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Ascertaining the Computer Literacy and Challenges Among Grade 7 Students in a Catholic School

Daniel S. Fernando [a*], Joel M. Bual [b]

[a] *St. Anthony's College, San Jose de Buenavista, 5700, Antique, Philippines*
[b] *University of Antique-Main Campus, Sibalom, 5713, Antique, Philippines*

A B S T R A C T

This study examined the extent of computer literacy among students in the areas of word processing, presentation, spreadsheet, and general computing when considered as a whole and classified according to sex, last school attended, availability of a computer at home, and previous computer training. Similarly, it identified the encountered challenges by the respondents in using a computer. Additionally, it compared the differences in computer literacy and their corresponding demographics. It utilized a quantitative, particularly a descriptive-comparative approach. The study comprised a stratified, random sample of 116 Grade 7 students in a Catholic school. In data gathering, a 51-item questionnaire, adopted from existing literature, using a 5-point scale from "not literate" to "extremely literate," and a researcher-made checklist were utilized. In data analysis, the mean and standard deviation were used to analyze the extent of computer literacy. Also, frequency and percentage were employed to analyze the challenges. Meanwhile, the Mann-Whitney U test and the Independent t-test were used to determine the differences in computer literacy and student demographics. Based on the findings, the students' computer literacy in three areas — word processing, presentation, and general computing — was moderate. However, they are slightly literate in spreadsheets. The top challenges were inserting and resizing images, duplicating slides, formatting cells, and recognizing unsafe websites. The findings may serve as a benchmark for those teaching computers to address the challenges encountered by students and continuously improve areas where students have a lower computer literacy rate. Also, this may serve as an eye-opener for the school heads to provide more computer units, especially in public schools. Lastly, the findings may guide teachers in strategizing their instruction and pedagogy to address areas of computer literacy that warrant improvement.

Keywords: Digital Education, computer skills development, challenges, technology integration, descriptive-comparative, Grade 7 students, Philippine Catholic School

1.0 Introduction

Computer literacy is vital in schools as it empowers students to be competent in a rapidly evolving digital world (Thelma et al., 2024). Not to mention, many high school students today are well-equipped to use social media platforms and computer games. They often spend more time on these activities (Bhuvaneswari, 2019). However, they lack essential computer literacy skills, such as word processing, creating presentations, and using spreadsheets, which are crucial for completing their school activities (Haleem et al., 2022). These deficiencies in computer literacy place them at a disadvantage in an increasingly advanced and digital world (Dashtestani & Hojatpanah, 2022). Computer literacy is pivotal for finishing their education and preparing them for their careers ahead (Drossel et al., 2020). Similarly, as industries continue to adopt advanced technologies, automation, and online processes, computer literacy becomes even more essential (Crittenden et al., 2019).

In Asia, specifically in Thailand, technological advancements are rapid; however, computer literacy among students remains uneven due to the digital divide (Lopez-Sintas et al., 2020). In India, for instance, urban students often excel in computer skills, whereas those in rural areas struggle due to limited access to technology and training (Upadhyaya, 2024). Similarly, businesses in Indonesia rely on digital tools for communication and processes, which underpin the relevance of integrating computer literacy in schools (Waang, 2023). Schools in Singapore are already integrating computer courses to equip their students for a digital workforce (Natarajan et al., 2021). Hence, given these concrete digital divides, continuous improvement in practical training and curriculum enhancement is essential to help students become more competitive and adaptive in a digital society.

In the Philippines, the Department of Education has recognized the value of integrating computer literacy into the basic education curriculum. The Department of Education (DepEd) launched projects like the Digital Rise Program to enhance students' technological skills and computer literacy. This program aims to enhance school infrastructure to support the use of digital instructional materials, provide students with access to software, and offer teacher training (Tanucan et al., 2021; Bautista Jr., 2021). Similarly, the K to 12 curriculum now includes word processing, spreadsheets, coding, and multimedia skills to prepare students for the demands of society and their careers (Tembrevilla, 2020). Having these in place, the DepEd aims to equip learners with 21st-century skills, such as computer literacy, which are essential for students' education, employment, and communication (Mugot & Sumbalan, 2019).

