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Research Article

Department of Education Computerization Program (DCP): Its Effectiveness and Problems Encountered in School Personnel's Computer Literacy

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ABSTRACT

The DepEd Computerization Program (DCP) is a nationwide initiative to provide public elementary schools with computers and other ICT equipment to enhance the teaching and learning process. However, the effectiveness of this program and its impact on the computer literacy level of school personnel have yet to be fully explored. This study attempted to fill this gap by examining the perceptions of the school personnel of public elementary schools in the Bohol Division of the Department of Education about the DCP implementation and its relation to their computer literacy level and the problems they encountered in using the ICT equipment in the school year 2020–2021. The study also investigated the influence of the school personnel's profile on their computer literacy level and the problems they encountered. Results revealed that the DepEd Computerization Program (DCP) is highly effective, and the computer literacy of school personnel is very satisfactory. There is a significant relationship between the effectiveness of DCP and the problems encountered by school personnel. The computer literacy of school personnel is also significantly related to their years of teaching, specialized training attended, and age. The problems encountered by school personnel are significantly related to their age, gender, years of teaching, specialized training attended, IPCRF rating and DCP packages received. The study concludes that the implementation of DCP and the computer literacy of school personnel are congruent based on the data gathered, despite the problems encountered.

Keywords*: Computer Literacy, DCP, Problems Encountered*

Introduction

Integrating technology into pedagogical practices has become increasingly widespread in contemporary education systems. Information and Communications Technologies (ICTs) are widely recognized as essential tools for enhancing the quality of education by facilitating access to information and knowledge resources, leading to pedagogical innovation and improvement in modern societies (Anyim,

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2018). This presents a multitude of opportunities for both educators and learners.

According to Correos (2014), 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. The National Framework Plan for ICT in Basic Education was formulated through round table discussions and consultative meetings with various agencies and organizations. This plan established parameters, goals, and strategies for integrating ICT into Philippine Basic Education and aimed to address the genuine needs of the public school teaching and learning system.

Despite efforts to promote ICT integration through the school computerization program, teacher training, IT curriculum development, and multimedia content development, DepEd still needs to work on ICT-based instruction. Results from the National Competency-Based Teachers Standards - Teacher's Strength and Needs Assessment (NCBTS-TSNA) show that teachers' skills in using ICT for teaching and learning are at a beginner level, limiting ICT integration in the classroom. This may be due to low ICT competence among teachers, insufficient ICT-based training, and limited ICT resources.

Notably, DepEd has implemented a Computerization Program to provide public schools with technologies to enhance teaching and learning and meet 21st-century challenges. The program aims to provide responsive ICT packages to public schools, integrate ICT into teaching and learning, increase ICT literacy among learners, teachers, and school heads, and reduce the computer backlog in public schools.

Globally, technology is being used in schools to support learning. The need for technology in education is more apparent than ever as teachers and learners require access to education during times of crisis. Implementing the Computerization Program is, therefore, beneficial to the education system. In the Philippines, ICT packages have already been delivered and installed in all public schools as part of the program's implementation.

Considering the aims and objectives of DCP, the researcher was motivated to conduct this study to determine the perceptions of school personnel on the effectiveness of DepEd's computerization program (DCP) and any problems they encountered with their computer literacy in elementary schools in the Department of Education-Bohol Division. The results will optimistically provide guidance to the national leaders that serious, profound, and meaningful training for the school personnel in relation to the DepEd Computerization Program are highly required. In doing so, leaders in local settings will produce competitive teachers and learners equipped with a strong foundation in technical skills.

Literature Background

When incorporating technology into schools, school administrators and teachers must remember that education and technology go hand in hand. They must keep in mind that the learners depend on them. Further, any school's success and achievement of its goals and objectives depend on the leadership skills of its leader. Thus, in relation to technology integration, school administrators must be computer literate as part of their technology leadership skills. Schools and learners need these skills from the administrators, as well as the teachers.

Several researchers have defined technology leadership skills as organizational decisions, policies, or activities that enable the effective use of information technology in schools throughout the last decade. Perhaps, it is the most crucial factor in the effectiveness of technology integration in education (Raman & Thannimalai, 2019). School administrators must possess these skills, especially when technology is the primary source of communication between teachers and learners. It is the best time to apply and develop their leadership skills as well concerning the utilization of technology.

School administrators' leadership skills can be based on various leadership theories, such as the Contingency Theory of Leadership. Developed by Fred Fiedler in 1960, this theory highlights the importance of context in effective leadership and suggests that there are only so many best sets of leadership traits or actions. Instead, Fiedler believes that a leader's

style is fixed, and they should be placed in situations that match their personality. In other words, a leader's success depends on how well their leadership style fits a particular situation (Benmira & Agboola, 2021).

Thus, to increase the likelihood of being an effective leader, evaluating each situation and determining if one's leadership style will be successful is essential. This requires the leader to possess certain qualities, such as self-awareness, objectivity, and adaptability. Self-awareness allows leaders to understand their strengths and weaknesses, while objectivity enables them to assess situations impartially. Adaptability allows leaders to adjust their approach as needed to achieve the best outcome. By possessing these qualities, leaders can increase their chances of being productive and effective in various scenarios.

The size of a leader's team, the scope of a project, and the anticipated delivery date for results are just a few variables that can affect how well they perform at work. Leaders may respond differently to these variables depending on their leadership style. Contingency theorists suggest that even the most skilled leaders will encounter challenging situations. As such, leaders must recognize that their environment and abilities partly determine their success. Leaders may need to adapt their leadership style to the current situation to effectively lead their team or delegate some leadership tasks to a colleague. This means that school administrators must be able to adapt to changes in the education system to ensure educational continuity for teachers and learners. This includes being computer literate and embracing new trends in education.

Effective leadership by school administrators can result in more effective teachers in the workplace. A teacher is considered effective if they possess abilities gained through experience. Katz's (1955) Skills Theory suggests that learned knowledge and skills are crucial for becoming an effective teacher. While innate characteristics are important, developing skills is essential for effectiveness. The professional development of a teacher is based on this principle. Effective teachers possess certain traits or abilities that enable them to perform various tasks within an organization, including the ability to carry out responsibilities while avoiding crises and resolving difficulties quickly. These abilities can be developed through education and hands-on experience. Learned skills allow teachers to communicate effectively with their leaders and colleagues, facilitating smooth operations within the organization.

In an era where adapting to new trends in education is essential, the learned skills of teachers are crucial. Trainings, workshops, seminars, and personal experiences can help teachers provide quality education despite the challenges they face. These learned skills, such as computer literacy, can be applied to solve existing problems. With the collaborative efforts of school administrators and teachers who possess these skills, quality education is achievable.

Furthermore, if leaders can adapt, it stands to reason that teachers and learners can as well. According to Mesirow's (2003) Transformative Learning Theory, teachers and learners can adjust their thinking based on new information. As we learn more, our worldview changes, making it easier to accept new ideas and concepts. By acquiring new information that helps them reevaluate previous beliefs, teachers and learners can make significant educational shifts beyond traditional learning. Teachers can facilitate this process by encouraging learners to explore new perspectives while questioning existing assumptions and engaging in discussions to reinforce their new ideas.

Despite the unexpected pandemic that has completely transformed the education system, education cannot be stopped. While challenges and problems have arisen due to the transition from traditional classes to the new normal, these are not sufficient reasons for learning opportunities to cease. Teachers and learners have the ability to adapt to new changes in line with the principles of transformative learning.

In addition to theoretical approaches, there are studies that examine the use of technology in schools and the effectiveness of computer literacy and technology-related programs. According to a study by Oznacar and Dericioğlu (2016), school administrators possess the mo-

tivation, creativity, knowledge, and skills necessary to effectively use technology and suggest that technology is an integral part of daily life. Training and experience in using ICT can make an individual knowledgeable and skilled. However, it can be difficult for educators to focus on complex technological concepts such as outsourcing the maintenance and repair of technological tools. It would be beneficial for schools to have a computer teacher who can assist with serious technical issues. Oznacar and Dericioğlu also found that administrators reported a lack of technological infrastructure and setup in schools, as well as a shortage of technical staff to resolve technical issues.

To address these problems, school administrators and teachers need computer literacy and skills. This is supported by a study by Quidasol (2020), which found that school administrators generally performed their functions and duties fairly well, particularly in terms of support, management skills, and operations. The study suggests that trained and experienced school administrators may exhibit skillful leadership and become effective and efficient administrators. Being computer literate can lead to well-organized and effective school administrators and teachers.

A study by Arumugam Raman and Raamani Thannimalai (2019) found that school administrators who inspire school vision and effective technology integration while providing continuous professional development are most effective in influencing teachers to integrate and use technology. The study suggests that administrators should be trained in digital age learning culture and digital citizenship, as these areas showed the lowest performance index value. Gender was not found to be a moderating factor between professional development and technology integration. The study recommends that professional development in ICT be provided without gender bias to both male and female leaders in line with future generations.

In the case of teachers, a study by Liisa Ilomäki and Minna Lakkala (2018) suggests that teachers should develop their ICT competence by utilizing training resources. Digital resources should be evaluated and developed, and the digital competence of both pupils and teachers should be improved through pedagogical practices, training, and support. Mishra and Koehler (2006), cited by Husain (2016), argue that technological, pedagogical, and content knowledge are essential for the successful integration of ICT in education. Teachers need to develop their ICT skills in developing and presenting information, preparing ICT-based learning environments, using ICT as a didactical tool in the classroom, and demonstrating knowledge and skills for using technology ethically, legally, and safely.

A study by Correos (2014) 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 skills, web skills, and presentation skills such as PowerPoint. However, while teachers were aware of the importance of system maintenance and security, they were not competent in handling specific computer maintenance and security operations.

In a study on the implementation of the Department of Education Computerization Program by Tuazon (2019), the data showed that teachers with sufficient ICT training and graduate or postgraduate studies were able to effectively utilize the equipment provided by the program. This suggests that the effectiveness of technology-related programs such as the Department of Education Computerization Program depends on adequate preparation and training for teachers, as well as personal experience in using technology.

