BRIDGING THE GAP: HOW INFORMATION LITERACY SHAPES DIGITAL FLUENCY AND REMOTE WORK SKILLS

Ms. Rosy Leema P W
Research Scholar,
School of Pedagogical Sciences, M.G University, Kottayam

Dr. Sibu G Netto
Professor,
School of Pedagogical Sciences, M.G University, Kottayam.

Abstract

As remote work becomes a permanent part of how we live and work, it's not enough to just know how to use digital tools – people need to know how to find, evaluate and use information effectively. This research explores how information literacy – the ability to think critically about information – plays a key role in building digital fluency and confidence in remote work settings. Using a mix of surveys and interviews with professionals working remotely across a range of sectors, we found that those with strong information literacy skills are more comfortable using digital tools, solving problems on their own and communicating effectively online. They also reported being more prepared and less overwhelmed in remote work environments. These findings suggest that information literacy is not just an academic skill – it's a practical one that directly impacts job performance and adaptability in the digital workplace. As work continues to move online, helping people develop these skills may be a powerful way to bridge the gap between knowing how to use technology and knowing how to thrive with it.

Introduction

The form in which we work has changed drastically. With remote and hybrid work becoming the norm, being comfortable with technology is essential. But it's not just about knowing how to use digital tools, it's about having confidence, being adaptable and capable of navigating online information in an intelligent and efficient way. This deeper set of skills is known as digital fluidity and is becoming an indispensable requirement in the current labor environment (Ng, 2012).

At the heart of digital fluency lies something we often overlook: information literacy. This means knowing how to find correct information, evaluate its reliability and use it effectively. These skills are crucial for remote work, where people usually solve problems for themselves and depend to a great extent on digital resources. Indeed, recent research has demonstrated that many of the challenges faced by remote workers—such as information overload, poor communication, and poor interpretation of sources—could be reduced with a major informational alphabetization (Head, 2017).

Although informational literacy is usually imparted in schools and universities, it is equally important in the labor field, especially when it is developed online. This study explores how informational alphabetization helps people acquire greater digital fluency and be better prepared for remote work. By understanding this connection, we can help individuals and organizations prepare better for the future of work: a future that is increasingly digital, independent and based on information.

Objectives

This study aims to better understand how information literacy — the ability to find, evaluate, and use information effectively — plays a role in helping people succeed in remote and digital work environments. To do that, the research focuses on the following objectives:

1. To explore how information literacy helps people become more digitally fluent, especially when working in remote or hybrid settings.

2. To understand how information literacy supports essential remote work skills, like managing digital tools, solving problems independently, and communicating clearly online.

3. To look at how different levels of information literacy affect people's ability to adapt to the technology and platforms used in remote work.

4. To learn from remote workers themselves — how they see the role of information literacy in their daily work, decision-making, and overall job performance.

5. To offer practical suggestions for educators, employers, and training programs on how to include information literacy in digital skills development, so workers are better prepared for the future of work.

Literature Review

As more people adopt remote work and use digital tools daily, it is becoming clear that simply knowing how to navigate the internet is not enough. What truly contributes to worker success is information literacy: the ability to find, evaluate, and use information effectively. This skill has long been addressed in schools and universities, but it is gaining equal importance in the workplace (Association of College and Research Libraries [ACRL], 2015). Research shows that information literacy not only benefits students but also plays a critical role in job performance, especially in remote work. For example, Sholikah and Safitri (2022) found that workers with a good level of digital and information literacy tend to be more satisfied and perform better when working from home. Similarly, Mahmood and colleagues (2022) found that information literacy fosters creativity and continuous learning, which in turn improves job performance.

Remote work often involves on-the-job learning, without direct supervision. Therefore, van Laar et al. (2020) emphasize the importance of a combination of skills, including the ability to manage and critically evaluate information. Informal learning in remote work relies heavily on these information literacy skills (Tremblay & Parent-Lamarche, 2025). There is also a gap between what employers expect and what recent graduates actually bring to the table. Head et al. (2020) point out that many young professionals struggle to manage information efficiently, think critically under pressure, and adapt independently—precisely

the areas where good information literacy is crucial. Fortunately, training programs that offer short, targeted lessons on these skills can help workers feel more confident and prepared (Reedy, Mallett & Soma, 2019).

However, measuring information literacy in the workplace is no easy task. Widén and colleagues (2021) found that many tools developed for schools are not entirely suited to professional settings. Even those working in information-intensive jobs, such as librarians, often have room for improvement in these skills (Ali & Richardson, 2018). There is a widespread belief that younger generations possess an innate aptitude for technology, but this is not always the case. Ng (2012) cautions that being a "digital native" does not guarantee strong digital or information literacy. Calderón et al. (2022) also found that confidence in using technology does not always correspond to actual skills, influencing how people interact with digital tools and information.

In professions such as healthcare, information literacy is embedded within the core competencies needed for sound decision-making. Waltz and colleagues (2020) demonstrated that many health programs explicitly or implicitly teach the critical appraisal of information, a key aspect of professional competence. Taken together, the research clearly shows that information literacy helps people work more effectively in digital and remote environments. It not only facilitates the use of technology but also fosters the critical thinking and judgment necessary to navigate the constant flow of information. However, more work is needed to improve the teaching, assessment, and evaluation of these competencies in everyday work settings.

