

Computer and Digital Literacy of Senior High School Teachers

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ABSTRACT

This study examined the computer and digital literacy of senior high school teachers in Alicia South District, Alicia, Isabela, and its implications for teaching effectiveness. Using a descriptive-correlational design, data were collected from 29 teachers through questionnaires and interviews. Results revealed that teachers are generally very proficient to excellent in basic computer operations, communication, internet use, and word processing. However, their skills in spreadsheets, graphics, and advanced formatting and referencing functions were only at a good level. Findings also showed that most teachers are young, female, and moderate computer users with district-level training exposure. The study concludes that while teachers possess strong foundational digital skills, targeted training is needed to enhance advanced technological competencies for improved instructional performance.

INTRODUCTION

Similarly, educational institutions frequently rely on designated information technology teachers to manage digital operations and technical concerns. This reliance indicates a gap in comprehensive computer competency among non-IT personnel.

Although technology is deeply integrated into workplace operations, there remains limited research examining the extent of computer proficiency among government employees and institutional staff, particularly among managerial and administrative personnel. Furthermore, few studies explore how gaps in digital skills affect workplace efficiency, productivity, and independence in performing computer-based tasks. This lack of empirical investigation highlights the need to assess employees' computer literacy levels and identify strategies for enhancing their technical competencies.

In the twenty-first century, employees are expected to manage various computer-based documentation and administrative processes effectively. As technology continues to evolve rapidly, skills must also be continuously developed and updated. Strengthening computer literacy and technical expertise among employees is therefore essential to ensure efficiency, adaptability, and sustainable organizational performance in the digital age.

Computer literacy will always be at risk when a person in the office lacks knowledge in some useful manipulations in business and government agencies. This is why the research pursue this study Computer And Digital Literacy Of Senior High School Teachers In Alicia South District, Alicia, Isabela.

LITERATURE REVIEW

This chapter presents related studies, opinions, and discussions relevant to digital literacy and its role in education. These materials enrich the study by providing deeper insights into the topic. Computer and digital literacy are essential competencies for teachers, enabling them to access, evaluate, and use digital technologies effectively in instruction. In a rapidly digitalizing environment, teachers are expected not only to use computers but to integrate digital tools meaningfully into pedagogy. Digital literacy extends beyond technical skills to include cognitive and socio-emotional competencies necessary for 21st-century learning. In the Philippines, educational reforms under the K to 12 program emphasize technology integration; however, disparities in digital proficiency persist due to differences in resource availability and access to training. This highlights the need for localized studies on teacher digital competencies, particularly in rural areas.

Computer literacy is defined as the foundational knowledge of hardware and software operations, forming the basis of broader digital literacy. Proficiency in applications such as word processing, spreadsheets, and file management enables teachers to develop instructional materials and manage classroom technologies effectively. According to Yadav, Sharma, and Chandel (2020), computer literacy enhances teachers' ability to support student learning, while lack of these skills contributes to resistance and anxiety toward technology integration. The International Society for Technology in Education (ISTE) further emphasizes that educators must meet technology standards to support digital

learning environments. However, access to training remains limited, especially in rural settings, leading to variations in teachers' computer literacy levels.

Digital literacy goes beyond basic computer skills and includes the ability to evaluate information, communicate effectively, create digital content, and practice ethical technology use. Martin and Grudziecki (2006) describe digital literacy as competencies that enable individuals to participate critically in digital environments, while the European Commission's DigComp framework highlights its multi-dimensional nature. Teachers must possess these competencies to facilitate effective learning and avoid issues such as misinformation and poor instructional decisions. In the Philippine context, DepEd (2017) underscores the importance of digital competencies for teaching effectiveness. However, limited access to resources and training continues to hinder teachers' digital skill development, especially in rural areas.

Professional development is a key factor in enhancing teacher digital literacy. Effective training programs focus on hands-on application, collaboration, and subject-specific integration rather than purely theoretical instruction. Darling-Hammond, Hylar, and Gardner (2017) emphasize that sustained and structured professional learning leads to better technology integration in teaching. However, inconsistent training opportunities remain a challenge, particularly in remote areas. The COVID-19 pandemic further highlighted the urgency of digital literacy, as many teachers struggled to adapt to online and blended learning environments. UNESCO (2021) reported uneven readiness among educators, revealing gaps in infrastructure, access, and digital skills. This situation reinforced the need for continuous and comprehensive digital training.