According to Tuazon, school administrators support the implementation of the DCP in terms of integrating ICT into the school system. This suggests that the school heads of DCP recipient schools are extending their support for the use of the provided equipment to achieve its intended purpose. Additionally, teachers and school administrators are not solely reliant on the equipment provided by the DCP. They are actively working to improve the program itself to provide the best possible service to learners and stakeholders.

In terms of learners, Okan (2016) suggests that developing computer skills is necessary for

learners to succeed in their academic and career pursuits. This indicates that being literate in the use of technology can have a significant impact on learners. These studies show that not only do school administrators need meaningful and in-depth training, but teachers and learners also require such training. This aligns with the department's goal of providing quality education as mandated by the constitution.

The 1987 Constitution of the Philippines, Article XIV, Section 1, states that "the State shall protect and promote the right of all citizens to quality education at all levels." This provides an opportunity for every Filipino to become globally competent. The Department of Education aims to provide quality education to all as part of this effort. Republic Act No. 9155, Section 3, states that the State shall ensure that schools and learning centers receive the focused attention they deserve. This may be why DepEd implemented the computerization program in public schools nationwide. DepEd Order No. 78, series of 2020, states that the DepEd Computerization Program (DCP) aims to provide public schools with appropriate technologies to enhance the teaching-learning process for both learners and teachers.

DepEd Order No. 01, series of 2007, states that DepEd has initiated and implemented ICT programs in basic education to raise ICT literacy among learners, teachers, and school heads by integrating ICT into the school system. This includes providing laboratory packages to secondary schools and electronic classrooms to elementary schools. In response to current challenges in basic education, DepEd Order No. 12, series of 2020, states that the Department of Education has developed a Basic Education Learning Continuity Plan. This plan seeks to ensure that learners' learning progresses even during disasters such as natural calamities, storms, fires, and pandemics by using innovative teaching and learning methods to overcome obstacles created by these disasters.

The integration of ICT into the curriculum can greatly benefit the teaching and learning process. This includes the development of multimedia instructional materials and ICT-enabled assessments, intensifying competency-based professional development programs, establishing the necessary ICT infrastructure and applications, and developing processes and systems to ensure efficient, transparent, and effective governance in schools.

The DepEd Computerization Program has been implemented in a timely manner in the Philippine education system, with a gradual and ongoing integration of technology into education. This study aims to determine the perceptions of school personnel on the effectiveness of the DepEd Computerization Program in improving their computer literacy levels in elementary schools within the Department of Education - Bohol Division. The researcher intends to design an enrichment plan to enhance the program's effectiveness and efficiency for educators, learners, and parents.

The Problem

Statement of the Problem

This study determined the perception of the school personnel on the effectiveness of DepEd Computerization Program (DCP) and problems encountered to their ICT literacy level in all public elementary schools of Department of Education – Bohol Division in school year 2020-2021.

Specifically, the study sought to determine the following:

1. What is the profile of the school personnel in terms of:
   - 1.1 age;
   - 1.2 gender;
   - 1.3 number of years of teaching experience;
   - 1.4 individual performance (IPCRF/OPCRF rating 2020-21);
   - 1.5 number of specialized ICT related trainings attended; and
   - 1.6 DCP Packages received?
2. What is the level of effectiveness of DepEd Computerization Program as perceived by the school personnel in the aspects of:
   - 2.1 integration of ICT in teaching-learning process;
   - 2.2 raising of the ICT literacy to the learners, teachers, and school heads; and
   - 2.3 ICT packages distribution?
3. What is the computer literacy level of the school personnel on the implementation of DepEd Computerization Program in terms of:

3.1 general computer knowledge;
3.2 file management knowledge;
3.3 system maintenance and security knowledge;
3.4 word processing skills;
3.5 communication skills;
3.6 web skills; and
3.7 presentation skills (PowerPoint)?

4. What is the level of seriousness of problems encountered on the implementation of the DepEd Computerization Program in school?
5. Is there a significant relationship between the level of effectiveness of DepEd Computerization Program as perceived by the school personnel to:
   5.1 their computer literacy level; and
   5.2 problems encountered?
6. Is there a significant relationship between the profile of the school personnel to:
   6.1 their computer literacy level; and
   6.2 problems encountered?

Methods

Design

Considering the main purpose of the study, descriptive survey research was used. A survey is to be used to collect the data from all the school administrators and Kindergarten to Grade Six teachers in elementary schools of the Division of Bohol for school year 2020-2021.

Environment and Participants

The study was conducted to all school administrators and Kindergarten to Grade 6 teachers in elementary schools of the Bohol Division. There were 282 schools with the total of 1,224 school personnel as the respondents of the study. In choosing the school to be part of the study, random sampling was used. In choosing the number of school personnel per school, stratified sampling was used. Moreover, to determine the number of sample size, Cochran formula of finite population was used, using the 99% confidence level, 3% margin of error and 50% degree of variability. Thus, the following table shows the number of participants.

Table 1. Matrix of Distribution of Respondents

	Population	Sample Size
Congressional District 1	386	381
Congressional District 2	408	398
Congressional District 3	430	417
Total	**1,224**	**1,196**

Instrument

Through the quantitative component of this study, descriptive statistics was used to understand the data that may determine the school administrators and teachers' computer literacy. The researcher will use a survey questionnaire to gauge the views of the school administrators and instructors in terms of their computer literacy level.

The first and second part of the questionnaire which are researcher-made was crafted with the guidance of the adviser and statistician; the third part is adapted from Computer Literacy Self-Assessment Tool earlier developed by Postgraduate Diploma in Technology for Language Learning (PGDip TELL) which was used by Carl Correos (2014) in his study to assess the extent of English teachers' ICT literacy level; and the fourth part is adapted from the study of Tuazon (2019) which is about the implementation of DCP for the Indigenous People.

On the first part, it is about the profile of the school personnel (A. Gender; B. Number of years of experience; C. Individual rating (IPCRF/OPCRF); D. Number of Specialized trainings attended); and E. DCP Packages received in school. The second part is composed of 30 items divided into 3 categories namely; A. Integration of ICT in Teaching-Learning Process, B. Raising of ICT Literacy to the learners, Teachers and School Heads, and C. ICT packages

distribution. On the third part, it is also composed of 70 items divided into 7 categories namely: 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); and the fourth part is composed of 20 perceptions on the problems encountered in the implementation of DCP. Part two, three and four use a four-point Likert scale to determine the perception of the school personnel on the effectiveness of DepEd Computerization Program; school personnel's computer literacy level; and problems encountered in the implementation of DCP.

Procedure

In conducting this study, the researcher gathered the data with the use of survey questionnaires. On the level of effectiveness of the DepEd Computerization Program as perceived by the school personnel, the survey questionnaires was formulated by the researcher with the guidance of the adviser and statistician. The researcher conducted a pilot testing for the questionnaires. Pilot testing was done to the 30 respondents and treated with the guidance of statistician.

On the other hand, on the computer literacy level of the school personnel, a survey questionnaire was adapted from Computer Literacy Self-Assessment Tool earlier developed by Postgraduate Diploma in Technology for Language Learning (PGDip TELL) which was used by Carl Correos (2014) in his study to assess the extent of English teachers' ICT literacy level on (a) General Computer Knowledge, (b) File Management Knowledge, (c) System Maintenance and Security Knowledge, (d) Word Processing Skills, (e) Communication Skills (Email), (f) Web Skills and (g) Presentation Skills (PowerPoint). On the problems encountered, a survey questionnaire was adapted from the study of Tuazon (2019) about the implementation of DCP for the Indigenous People.

These questionnaires were distributed to the school personnel in all public elementary schools of the entire Bohol Division after the approval of the letter sent by the researcher to the Schools Division Superintendent of Division of Bohol and to the Dean of the College of Advanced Studies of Bohol Island State University – Main Campus, to allow the researcher to conduct a study outside the school premises. Another letter was also addressed to the respective Schools District Supervisor and school principals or cluster heads of the elementary schools to request permission to conduct a study in the said districts. After the approval, the researcher distributed the questionnaires through Google forms and face-to-face distributions and immediately retrieved after answering. After gathering the data, the researcher treated the data statistically with the aid of the statistician.

Statistical Treatment

To determine the profile of the school personnel in terms of age, years of experience in teaching, individual rating, number of specialized trainings attended related to ICT, and DCP packages received in school, the percentage formula was used with regards to frequency. It is derived by dividing the frequency of responses by the number of cases and then multiplying the dividend by 100.

To determine the perception of the school personnel on the level of effectiveness of DepEd Computerization Program in terms of integration of ICT in teaching-learning process, raising of ICT literacy to the learners, teachers and school heads, and ICT packages distribution; the computer literacy level of the school personnel in terms of General Computer Knowledge; File Management Knowledge; System Maintenance and Security Knowledge; Word Processing Skills; Communication Skills; Web Skills; and Presentation Skills (PowerPoint); and the problems encountered on the implementation of DCP, the weighted mean was used.

Table 2. Effectiveness Level of DepEd Computerization Program

SCALE	RANGES	RESPONSES	EFFECTIVENESS LEVEL	DESCRIPTION
4	3.25 – 4.00	Much True	Highly Effective	The DCP is very beneficial and advantageous to the teaching-learning process of the teachers and learners in school.
3	2.50 – 3.24	True	Effective	The DCP is beneficial to the teaching-learning process of the teachers and learners in school.
2	1.74 – 2.49	Less True	Less Effective	The DCP is not that useful to the teaching-learning process and it needs to improve more.
1	1.00 – 1.74	Not True	Not Effective	The DCP is not useful at all.

