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ISPSC Personnel in the Digital Workplace: An Assessment

Romelia Alice P. Forneas

Abstract

The study aimed to assess the digital skills of the non-teaching staff of the Ilocos Sur Polytechnic State College and the factors affecting their skills. Through explanatory sequential, the study revealed that the digital skills of the respondents were rated as moderate, with an overall mean of 3.38. The factors affecting their skills are access to training and development opportunities, availability and quality of technological resources, and personal motivation and attitude toward technology. In conclusion, despite moderate digital skills overall, respondents exhibit weaknesses in content creation, digital navigation, and security, while excelling in basic digital usage. Based on the findings and conclusion, it is recommended that the college invest in more advanced training programs, particularly in content creation, digital navigation, and security, to address the identified skill gaps.

Keywords:

Digital Skills
Non-Teaching Personnel;
Content Creation;
Digital Navigation
Digital Security

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1. Introduction

In this modern workplace, digitals skills are vital in the delivery of quality and excellent service to clienteles. This has been evident in the light of the advent of technological advancements that has been emerging and becoming part of every institution in the society. Digital skills at the workplace refer to the abilities required to effectively use digital tools, platforms, and technologies to perform tasks, solve problems, and communicate in professional environments. These skills encompass a broad range, including basic computer literacy, data analysis, cybersecurity awareness, and proficiency with collaborative and remote-working tools (Carvalho *et al*., 2022; van Laar *et al*., 2020). As workplaces increasingly rely on digital transformation, the demand for these skills has grown significantly, influencing employability, productivity, and organizational competitiveness (Panori *et al*., 2022).

In today's rapidly evolving digital landscape, possessing robust digital skills is crucial for workplace success. Proficiency in digital tools and platforms enhances productivity, facilitates effective communication, and enables employees to adapt to technological advancements. Research indicates that jobs requiring digital skills often offer higher wages, with roles necessitating even basic digital competencies paying significantly more than those that do not (National Skills Coalition, 2021). Moreover, organizations that invest in digital upskilling not only bridge the skills gap but also drive innovation and maintain a competitive edge in the market (World Economic Forum, 2022). As technology continues to reshape industries, fostering digital literacy among employees is not just beneficial but essential for organizational resilience and growth.

Notably, the non-teaching employees of every learning institution also need to be equipped with digital skills. Non-teaching employees in educational institutions play a crucial role in supporting academic operations, and equipping them with digital skills is essential for the efficiency and modernization of these institutions. As administrative functions, communication, data management, and student support services increasingly rely on digital platforms, digitally literate staff can enhance productivity and service delivery (Al-Husban *et al*., 2022). Moreover, digital proficiency helps ensure data security and privacy compliance, as many non-teaching roles involve managing sensitive information (Ifinedo, 2017). With the rise of educational technologies and digital transformation strategies in schools and universities, the inclusion of all staff in digital upskilling fosters a more cohesive and agile institutional culture (Tondeur *et al*., 2020). Therefore, empowering

non-teaching personnel with digital competencies is not only a strategic investment in operational efficiency but also a prerequisite for holistic institutional development.

Given the importance of digital skills that every non-teaching employees of learning institutions like higher education institutions, various studies were conducted. Studies on the digital competencies of non-teaching employees in higher education institutions (HEIs) worldwide highlight both commonalities and differences influenced by regional contexts, institutional support, and role-specific requirements. For example, a qualitative study in the Philippines identified themes such as efficiency and productivity enhancement, workplace technological integration, and administrative efficiency as central to the technology issues faced by non-teaching personnel. This research underscores the multifaceted impact of technology on administrative staff, emphasizing the need for tailored training programs and comprehensive technology policies to address identified challenges (Buot, 2024).

In contrast, research focusing on university professors' digital competencies suggests that teaching experience significantly influences digital skill levels. A study comparing university professors and high school teachers found that teaching experience plays a crucial role in the development of digital competencies among educators, indicating that more experienced educators may possess higher digital skills (Pera *et al*., 2022). This finding implies that non-teaching staff with longer tenure might also exhibit varying levels of digital proficiency, influenced by their roles and exposure to technological advancements.

Furthermore, a cross-cultural study examining the impact of authentic leadership on digital productivity in higher education highlights the importance of leadership behaviors in fostering digital capabilities. The study found that authentic leadership positively influences digital productivity through enhanced digital preparedness among staff (Zhao *et al*., 2025). While this research centers on academic staff, its implications suggest that leadership promoting digital competence can benefit non-teaching employees as well, emphasizing the role of institutional culture in digital skill development.