Despite its relevance, the Department of Education faces challenges in fully implementing computer literacy in schools across different regions. Many public schools, especially in rural areas, lack sufficient computers and stable internet, which limits students' computer literacy (Tembrevilla, 2020). Additionally, some teachers in rural areas lack sufficient training in computer literacy, which impacts their ability to implement and facilitate instruction to students (De Vera et al., 2021). Not to mention, the digital divide among students intensified during the pandemic in the country, where classroom instructions had to shift to remote or online learning (Baticulon et al., 2021). Socioeconomic disparities further widen these gaps, as not all students have access to personal devices or reliable internet at home during the pandemic (Fabito et al., 2020).

Meanwhile, studies were conducted regarding the computer literacy of students. Cadiz-Gabejan and Melinda Jr. (2021) conducted a study on students' computer literacy and academic performance among Grade 10 students. Additionally, Lorenzo (2016) examined the effectiveness of the computer and internet literacy project in public high schools. Similarly, Prinyawiwatkul (2023) conducted a study on the impact of various factors on students' achievement in computer literacy courses. Additionally, Ben Youssef et al. (2022) investigated the digital divide through the use of ICT, digital skills, and students' academic performance. Atoy et al. (2020) linked the digital literacy and online information-searching strategies of Philippine university students. Given all the available studies, a gap remains that focuses solely on computer literacy and challenges among Grade 7 students in a Catholic school. Hence, this is the gap that this study would like to fill.

1.1 Objective

Hence, the study aimed to assess the extent of computer literacy and challenges among the Grade 7 students in a Catholic school in Western Visayas, Philippines during 2024-2025 in the areas of word processing, presentations, spreadsheets, and general computing when taken as a whole and grouped according to sex, last school attended, available computer at home, and previous computer training. Additionally, this study identified significant differences between computer literacy and student demographics.

1.2 Theoretical Framework

This study theoretically assumed that the extent of computer literacy among Grade 7 students in a Catholic school varies based on their sex, the last school they attended, the availability of a computer at home, and their previous computer training. Hence, the study was anchored on the 21st Century Skills Framework developed by the Partnership for 21st Century Learning (P21), which emphasizes information, media, and technology skills as essential for learners in today's global society. This framework highlights ICT Literacy as the ability to use digital tools to access, manage, evaluate, and create information. In the context of this research, computer literacy is viewed not merely as technical proficiency but as a broad skill essential for academic and personal growth. Grade 7 students are expected to develop foundational competencies in using computers for learning, communication, and productivity.

2.0 Methodology

This study employed a quantitative research design, specifically a descriptive-comparative approach. The selected methodology statistically identified a set of variables to address the theory-guided research problems and assumptions (Creswell & Creswell, 2017). On the one hand, the descriptive approach assessed the extent of computer literacy and the challenges faced by Grade 7 students in the areas of word processing, presentation, spreadsheet, and general computing. On the other hand, the comparative approach determined the significant differences in computer literacy and the students' demographics. The respondents were 116 Grade 7 students in a Catholic school in Western Visayas, Philippines. The respondents were identified using a stratified random sampling method. The demographic profile of the respondents, as presented in Table 1, reveals several key insights into the sample population.

Table 1 - Demographic Profile of the Respondents

Variable	n	%
Sex		
Male	60	51.7
Female	56	48.3
Last School Attended		
Private	44	37.9
Public	72	62.1
Access to a Computer at Home		
Yes	58	50.0

No	58	50.0
Have Previous Computer Training		
Yes	39	33.6
No	77	66.4
Whole	***116***	***100.0***

2.1 Data Gathering

In gathering the data, the study utilized a 51-item research questionnaire adopted from the study by Cadiz-Gabejan and Melinda Jr. (2021). The items were spread across various areas, including word processing, presentation, spreadsheets, and general computing. Meanwhile, the adopted questionnaire was pilot-tested and generated a reliable Cronbach's Alpha result of 0.98, which indicates that the questionnaire had "excellent reliability." Additionally, this study employed a 5-point scale of interpretation, ranging from 1 (not literate) to 5 (extremely literate). Additionally, this study employed a researcher-created checklist to identify the challenges students face in navigating computer literacy.