Table 3. Computer Literacy Level of the School Personnel

SCALE	RANGES	RESPONSES	SKILL LEVEL	DESCRIPTION
4	3.25 – 4.00	Strongly Agree	Outstanding	The computer literacy levels are remarkable and excellently developed and utilized.
3	2.50 – 3.24	Agree	Very Satisfactory	The computer literacy levels are remarkable and adequately developed and utilized.
2	1.74 – 2.49	Disagree	Fair	The skills are just enough but needs more improvement.
1	1.00 – 1.74	Strongly Disagree	Poor	There is really a need to improve the skill.

Table 4. Level of Seriousness Problems Encountered on the Implementation of DCP

SCALE	RANGES	RESPONSES	LEVEL	DESCRIPTION
4	3.25 – 4.00	Very Serious	Very Serious	The problems encountered by the school are very severe and worrying and can be solved hardly.
3	2.50 – 3.24	Serious	Serious	The problems encountered are serious but can be solved comfortably.
2	1.74 – 2.49	Less Serious	Less Serious	The problems encountered are not that serious and can be solved easily.
1	1.00 – 1.74	Not Serious at All	Not Serious at All	The problems are not serious at all.

Moreover, to determine relationship between the level of effectiveness of DCP to the school personnel's computer literacy level and problems encountered, and their profile (specifically in age and IPCRF rating) to their computer literacy level and problems encountered, Spearman rho was used since the data is not normally distributed, with the following formula: On the other hand, to determine relationship between their profile (specifically in gender, years in teaching, number of specialized trainings attended, and DCP Packages received) to their computer literacy level and problems encountered, chi-square was used.

Results and Discussion

This section sequentially shows the presentations, analysis and interpretation of the data based on the results gathered on the perception of the school personnel on the effectiveness of DepEd Computerization Program (DCP) to their ICT literacy level. This chapter also presents the data on the profile of the school personnel in terms of age, gender, years in teaching, number of specialized trainings attended, DCP Packages, and IPCRF Rating. In addition, it also presents the data and interpretation for the significant relationship between the level of effectiveness of DepEd Computerization Program as perceived by the school personnel to their computer literacy level and problems encountered; and significant relationship between the profile of the school personnel to their computer literacy level and problems encountered.

Figure 2 shows the school personnel's profile in terms of age. It illustrates that school personnel with ages 35-40 years old have the greatest number of responses with 24.75% or 296 out of 1,196, while respondents with 47-52 years old follows with 20.07% or 240 out of 1,196 respondents. On the other hand, there are only 8.86% (106 out of 1,196 respondents) of respondents aged 23-28 years old and 2.59% (31 respondents out of 1,196 respondents) of respondents with 59-65 years old. This means that most of the respondents belong to the adult category of human age according to Nithyarashi and Kulanthaivel (2017).

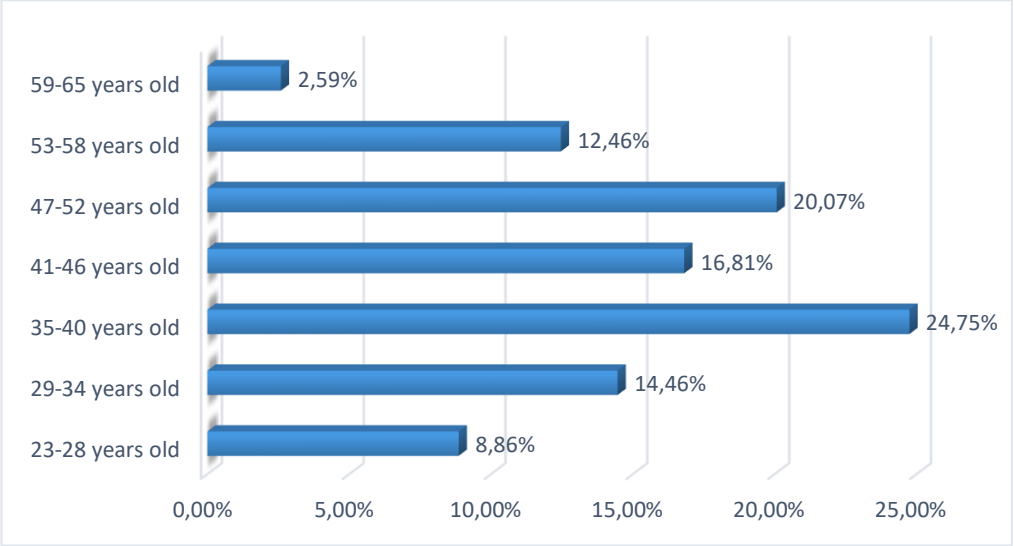

Figure 2. Personnel's Age (n=1,196)

In the study of Kamaruddin (2018) about Adult Computer Literacy, it was asserted that adults with the age of 26-36 years old are skilled at computer use. It means that younger adults are more computer literate than the older ones. In an interview conducted, a teacher from CD2 said that it is necessary to ask first the older teachers if they still need to learn how to use computer before they retire. Whatever their choices, we need to respect them. Added by a teacher in CD1, if using computer is very necessary, older teachers might ask help from their family members or colleagues who are computer literate.

In terms of gender, Figure 3 presents the school personnel's profile about gender profile. It reveals that there are more female respondents than male. With 1,064 out of 1,196 female respondents (88.96%) compared to the 132 out of 1,196 male respondents (11.04%), it can be seen that female respondents dominated in the study. However, according to Necdet Konan (2018) in his study about the computer literacy levels of the teachers, he stressed that male teachers' computer literacy level was higher than the female teachers.

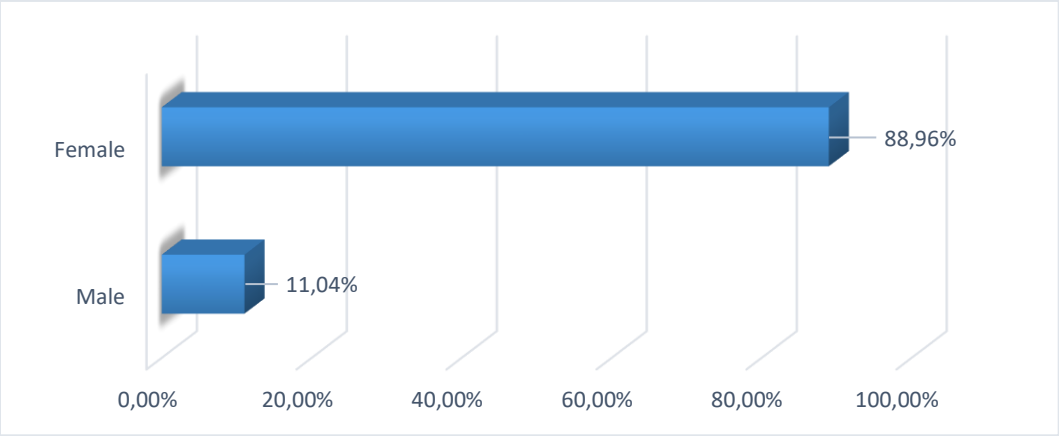

Figure 3. Personnel's Gender
(n=1,196)

The next graph, which is in Figure 4 presents the school personnel's profile on the number of teaching experience. It shows that school personnel with more than 20 years of teaching experience have the greatest number of responses with 29.18% or 349 out of 1,196, while aging 5-9 years of teaching experience follows with 24.16% or 289 out of 1,196 respondents. On the other hand, there are only 0.58% (7 out of 1,196 respondents) of newly hired teachers and 10.95% (131 out of 1,196 respondents) of teachers with 1-4 years of teaching experience. This means that most of the respondents are already well experienced in terms of teaching.

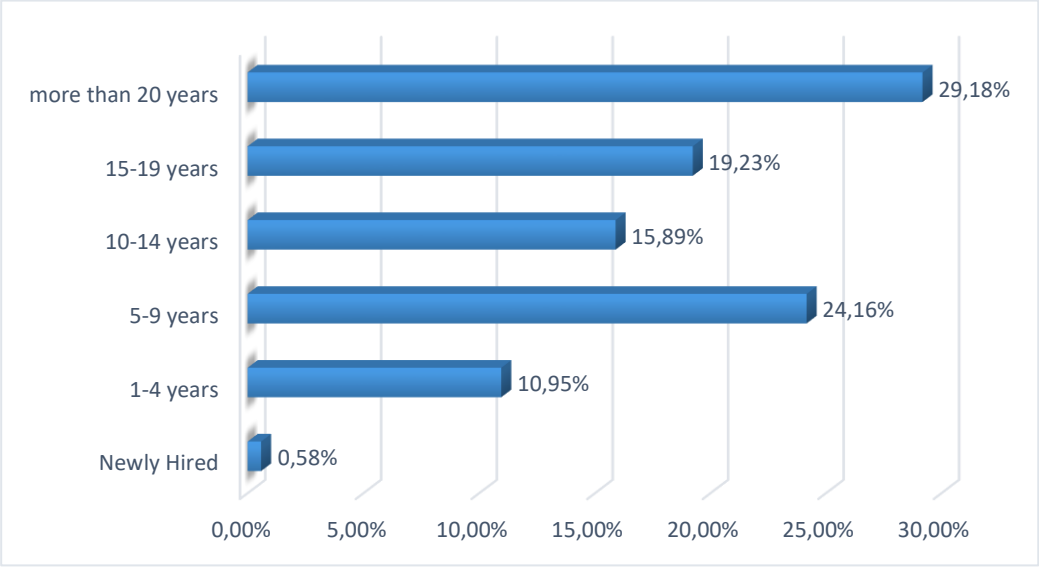

Figure 4. Personnel's Number of Years in Teaching Experience
(n=1,196)

Kini and Podolsky (2016) explains that more experienced teachers confer benefits to their selves, to their colleagues and to the school as a whole, as well as to their own learners. This suggests that more experienced teachers provide additional benefits, not only to their personal and professional advantages, but also to the school community beyond increased learning for the learners they teach.

On the school personnel's profile on their IPCRF Rating, Figure 5 illustrates their responses.