Teacher self-efficacy and attitudes toward technology significantly influence the adoption of digital tools. Bandura (1997) explains that individuals' beliefs about their capabilities affect their willingness to engage in tasks, while Teo (2013) found that positive attitudes strongly predict technology use in education. Teachers with high digital self-efficacy are more likely to integrate technology, whereas those with low confidence tend to avoid it. In addition, access to infrastructure plays a crucial role in skill development. The International Telecommunication Union (2020) highlights the digital divide between urban and rural areas, where limited access to computers and internet connectivity restricts teachers' ability to practice and apply digital skills. Addressing these disparities is essential for improving teacher readiness.

Digital literacy also includes important components such as information literacy, digital communication, and cybersecurity awareness. The American Library Association (2016) defines information literacy as the ability to evaluate and use information critically, which is essential in guiding students' research and learning. The OECD (2019) emphasizes the role of digital communication in supporting collaboration and student engagement, particularly in online environments. Meanwhile, the National Cyber Security Centre (2020) highlights the importance of data protection and safe technology practices. Teachers must be equipped with these competencies to ensure effective, ethical, and secure use of digital tools in education.

Overall, research indicates that digital literacy significantly contributes to teaching effectiveness, student engagement, and educational equity. The World Bank (2020) identifies digital skills as key determinants of teaching quality and access to learning resources. Teachers with strong digital competencies can deliver inclusive instruction and support diverse learners, while those with limited skills may unintentionally widen achievement gaps. Therefore, investment in infrastructure, training, and continuous professional support is necessary. Localized studies, such as those conducted in districts like Alicia South, are important in identifying specific needs and developing targeted interventions to improve teacher digital literacy.

METHODOLOGY

This study employed a descriptive-correlational research design to examine the relationship between teachers' use of modern technology, their teaching performance, and students' academic achievement in Science. The research was conducted in the Alicia South District, Alicia, Isabela, with teachers serving as the primary respondents. The design enabled the collection of quantitative data to describe teachers' computer and digital literacy while also determining significant relationships among the variables. By focusing on measurable aspects such as proficiency levels and technology usage, the study aimed to provide a clear and objective analysis of how modern technological practices influence educational outcomes.

Data were gathered using a structured questionnaire and supported by unstructured interviews to obtain deeper insights. The questionnaire consisted of two parts: the first covered the demographic profile of teachers, while the second assessed their competencies in various areas of computer literacy, including general operations, communication, word processing, spreadsheets, and graphics. Statistical tools such as frequency counts, weighted mean, and Likert scale analysis were utilized to interpret the data. The results were categorized using a proficiency scale, allowing for a systematic evaluation of teachers' digital skills and their implications for teaching effectiveness and student performance.

RESULTS

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

This chapter presents, analyzes and interprets the data gathered from questionnaires, interviews and documentary analysis in connection with the objectives of the study.

The presentation is composed of two parts which is the profile of the respondents and information proper.

For clearer understanding, the data were presented in table forms and were treated comprehensively.

Profile of the Respondents

Table 1. Distribution of the Respondents by Age

Age	Frequency	Percentage
21 - 30	11	37.93
31 - 40	9	31.03
41 - 50	6	20.69
51 - 60	3	10.34
Total	29	100

The data show that the largest proportion of respondents belongs to the 21-30 age group, comprising 37.93% of the total participants. This is followed by teachers aged 31-40, accounting for 31.03%, indicating that a majority of the respondents are relatively young professionals. Teachers aged 41-50 represent 20.69% of the sample, while those aged 51-60 comprise the smallest group at 10.34%. The results suggest that most senior high school teachers in Alicia South District fall within the early to middle stages of their professional careers. The dominance of younger age groups may reflect recent hiring trends or expansion in senior high school education. Given that younger educators are often more exposed to digital technologies during their academic training, this age distribution may influence overall computer and digital literacy levels. However, the presence of older teachers highlights the need to consider varying levels of technological exposure across age brackets.