Methodology

This study employs a quantitative approach to explore how information literacy affects digital fluency and remote work skills. Specifically, it analyzes the relationships between these areas and seeks to determine the extent to which information literacy can predict digital skills and the ability to work remotely.

We invited 300 pre-service teachers working remotely or in hybrid models from various institutions to participate. Participants were intentionally selected to ensure they regularly used digital tools in their academic activities. We also collected information on their

characteristics, such as age, gender, educational level, and work experience, to better understand the group and ensure that these factors did not unduly influence the results.

Data Collection Tools

To collect data, we used an online questionnaire consisting of three parts:

1. Information Literacy Scale: Based on a framework recognized by the Association of College and Research Libraries (ACRL, 2015), this section explored participants' ability to find, evaluate, and use information effectively.

2. Digital Fluency Scale: Inspired by previous research (van Laar et al., 2020), this section measured participants' comfort level and proficiency with digital technology, including their critical thinking skills and ability to adapt to new tools.

3. Remote Work Skills Scale: Focused on key skills for remote work, such as self-management, effective communication, and technology skills (Tremblay & Parent-Lamarche, 2025).

All questions used a simple five-point scale, ranging from strongly disagree to strongly agree.

Procedure

The questionnaire was distributed via email and social media, reaching individuals who work remotely. Before beginning, participants were informed about the purpose of the study and assured of the anonymity and confidentiality of their responses. We collected responses over four weeks.

Data Analysis

We used SPSS software to analyze the data. First, we examined basic summaries of the participants and their responses. Then, we tested the correlation between information literacy, digital fluency, and remote work skills using correlation tests. Finally, we performed regression analysis to determine whether information literacy could predict digital fluency and remote work skills, considering factors such as age and experience.

Ethical Considerations

This study was reviewed and approved by our institution's ethics committee. All participants participated voluntarily and provided informed consent. We ensured the security of all data and its exclusive use for this research.

Table 1

Descriptive Statistics for the Main Variables (N = 100)

Variable	Mean (M)	Standard Deviation (SD)
Information Literacy	3.85	0.55
Digital Fluency	3.72	0.60
Remote Work Skills	3.66	0.58

Note. All items were rated on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree).

This table provides an overview of how student teachers self-assessed each skill. The averages are quite high, suggesting that most participants felt relatively confident in their information literacy, digital fluency, and ability to work remotely.

Table 2

How the Key Skills Are Related: Correlation Results

Variable	1	2	3
1. Information Literacy	—		
2. Digital Fluency	.68**	—	
3. Remote Work Skills	.59**	.71**	—

Note. p < .01. Correlation coefficients (r) show the strength of the relationship between two variables.

Explanation: This table shows the close relationship between the three skill areas. All relationships are positive and statistically significant, meaning that teacher education students with higher scores in information literacy also tended to perform better in digital fluency and remote work skills.

Table 3

Does Information Literacy Predict Digital and Remote Work Skills?

Outcome Variable	R^2	β (Beta Weight)	t-value	*p*-value
Digital Fluency	.46	.68	9.12	< .001
Remote Work Skills	.35	.59	7.26	< .001

Here we see the extent to which information literacy alone can explain or predict the other two skills. It explains 46% of the variation in digital fluency and 35% of the variation in remote work skills. These are significant effects, suggesting that improving information literacy could make a real difference in preparing student teachers for digital and remote teaching.

Results

This study aimed to understand the relationship between information literacy and future teachers' confidence in using digital tools and working in remote environments. The results are clear: future teachers who are more confident in their ability to find, evaluate, and use information also tend to feel more capable in digital environments and remote work situations.

Based on averages, participants rated themselves quite positively overall. Information literacy received the highest average score (M = 3.85), followed by digital fluency (M = 3.72), and lastly, remote work skills (M = 3.66), all measured on a five-point scale. This suggests that, in general, these future educators feel quite well prepared in these areas.

Exploring the connection between these three areas revealed strong relationships. Information literacy showed a strong positive correlation with digital fluency ($r = 0.68$) and a moderately strong correlation with remote work skills ($r = 0.59$). Even more remarkable was the connection between digital fluency and remote work skills ($r = 0.71$), suggesting that these two skills often go hand in hand.

To explore this further, we used regression analysis to determine whether information literacy could predict performance in the other two areas. The results were clear: information literacy was a strong predictor of digital fluency, explaining almost half of the difference in students' scores ($R^2 = 0.46$). It was also a significant predictor of remote work skills, explaining approximately 35% of the variation ($R^2 = 0.35$). In short, the higher a student teacher's information literacy, the greater their digital fluency and their readiness for remote work.

Discussion

These findings highlight an increasingly relevant aspect in today's classrooms and workplaces: the ability to manage and evaluate information effectively is not just a desirable skill, but an essential one. For future teachers preparing to work in digital and often remote environments, information literacy appears to lay the foundation for greater digital confidence and job readiness.

