to April 2026 | ICT equipments like internet, laptops/computers | 50,000.00<br>MOOE |
| Technology Integration | Maximize the usage of ICT equipment and technologies in teaching across all subjects by providing hands-on activities to learners and administrative tasks among teachers. | School Administrators, Teachers, Learners | June 2025 to April 2026 | Online Platforms for e-learning | 10,000<br>MOOE |

Budgetary Requirement for Learning-Enhancement Activities to Maximize Teachers Teachers' Computer Literacy and Learners' Performance in Edukasyong Pantahanan at Pangkabuhayan -ICT

| Item Expenditure | Quantity | Cost | Amount |
|---|---|---|---|
| A. Dissemination of the results of the study (May 2025) | | | |
| Materials and Supplies | 5 reams of bond paper | P 1,000.00 | P 1,000.00 |
| | 1 set Epson Ink | P 1,200.00 | P 1,200.00 |
| B. Budget for Teachers' Training, LAC Sessions, and Learners Assessment | | | |
| Materials and Supplies | 5 reams of bond paper | P 1,000.00 | P 1,000.00 |
| | 1 set Epson Ink | P 1,200.00 | P 1,200.00 |
| | Food | P20,000.00 | P20,000.00 |

| | | | |
|---|---|---|---|
| C. Application and Feedbacking (Quarterly) | | | |
| Materials and Supplies | Covered by MOOE Budget | | |
| C. Monitoring and Evaluation | | | |
| Materials and Supplies | Covered by MOOE Budget | | |
| Total | | | P 24,400.00 |

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