2.2 Data Analysis

Descriptive and inferential analyses were employed to analyze the data. The mean and standard deviation were used to assess the extent of computer literacy. Frequency counts and percentage distributions profiled the demographics and identified the challenges encountered by the respondents. Meanwhile, the Shapiro-Wilk test was used to determine the normality of the variables. It revealed that the presentation [SW = 0.965, p = 0.004] and spreadsheets [SW = 0.977, p = 0.048] were not normally distributed. Hence, the Mann-Whitney U-test was used. Meanwhile, the word processing [SW=0.985, p=0.228] and the general computing [SW=0.985, p=0.248] were normally distributed. Thus, the Independent T-test was utilized. Lastly, this study adhered to the guidelines of the Philippine Health Research Ethics Board (PHREB). It addressed the general principles of respect for persons, non-maleficence, beneficence, and justice to ensure the ethical soundness of the study.

3.0 Results and Discussions

3.1 Extent of Computer Literacy of Students in a Catholic School

Computer literacy is vital in schools as it empowers students to be competent in a rapidly evolving digital world (Thelma et al., 2024). Overall, in terms of word processing, the respondents are moderately literate (M = 2.85, SD = 0.75). When grouped by sex, males are moderately literate (M = 2.64, SD = 0.68), while females have slightly better word processing skills, also being moderately literate (M = 3.08, SD = 0.76). Grade 7 students from private schools (M = 3.03, SD = 0.73) and public schools (M = 2.75, SD = 0.75) both exhibit moderate literacy. Having access to a computer at home (M=2.97, SD=0.81) and those without access (M=2.74, SD=0.68) are moderately literate. In terms of previous computer training, those who received training (M=2.92, SD=0.59) and those who did not (M=2.82, SD=0.82) are moderately literate.

Overall, the respondents are moderately literate (M = 2.76, SD = 0.95). When grouped according to sex, males are slightly literate (M=2.51, SD=0.88), while females are moderately literate (M=3.03, SD=0.95). Students from private schools are moderately literate (M = 3.06, SD = 0.89), whereas those from public schools are slightly literate (M = 2.58, SD = 0.94). Respondents with access to a computer at home are moderately literate (M=2.99, SD=0.99), while those without access are slightly literate (M=2.54, SD=0.85). Those with previous computer training (M = 2.91, SD = 0.85) and those without training (M = 2.69, SD = 0.99) are both moderately literate.

Overall, in the area of spreadsheets, the respondents are moderately literate (M = 2.50, SD = 0.73). Males (M=2.39, SD=0.70) and females (M=2.61, SD=0.75) are slightly literate. Students from private schools are moderately literate (M = 2.79, SD = 0.69), whereas those from public schools are slightly less literate (M = 2.32, SD = 0.70). Respondents with access to a computer at home are moderately literate (M=2.61, SD=0.80), while those without access are slightly literate (M=2.38, SD=0.64). Those with previous computer training (M = 2.59, SD = 0.71) and those without training (M = 2.45, SD = 0.74) are slightly more literate.

In the area of general computing, the respondents are moderately literate (M = 2.89, SD = 0.93). Males (M=2.78, SD=0.96) and females (M=3.00, SD=0.90) are moderately literate. Individuals from private schools (M = 3.12, SD = 0.84) and those from public schools (M = 2.74, SD = 0.96) are moderately literate. Respondents with access to a computer at home are moderately literate (M=3.17, SD=0.97), while those without access are slightly literate (M=2.61, SD=0.81). Those with previous computer training (M = 3.00, SD = 0.85) and those without training (M = 2.83, SD = 0.97) are moderately literate.