The predominance of younger teachers implies a potentially higher level of familiarity with computers and digital tools, which may positively influence the district's overall digital literacy profile. Younger educators are generally considered digital adopters due to their greater exposure to technology during their formative years. However, the smaller proportion of older teachers suggests the need for continuous professional development to ensure equitable digital competence across all age groups. Training programs should therefore be inclusive and differentiated according to age-related learning needs. School administrators may design mentorship systems where digitally proficient teachers assist colleagues who require additional support. Strengthening collaborative learning can help bridge possible generational gaps in digital skills. Overall, the age distribution indicates favorable conditions for digital integration, provided that appropriate support mechanisms are maintained.

Table 2. Distribution of Respondents by Gender

Gender	Frequency	Percentage
Male	9	31.03
Female	20	68.97
Total	29	100

The data reveal that the majority of the respondents are female teachers, comprising 68.97% of the total population. Male teachers account for 31.03% of the respondents, representing less than one-third of the sample. This indicates that the senior high school teaching workforce in Alicia South District is predominantly female. The gender distribution reflects a common trend in the education sector, where female teachers often outnumber their male counterparts. Such distribution suggests that women play a significant role in delivering instruction and implementing educational programs in the district. In relation to computer and digital literacy, both male and female teachers contribute to the overall technological competence of the school system. However, the higher representation of female teachers means that the study’s findings largely reflect their digital literacy experiences and competencies.

The predominance of female teachers implies that professional development initiatives on computer and digital literacy should primarily address their needs and preferences. Since female teachers make up nearly seventy percent of the respondents, their level of digital competence significantly influences the district’s overall technological readiness. Training programs should therefore ensure inclusive participation while recognizing potential differences in access, experience, and confidence levels across genders. Encouraging equal opportunities for skill enhancement can promote balanced technological proficiency among both male and female teachers. School administrators may also consider fostering collaborative environments where teachers share digital expertise regardless of gender. The data suggest that strengthening digital literacy among female teachers could have a substantial positive impact on the district’s instructional quality. Overall, gender-responsive digital training strategies may help enhance effective technology integration in senior high schools.

Table 3. Distribution of Respondents by Highest Educational Attainment

Particulars	Frequency	Percentage
BEED	12	41.38
BSED	4	13.79
Master’s Degree	11	37.39

Doctorate Degree	2	6.90
Total	29	100.00

Frequency of Mentioned

The data indicate that the largest group of respondents holds a Bachelor of Elementary Education (BEED) degree, comprising 41.38% of the total participants. This is followed closely by teachers with a Master’s Degree at 37.93%, showing that a substantial portion of the respondents have pursued advanced studies. Those with a Bachelor of Secondary Education (BSED) degree account for 13.79%, while only 6.90% have completed a Doctorate Degree. The findings suggest that most senior high school teachers in Alicia South District possess at least a bachelor’s degree, with many advancing to postgraduate education. The relatively high percentage of teachers with master’s degrees reflects a commitment to professional growth and academic advancement. However, the small proportion of doctorate holders indicates that advanced research-level qualifications are less common within the district. Overall, the educational profile of the respondents demonstrates a generally strong academic foundation among the teaching staff.

The presence of a significant number of teachers with master’s and doctorate degrees implies a positive outlook for computer and digital literacy development in the district. Higher educational attainment often correlates with greater exposure to research, academic technologies, and digital learning platforms. Teachers who pursued graduate studies may have developed stronger skills in using digital tools for research, data analysis, and instructional preparation. However, since the majority still hold bachelor’s degrees, continuous professional development in digital competencies remains essential. School administrators may consider leveraging the expertise of postgraduate degree holders to mentor colleagues in digital integration practices. Encouraging further academic advancement could also enhance technological proficiency and innovation in teaching. Overall, the educational attainment distribution suggests strong potential for improving and sustaining computer and digital literacy among senior high school teachers in Alicia South District.

Table 4. Distribution of Respondents by Computer Application Acquired

Particulars	Frequency	Percentage
Microsoft Offices	29	100
Video Editors	8	27.59
Internet Connection Apps	29	100
Editors	2	6.90
Social Media	29	100

Frequency of Mentioned

The data indicate that all respondents (100%) are proficient in Microsoft Office, Internet connection applications, and social media platforms. This shows a universal level of basic computer competency among senior high school teachers in Alicia South District. Only 27.59% of respondents reported knowledge of video editing applications, suggesting that multimedia content creation is less common. Even fewer teachers, 6.90%, have experience with other editing software, indicating a limited engagement with advanced digital production tools. These findings reveal that while foundational and communication-related digital skills are widespread, specialized digital competencies are not yet prevalent. This trend could be due to limited access to training or the optional nature of multimedia use in daily teaching tasks. Overall, teachers demonstrate strong capability in general productivity and communication applications, but opportunities exist to expand their expertise in creative and specialized software.