Additionally, research on the digital divide among higher education faculty reveals significant disparities influenced by personal and positional categories such as age, gender, and type of university. The findings indicate that faculty at public-sector universities have lower access to ICT resources and possess less digital competence compared to their counterparts in private-sector institutions, highlighting the need for targeted professional development opportunities (Khan *et al*., 2020). This underscores the importance of equitable access to digital resources and training to bridge the digital competency gap among non-teaching staff in HEIs.

Interestingly, the digital transformation of higher education institutions (HEIs) has underscored the critical role of digital competencies not only among teaching staff but also among non-teaching employees, whose contributions to institutional success are often overlooked in academic research. While numerous studies focus on faculty digital literacy, there is a significant research gap concerning the digital skills of non-teaching personnel, despite their involvement in administrative, technical, and student support roles that increasingly require digital proficiency (Alonzo, 2025). Research shows that factors such as institutional support, access to training, and individual roles influence digital competence levels (Mercader & Gairín, 2020). Moreover, the digital divide, previously explored among academic staff, is also shaped by demographic and professional characteristics, which are likely relevant for non-teaching staff as well (Bawden & Robinson, 2020). Thus, there is a pressing need to investigate the factors influencing digital skills among this group and to examine how their profiles—such as age, education level, and job role—relate to their digital competence, in order to design inclusive digital capacity-building strategies within HEIs.

Finally, the abovementioned research gaps motivated the researcher to investigate the digital skills of non-teaching employees of the Ilocos Sur Polytechnic State College (ISPSC). The study hopes that through conducting a study on the digital skills of non-teaching employees of ISPSC the existing gaps in their technological competencies, which directly impact administrative efficiency and service delivery, would be addressed. Understanding the factors that influence their digital proficiency can guide the development of targeted training programs that enhance productivity and adaptability to evolving digital demands. Last, the study aimed to support institutional goals of digital transformation and inclusivity by ensuring all personnel are equipped to contribute effectively in a technology-driven academic environment.

2. Research Method

3.1. Research Design

This study employed explanatory sequential as its research design. Explanatory sequential design is a mixed-methods research approach that begins with the collection and analysis of quantitative data, followed by qualitative data collection to explain or interpret the quantitative results in more depth (Creswell & Plano Clark, 2021). This design is particularly useful for researchers seeking to explore and understand complex phenomena where quantitative data alone cannot provide sufficient explanations (Ivankova, Creswell, & Stick, 2021). This design is appropriate for the study because it describe the profile of the respondents, their digital

skills, their strengths and weakness, the relationship of their profile and digital skills, and the factors that are affecting their digital skills.

2.2. Population and Locale of the Study

The respondents were the 108 non-teaching personnel of the seven campuses of Ilocos Sur Polytechnic State College who are assigned in the frontline offices of the college. They were chosen using stratified random sampling technique.

2.3. Research Instrument

In gathering the data, a questionnaire was used. The first part of the questionnaire was used to surface the profile of the respondents. The second part was adapted from adapted from van Deursen van Dijk (2009) and Helsper *et al*. (2021) who also discussed the dimensions and four types of digital skills. The second part of the instrument contains indicators that shall elicit the level of operational skills, formal skills, information skills, strategic skills, communication and interaction skills, and content creation and production skills of the non-teaching staff of the Ilocos Sur Polytechnic State College. It is to note that the indicators for operational skills were from Perdiguerra and Guillo Jr. (2019) and van Deursen van Dijk (2009). The last part was used to elicit the factors that are affecting their digital skills. Finally, the questionnaire underwent content validity before it was administered to the respondents.

2.4. Data Gathering Procedure

In gathering the data, permission from the college president was sought. Then, the questionnaire was subjected to validity testing. After that, the respondents of the study were identified. In addition, the respondents were personally approached to get their consent in participating in the study. Then, survey questionnaire was distributed to the respondents as Google form. Respondents who have difficulty in in accessing the form were given hard copies of the questionnaire. Finally, the gathered data was analyzed. Next, the output of the study was developed and validated.

In conducting this study, the researcher ensured that all data were kept with the utmost confidentiality. The consents of the respondents were sought before they participated in the study. When obtaining the consent of the respondents, the purpose, nature, and scope of the study were explained before they signed the informed consent form. Additionally, the respondents were assured that they could withdraw from the study at any time. The risks, remedies, benefits, and confidentiality matters were discussed with the respondents.