Generally, the findings indicate that Grade 7 students are moderately literate in spreadsheets, while being slightly literate in other areas. This suggests that limited computer literacy in spreadsheets may hinder the students from doing data organization, tabulations, and calculations. This could be because spreadsheets are too challenging to navigate, which demands logical reasoning and problem-solving skills that are still developing among the Grade 7 students (Kruck et al., 2003; Nagy et al., 2021; Fernando et al., 2024). This finding is consistent with the studies of Kılıçoğlu and Kaplan (2019)

and Nouri et al. (2020), which indicate that Grade 7 students struggle with abstract concepts such as formulas and data analysis, which are features commonly found in spreadsheets. Given this result, this implies that teachers handling computer subjects may slowly integrate spreadsheets into their lessons to strengthen students' spreadsheet skills.

In terms of sex, male students are slightly literate in presentation, while female students are moderately literate. This finding suggests that females may have more experience or confidence in creating and organizing presentations. Female students tend to engage more in school activities that require design and creativity, such as creating project outputs and presentations using PowerPoint software (Kusumadewi et al., 2024). This is consistent with the study by Gebhardt et al. (2019), which found that female students perform better on design and creativity tasks, such as those in ICT. Meanwhile, male students are focusing more on technical or hands-on tasks rather than design-oriented activities, which results in slightly literate presentations (Sullivan & Bers, 2019; Gebhardt et al., 2019). Additionally, females tend to enjoy organization and aesthetics-related activities, which makes them more skilled in presentation tools (Kusumadewi et al., 2024). Hence, this implies that teachers may design activities in which students can use PowerPoint presentations to help specifically male students enhance their creativity and confidence in using the software.

In terms of the last school attended, students from private schools are more literate in presentation than students who graduated from public schools. Similarly, they are more proficient in spreadsheets than students from public schools. These findings underpin the computer literacy gap between the two types of schools. This could be due to high access to technology, such as computers, in private schools. This finding is supported by the study of Abbasi and Hussain (2024), which found that private schools have better access to ICT resources than public schools. Also, Barzallo et al. (2023) stipulate that private schools have better access to updated devices and digital resources compared to public schools. Hence, this is a reality in which many parents prefer to enroll their children in private schools due to this unequal opportunity (Kingdon, 2020; Kumar & Choudhury, 2021). As suggested by Cabasan (2024) and Tate and Warschauer (2022), technology integration strategies are necessary to mitigate digital access disparities. Hence, this implies that public schools may strengthen their ICT programs and have additional units of computers to enhance students' computer literacy.

In terms of access to a computer at home, students with computer access are moderately literate in presentation, spreadsheets, and general computing. In contrast, those without access are slightly literate in these areas. Hence, this finding suggests that a skills gap exists between students who have access to computers at home and those who do not. This could be because regular use of computers at home enhances overall computer literacy, as supported by Soyoof et al. (2024) and Bonanati and Buhl (2022). Likewise, frequent use of computers at home improves familiarity with various computer applications (Gonzales, 2021; Fraillon et al., 2020). Hence, limited access may hinder students' development of essential computer literacy skills (Gonzales, 2021; Fraillon et al., 2020; Mastam et al., 2024). This implies that teachers may provide more hands-on computer activities, especially to students who do not have computers at home.

Table 2 - Extent of Computer Literacy among the Students in a Philippine Catholic School

Variables	Word Processing			Presentation			Spreadsheets			General Computing		
	M	**SD**	**Int**	**M**	**SD**	**Int**	**M**	**SD**	**Int**	**M**	**SD**	**Int**
Sex												
Male	2.64	0.68	ML	2.51	0.88	SL	2.39	0.70	SL	2.78	0.96	ML
Female	3.08	0.76	ML	3.03	0.95	ML	2.61	0.75	SL	3.00	0.90	ML
Last School Attended												
Private	3.03	0.73	ML	3.06	0.89	ML	2.79	0.69	ML	3.12	0.84	ML
Public	2.75	0.75	ML	2.58	0.94	SL	2.32	0.70	SL	2.74	0.96	ML
Access to a Computer at Home												
Yes	2.97	0.81	ML	2.99	0.99	ML	2.61	0.80	ML	3.17	0.97	ML
No	2.74	0.68	ML	2.54	0.85	SL	2.38	0.64	SL	2.61	0.81	SL
Have Previous Computer Training												
Yes	2.92	0.59	ML	2.91	0.85	ML	2.59	0.71	SL	3.00	0.85	ML
No	2.82	0.82	ML	2.69	0.99	ML	2.45	0.74	SL	2.83	0.97	ML
Whole	***2.85***	***0.75***	***ML***	***2.76***	***0.95***	***ML***	***2.50***	***0.73***	***SL***	***2.89***	***0.93***	***ML***

