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A Critical Analysis of Digital Literacy among Adult Learners

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Abstract:

This study critically analyzes digital literacy among adult learners, focusing on the impact of age and socio-economic status. A survey was conducted with a stratified random sample of 60 adult learners from the Srikakulam and Vizianagaram districts. Utilizing a self-designed Digital Literacy Scale with a high reliability (Cronbach's alpha = 0.8), the study aimed to evaluate digital literacy across different age groups and socio-economic statuses. The results revealed a significant difference in digital literacy based on age, with the 36 to 45 years age group demonstrating the highest mean scores, while the 46 years and above group showed the lowest. Additionally, socio-economic status significantly influenced digital literacy, as the high socio-economic group achieved the highest mean scores compared to the low and medium groups.

The findings underscore the importance of addressing the disparities in digital literacy among adult learners, particularly concerning age and socio-economic status. The significant effects suggest that targeted interventions are necessary to improve digital literacy, especially for older adults and those from lower socio-economic backgrounds. By fostering equitable access to digital resources and tailored educational programs, stakeholders can enhance digital competencies among adult learners, thus promoting lifelong learning and improving overall quality of life in a technology-driven society.

Key words: Digital Literacy, Adult Learners, Age, Socio-economic Status, Digital Resources.

I. Introduction:

Digital literacy is the ability to effectively and critically navigate, evaluate, and create information using various digital technologies. It involves the technical skills to use devices and software and the cognitive skills to understand and analyze digital content, communication, and platforms. Digital literacy also encompasses understanding the social and ethical implications of digital technologies and engaging in responsible digital citizenship. According to the American Library Association, digital literacy is "the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring cognitive and technical skills" (American Library Association, 2013). The United Nations Educational, Scientific and Cultural Organization (UNESCO) defines digital literacy as "the ability to access, manage, understand, integrate, communicate, evaluate and create information safely and appropriately through digital technologies for employment, decent jobs and entrepreneurship" (UNESCO, 2018). These definitions underscore the ethical understanding aspect of digital literacy, highlighting its importance in responsible digital citizenship.

II. Conceptual Background

Digital Literacy encompasses a wide range of skills, including:

1. Technical Skills: Technical skills are the cornerstone of digital literacy, involving the capacity to operate various digital devices such as computers, smartphones, tablets, and other electronic gadgets. This competency goes beyond simply powering these devices on and off; it encompasses the ability to navigate interfaces, understand system settings, and manage files effectively. For instance, proficiency in using a computer's operating system—whether it's Windows, macOS, or Linux—is essential for accessing the necessary tools and applications for various tasks. Similarly, operating smartphones requires familiarity with touch gestures, voice commands, and basic troubleshooting methods to ensure smooth functionality (Abrosimova, 2020).

In addition to device operation, technical skills also include the adept use of software applications. This ranges from basic tools like word processors, such as Microsoft Word or Google Docs, to more specialized software, including graphic design tools like Adobe Photoshop and data analysis programs like Excel. The ability to install, update, and manage these applications is crucial for both personal and professional purposes. Moreover, technical skills extend to customizing software settings to optimize productivity and security, such as adjusting privacy settings in web browsers or configuring email filters (Sebetci, 2019).

It also includes the skills necessary to set up and manage accounts on various websites, participate in online communities, and utilize cloud-based services like Google Drive or Dropbox. Additionally, being technically skilled requires the ability to troubleshoot common issues, such as internet connectivity problems or software malfunctions, which are vital for maintaining continuous access to online resources (Ng, 2012).

Users must also be aware of how to securely store and back up data, both on physical devices and in the cloud, to prevent loss or unauthorized access. Thus, technical skills are the foundation of digital literacy, enabling users to interact with the digital world confidently and competently (van Deursen, Helsper, & Eynon, 2016).

2. Information Literacy: A well-developed set of information literacy skills allows users to quickly access the most relevant data, thereby reducing the time spent navigating through irrelevant or misleading information (Bawden & Robinson, 2009).