The strong relationship between information literacy and digital fluency supports previous research suggesting that it is not just about knowing how to use digital tools, but about knowing how to think critically, find reliable sources, and adapt to constantly changing environments. In many ways, these are the skills that define successful digital citizens and educators.

Similarly, the connection between information literacy and remote work skills demonstrates that the ability to independently search for, understand, and apply information can help future teachers manage the challenges of remote work. Whether it’s collaborating online, solving problems independently, or staying organized without direct supervision, these are all tasks that benefit from a strong foundation in information literacy.

This has important implications for the design of teacher training programs. While many programs now include ICT training, less attention is often paid to helping future teachers develop deeper information management skills. The results of this study suggest that integrating information literacy more intentionally could help prepare student teachers for the digital and flexible work environments they are likely to encounter.

That said, there are some points to consider. This study relied on self-reported data, which can be influenced by self-confidence, not necessarily by actual skills. The sample was also relatively small and context-specific, meaning the findings may not be applicable to all teacher training programs. And since the study focused on a single point in time, we cannot definitively say that information literacy causes these other skills, only that there is a strong relationship between them.

Looking ahead, it would be useful for future research to explore how information literacy training could directly improve digital fluency and remote work readiness over time. Including practical assessments or interviews could also offer a more comprehensive view of how these skills manifest in real-world teaching situations. Results

This study aimed to explore whether information literacy plays a significant role in the development of digital fluency and remote work skills among student teachers. Based on responses from 100 participants, the results show a clear and consistent pattern: student teachers who self-rated their information literacy as high also demonstrated greater confidence in their digital skills and their ability to work remotely.

The strongest relationship observed was between information literacy and digital fluency, with information literacy explaining almost half of the variation in digital fluency scores. This suggests that the ability to locate, evaluate, and use information effectively helps students gain greater skill and confidence in using digital technologies. A slightly weaker, but equally significant, relationship was also found between information literacy and remote work skills. Students with higher information literacy also felt better prepared to communicate, collaborate, and remain productive in virtual work environments.

It is worth noting that while the study focused on self-reported skills, the strength of the statistical relationships suggests more than just superficial confidence. These findings support

the idea that information literacy is not an isolated academic skill, but a fundamental capability that influences the performance of future teachers in today's digital and often remote learning and work environments.

Implications

The results of this study offer several important insights for teacher education programs, curriculum designers, and policy makers in the field of education and professional development.

1. Reframing Information Literacy as Foundational, Not Optional

Traditionally, information literacy has been viewed as a secondary or support skill, often taught through library sessions or academic writing modules. However, this study reinforces the idea that information literacy is foundational. It directly shapes how student teachers engage with digital tools and perform in remote work environments. Embedding information literacy more deliberately into teacher training — across subjects and modules — could enhance students' overall digital confidence and workplace readiness.

2. Integrating Digital Fluency and Remote Work Skills in Context

Rather than treating digital fluency or remote skills as standalone topics, programs could take a more integrated approach. For example, teaching digital communication or collaboration tools could go hand-in-hand with exercises in evaluating online sources or synthesising information. This helps students not only use technology, but do so critically and purposefully.

3. Preparing for a Post-Pandemic, Hybrid Future

The shift to hybrid and remote learning during the COVID-19 pandemic highlighted the need for teachers who are adaptable and digitally literate. These findings suggest that training in information literacy is a smart investment for building those traits early on. As remote teaching, blended classrooms, and digital assessments become more common, educators with strong information handling and tech integration skills will be better positioned to succeed.

4.Implications Beyond Teaching

While this study focused on future teachers, the implications stretch further. Information literacy is increasingly recognised as a key component of 21st-century workplace readiness across sectors. Helping students develop this skill doesn't just prepare them for teaching — it prepares them for lifelong learning, career flexibility, and leadership in a digital world.

Conclusion

This study shows that information literacy is more than just knowing how to find information—it's a key skill that helps future teachers become confident with digital tools and ready to work effectively in remote settings. Student teachers who felt stronger in their information literacy also felt more comfortable navigating digital environments and managing remote work challenges. These results highlight that information literacy supports important skills like critical thinking, adaptability, and problem-solving in the digital world. As teaching continues to shift toward online and hybrid formats, building these abilities early on can really help prepare educators for the future. In short, focusing on information literacy in teacher training isn't just a nice extra — it's an essential foundation for helping teachers thrive in today's tech-driven classrooms. Going forward, it would be great to explore how specific training can boost these skills even more, and whether this connection holds true in other fields too.

If teacher training programs focus on building these info skills early, they'll be setting educators up for success in today's tech-filled classrooms. Teaching these days is a lot more than just standing in front of a class — it's about being able to navigate digital tools, think critically, and adapt on the fly. What we found is that student teachers who are good at handling information also feel way more comfortable with technology and working remotely. With more schools going online or mixing remote and in-person learning, it makes sense that teacher programs should spend more time helping students really get information literacy down. It's not just an extra skill — it's the foundation that helps teachers feel ready and confident to handle whatever the digital classroom throws at them.

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