Note: ML=Moderately Literate, SL=Slightly Literate

3.2 Challenges of Students in Computer Literacy

In terms of word processing, the most common challenges are inserting and resizing images or tables appropriately (f = 81, 69.8%) and formatting text (f = 79, 68.1%). In terms of presentations, the top challenges are duplicating slides (f=75, 64.7%) and incorporating multimedia elements, such as audio

or video (f=73, 62.9%). In terms of spreadsheets, formatting cells is the most reported challenge (f=80, 69.0%), followed by creating charts or graphs to represent data (f=71, 61.2%). In terms of general computing, the top challenges are online safety, recognizing unsafe websites (f=80, 69.0%), and managing files and folders (f=70, 60.3%).

In terms of word processing, the most common challenge is inserting and resizing images or tables appropriately, followed by formatting text. This finding suggests that students struggle with incorporating visual elements and arranging text in this software. This could be because, at their grade level, they still have limited experience with word-processing tools, such as inserting and resizing images or tables (Allen, 2023). Additionally, it may also be due to insufficient instruction or practice in text formatting, which requires understanding multiple functions (Govender & Jaffer, 2021; Salih & Abdurahman, 2021). Additionally, Grade 7 students could focus more on typing texts rather than refining the texts and inserting images in word processing (Camacho et al., 2021). Similarly, this finding could be attributed to the fact that most classroom instruction activities are handwritten, which does not involve word processing, and may not elicit the insertion and resizing of images or tables in Microsoft Word (Limpo & Graham, 2020; Ose Askvik et al., 2020). Hence, teachers, especially those handling computer-related subjects, may integrate hands-on activities that emphasize document formatting and visual integration to strengthen students' word-processing skills.

In terms of presentations, duplicating slides and adding multimedia elements, such as audio or video, are the top challenges for Grade 7 students. These findings suggest that students struggle with efficiency in slide duplication and enhancing their presentations by incorporating multimedia. This could be because students are unfamiliar with the different ribbons or the duplication process in presentation software (Tsai et al., 2015). It may also stem from a lack of exposure to multimedia tools, which limits their ability to incorporate engaging icons into slides (Williams et al., 2016; Bolkan, 2019). Furthermore, as presented by Redmond (2018) and Mayer (2017) in their studies, multimedia integration may require additional technical knowledge that Grade 7 students have not yet developed. Hence, teachers may provide structured guidance and hands-on practice to the students in using presentation features. With this, students can efficiently create and enhance their slides with multimedia elements.

In terms of spreadsheets, formatting cells and creating charts or graphs are the most challenging tasks for the respondents. These challenges suggest that students struggle to customize cells in spreadsheets and visually represent data through charts. These challenges faced by the Grade 7 students emerged because spreadsheets require logical structuring and an understanding of formatting tools that are not yet at their cognitive level or have not been instructed to them (Borthick & Schneider, 2023; Lynch, 2020). Additionally, spreadsheet software may be less emphasized in lower-grade levels, which reduces familiarity with the various ribbons and functions (Nagy et al., 2020). Meanwhile, this finding validates that the Grade 7 students are slightly literate regarding this software. Hence, teachers may integrate more spreadsheet exercises into their computer classes that help students build confidence in using this software.