Moreover, understanding the distinction between primary and secondary sources, recognizing bias, and identifying the purpose of the information—whether it is meant to inform, persuade, or entertain—are all crucial aspects of evaluation. An informed user can distinguish between well-researched, fact-based content and opinion, propaganda, or misinformation (Metzger, 2007). To counteract this, information-literate individuals employ fact-checking websites, cross-reference information with multiple reliable sources, and maintain a healthy skepticism toward sensational or too-good-to-be-true stories (Wardle & Derakhshan, 2017).

Furthermore, responsible use of information includes proper citation practices to avoid plagiarism and credit original authors. Information literacy empowers individuals to navigate the digital landscape with confidence, ensuring they can access and utilize the wealth of information available online responsibly and effectively (Association of College & Research Libraries, 2015).

3. Communication: Communication in the digital age involves utilizing a variety of platforms—such as social media, email, and video conferencing tools—to connect and collaborate with others. These platforms have transformed how we share information and interact, enabling easier connectivity, idea exchange, and collaboration regardless of physical distance. Social media platforms like Facebook, Twitter, and LinkedIn facilitate the quick and widespread dissemination of messages, thus fostering both personal and professional networks (Kaplan & Haenlein, 2010). Email remains a staple for more formal or direct communication, while video conferencing tools like Zoom, Microsoft Teams, and Google Meet allow for real-time, face-to-face interactions, enhancing remote collaboration and making it more personal (Huang & O'Connor, 2020).

Using clear and concise language in emails, responding promptly to messages, and being mindful of tone are all critical aspects of effective digital communication (Bennett et al., 2008). On social media, digital etiquette includes respecting others' opinions, avoiding spamming or oversharing, and being cautious about

privacy settings. In video conferences, maintaining professionalism involves muting your microphone when not speaking, dressing appropriately, and being conscious of your surroundings to create a conducive environment for discussions (Mangkhang & Kaewpanya, 2021).

Another vital consideration in digital communication is the **impact of digital interactions on relationships and collaboration**. The ease of communication can sometimes lead to misunderstandings, as digital messages often lack the nonverbal cues—such as body language and tone of voice—present in face-to-face interactions. Misinterpretations can arise from the brevity of text messages or emails, as well as cultural differences in communication styles (Walther, 1996).

Lastly, digital communication profoundly impacts both **professional and personal relationships**. On the professional side, effective digital communication can enhance teamwork, foster innovation, and improve productivity. Collaborative tools like Google Docs and Slack enable team members to work together on projects in real time, regardless of their locations ((Graham & Halverson, 2023). Understanding how to navigate these platforms responsibly and thoughtfully is crucial for building and maintaining healthy digital relationships (Hatamleh et al., 2023).

4. Content Creation: Whether crafting a blog post, designing a PowerPoint presentation, or producing a video, content creation requires a combination of creativity, technical skills, and strategic thinking to ensure that the message is clear, engaging, and tailored to the intended audience (Brady et al., 2010). For instance, in a presentation, utilizing consistent fonts, balanced layouts, and high-quality images can make the content more engaging and easier to follow (Keller, 2017). Similarly, in video production, elements like camera angles, lighting, and sound quality significantly affect how the content is perceived. A well-designed piece of content not only appears professional but also ensures that the audience can easily comprehend and retain the information presented (Kharat et al., 2022). Videos can demonstrate complex ideas or tell stories more compellingly than text alone (Mayer, 2009). Effectively using multimedia requires not only technical skills, such as video editing or adjusting image resolution but also an understanding of how these elements can enhance or detract from the overall message. Striking the right balance is crucial to supporting the content's purpose (Moreno & Mayer, 2000).

Lastly, effective content creation necessitates using **appropriate tools** for different types of content. Numerous software applications and platforms are available for creating digital content, each suited to specific tasks. For text-based documents, tools like Microsoft Word or Google Docs are standard, while presentations may be crafted in PowerPoint or Canva. Video content can be edited using software like Adobe Premiere Pro or Final Cut Pro, and social media posts can be created and scheduled using tools like Hootsuite or Buffer (Hendricks, 2019). Understanding which tools to use and how to utilize them efficiently is essential for producing high-quality content. Additionally, staying informed about the latest tools and trends in content creation can provide creators with a competitive edge, enabling them to produce innovative and impactful digital content that resonates with their audience (Antón-Sancho et al., 2021).