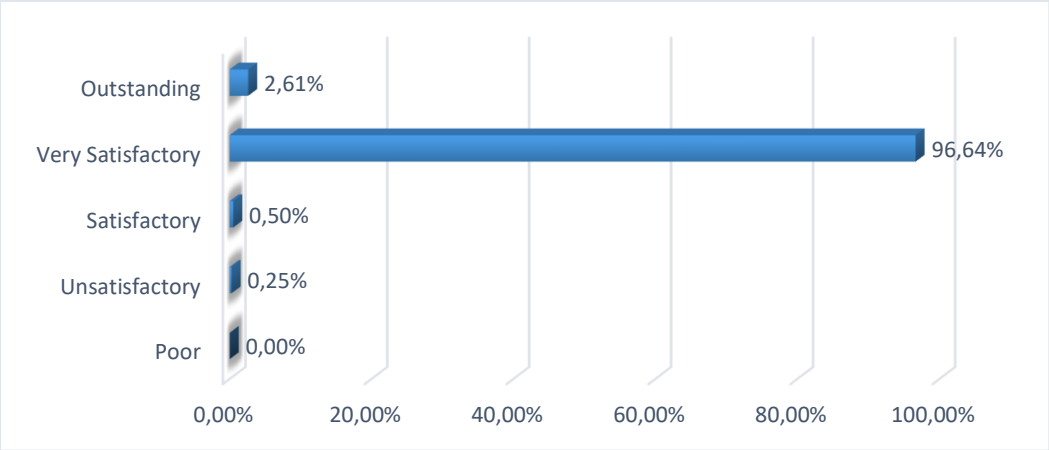

Figure 5. IPCRF Rating (2020-2021)
(n=1,189)

In this graph, majority of the 1,189 respondents have a "Very Satisfactory" rating on their IPCRF with 96.64% or 1,149 out of 1,189 respondents, which means that their computer literacy level is remarkable and adequately developed and utilized. Outstanding ranks number two with 2.61% or 31 of the respondents, and only few of the respondents have a satisfactory (0.50%) and unsatisfactory (0.25%) rating.

The Department of Education uses the Individual Performance Commitment and Review Form (IPCRF) to assess the work of teachers over a year. This tool is used for government employees 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.

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.

Figure 6 illustrates the school personnel's profile on the number of trainings attended.

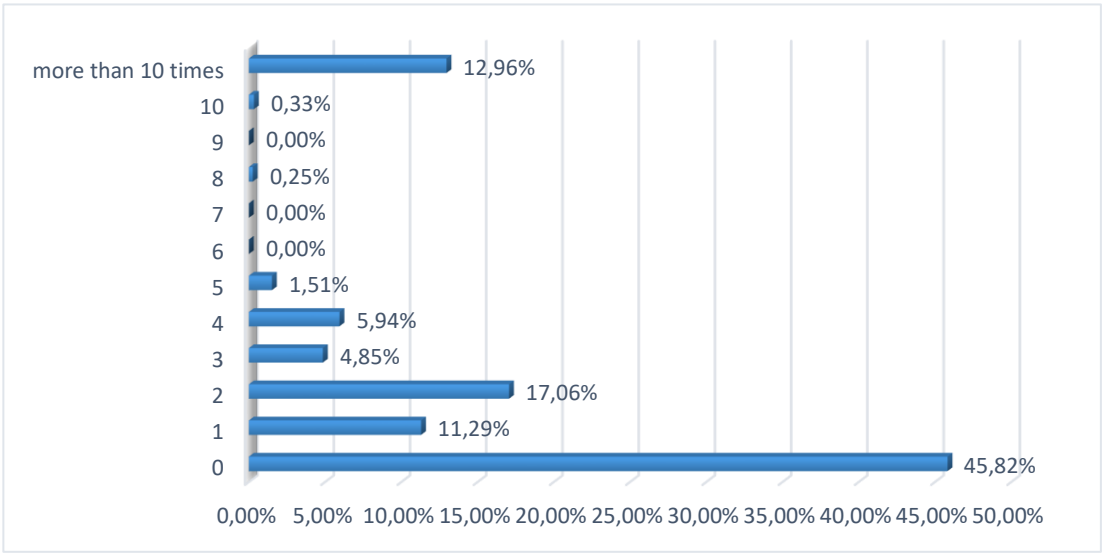

Figure 6. Number of ICT-Related Trainings Attended
(n=1,196)

The data presented in Figure 6 indicates that majority of the respondents were trained in relation to ICT. However, there are still 45.82% or 548 out of 1,196 respondents who have not undergone any trainings yet. 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 compared with teachers reporting lower levels of ICT-supportive leaders. This means that leaders must conduct trainings to show their support to their teachers especially to learn and develop their skills and literacy in ICT matters. It is very important to every teacher to be sent to these kinds of training in order them to achieve some knowledge and additional outputs.

In addition, a teacher from CD2 suggested that trainings must be done to all not computer literate teachers since trainings are insufficient. This explains that part of the DCP program is to give trainings to the computer illiterate teachers; however, not all teachers were trained.

Now, to see the number of DCP Packages that were installed in different schools, Figure 7 illustrates the school administrators and teachers' profile on the DCP Packages received in school.

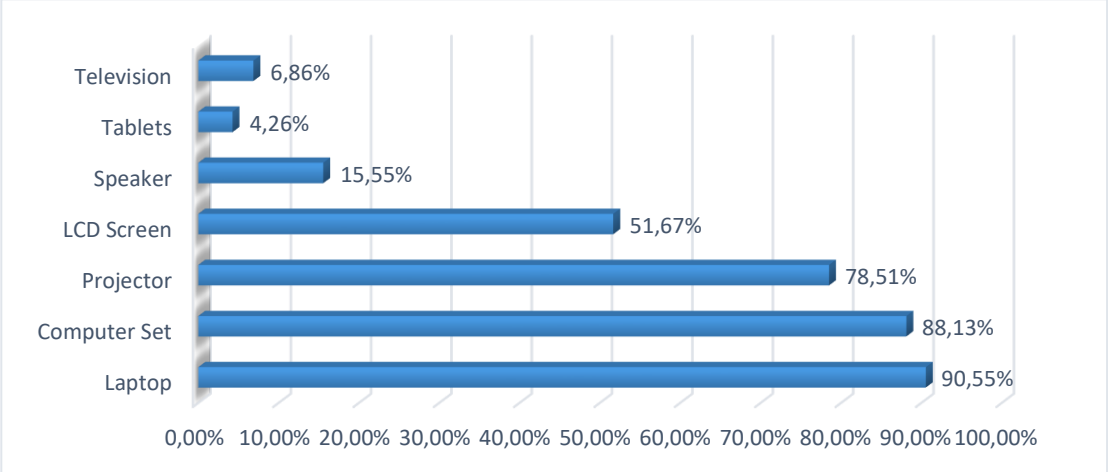

Figure 7. DCP Packages Received (n=1,196)

This graph illustrates the number of DCP Packages that were received by the schools. It reveals that there is a high number of laptops (90.55%) and computer sets (88.13%) that were received by every school, together with the LCD screen (51.67%) and projector (78.51%). Some of the schools also received speakers (15.55%), TV (6.86%) and tablets (4.26%). This discloses that the distribution of the DCP Packages were not the same to all schools.

The DepEd Computerization Program (DCP) aims to provide public schools with appropriate technology to enhance the teaching and learning process. However, according to Ismael (2021), the program only achieved 59.43% of its target, meaning not all schools received the same ICT packages. Senator Sherwin Gatchallian has called on the Department of Education to improve the implementation of the program.

In connection, a teacher from CD2 revealed that their school is not a recipient of DCP, which means they did not receive any of the packages. On the other hand, other teachers from other districts revealed that they are recipients of DCP, but some of them did not use the package for they are illiterate in computer. Some also expressed that some DCP packages were already damaged after few years of installing them in school. However, they also disclosed that there were a monitoring of the damaged items and fixed the problems.

Table 5A. Level of Effectiveness of DepEd Computerization Program as Perceived by the School Personnel (Integration of ICT in Teaching-Learning Process) (n=1,196)

EFFECTIVENESS OF DCP	Weighted Mean	Descriptive Value	Interpretation
A. Integration of ICT in teaching-learning process			
Catered the teachers' ICT development.	3.37	Much True	Highly Effective
Contributed to the delivery of quality learning and teaching.	3.40	Much True	Highly Effective
Contributed to universal access to and equity in education	3.37	Much True	Highly Effective
Empowered teachers and learners.	3.36	Much True	Highly Effective
Helped to enhance the quality of education by increasing learner motivation and engagement; by facilitating the acquisition of basic skills; and by enhancing teacher training.	3.43	Much True	Highly Effective
Helped to increase the quality of education by facilitating the acquisition of basic skills; and by enhancing teacher training.	3.42	Much True	Highly Effective
Offered more efficient education management, governance and administration.	3.36	Much True	Highly Effective
Provided newer, better, and quicker ways for people to interact, network, seek help, gain access to information, and learn.	3.41	Much True	Highly Effective
Transformed the teaching-and-learning processes from being highly teacher dominated to student-centered.	3.33	Much True	Highly Effective
When fully integrated into the pedagogy of teaching-learning process, implementation of DCP is evidently effective.	3.33	Much True	Highly Effective
Composite Mean	**3.38**	**Much True**	**Highly Effective**

Legend: 3.25 -4.00 Much True/highly Effective 2.50 – 3.24 True/Effective
1.75 – 2.49 Less True/Less Effective 1.00 – 1.74 Not True/Not Effective

This table reveals that in the integration of ICT in teaching-learning process, school personnel perceived that DCP is highly effective with a composite mean of 3.38. Moreover, it can be deemed that DCP is highly effective in *helping to enhance the quality of education by increasing learner motivation and engagement; by facilitating the acquisition of basic skills; and by enhancing teacher training;* and *to increase the quality of education by facilitating the acquisition of basic skills; and by enhancing teacher training* with the mean of 3.43 and 3.42 respectively.