The universal proficiency in Microsoft Office, internet applications, and social media implies that teachers are well-prepared to handle basic digital tasks such as lesson preparation, online communication, and administrative responsibilities. However, the lower percentages in video editing and other editing software suggest a need for targeted training in multimedia and content creation skills. School administrators may consider providing workshops or tutorials to enhance teachers' ability to develop engaging digital instructional materials. Expanding these skills can improve classroom innovation and student engagement in senior high school programs. Additionally, promoting the use of advanced digital tools can increase overall digital literacy and encourage teachers to adopt technology creatively. Strengthening multimedia capabilities may also support blended or online learning initiatives in the district. In summary, while foundational skills are strong, professional development should target specialized digital competencies to maximize teaching effectiveness.

Table 5. Distribution of Respondents by Computer Trainings Attended

Particulars	Frequency	Percentage
Regional	2	4.4
Division	14	31.1
District	29	64.4

Frequency of Mentioned

Most senior high school teachers in Alicia South District have attended district-level computer trainings (64.4%), followed by division-level trainings (31.1%), and very few have attended regional-level trainings (4.4%).

This indicates that professional development for teachers is mostly concentrated at the district level, which may limit exposure to broader regional or division-level trainings. For improving computer and digital literacy, it may

be beneficial to encourage participation in higher-level trainings to gain more advanced skills and best practices beyond the local district.

Table 6. Distribution of Respondents by Number of Hours of Computer Usage Per Day

Particulars	Frequency	Percentage
1 - 3 hours	22	75.86
4 - 6 hours	6	20.69
7 - 9 hours	1	3.45
Total	29	100.00

The data reveal that the majority of senior high school teachers in Alicia South District, Alicia, Isabela spend 1-3 hours per day using a computer, accounting for 75.86% of the respondents. Meanwhile, 20.69% of the teachers use computers for 4-6 hours daily, and only 3.45% reported using computers for 7-9 hours per day. This indicates that most teachers engage in moderate computer usage, while only a very small proportion use computers extensively on a daily basis.

The findings suggest that while computer usage is common among senior high school teachers, most of them use it for limited hours each day. This may imply that teachers utilize computers primarily for essential tasks such as lesson preparation, communication, and reporting rather than prolonged or advanced digital activities. To enhance computer and digital literacy, professional development programs and digital integration initiatives may be beneficial in encouraging more frequent and effective use of technology in teaching and learning processes.

Information Proper

Table 7. General Computer Operations

	Weighted Mean	QD	Rank
A. PERFORM ELEMENTARY TASKS:			
1. Perform the boot process	3.85	VP	7
2. Perform virus protection and scan	3.95	VP	6
3. Install software from disk or CD-ROM	3.98	VP	5
4. Create folders and subdirectories	4.15	VP	4
5. Create and use filenames and extensions	4.18	E	2
6. Search for files and directories	4.17	VP	3
7. Print selected pages	4.21	E	1

B. MANIPULATE FILES			
8. Retrieve files	4.24	E	2
9. Copy, move, delete files	4.28	E	1
10. Back-up files	4.22	E	3
11. Use auto-save	4.21	E	4
12. Organize files in subdirectories/folders	4.20	E	5
13. Import and export files	4.18	E	6
C. USE KEYBOARD FOR DATA AND PROGRAM ENTRY			
14. Correctly place fingers on the HOME keys	3.16	VP	1
15. Navigate appropriately to other keys	3.13	VP	2
Average Weighted Mean	3.78	VP	

The data on General Computer Operations show that senior high school teachers in Alicia South District demonstrate a Very Proficient (VP) to Excellent (E) level of competence in most basic computer skills, with an overall average weighted mean of 3.78 (Very Proficient). In performing elementary tasks, teachers showed high proficiency, particularly in printing selected pages (4.21, Excellent), creating and using filenames and extensions (4.18, Excellent), and searching for files and directories (4.17, Very Proficient). In terms of manipulating files, respondents performed strongly, especially in copying, moving, and deleting files (4.28, Excellent), retrieving files (4.24, Excellent), and backing up files (4.22, Excellent). However, slightly lower ratings were observed in keyboard-related skills such as correctly placing fingers on the home keys (3.16, Very Proficient) and navigating appropriately to other keys (3.13, Very Proficient). Overall, the results indicate that teachers are highly capable in managing files and executing essential computer operations.