In terms of general computing, online safety, including recognizing unsafe websites and managing files and folders, is the most commonly reported challenge among respondents. These findings suggest that students lack essential computer literacy skills, particularly in cybersecurity and file management. This could be because there have been insufficient discussions on online safety in their ICT or computer classes, and a priority has been given to other computer-related topics. As suggested by Hartikainen et al. (2017) and Žufić et al. (2017), the increasing use of digital technology in primary schools presents an opportunity for teachers to mediate and teach online safety to learners. Also, students spend more time on entertainment-based activities rather than learning proper file management (Sebestyén, 2020). Aside from this, high school students preferred to manage their files using their mobile phones rather than on laptops or computers (Ullaha et al., 2016). Hence, teachers may incorporate digital literacy programs that cover cybersecurity awareness and file management.

Table 3 - Challenges of Students in a Philippine Catholic School in the areas of Word Processing, Presentations, Spreadsheets, and General Computing

Variable	f	%
Word Processing		
1. Inserting and resizing images or tables appropriately.	81	69.8
2. Formatting text (e.g., adjusting fonts, alignment, or spacing).	79	68.1
3. Use page setup features (e.g., margins, orientation).	72	62.1
4. Saving documents in the required format (e.g., .docx, .pdf).	72	62.1
5. Creating and editing bullet points or numbered lists.	67	57.8
Presentation		
1. Duplicating the slides	75	64.7
2. Adding multimedia elements like audio or video.	73	62.9
3. Organizing slide content.	73	62.9
4. Transitions and animations	65	56.0

5. Select appropriate slide designs or templates.	60	51.7
Spreadsheet		
1. Formatting cells (e.g., borders, shading, text alignment).	80	69.0
2. Creating charts or graphs to represent data visually.	71	61.2
3. Entering data and organizing it in rows and columns.	69	59.5
4. Formulas for basic calculations (e.g., addition, subtraction).	66	56.9
General Computing		
2. Online safety and recognizing unsafe websites.	80	69.0
1. Manage files and folders (e.g., creating, renaming, or deleting).	70	60.3
3. Using email or other communication tools for schoolwork.	66	56.9
4. Use of Google Classrooms	65	56.0

3.3 Differences in the Extent of Computer Literacy among the Students

Table 4 presents the difference in the extent of computer literacy among the students in a Philippine Catholic school in the area of word processing. The findings showed there was no significant difference in word processing when they were grouped according to sex [t(114)=1.600, p=0.112], access to a computer at home [t(114)=1.745, p=0.084], and having previous computer training [t(114)=0.951, p=0.344]. There was a significant difference in Word Processing when participants were grouped according to the last school attended [t(114) = 3.502, p = 0.001]. Those from private schools rated significantly higher than those from public schools.

Students from private schools performed significantly better in word processing than those from public schools. This suggests that private school students are more familiar with creating and editing documents, formatting text, inserting images and tables, and adjusting page settings in word processing software. One reason for this difference could be that private schools have enough computer units that integrate word-processing skills more frequently, allowing students to practice creating and editing documents (Abbasi & Hussain, 2024; Fabito et al., 2020). However, public schools may have limited computer access, which reduces students' opportunities to engage in word processing activities (Tembrevilla, 2020; Maro, 2014; Ibáñez et al., 2020). Hence, to help public school students improve their word-processing skills, schools may provide more hands-on training and ensure students have regular access to computers with word-processing software.

Table 4 - Difference in the Extent of Computer Literacy among the Students in a Philippine Catholic School in the Area of Word Processing

Variable	**t**	**df**	**p**
Sex	1.600	114	0.112
Last School Attended	3.502*	114	0.001
Access to a Computer at Home	1.745	114	0.084
Have Previous Computer Training	0.951	114	0.344

*Note: *The difference in the means is significant when p≤0.05*

Table 5 presents the difference in the extent of computer literacy among the students in a Philippine Catholic school in the area of presentation. The results revealed there was no significant difference in presentation when the groups were grouped according to their last school attended [U = 1301.500, p = 0.107], access to a computer at home [U = 1358.000, p = 0.073], and having previous computer training [U = 1411.500, p = 0.598]. There was a significant difference in presentation when participants were grouped according to sex [U = 1073.500, p = 0.001]. Females rated significantly higher than males.