2.5. Analysis of Data

The following statistical tool and mode of analysis were used in analyzing the gathered data: 1) Mean was used to describe the level of digital skills of the respondents. 2) Thematic analysis was employed in analyzing the qualitative data.

3. Results and Analysis

3.1. Level of Digital Skills of the Respondents

Table 1. Level of digital skills of the respondents

Digital Skills	mean	DR
1. Operational Skills	3.58	H
2. Formal Skills	3.38	M
3. Information Skills	3.52	H
4. Strategic Skills	3.49	H
5. Communication And Interaction Skills	3.54	H
6. Content Creation And Production Skills	3.21	M
Overall Mean	3.38	M

Legend:

Point Scale	Statistical Range	DR
5	4.20 – 5.00	Very High (VH)
4	3.40 – 4.19	High (H)
3	2.60 – 3.39	Moderate (M)
2	1.80 – 2.59	Fair (F)
1	1.00 – 1.79	Poor (P)

Table 1 shows that the respondents demonstrated high proficiency in operational digital skills (mean = 3.58), suggesting strong competencies in essential tasks such as connecting to Wi-Fi, managing privacy

settings, and navigating online platforms. These skills are considered foundational to digital literacy and critical for effective functioning in a digital workplace (Carretero *et al*., 2017; House of Lords, 2015). Similar findings were reported in studies of mathematics teachers and educators, where operational skills received high ratings (Turner *et al*., 2024).

In contrast, content creation and production skills received the lowest mean rating (3.21), indicating a moderate level of competence. This suggests challenges in areas like digital media creation, content editing, and interactive resource design—skills necessary for modern educational and administrative tasks (Martínez-Bravo *et al*., 2022; Ng, 2012). Literature supports that content creation is often the least developed digital literacy area, as shown in studies involving librarians, paraprofessionals, and PE teachers (Ferro *et al*., 2025; Lapesigue, 2024). The DigComp framework also identifies content creation as a more advanced and commonly underdeveloped domain of digital competence (Carretero *et al*., 2017).

Overall, the average digital skills rating across all domains was moderate (mean = 3.38). This reflects a need for improvement in areas such as strategic tool use, advanced information handling, and digital communication. Frameworks like the EU's Digital Skills Framework stress the importance of skills in content creation, collaboration, and problem-solving (Carretero *et al.*, 2017). Supporting studies emphasize that digital competencies are closely tied to academic achievement and employability, particularly in the context of Industry 4.0, where digital transformation skills are essential (Ng, 2012). Furthermore, disparities in training and access to digital resources were found to influence competency levels, underlining the need for targeted training programs and equitable access (Ferro *et al*., 2025). In conclusion, the moderate digital skill levels observed among respondents call for strategic curricular alignment, focused skill development, and efforts to bridge the digital divide to prepare individuals for an increasingly digital world.

3.2. Factors Affecting the Digital Skills of Respondents

Studying the factors affecting the digital skills of non-teaching staff is essential to ensure they can efficiently support academic and administrative functions in an increasingly digitalized educational environment. Identifying these factors helps institutions design targeted training programs to bridge skill gaps and improve overall institutional performance. Moreover, understanding these influences contributes to equitable access to digital tools and professional development opportunities for all staff members. Notably, thematic analysis of the answers of the participants revealed three themes that summarize the factors affecting their digital skills.

Access to Training and Development Opportunities. Non-teaching staff frequently emphasized that access to regular and structured training significantly influences their digital skills. When institutions provide consistent opportunities for workshops, hands-on training, and mentorship, they said that staff members are more confident and competent in using digital tools. For the participants, a lack of such support often results in digital skill gaps, especially for those in older age groups or in departments with limited technological integration. The sample statements below support these claims.

> "We only get training when there's a new system introduced. Otherwise, we're expected to figure it out ourselves." (P4)
> "I feel more confident when there's someone guiding us during the training, especially with new software. We lack training." (P5)
> "I haven't attended any formal digital skills workshop since I started here five years ago." (P18)
> "The last training we had really helped me understand how to use spreadsheets better." (P21)
> "Some departments get more training than others—it feels unequal." (P29)

The findings underscore the critical role of regular and structured training in enhancing digital skills among non-teaching staff. Research shows that ICT training significantly helps bridge digital competence gaps, especially in areas like information management and virtual communication (Adenekan & Jimoh, 2021). Similarly, studies in the Philippines revealed that librarians and paraprofessionals who participated in digital literacy programs demonstrated higher competency levels (Ferro *et al*., 2025).