The findings imply that senior high school teachers in Alicia South District possess strong foundational computer skills necessary for teaching, documentation, and digital resource management. Their high proficiency in file manipulation and elementary tasks suggests readiness to integrate technology into instructional and administrative functions. However, the comparatively lower scores in keyboarding skills indicate a potential area for enhancement, particularly in improving typing efficiency and accuracy. Strengthening these minor skill gaps through targeted training may further enhance overall computer and digital literacy among teachers.

Table 8. Communication and Internet

	Weighted Mean	QD	Rank
A. USING EMAIL			
1. Send and receive e-mail messages	4.34	E	1
2. Enclose and recover documents attached to e-mail messages	4.25	E	2

B. USING INTERNET			
1. Access the internet with a browser	4.38	E	1
2. Navigate the web by the use of links and URL address	4.34	E	3
3. Use search engines to locate desired information	4.36	E	2
4. Download and print desired items from the internet	4.07	VP	4
Average Weighted Mean	4.29	E	

The data on Communication and Internet skills reveal that senior high school teachers in Alicia South District demonstrate an overall Excellent (E) level of competence, as reflected by the average weighted mean of 4.29. In terms of using email, teachers showed excellent proficiency in sending and receiving email messages (4.34) and in enclosing and retrieving attached documents (4.25). Similarly, in using the internet, respondents exhibited excellent skills in accessing the internet through a browser (4.38), using search engines to locate information (4.36), and navigating the web through links and URL addresses (4.34). Although still rated Very Proficient (VP), downloading and printing materials from the internet (4.07) received the lowest mean among the indicators. Overall, the results indicate that teachers are highly skilled in online communication and internet navigation.

The findings imply that senior high school teachers in Alicia South District are well-equipped with essential communication and internet skills necessary for modern teaching. Their excellent competence in email and online searching suggests readiness for digital collaboration, online research, and access to instructional resources. The slightly lower rating in downloading and printing materials may indicate minor technical challenges or less frequent engagement in that specific task. Nonetheless, the overall excellent rating highlights strong digital literacy in communication and internet use, supporting effective integration of technology in education.

Table 9. Word Processing

	Weighted Mean	QD	Rank
A. PERFORM BASIC WORD PROCESSING TASKS			
1. Enter text	4.64	E	1
2. Insert pictures, shapes and other objects	4.28	E	4
3. Print document files	4.62	E	2
4. Use document preview option	4.61	E	3
B. PERFORM EDITING TASKS			

1. Cut, copy and paste selected object	4.62	E	2
2. Insert and delete selected object	4.71	E	1
3. Make corrections using spell check	4.28	E	3
4. Make corrections using grammar check	4.24	E	4
5. Use thesaurus	4.16	VP	5
C. PERFORM FORMATTING TASKS			
1. Select and change font	3.39	VP	3
2. Select and change styles (e.g. boldface, italics, underlining)	3.42	VP	1
3. Select and change font sizes	3.38	VP	4
4. Set line spacing (e.g. single space, double space, etc.)	3.41	VP	2
5. Insert page numbers	3.28	VP	5
6. Set paragraph alignment (e.g. left, right, center, justified)	3.26	VP	6
7. Set paragraph indentation (e.g. bullets, numbered lists)	3.22	VP	8
8. Create itemized lists (e.g. bullets, numbered lists)	3.20	VP	9
9. Set margins	3.24	VP	7
10. Create tables	3.18	VP	10
D. CREATE REFERENCES AND CITATIONS			
1. Footnotes/endnotes	3.10	G	1
2. Works cited page	3.05	G	3
3. Insert headers/footers	3.06	G	2
Average Weighted Mean	3.83	VP	

The data on Word Processing skills indicate that senior high school teachers in Alicia South District demonstrate an overall Very Proficient (VP) level of competence, with an average weighted mean of 3.83. Teachers showed an Excellent (E) level in performing basic word processing tasks such as entering text (4.64), printing document files (4.62), using document preview (4.61), and inserting or deleting selected objects (4.71), which obtained the highest rating. Editing tasks were also rated Excellent, particularly in cut, copy, and paste functions (4.62) and using spell and grammar check features. However, formatting tasks such as changing fonts, adjusting alignment, setting margins, creating tables, and inserting page numbers were rated Very Proficient, indicating slightly lower mastery compared to basic and editing functions. Meanwhile, tasks related to creating references and citations – such as inserting footnotes/endnotes (3.10), works cited pages (3.05), and headers/footers (3.06) –

were rated Good (G), representing the lowest area of competence among the categories.