The results indicate that Grade 7 female students performed better in presentations than their male classmates. This suggests that they were more skilled in tasks such as creating and modifying slides, using WordArt, adding animations, and inserting tables or charts. The higher performance of female students may be attributed to their greater attention to detail, creativity, and familiarity with the software as supported by Kusumadewi et al. (2024). One possible reason for this difference is that female students may be more engaged in designing and formatting slides, utilizing features such as WordArt, animations, and layout modifications (Sullivan & Bers, 2019; Gebhardt et al., 2019). Hence, teachers may provide more hands-on practice and guidance for male students to enhance their skills in presentations, particularly in organizing slides, inserting elements, and improving presentation techniques.

Table 5 - Difference in the Extent of Computer Literacy among the Students in a Philippine Catholic School in the area of presentation

Variable	U	z	p
Sex	1073.500*	-3.356	0.001
Last School Attended	1301.500	-1.610	0.107
Access to a Computer at Home	1358.000	-1.792	0.073
Have Previous Computer Training	1411.500	-0.527	0.598

*Note: *The difference in the means is significant when p≤0.05*

Table 6 presents the difference in the extent of computer literacy among the students in a Philippine Catholic school in the area of spreadsheets. The findings showed there was no significant difference in the spreadsheet when participants were grouped according to sex [U = 1453.000, p = 0.209] and had previous computer training [U = 1308.500, p = 0.259]. There was a significant difference in general computing when participants were grouped according to their last school attended [U=1203.000, p=0.030] and access to a computer at home [U=1110.000, p=0.002]. Those from private schools rated considerably higher than those from public schools. In addition, those with access to computers rated significantly higher than those without.

Students from private schools performed better in general computing than those from public schools. This suggests that private school students have more experience using computers for tasks like managing files, using Office applications, and searching for information. This could be because private schools often have more computers and better technology programs, which give students more hands-on practice (Maro, 2014; Ibáñez et al., 2020; Siyam, 2019). Public schools, on the other hand, often have limited resources, making it more challenging for students to develop strong computing skills (Abbasi & Hussain, 2024). This implies that public schools may provide more computer access and training to help students improve their computing skills.

Meanwhile, students with computers at home performed better in general computing than those without. This suggests that regular exposure to a computer helps students become more comfortable with basic computer tasks. Having a computer at home enables students to practice using various applications, search for information, and manage files (Bonanati & Buhl, 2022; Soyoof et al., 2024). They also have more time to explore and improve their computer skills compared to students who only use computers at school (Pullen, 2015; Bonanati & Buhl, 2022; Soyoof et al., 2024). Those without home access may struggle because they rely only on computers at school (Bonanati & Buhl, 2022). Hence, schools may offer extra computer time or hands-on computer time to support students who do not have computers at home.

Table 6 - Difference in the Extent of Computer Literacy among the Students in a Philippine Catholic School in the area of Spreadsheets

Variable	U	z	p
Sex	1453.000	-1.255	0.209
Last School Attended	1203.000*	-2.169	0.030
Access to a Computer at Home	1110.000*	-3.160	0.002
Have Previous Computer Training	1308.500	-1.129	0.259

*Note: *The difference in the means is significant when p≤0.05*

Table 7 presents the difference in the extent of computer literacy among the students in a Philippine Catholic school in the area of general computing. The results revealed there was no significant difference in general computing when participants were grouped according to sex [t(114) = 1.224, p = 0.224] and had previous computer training [t(114) = 0.964, p = 0.337]. There was a significant difference in general computing when participants were grouped according to their last school attended [t(114) = 0.034, p = 0.034] and access to a computer at home [t(114) = 0.001, p = 0.001]. Those from private schools rated significantly higher than those from public schools. In addition, those with access to computers rated significantly higher than those without.