Table 5B. Level of Effectiveness of DepEd Computerization Program as Perceived by the School Personnel (Raising of the ICT Literacy among the Learners, Teachers, and School Heads) (n=1,196)

EFFECTIVENESS OF DCP	Weighted Mean	Descriptive Value	Interpretation
B. Raising of the ICT Literacy among the learners, teachers and school heads			
Encode basic sentences and paragraphs using the Microsoft Word.	3.44	Much True	Highly Effective
Familiarize the basic keyboard keys in the computer and laptop.	3.43	Much True	Highly Effective
Log in and connect to the appropriate platforms and programs.	3.30	Much True	Highly Effective
Operate and utilize a projector, and white screen in the teaching-learning process.	3.28	Much True	Highly Effective
Send and receive information using data-sharing applications and cloud storage systems, for example, Google Drive or Dropbox.	3.27	Much True	Highly Effective
Switch on and switch off the computer/laptop properly.	3.47	Much True	Highly Effective
Use a search engine (such as Google Chrome, Bing, Mozilla Firefox, Torch and others)to find information.	3.34	Much True	Highly Effective
Use computers and the internet safely, for example, keeping personal information private, and avoiding viruses, identity theft and other online threats.	3.32	Much True	Highly Effective
Use ICT hardware to scan, print and copy documents.	3.41	Much True	Highly Effective
Use popular software packages, such as Microsoft Office (Word, Excel, PowerPoint, etc.) to create, edit, and save documents.	3.43	Much True	Highly Effective
Composite Mean	**3.37**	**Much True**	**Highly Effective**

Legend: 3.25 -4.00 Much True/highly Effective 2.50 – 3.24 True/Effective
1.75 – 2.49 Less True/Less Effective 1.00 – 1.74 Not True/Not Effective

In raising the ICT literacy among the learners, teachers and school heads, it can be deemed that DCP is still highly effective with the composite mean of 3.37. Table 5B shows that the school personnel can encode basic sentences and paragraphs using the Microsoft Word (3.44); familiarize the basic keyboard keys in the computer and laptop (3.43); and use popular software packages, such as Microsoft Office (Word, Excel, PowerPoint, etc.) to create, edit, and save documents (3.43).

Table 5C. Level of Effectiveness of DepEd Computerization Program as Perceived by the School Personnel (ICT Packages Distribution)
(n=1,196)

EFFECTIVENESS OF DCP	Weighted Mean	Descriptive Value	Interpretation
C. ICT Packages distribution			
All of the materials were installed in school by the ICT experts/professionals.	3.30	Much True	Highly Effective
The DCP packages were distributed in a good quality.	3.31	Much True	Highly Effective
The delivery personnel unloaded the items in the secure room provided by the school.	3.36	Much True	Highly Effective
The delivery truck arrived at school and the delivery personnel looked for the school representatives to receive the items.	3.37	Much True	Highly Effective
The school prepared the complete counterpart requirements as described by DepEd Central office.	3.42	Much True	Highly Effective
The school property custodian or the representative inspected the boxes only for signs of tampering, mishandling and damages on the actual day of delivery.	3.44	Much True	Highly Effective
The school received a call or text from the Supplier's delivery partner before the actual delivery to confirm that the delivery was push through.	3.38	Much True	Highly Effective
The school were informed of the schedule of deliveries of the ICT packages.	3.37	Much True	Highly Effective
The Supplier's Authorized Service Partners called the recipient schools to schedule boxing, installation and training dates.	3.30	Much True	Highly Effective
The Supplier's Authorized Service Partners followed the Step by step procedure in installing the packages.	3.32	Much True	Highly Effective
Composite Mean	**3.36**	**Much True**	**Highly Effective**

Legend: 3.25 -4.00 Much True/highly Effective 2.50 – 3.24 True/Effective
1.75 – 2.49 Less True/Less Effective 1.00 – 1.74 Not True/Not Effective

Table 5C illustrates that in ICT packages distribution, the implementation of DCP is also highly effective with a composite mean 0f 3.36. This means that the DCP packages were properly delivered and installed in schools.

Table 5D. Level of Effectiveness of DepEd Computerization Program as Perceived by the School Personnel (Overall)
(n=1,196)

EFFECTIVENESS OF DCP	Weighted Mean	Descriptive Value	Interpretation
A. Integration of ICT in teaching-learning process	3.38	Much True	Highly Effective

EFFECTIVENESS OF DCP	Weighted Mean	Descriptive Value	Interpretation
B. Raising of the ICT literacy to the learners, teachers, and school heads	3.37	Much True	Highly Effective
C. ICT packages distribution	3.36	Much True	Highly Effective
OVERALL RATING	3.37	Much True	Highly Effective

Legend: 3.25 -4.00 Much True/highly Effective 2.50 – 3.24 True/Effective
1.75 – 2.49 Less True/Less Effective 1.00 – 1.74 Not True/Not Effective

Table 5D reveals that the implementation of DepEd Computerization Program is Highly Effective with an overall rating of 3.37. This means that the DCP is very beneficial and advantageous to the teaching-learning process of the teachers and learners in school. In the implementation of this program, the integration of ICT in the teaching-learning process; the purpose of raising the ICT literacy to the learners, teachers, and school heads; and the proper and well-managed distribution of the DCP Packages seem to be highly effective.

Ghavifekr and Rosdy (2015) emphasizes that in teaching-learning process, the ICT integration has a great effectiveness for both teachers and learners. Added by them, teachers' well-equipped preparation with ICT tools and facilities is one of the main factors in success of technology-based teaching and learning. Thus, the DCP packages that were installed in schools have a great impact on the teaching-learning process.

Moreover, raising of ICT literacy to the learners, teachers and school administrators is a very important matter to discuss. In our world today, the number of computer-in-use is growing. According to Gupta (2016), computer literacy makes an individual more efficient and productive. This is the reason why computerization program is highly effective in raising the ICT literacy to the learners and teachers.

On the other hand, in terms of delivery of the packages, it is revealed that proper and well-managed distribution of necessary goods and services to the consumers (teachers) helps to satisfy their needs. Hayes (2020) suggests that there must be a proper distribution management system to alleviate any potential errors in delivery, as well as the times products need to be delivered. This generalizes the effectiveness of DepEd Computerization Program since it was well-delivered and well-distributed to the schools.

To present the computer literacy level of the school administrators and teachers on the implementation of DCP, the following tables discuss the responses of the school personnel.

Table 6A. Computer Literacy Level of the School Personnel on the Implementation of DepEd Computerization Program (General Computer Knowledge) (n=1,196)

COMPUTER LITERACY LEVEL	Weighted Mean	Descriptive Value	Interpretation
Aware of the importance and uses of computer "icons"	3.30	Strongly Agree	Outstanding
Have the ability to adjust monitor, resize and change computer's display properties	3.19	Agree	Very Satisfactory
Have the knowledge and skills on running or operating programs through the use of CD	3.13	Agree	Very Satisfactory
Opening more than one program at a time	3.20	Agree	Very Satisfactory
Opening, using and closing programs using the start menu	3.31	Strongly Agree	Outstanding

COMPUTER LITERACY LEVEL	Weighted Mean	Descriptive Value	Interpretation
Rebooting or restarting computers	3.15	Agree	Very Satisfactory
Simultaneously open and use programs	3.18	Agree	Very Satisfactory
Understanding the functions of the left and the right mouse buttons	3.31	Strongly Agree	Outstanding
Using the mouse to "drag" an item	3.33	Strongly Agree	Outstanding
Using two storage devices	3.19	Agree	Very Satisfactory
Composite Mean	**3.23**	Agree	Very Satisfactory

Legend: 3.25 -4.00 Strongly Agree/Outstanding 2.50 – 3.24 Agree/Very Satisfactory
1.75 – 2.49 Disagree/Fair 1.00 – 1.74 Strongly Disagree/Poor

This table reveals that the school personnel's general computer knowledge is very satisfactory with a composite mean of 3.23. It also reveals that school personnel's knowledge in *using the mouse to "drag" an item* (3.33), *understanding the functions of the left and the right mouse buttons* (3.31), *opening, using and closing programs using the start menu* (3.31) and *awareness on the importance and uses of computer "icons"* (3.30) is outstanding. However, their *knowledge and skills on running or operating programs through the use of CD* (3.13) has the lowest mean.

Table 6B. Computer Literacy Level of the School Personnel on the Implementation of DepEd Computerization Program (File Management Knowledge) (n=1,196)

COMPUTER LITERACY LEVEL	Weighted Mean	Descriptive Value	Interpretation
Copying documents from hard disks to flash drives and vice versa	3.34	Strongly Agree	Outstanding
Creating folders and saving files to a created folder and keeping data by using save functions	3.36	Strongly Agree	Outstanding
Creating shortcut on the desktop	3.25	Strongly Agree	Outstanding
Deleting files, emptying recycle bin and restoring items or files from the recycle bin	3.30	Strongly Agree	Outstanding
Freeing up spaces from computer's storage devices and restoring important files on the computers	3.20	Agree	Very Satisfactory
Know the difference between file formats and aware in acceptable forms of filenames	3.11	Agree	Very Satisfactory
Navigating file structures using Windows Explorer	3.09	Agree	Very Satisfactory
Organizing files by using appropriate data filenames and systematic folders	3.17	Agree	Very Satisfactory
Searching files on computers	3.28	Strongly Agree	Outstanding
Transferring data to necessary storage devices by utilizing copy functions	3.22	Agree	Very Satisfactory
Composite Mean	**3.23**	Agree	Very Satisfactory

Legend: 3.25 -4.00 Strongly Agree/Outstanding 2.50 – 3.24 Agree/Very Satisfactory
1.75 – 2.49 Disagree/Fair 1.00 – 1.74 Strongly Disagree/Poor

The same with the general computer knowledge, school personnel's file management knowledge is also very satisfactory with the composite mean of 3.23. *Creating folders and saving files to a created folder and keeping data by using save functions* (3.36), *copying documents from hard disks to flash drives and vice versa* (3.34), *deleting files, emptying recycle bin and restoring items or files from the recycle bin* (3.30), *searching files on computers* (3.28), and *creating shortcut on the desktop* (3.28) belong to outstanding. It means that in these items, the literacy level of the school personnel is remarkable. On the other hand, in *navigating file structures using Windows Explorer* (3.09), school personnel need to train more for this has the lowest mean.