The effectiveness of structured training is further supported by initiatives like the International Computer Driving License (ICDL), which provides ICT modules designed for educators, fostering both confidence and competence in technology use (ICDL Global, n.d.). In the Philippines, the DICT's 36-hour Digital Jobs Technical Training successfully empowered teaching and non-teaching staff with digital design skills, illustrating the value of targeted, practical training (Abarca, 2022).

Conversely, the lack of structured training often results in digital skill disparities. A systematic review found that barriers such as poor infrastructure, limited training opportunities, and insufficient administrative support hinder digital skill development, particularly among marginalized groups (Choudhary & Bansal, 2022).

These findings highlight the need for consistent, inclusive training programs to promote equitable digital competence across the workforce.

Availability and Quality of Technological Resources. The participants stated that staff digital proficiency is also influenced by the tools and equipment they use daily. Participants often noted that outdated computers, slow internet connections, and a lack of access to relevant software hinder their ability to practice and develop digital skills. Conversely, they shared that access to modern and functioning equipment fosters experimentation and competence. As stated:

"Our computers are too old to run the new applications smoothly." (P11)
"I often use my own laptop because the one at work is too slow." (P26)
"We don't have access to certain software unless we request it specifically." (P17)
"Sometimes, I want to learn more but the tools we have are just not up to date." (P1)
"If we had better internet, maybe we could attend online tutorials more often." (P7)

The study highlights that staff digital proficiency is strongly influenced by the availability and quality of technological tools they use daily. Research shows that limited access to modern equipment, especially among low-income groups, significantly hinders digital skills development (Smith *et al*., 2022). This digital divide not only affects students but also non-teaching staff, contributing to broader educational inequities.

In the Philippines, inadequate infrastructure—such as outdated computers and unreliable internet—has been a major challenge for educators, mirroring the struggles faced by administrative personnel (National Trade Union Center of the Philippines, 2020). These limitations reduce opportunities for skill development and effective digital engagement. Conversely, access to modern and functional technology has been shown to enhance digital competence, as it allows individuals to practice and build confidence in using digital tools. Studies affirm that investing in up-to-date technological resources leads to improved digital proficiency. In summary, access to modern equipment is essential for strengthening staff digital literacy. Institutions must prioritize technological upgrades to ensure equitable skill development and support the digital transformation of the workplace.

Personal Motivation and Attitude toward Technology. For the participants, they shared that personal motivation, openness to learning, and individual attitudes toward technology emerged as strong internal factors shaping digital skill development. Some staff members expressed enthusiasm about improving their digital literacy, while others felt overwhelmed or uninterested due to fear, age, or workload. They shared that the mindset and self-efficacy of the staff thus play a critical role in whether or not they seek to improve their digital competencies. As mentioned in the following verbalizations:

"I want to learn more, but I just don’t know where to start. I really don’t know." (P4)
"Technology changes too fast—it feels hard to keep up." (P9)
"I enjoy exploring new tools on my own time." (P18)
"Honestly, I’m not very comfortable with computers, so I avoid using them unless necessary." (P10)
"If I had more time, I’d love to take an online course on digital skills." (P14)

The findings support existing research emphasizing the importance of intrinsic motivation and self-efficacy in developing digital literacy. Motivational beliefs and self-confidence have been shown to significantly influence digital competence, particularly in academic settings (Anthonysamy *et al*., 2022; Hatlevik, 2019). A positive mindset is essential for adopting digital tools effectively.

Conversely, negative attitudes—often rooted in fear, age, or workload—can hinder engagement with technology. Teachers with low self-efficacy or interest in ICT tend to struggle with integration and skill development (Peng *et al*., 2024). However, those with a positive attitude and access to resources, including long-serving teachers, are more likely to demonstrate strong digital skills (Dioquino & Paglinawan, 2024). This aligns with Self-Determination Theory (SDT), which emphasizes that autonomy, competence, and relatedness foster intrinsic motivation. Supporting these needs enhances digital literacy by promoting personal and professional growth (Chiu *et al*., 2024).

In the Philippine context, younger teachers typically show higher digital competence, while long-serving educators face barriers due to limited access to professional development (Miralao, 2020; Llego, 2022). These insights highlight the need for targeted interventions that address both motivational factors and access to resources to support digital skills development across all age groups.

4. Conclusion

Based on the findings of the study, the following conclusions are inferred:

1. The moderate overall mean rating implies that while respondents possess foundational digital skills across various competencies, there is a significant need for targeted training and development to enhance their proficiency and effectiveness in digital environments.
2. Limited access to training, inadequate technological resources, and low personal motivation can hinder the digital literacy of non-teaching staff.

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