Overall, the results show that teachers are highly skilled in fundamental and editing features of word processing but demonstrate relatively lower proficiency in advanced formatting and referencing functions.

The findings imply that senior high school teachers in Alicia South District are well-equipped with essential word processing skills needed for preparing instructional materials, reports, and other academic documents. Their excellent performance in basic and editing tasks suggests confidence and frequent use of these features. However, the lower ratings in formatting and especially in creating references and citations indicate areas that may require further enhancement. Providing targeted training or workshops on advanced formatting, academic referencing, and document structuring could strengthen teachers' overall digital literacy and support the production of more formally structured academic and research-based documents.

Table 10. Spreadsheets

	Weighted Mean	QD	Rank
A. PERFORM DATA ENTRY TASKS			
1. Enter labels, values, headings	2.68	G	1
2. Enter formula using arithmetic operations and/or built-in functions	2.50	S	3
3. Create charts and graphics from cell contents	2.59	G	2
B. PERFORM EDITING TASKS			
1. Cut, copy and paste cell contents	3.08	G	2
2. Delete cell contents	3.10	G	1
3. Insert and delete rows and columns	3.06	G	3
C. PERFORM FORMATTING TASKS			
1. Set fonts, font sizes, styles	3.14	G	1
2. Apply appropriate formats for cell contents (e.g. currency, percent, etc.)	2.86	G	3
3. Align cell contents (left, right, center, justify, center across columns)	2.89	G	2
4. Set and change row and column width and height	2.71	G	4
Average Weighted Mean	2.86	G	

The data on Spreadsheets reveal that senior high school teachers in Alicia South District have an overall Good (G) level of competence, as reflected by the average weighted mean of 2.86. In performing data entry tasks, teachers demonstrated moderate proficiency in entering labels, values, and headings

(2.68, Good) and creating charts and graphics (2.59, Good). However, entering formulas using arithmetic operations and built-in functions received the lowest rating (2.50, Satisfactory), indicating limited mastery of computational features. In editing tasks, respondents showed consistent Good ratings, particularly in deleting cell contents (3.10) and cutting, copying, and pasting cell contents (3.08). Formatting tasks such as setting fonts (3.14), aligning cell contents (2.89), and applying appropriate cell formats (2.86) were also rated Good, though not at a high level.

Overall, the findings suggest that while teachers are capable of performing basic spreadsheet functions, they demonstrate lower proficiency compared to other computer skill areas such as word processing and internet use.

The results imply that spreadsheet skills are an area that may require improvement among senior high school teachers in Alicia South District. Although they can perform basic data entry, editing, and formatting tasks, their limited ability to use formulas and advanced functions may affect efficiency in handling grades, data analysis, and report generation. To strengthen their overall computer and digital literacy, targeted training on spreadsheet functions—particularly formula creation, data analysis tools, and chart generation—would be beneficial. Enhancing these skills can improve productivity and support more data-driven decision-making in teaching and school management.

Table 11. Graphics

	5	4	3
A. CREATE AND MANIPULATE GRAPHICS FILES			
1. Use clip art	3.13	G	1
2. Capture a preexisting image by scanning	2.94	G	5
3. Capture a preexisting image from video input	2.88	G	6
4. Create an image using a graphics program	3.10	G	2
5. Use font style and size	3.08	G	3
6. Use color, space and layout	3.04	G	4
Average Weighted Mean	3.01	G	

The data on Graphics skills indicate that senior high school teachers in Alicia South District have an overall Good (G) level of competence, with an average weighted mean of 3.01. Among the indicators, the highest-rated skill was the use of clip art (3.13, Good), followed closely by creating images using a graphics program (3.10, Good) and using font style and size (3.08, Good). Teachers also demonstrated Good proficiency in applying color, space, and layout (3.04). However, slightly lower ratings were observed in capturing preexisting images by scanning (2.94) and capturing images from video input (2.88), though these were still within the Good level.