The next table shows the computer literacy level of the school personnel in terms of system maintenance and security knowledge. Based on the table, it can be observed that the school personnel has also a "very satisfactory" computer literacy level with 2.80 composite mean. It can be seen that school personnel are good in *creating back up files* (2.91) for it has a highest mean, while there is a need to explore and train more their skills in *diagnosing and correcting common software and hardware problems using the offline self-help resources* (2.70).

Table 6C. Computer Literacy Level of the School Personnel on the Implementation of DepEd Computerization Program (System Maintenance and Security Knowledge) (n=1,196)

COMPUTER LITERACY LEVEL	Weighted Mean	Descriptive Value	Interpretation
Computer practices and activities that puts computer into risk for virus infection	2.85	Agree	Very Satisfactory
Creating back up files	2.91	Agree	Very Satisfactory
Diagnosing and correcting common software and hardware problems using the online self-help resources	2.75	Agree	Very Satisfactory
Diagnosing and correcting common software and hardware problems using the offline self-help resources	2.70	Agree	Very Satisfactory
Installing programs using the add/remove function in Windows.	2.83	Agree	Very Satisfactory
Removing unused programs using the add/remove function in Windows.	2.81	Agree	Very Satisfactory
Understanding on how programs are organized, stored and accessed	2.78	Agree	Very Satisfactory
Understanding on how programs differ from data	2.78	Agree	Very Satisfactory
Upgrading applications using the function in Windows.	2.77	Agree	Very Satisfactory
Using and maintaining up-to-date anti-virus program to check or scan computer applications and files for viruses and infections	2.84	Agree	Very Satisfactory
Composite Mean	**2.80**	Agree	Very Satisfactory

Legend: 3.25 -4.00 Strongly Agree/Outstanding 2.50 – 3.24 Agree/Very Satisfactory
1.75 – 2.49 Disagree/Fair 1.00 – 1.74 Strongly Disagree/Poor

Table 6D illustrates the computer literacy level of the school personnel in terms of word processing skills. Based on the table, it can be observed that the school personnel's skills in word processing is outstanding.

Table 6D. Computer Literacy Level of the School Personnel on the Implementation of DepEd Computerization Program (Word Processing Skills)
(n=1,196)

COMPUTER LITERACY LEVEL	Weighted Mean	Descriptive Value	Interpretation
Changing and using different fonts, font styles, sizes and colors	3.34	Strongly Agree	Outstanding
Creating table in a word processing document	3.35	Strongly Agree	Outstanding
Dragging a block of text within a document through the use of the mouse	3.33	Strongly Agree	Outstanding
Editing, copying, deleting, cutting and pasting block of texts	3.34	Strongly Agree	Outstanding
Inserting graphics and other files into documents	3.23	Agree	Very Satisfactory
Inserting page numbers and applying desired line spacing	3.23	Agree	Very Satisfactory
Inserting, removing and modifying margins	3.20	Agree	Very Satisfactory
Knowledge on the importance and use of clipboards	3.14	Agree	Very Satisfactory
Spell checking and proofreading	3.16	Agree	Very Satisfactory
Using tabs, headers and footers	3.16	Agree	Very Satisfactory
Composite Mean	**3.25**	Strongly Agree	Outstanding

Legend: 3.25 -4.00 Strongly Agree/Outstanding 2.50 – 3.24 Agree/Very Satisfactory
1.75 – 2.49 Disagree/Fair 1.00 – 1.74 Strongly Disagree/Poor

School personnel's skills in *creating table in a word processing document* (3.35), *changing and using different fonts, font styles, sizes and colors* (3.34), *editing, copying, deleting, cutting and pasting block of texts* (3.34), and *dragging a block of text within a document through the use of the mouse* (3.33) is outstanding. Nevertheless, their *knowledge on the importance and use of clipboards* (3.14) has the lowest mean, which means it is the weakest point of the school personnel in terms of word processing skills.

Table 6E. Computer Literacy Level of the School Personnel on the Implementation of DepEd Computerization Program (Communication Skills)
(n=1,196)

COMPUTER LITERACY LEVEL	Weighted Mean	Descriptive Value	Interpretation
Aware on the importance of email address for communication	3.28	Strongly Agree	Outstanding
Composing, and sending e-mail messages	3.11	Agree	Very Satisfactory
Familiar and understand of tasks relevant to the use of e-mails	3.08	Agree	Very Satisfactory
Operating e-mail related tasks	3.02	Agree	Very Satisfactory

COMPUTER LITERACY LEVEL	Weighted Mean	Descriptive Value	Interpretation
Performing tasks related with electronic mailing	2.99	Agree	Very Satisfactory
Replying and forwarding e-mail messages	3.10	Agree	Very Satisfactory
Sending attachments as part of e-mail messages	3.09	Agree	Very Satisfactory
Setting up e-mail preferences for delivery, formatting, and spellcheck	2.96	Agree	Very Satisfactory
Setting up e-mail preferences for security, message handling, and file management	2.89	Agree	Very Satisfactory
Using electronic address book to store individual and group e-mail addresses	2.84	Agree	Very Satisfactory
Composite Mean	**3.04**	Agree	Very Satisfactory

Legend: 3.25 -4.00 Strongly Agree/Outstanding 2.50 – 3.24 Agree/Very Satisfactory
1.75 – 2.49 Disagree/Fair 1.00 – 1.74 Strongly Disagree/Poor

Table 6E or the Communication Skills of the school personnel reveals that their skills is very satisfactory with a composite mean of 3.04. Their *awareness on the importance of email address for communication* (3.28) incurs the highest mean, which means that they are aware on the significance of email address. However, *setting up e-mail preferences for delivery, formatting, and spellcheck* (2.96), *setting up e-mail preferences for security, message handling, and file management* (2.89), and *using electronic address book to store individual and group e-mail addresses* (2.84) incur the lowest mean among others.

Table 6F. Computer Literacy Level of the School Personnel on the Implementation of DepEd Computerization Program (Web Skills)
(n=1,196)

COMPUTER LITERACY LEVEL	Weighted Mean	Descriptive Value	Interpretation
Bookmarking webpages	2.67	Agree	Very Satisfactory
Customizing Web browsers	2.70	Agree	Very Satisfactory
Downloading, and decompressing documents and programs from internet sites	2.74	Agree	Very Satisfactory
Employing web-based tasks	2.58	Agree	Very Satisfactory
Know all the web-related operations	2.54	Agree	Very Satisfactory
Manipulating web technology operations	2.59	Agree	Very Satisfactory
Saving a web page	2.69	Agree	Very Satisfactory
Saving data from the web to a folder	2.76	Agree	Very Satisfactory
Using internet browsers like Yahoo, Netscape, Mozilla and the like	2.82	Agree	Very Satisfactory
Viewing and opening of documents and programs from internet sites	2.96	Agree	Very Satisfactory
Composite Mean	**2.71**	Agree	Very Satisfactory

Legend: 3.25 -4.00 Strongly Agree/Outstanding 2.50 – 3.24 Agree/Very Satisfactory
1.75 – 2.49 Disagree/Fair 1.00 – 1.74 Strongly Disagree/Poor

Based on this table (Table 6F), school personnel's web skills is very satisfactory with a composite mean of 2.71. It can be deemed also that *viewing and opening of documents and programs from internet sites* (2.96) has the highest mean while *knowledge about all the web-related operations* (2.54) has the lowest mean.

Table 6G. Computer Literacy Level of the School Personnel on the Implementation of DepEd Computerization Program (Presentation Skills) (n=1,196)

COMPUTER LITERACY LEVEL	Weighted Mean	Descriptive Value	Interpretation
Adding animations and transitions to presentation templates	2.93	Agree	Very Satisfactory
Adding objects to presentations including tables and charts	3.02	Agree	Very Satisfactory
Aware of the importance of PowerPoint in teaching	3.08	Agree	Very Satisfactory
Changing text fonts, adding bullets or numbers to slide content	3.07	Agree	Very Satisfactory
Creating individual slides using standard layouts and designs	3.02	Agree	Very Satisfactory
Creating presentations using design wizards, design templates or blank layout	2.93	Agree	Very Satisfactory
Editing, inserting and re-sequencing slides	2.94	Agree	Very Satisfactory
Manipulating specific presentation operations	2.90	Agree	Very Satisfactory
Modifying standard layout and design templates	2.88	Agree	Very Satisfactory
Navigating between slides and switching them between different views	2.82	Agree	Very Satisfactory
Composite Mean	**2.96**	Agree	Very Satisfactory

Legend: 3.25 -4.00 Strongly Agree/Outstanding 2.50 – 3.24 Agree/Very Satisfactory
1.75 – 2.49 Disagree/Fair 1.00 – 1.74 Strongly Disagree/Poor

In addition, Table 6G talks about the Presentation Skills of the school personnel with a composite mean of 2.96 or having a computer literacy level of "very satisfactory". Their *awareness on the importance of PowerPoint in teaching* (3.08) has the highest mean, while *navigating between slides and switching them between different views* (2.82) has the lowest mean.