5. Security and Privacy: According to the Anti-Phishing Working Group, phishing attacks have increased significantly in recent years, highlighting the importance of being vigilant about the sources of online communication and verifying the authenticity of requests for personal information (APWG, 2021). Recognizing the signs of phishing, such as suspicious email addresses, generic greetings, or urgent requests for action, is crucial in avoiding these scams. A study by McAfee estimated that cybercrime, including malware attacks, caused over $1 trillion in damages globally in 2020 (McAfee, 2020). Protecting against malware involves installing reputable antivirus software, avoiding downloading files from unknown sources, and being cautious about clicking on links or attachments in unsolicited emails. Regularly backing up data can also help mitigate the impact of a malware attack. According to a report by the Pew Research Center, a significant percentage of Americans feel they have little control over the data collected about them by companies (Pew Research Center, 2019). To protect privacy, users should regularly review and adjust their privacy settings, limiting the amount of personal information that is publicly visible or shared with third-party apps. Additionally, understanding the terms and conditions of services and being mindful of the permissions granted to apps can help individuals better manage their digital footprint and reduce the risk of their data being misused.

6. Critical Thinking: One of the key aspects of critical thinking is **understanding the impact of digital media on societal issues**, such as politics, culture, and public health. For instance, social media platforms have been instrumental in mobilizing social movements, such as the Arab Spring or the MeToo movement, highlighting their power to drive social change (Tufekci, 2017). However, the same platforms can also be used to spread misinformation or extremist ideologies, which can lead to harmful consequences, such as election interference or the spread of conspiracy theories. A study by Vosoughi, Roy, and Aral (2018) found that false news spreads more rapidly on social media than true stories, underscoring the importance of critical thinking in distinguishing between reliable and unreliable information sources. While social media can be a valuable tool for communication and networking, it can also contribute to issues like privacy invasion, cyberbullying, or addiction. A report by the Royal Society for Public Health (2017) highlighted the negative impact of social media on mental health, particularly among young people, who may experience increased anxiety, depression, and poor body image as a result of prolonged use. By critically assessing the role of these tools in their lives, individuals can make more conscious choices about how to engage with technology in ways that promote well-being and protect their privacy.

Digital literacy is essential today, where much of our online communication, work, and learning occurs. It empowers individuals to participate fully in the digital age, making them informed citizens and successful professionals.

III. Need and Significance of the Study:

Digital literacy is an essential component of contemporary education, encompassing the skills, knowledge, and attitudes necessary to effectively navigate, evaluate, and create information in digital environments. In the context of continuing education, digital literacy equips learners with the competencies needed to engage with technology, thereby enhancing their ability to access resources, communicate effectively, and participate in lifelong learning. This multifaceted skill set is increasingly critical as digital technologies continue to permeate various aspects of personal and professional life (Audrin & Audrin, 2022).

One key aspect of digital literacy in continuing education is the ability to **access and evaluate digital information**. In today's information-rich environment, learners must be able to locate relevant materials, assess the credibility of sources, and distinguish between reliable and unreliable information. This involves understanding how search engines operate, utilizing advanced search techniques, and critically analyzing content for bias, accuracy, and relevance (Bacalja et al., 2022). Developing these skills not only empowers learners to make informed decisions but also fosters a culture of critical thinking and inquiry that is vital for lifelong learning.

Moreover, digital literacy enhances **communication and collaboration** among learners in continuing education programs. With the rise of online and blended learning environments, the ability to use digital communication tools—such as email, discussion forums, and video conferencing platforms—is essential for effective interaction and collaboration. Familiarity with these tools enables learners to engage with peers and instructors, share ideas, and participate in group projects regardless of geographical constraints (Bacalja et al., 2022). Effective digital communication also involves understanding digital etiquette and the appropriate use of tone and context in various online interactions, which are critical for building positive relationships in learning communities (Bennett et al., 2008).

In addition to accessing information and facilitating communication, digital literacy encompasses the **creation of digital content**. This aspect involves not only the technical skills needed to use various software applications and platforms but also an understanding of design principles and multimedia integration. For instance, learners may need to create presentations, videos, or infographics as part of their educational activities. Proficiency in content creation not only enhances the learning experience but also prepares individuals for the demands of the modern workforce, where digital communication and presentation skills are increasingly valued (Hague & Payton, 2010).