Students from private schools performed significantly better in general computing than those from public schools. This suggests that private school students are more proficient in performing basic computing tasks such as managing files and folders, navigating operating systems, and using different applications. Private schools may have more advanced computer facilities and structured digital literacy programs, allowing students to practice essential computing skills (Maro, 2014; Ibáñez et al., 2020; Siyam, 2019; Fabito et al., 2020). In contrast, public schools often have limited access to computers, resulting in fewer opportunities for students to develop these skills (Tembrevilla, 2020; Maro, 2014; Ibáñez et al., 2020). Public schools may invest in better computer facilities and provide more practical computer training to ensure students develop essential computer skills.

Students with access to computers at home performed significantly better in general computing than those without. This indicates that frequent exposure to computers helps students become more comfortable with basic digital tasks such as managing files, navigating operating systems, and searching for information online. Having a computer at home allows students to practice daily computing tasks, reinforcing their skills beyond the

classroom (Pullen, 2015; Bonanati & Buhl, 2022; Soyoof et al., 2024). They have more opportunities to explore different applications, learn about operating systems, and familiarize themselves with social media platforms (Soyoof et al., 2024; Bonanati & Buhl, 2022). On the other hand, students without home access may struggle with these tasks due to limited exposure, as they rely solely on school resources for learning (Bonanati & Buhl, 2022). This implies that schools may offer extra computer time and training to students without home access, helping them develop essential computing skills and stay on par with their peers.

Table 7- Difference in the Extent of Computer Literacy among the Students in a Philippine Catholic School in the Area of General Computing

Variable	t	df	p
Sex	1.224	114	0.224
Last School Attended	2.150*	114	0.034
Access to a Computer at Home	3.379*	114	0.001
Have Previous Computer Training	0.964	114	0.337

*Note: *The difference in the means is significant when p≤0.05*

This study theoretically assumed that the extent of computer literacy among Grade 7 students in a Catholic school varies based on their sex, the last school they attended, the availability of a computer at home, and their previous computer training. While the 21st Century Skills Framework posits that computer literacy varies based on students' demographic profiles, the findings of this study revealed that only some demographic variables show significant differences in computer literacy, thereby partially validating the framework. The results showed that students' abilities in word processing, presentations, spreadsheets, and general computing vary based on sex, last school attended, access to a computer at home, and previous computer training. The framework helped explain these differences and highlighted the need to strengthen digital learning in basic education. Hence, further studies are encouraged to explore computer literacy in other grade levels and school settings to validate and expand the insights of this research.

4.0 Conclusion

The findings of this study offer meaningful insights into the current state of computer literacy among Grade 7 students, particularly in relation to their experiences with spreadsheet navigation and PowerPoint presentations. It appears that hands-on learning and skill development may play a critical role in strengthening students' competencies in these areas. Notably, the observed differences across sex and school types advise that varying levels of exposure and access to digital tools may influence computer-related skills. The data also point toward a potential need for more structured and accessible computer-based experiences, particularly in public schools where limited resources may pose challenges. The disparity between students with and without access to computers at home highlights the value of extended in-school opportunities to bridge digital divides. Furthermore, the study draws attention to the relevance of integrating computer training within existing curricular frameworks, such as Technology and Livelihood Education (TLE), as a means of promoting equitable and sustained computer literacy development. Hence, these insights may inform future initiatives that seek to address skill gaps and support the continuous improvement of computer instruction in both public and private educational contexts.

Meanwhile, this paper identifies certain boundaries in the findings. This was conducted in a Catholic school in Western Visayas, Philippines. The data were collected at one grade level. The study's findings were limited to four areas of computer literacy and employed a quantitative research approach, specifically the descriptive and comparative methods. The study utilized a 51-item adopted research questionnaire and checklist. Hence, the findings do not necessarily generalize to all high school students. Lastly, the findings were based on the self-evaluation of Grade 7 students regarding their level of computer literacy and the challenges they faced. Given these limitations, additional studies are encouraged to employ the same or other designs, respondents, and frameworks to confirm the claims of this study.

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