Table 6H. Computer Literacy Level of the School Personnel on the Implementation of DepEd Computerization Program (Overall) (n=1,196)

COMPUTER LITERACY LEVEL	Weighted Mean	Descriptive Value	Interpretation
A. General Computer Knowledge	3.23	Agree	Very Satisfactory
B. File Management Knowledge	3.23	Agree	Very Satisfactory
C. System Maintenance and Security Knowledge	2.80	Agree	Very Satisfactory
D. Word Processing Skills	3.25	Strongly Agree	Outstanding
E. Communication Skills	3.04	Agree	Very Satisfactory

COMPUTER LITERACY LEVEL	Weighted Mean	Descriptive Value	Interpretation
F. Web Skills	2.71	Agree	Very Satisfactory
G. Presentation Skills (Power-Point)	2.96	Agree	Very Satisfactory
Overall Rating	3.03	Agree	Very Satisfactory

Legend: 3.25 -4.00 Strongly Agree/Outstanding 2.50 – 3.24 Agree/Very Satisfactory
1.75 – 2.49 Disagree/Fair 1.00 – 1.74 Strongly Disagree/Poor

In general, it can be deemed in Table 6H that only word processing skills (3.25) of the school personnel is outstanding. It means that the computer literacy level is remarkable and excellently developed and utilized. In the entire Bohol Division, not all but most of the school administrators and teachers are already experts in this aspect. However, in general computer knowledge (3.23), file management knowledge (3.23), system maintenance and security knowledge (2.80), communication skills (3.04), web skills (2.71), and presentation skills (2.96), their computer literacy level is very satisfactory. In general, the overall rating of computer literacy level of the teachers and school administrators is very satisfactory with 3.03 mean.

According to Correos (2014), knowledge of general computer operations is crucial for integrating ICT into teaching. Teachers who are familiar with basic computer tasks can incorporate technology into classroom activities and appreciate its versatility as a teaching and learning tool. Those who have mastered basic computer skills are more likely to explore advanced computer tasks. In terms of file management knowledge, the study found that school personnel were able to manage their personal and teaching-related electronic files. This includes tasks such as saving data, transferring data to storage devices, freeing up space on the computer's storage devices, restoring important files, and organizing files using appropriate filenames and folders. Teachers' file management skills enabled them to quickly access files according to their classifications and formats. Correos added that easy access to files provides teachers and school administrators with a fast and efficient process for language instruction.

The study found that teachers had a low level of knowledge in system maintenance and security. This could hinder the integration of computers into teaching and learning since technical malfunctions that could harm computers may not be addressed promptly. Correos suggests that teachers should not always rely on computer technicians or ICT experts to troubleshoot problems and should learn to fix problems themselves.

Word processing skills can save teachers time in creating or modifying teaching materials and produce documents with a more polished appearance. According to Correos, materials created with word processing software are more appealing to students because they look more professional than traditional handwritten or typed materials.

The study also found that school personnel had an outstanding level of literacy in communication skills using email. This suggests that they had sufficient training or experience in using email. However, since using email requires advanced computer skills, school administrators and teachers may need further training to master its specific functions and processes.

The study found that school personnel had a very satisfactory level of web skills, but it was the lowest among all categories with a weighted mean of 2.71. This suggests that school administrators and teachers need to focus on developing their literacy in web technology. The ability to use web technology can empower teachers to integrate the World Wide Web into their teaching instruction and access comprehensive and authentic teaching materials. According to Correos, teachers' knowledge and competence in using web-based tasks can transform traditional teaching approaches into a more comprehensive and authentic process. Mastery of both technical and cognitive skills in computer technology is necessary to ensure computer competency and develop ICT literacy.

In terms of presentation skills, the study found that school personnel had a very satisfactory level with a weighted mean of 2.96. However, limited competence in managing PowerPoint skills could result in poorly created presentations. Insufficient training is a factor that affects this level of competence. Trainings on this topic are often limited to introducing the basics of slide-based presentations due to time constraints. Some teachers learn to use PowerPoint by exploring the site on their own, but only simple tasks are utilized. Modified and complex tasks are less commonly learned because they require specific knowledge and the application of sequential instructions. Insufficient knowledge to perform accurate operations may result in disorganized presentations.

Meanwhile, Table 7 shows that amidst the effectiveness of the implementation of DepEd Computerization Program, problems can always be encountered. Moreover, this proves that even if the implementation of DCP is found highly effective, problems will always be present at all cost.

Table 7. Level of Seriousness of Problems Encountered on the Implementation of DepEd Computerization Program
(n=1,196)

PROBLEMS ENCOUNTERED	Weighted Mean	Descriptive Value
1. DCP equipment is damaged after 2 years of warranty.	2.67	Serious
2. Inadequate trainings were done relative to the teachers' preparation on the DCP.	2.56	Serious
3. Less communication between the community and the school about the implementation of the program.	2.54	Serious
4. No budget/funds to support the replacement or damaged equipment.	2.68	Serious
5. No electricity in the area.	2.12	Less Serious
6. No other technological resources that could help the learners improve their learning in ICT.	2.38	Less Serious
7. No personnel that were hired to look after the equipment during nighttime.	2.50	Serious
8. No sustainability plans in the implementation of DCP.	2.47	Less Serious
9. Only the ICT coordinator is knowledgeable about the program.	2.38	Less Serious
10. Plugs and outlets are broken or damaged.	2.14	Less Serious
11. Teachers do not explore other software that is useful in teaching the learners.	2.30	Less Serious
12. Teachers have insufficient skills in using the equipment.	2.33	Less Serious
13. Teachers hesitate to use the computers.	2.22	Less Serious
14. The community gives less support and interest in this program.	2.26	Less Serious
15. The community is not open about technological advancements.	2.25	Less Serious
16. The computers are damaged due to improper use and viruses.	2.33	Less Serious
17. The materials/ e-classroom are not secured.	2.34	Less Serious
18. The ratio of computers to pupils is not enough.	2.87	Serious
19. They have less knowledge about computers, thus it is difficult to teach the learners about computers too.	2.58	Serious
20. Undisciplined pupils damage the equipment.	2.24	Less Serious
COMPOSITE MEAN	**2.41**	Less Serious

Legend: 3.25 -4.00 Very Serious 2.50 – 3.24 Serious
1.75 – 2.49 Less Serious 1.00 – 1.74 Not Serious at All

Based on the table, the level of seriousness of the problems encountered as perceived by the school personnel is less serious with 2.41 composite mean. More so, the *ratio of computers to pupils* has its highest mean of 2.87 among other problems. This denotes that this indicator holds the greatest challenge in the implementation of DCP. As stated in the study of Tuazon (2019), the current ICT integration in education remains a large task. One is the student-computer ratios and teacher-computer ratios.

The problem about *insufficient or lack of budget/funds to support the replacement or damaged equipment* (2.68) is another serious problem encountered in this DCP Program. It is related to the problem about *DCP equipment is damaged after 2 years of warranty* (2.67). On the other hand, problem about *having less knowledge about computers, thus it is difficult to teach the learners about computers too* (2.58) and *inadequate trainings were done relative to the teachers' preparation on the DCP* (2.56) also relate each other. These results show that implementers of the DCP are not that skillful and knowledgeable in using the DCP materials and it greatly shows that there are less school trainings conducted by the division coordinators down to the district coordinators, and to the school ICT coordinators that would help other teachers improve their readiness and capabilities in computers.

Tables 8 and 9 show the relationship of the effectiveness level of the DCP and profile, computer literacy and problems encountered of the school personnel.

Table 8. Relationship between the Level of Effectiveness of DCP and the Computer Literacy; and Problems Encountered of the School Personnel (n=1,196)

Variable		Spearman rho	p-value	Decision	Interpretation
Literacy	Level of Effectiveness	0.462	.000	Significant; HO Rejected	Related
Problems Encountered	Level of Effectiveness	.053	.064	Insignificant; HO Accepted	Not Related

This table shows the relationship between the level of effectiveness of DepEd Computerization Program to the computer literacy and problems encountered of the school personnel. A Spearman rho was conducted to determine the relationship between variables.

It can be observed that there is a significant relationship between the level of effectiveness of DepEd Computerization Program to the computer literacy of the school personnel with the p-value of .000. Therefore, the null hypothesis is rejected. However, it shows insignificant relationship between the level of effectiveness of DepEd Computerization Program to the problems encountered of the school personnel with the p-value of .064. Therefore, the null hypothesis is accepted, and these two are not related to each other.

The results show that the effectiveness of the computerization program cannot be hindered by the problems encountered on its implementation. This means that the problems encountered by the school personnel does not affect the effectiveness of the Computerization Program of DepED.

Computer literacy is very important nowadays in embracing the new trends in teaching-learning process. It offers the ability to provide instruction at any phase, in some place and at any pace, and generates an extremely flexible learning environment (whether through providing more interaction with content or more interaction with other people). Hence, computers can support actual learning (Tuazon, 2019). Thus, the implementation of DepEd Computerization Program creates bridges of opportunities to the teachers to become computer literate. Through this DCP, it gives the teachers and learners' access to technology in their lessons even if the schools are located far-flung (DepEd Order No. 78, s. 2010).

Table 9A. Relationship between the Profile and the Computer Literacy Level of the School Personnel (n=1,196)

Variable		Chi-square Value	Degree of Freedom	p-value	Decision	Inter-preta-tion
Gender	Computer Literacy Level	5.02	3	0.17	**Insignificant; HO Accepted**	**Not Related**
Years in Teaching	Computer Literacy Level	107.765	18	.000	**Significant; HO Rejected**	**Related**
No. of Specialized Trainings Attended	Computer Literacy Level	77.225	24	.000	**Significant; HO Rejected**	**Related**
DCP Packages:						
- Laptop	Computer Literacy Level	.975	3	.807	**Insignificant; HO Accepted**	**Not Related**
- Computer Set	Computer Literacy Level	1.891	3	.595	**Insignificant; HO Accepted**	**Not Related**
- Projector	Computer Literacy Level	2.829	3	.419	**Insignificant; HO Accepted**	**Not Related**
- LCD Screen	Computer Literacy Level	1.302	3	.729	**Insignificant; HO Accepted**	**Not Related**
- Speaker	Computer Literacy Level	4.049	3	.256	**Insignificant; HO Accepted**	**Not Related**
- Tablets	Computer Literacy Level	3.427	3	.330	**Insignificant; HO Accepted**	**Not Related**
- TV	Computer Literacy Level	3.553	3	.314	**Insignificant; HO Accepted**	**Not Related**
		Spearman rho		**p-value**	**Decision**	**Interpretation**
Age	Computer Literacy Level	**-.320****		.000	**Significant; HO Rejected**	**Related**
IPCRF Rating	Computer Literacy Level	**0.028632351**		.324	**Insignificant; HO Accepted**	**Not Related**

This table shows the relationship between the profile and the computer literacy level of the school personnel. A Pearson Chi-Square and Spearman rho were conducted to determine the relationship between variables.