Overall, the findings show that teachers possess moderate competence in creating and manipulating graphics files, particularly in basic design and layout tasks, but have less familiarity with more technical image-capturing processes.

The results imply that while senior high school teachers in Alicia South District can effectively perform basic graphic-related tasks for instructional materials, there is room for improvement in more advanced image acquisition techniques such as scanning and video capture. Strengthening these skills through targeted training may enhance their ability to create more visually engaging and multimedia-rich learning resources. Improving graphic design and image manipulation competencies can further support innovative teaching practices and enhance students' learning experiences.

CONCLUSIONS

Based on the findings of the study "Computer and Digital Literacy of Senior High School Teachers in Alicia South District, Alicia, Isabela", the following conclusions are drawn:

Teachers Possess Strong Foundational Computer Skills. Senior high school teachers demonstrate a Very Proficient to Excellent level of competence in general computer operations. They are highly capable in performing elementary tasks and managing files, indicating that they have strong foundational knowledge necessary for daily academic and administrative functions.

Communication and Internet Skills Are Highly Developed. Among all areas assessed, Communication and Internet skills obtained the highest ratings, with an overall Excellent level of competence. Teachers are highly skilled in using email, browsing the internet, navigating websites, and utilizing search engines, showing readiness for digital communication, online research, and technology-supported instruction.

Word Processing Skills Are Advanced but Limited in Referencing Functions. Teachers exhibit **Very Proficient to Excellent skills in basic and editing word processing tasks, such as encoding text, printing documents, and using editing tools. However, their competence declines to Good in more technical aspects such as formatting and creating references and citations, suggesting a need for enhancement in preparing more formal or research-based documents.

Spreadsheet Skills Need Further Improvement. Spreadsheet competency is only at a Good level overall, with formula creation rated as **Satisfactory**, the lowest among all skill areas assessed. This indicates limited mastery of computational and data analysis functions, which may affect efficiency in handling grades, reports, and data-driven tasks.

Graphics Skills Are Moderate but Not Advanced. Teachers demonstrate a Good level of competence in graphics-related tasks, particularly in basic design and layout functions. However, more technical skills such as image capturing and advanced graphic manipulation are less developed, indicating opportunities for further training to enhance multimedia integration in teaching.

Overall, the study concludes that while senior high school teachers in Alicia South District are digitally competent—especially in communication, internet use, and basic computer operations, there remain specific areas, particularly in spreadsheets, advanced formatting, referencing, and graphics,

where targeted professional development can further strengthen their overall computer and digital literacy.

FURTHER STUDY

Based on the conclusions of the study “Computer and Digital Literacy of Senior High School Teachers in Alicia South District, Alicia, Isabela,” the following recommendations are proposed:

Sustain and Strengthen Foundational Computer Skills. Although teachers already demonstrate strong foundational computer skills, continuous professional development programs should be conducted to sustain and further enhance their proficiency. Regular refresher trainings and updates on new software features will ensure that teachers remain competent and up to date with technological advancements.

Maximize Communication and Internet Skills for Instructional Innovation. Given their excellent competence in communication and internet use, teachers should be encouraged to integrate more online platforms, digital collaboration tools, and web-based resources into their teaching practices. School administrators may support initiatives such as virtual learning communities, online research activities, and blended learning strategies to maximize these strengths.

Provide Training on Advanced Word Processing and Academic Referencing. Targeted workshops should be conducted focusing on advanced formatting, document structuring, and proper creation of references and citations. Enhancing these skills will better equip teachers in preparing research papers, action research, instructional materials, and other formal academic documents.

Conduct Intensive Training on Spreadsheet Functions and Data Analysis. Since spreadsheet skills, particularly formula creation and data analysis were identified as areas needing improvement, specialized training sessions should be organized. Emphasis should be placed on using formulas, functions, data computation, chart generation, and automated grading systems to improve efficiency in managing student records and reports.

Enhance Graphics and Multimedia Design Skills. To strengthen multimedia integration in teaching, seminars or hands-on workshops on graphic design, image editing, and multimedia content creation should be provided. Improving these skills will help teachers develop more engaging, visually appealing, and interactive instructional materials that can enhance students’ learning experiences.

Overall, implementing these recommendations will further improve the computer and digital literacy of senior high school teachers and support more effective technology integration in the educational process.

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