Table 9A reveals that there is no significant relationship between the computer literacy level of the school personnel, and their profile in terms of the following: Gender, DCP Packages received, and IPCRF Rating. Therefore, the

null hypothesis is accepted. On the other hand, it can be deemed that in terms of years in teaching, number of specialized trainings attended, and age, the relationship is significant with the p-value .000 respectively. Therefore, the null hypothesis is rejected.

The more experienced teachers are, the more they become effective. Teaching experience broadens knowledge, strengthens skills and builds networks. It is important to the development of a unique teaching style, teaching skills and self-confidence. Added by Kini and Podolsky (2016) more experienced teachers confer benefits to their selves, to their colleagues and to the school as a whole, as well as to their own learners. This suggests that more experienced teachers have an opportunity to develop their knowledge and understanding, as well as to adapt the new trends. This proves that there are many experienced teachers who are computer literate.

Moreover, teachers will feel empowered when they understand how technology will truly influence learners learning in a positive way (Hirsch, 2017). This proves that when a teacher is well trained and well equipped with knowledge, especially in computer literacy matters, it can help them to feel confident, more efficient and more effective to teach their learners. It does not only empowers them, but it can also inspire others. This proposes that trainings, seminars, and other experience can lead to a better and computer literate teacher and school administrator.

In addition, according to Moore and Audiol (2015), computer literacy is lower in adults of advanced age than in those who are few years younger. This result was affirmed by the study of Kamaruddin (2018) about Adult Computer Literacy where adults with the age of 26-36 years old are skilled at computer use. It means that younger adults are more computer literate than the older ones. This also proves that age matters when it comes to computer literacy level.

The next table (Table 9B) shows the relationship between the profile and the problems encountered of the school administrators and teachers. A Pearson Chi-Square and Spearman rho were conducted to determine the relationship between variables.

Table 9B. Relationship between the Profile and the Problems Encountered of the School Personnel (n=1,196)

Variable		Chi-square Value	Degree of Freedom	p-value	Decision	Interpretation
Gender	Problems Encountered	8.225	3	.042	**Significant; HO Rejected**	**Related**
Years in Teaching	Problems Encountered	67.85	18	.000	**Significant; HO Rejected**	**Related**
No. of Specialized Trainings Attended	Problems Encountered	112.517	24	.000	**Significant; HO Rejected**	**Related**
DCP Packages: - Laptop	Problems Encountered	2.942	3	.401	**Insignificant; HO Accepted**	**Not Related**
- Computer Set	Problems Encountered	1.081	3	.782	**Insignificant; HO Accepted**	**Not Related**
- Projector	Problems Encountered	11.116	3	.011	**Significant; HO Rejected**	**Related**
- LCD Screen	Problems Encountered	12.017	3	.007	**Significant; HO Rejected**	**Related**

Variable			Chi-square Value	Degree of Freedom	p-value	Decision	Interpretation
-	Speaker	Problems Encountered	1.935	3	.586	**Insignificant; HO Accepted**	**Not Related**
-	Tablets	Problems Encountered	14.139	3	.003	**Significant; HO Rejected**	**Related**
-	TV	Problems Encountered	0.349	3	.951	**Insignificant; HO Accepted**	**Not Related**
			Spearman rho		**p-value**	**Decision**	**Interpretation**
Age		Problems Encountered	**-.129****		.000	**Significant; HO Rejected**	**Related**
IPCRF Rating		Problems Encountered	**.065***		.025	**Significant; HO Rejected**	**Related**

It illustrates that there is a significant relationship between the problems encountered of the school personnel, and their profile in terms of the following: age (.000), gender (.042), years in teaching (.000), number of specialized trainings attended (.000), and IPCRF Rating (.025). Therefore, the null hypothesis is rejected. More so, in terms of the DCP Packages received, projector, LCD screen and tablets, the null hypothesis is rejected because they have a significant relationship to the problems encountered of school personnel. However, laptops, computer set and TV have an insignificant relationship. Therefore, null hypothesis is accepted.

The age of the school personnel significantly related to the problems encountered on the implementation of the DCP through their attitudes on the computer use. According to Gonzalez, et. al. (2018), the attitudes like computer self-efficacy and computer anxiety of the older adults must be considered. It is the reason why the problem about teachers and school administrators "having less knowledge about computers" exists.

In addition, gender is also significantly related to the problems encountered in the implementation of DCP. In the gathered data, there is 89% of the female respondents, while 11% is male. It shows that female respondents dominated in the study. However, according to Necdet Konan (2018) in the study about the computer literacy levels of the teachers, male teachers' computer literacy level was higher than the female teachers. With this, there is a decline in women in the field of computer and this has made gender gap for using computer, and males are more interested in the usage of computer.

Another profile of the school personnel that is related significantly to the problems encountered is the years of teaching experience. It is already a problem if the teacher's attitude towards the use of ICT is insufficient, blunt and low. However, it is another problem if the teachers don't want to embrace changes and refuse to use new technologies. Kini and Podolsky (2016) explained the benefits of being experienced teacher, not only for their own benefits but also to others like their colleagues and learners. It suggested that more experienced teachers have an opportunity to develop their knowledge and understanding, as well as to adapt the new trends. Nevertheless, this will become a problem if the experienced teacher refuse to adapt new changes.

Number of specialized trainings attended is significantly related also to the problems encountered in the DCP implementation. It has been already discussed that teachers will feel empowered when they understand how technology will truly influence learners learning in a positive way (Hirsch, 2017). This proves that when a teacher is well trained and well

equipped with knowledge, especially in computer literacy matters, it can help them to feel confident, more efficient and more effective to teach their learners. However, in terms of computer-related trainings and seminars, there were still many teachers who have never attended yet, based on the gathered data. This negates to the objectives of DCP implementation and there is a need to resolve this problem.

Further, the IPCRF Rating of the school personnel has also been significantly related to the problems encountered. It has been discussed above that the Individual Performance Commitment and Review Form (IPCRF) is tool used to assess government employees to rate the work done by the teacher over a period of one year. It was explained by Robinson (2018) that the teachers need to be evaluated for it will enhance teacher practice and improve effectiveness, and this in turn will lead to improved learning and achievements of the learners. Nonetheless, it is found out that there are teachers who still have insufficient skills in using the ICT equipment, but most of their IPCRF Rating is Very Satisfactory.

DCP Packages received by the schools like projector, LCD screen and tablets have been also significantly related to the problems encountered in the implementation of DCP. Based on the collected data, one of the problems mentioned is that *teachers do not explore other software that is useful in teaching the learners* which is related to the problem about *teachers have insufficient skills in using the equipment*. This pertains to the projectors and LCD Screen. According to Rio (2019), a projector and LCD Screen do not always have to be used all the time; it can be used only when needed. This leads to a reason why some teachers don't hesitate to learn in using it anymore. More so, teachers still need to prepare also a presentation if they need to use the projector, which gives them another work to be done.

Lastly, one of the DCP Packages, which is the tablet, is significantly related to the problems encountered since the availability of this DCP package is very limited. Out of 1,196 respondents, only 51 said that they received tablets in their school. It is related to the problem about the *ratio of computers (also tablet) to pupils is not enough* where it denotes that this indicator holds the greatest challenge in the implementation of DCP. As stated in the study of Tuazon (2019), the current ICT integration in education remains a large task. One is the student-computer (or other equipment) ratios and teacher-computer (or other equipment) ratios.

Conclusion

It can be concluded that there is a congruence on the implementation of the DepEd Computerization Program and the computer literacy level of the school personnel based on gathered data, regardless on the problems encountered.

Recommendation

Based on the conclusions drawn from the study, the researcher comes up with recommendations to utilize the findings of the study.

1. **DepEd Computerization Program Implementers.** The implementation of the DepEd Computerization Program is already effective. However, the implementation can be more effective in the future. To do so, the DCP implementers may give equal DCP packages to every school. DCP implementers may consider the location of the school, like the island schools, that has no electricity at all. Lastly, they need to review the previous implementation of the program and may enhance it for the future purposes.
2. **DepEd National, Regional and Local.** One of the most important thing that they may spend more attention is to help more on the implementation of DepEd Computerization Program. They may organize a well-prepared, comprehensive, motivational, inspiring, educational and remarkable trainings, workshops or seminars to all the teachers. They may establish a comprehensive survey on teachers' computer literacy, and focus on the teachers with lower computer literacy level. They must ensure that no teachers must left behind and every teachers must globally competent. Of course, the teaching-learning process must be focused, but with innovations.
3. **School Administrators.** They also need to ensure that they must be computer literate as well. They must do follow-ups and

support intensively the needs of the teachers. They may also establish a comprehensive survey on teachers' computer literacy, and focus on the teachers with lower computer literacy level. They may prioritize to send the teachers with low computer literacy to any trainings, seminars or workshops. If possible, they can organize their own training, with the permission from the DCP Implementers and higher leaders. They must also ensure that no teachers must left behind and every teachers must be globally competent. Of course, the teaching-learning process must be focused, but with innovations.

4. **Teachers.** Self-discovery is really an effective way to learn. If there's an ample time, they may search for the internet on the latest computer trends, and discover by themselves on how to utilize the computer, if possible. If given an opportunity to be trained, they need to focus. If there are any activities about computer matters, they may join and engage on different activities. They must think that the future of their learners belongs to them. They need to help them learn.
5. **Pupils.** So many opportunities may happen, so they need to be engaged to every activities that may develop their skills.

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