Finally, understanding **digital security and privacy** is an integral part of digital literacy. As learners engage with online platforms and resources, they must be aware of the importance of protecting personal information, recognizing online threats such as phishing, and maintaining privacy settings across various applications. This knowledge helps create a safer online learning environment and encourages responsible use of technology (Bawden & Robinson, 2012). Therefore, fostering digital literacy in continuing education

is not only about enhancing technical skills but also about cultivating responsible digital citizenship that promotes ethical engagement in the digital landscape.

Investigating digital literacy is crucial for enhancing our understanding of modern learning environments. This study is important for various stakeholders involved in the digital literacy of adult learners.

IV. Literature Review

Digital literacy encompasses a range of skills and competencies necessary for effectively using digital technologies in various contexts. According to UNESCO (2011), digital literacy involves not only the ability to use digital devices but also critical thinking skills to evaluate information sources and create content. In adult education, digital literacy is particularly important as many adult learners are returning to education to improve their employability in a technology-driven job market. Research by Ng (2012) emphasizes the need for adult education programs to integrate digital literacy training, highlighting that adult learners often face challenges in accessing technology and understanding digital tools. This foundational understanding of digital literacy is critical for developing effective adult education curricula that meet learners' needs.

Despite the importance of digital literacy, many adult learners face significant barriers that hinder their ability to engage with technology effectively. Factors such as age, socioeconomic status, and prior educational experiences contribute to varying levels of digital literacy among adults (Helsper & Eynon, 2013). A study by McCaffrey (2019) found that older adults often exhibit lower confidence in using digital tools compared to younger generations, resulting in a digital divide that can affect access to information and learning opportunities. Moreover, socioeconomic factors can limit access to technology and the internet, compounding the challenges faced by adult learners. Addressing these barriers is crucial for adult education providers to create inclusive learning environments that promote digital literacy among all learners.

The context in which adult learners engage with technology significantly influences their digital literacy development. Research by Jimoyiannis, A., & Gravani, M. (2010). indicates that the educational environment, including the availability of resources and support, plays a critical role in shaping learners' experiences with digital tools. Adult learners who participate in structured programs with guided instruction tend to develop higher levels of digital literacy compared to those who engage in self-directed learning. Furthermore, the integration of real-world applications and problem-solving tasks in adult education curricula enhances the relevance of digital literacy training, fostering greater engagement and motivation among learners ((Sharp, 2017). Understanding the contextual factors that impact digital literacy development is essential for designing effective adult education programs.

Digital literacy is increasingly recognized as a key competency for employability in today’s job market. According to a report by the World Economic Forum (2020), digital skills are essential for many occupations, and employers often prioritize candidates who demonstrate proficiency in digital technologies. A study by Reddy et al. (2023) found that adult learners who develop strong digital literacy skills experience improved job prospects and career advancement opportunities. This correlation underscores the importance of integrating digital literacy training into adult education programs, as equipping learners with these skills not only enhances their learning experiences but also prepares them for success in the workforce. The focus on employability highlights the need for adult education programs to align digital literacy training with industry requirements.

To effectively enhance digital literacy among adult learners, educators must employ targeted strategies that address the unique needs of this demographic. Research by Tondeur et al. (2017) emphasizes the importance of scaffolding digital literacy instruction, providing learners with gradual support as they build their skills. This approach helps adult learners develop confidence and competence in using technology. Additionally, incorporating collaborative learning experiences, where learners can share knowledge and skills, has been shown to improve digital literacy outcomes (Voogt et al., 2015). Furthermore, ongoing professional development for educators is crucial to ensure they remain equipped with the latest digital tools and teaching strategies. By implementing these strategies, adult education programs can create more effective pathways for improving digital literacy among learners.

V. Objectives:

1. To evaluate the Digital Literacy of adult learners with respect to the following variables. Age and Socio-economic status.

VI. Hypotheses:

1. There would be no significant difference in digital literacy among adult learners based on their Age.

2. There would be no significant difference in digital literacy among adult learners based on their socio-economic status.

VII. Methodology:

In this study, a survey method was adopted. A stratified random sample of 60 adult learners was selected exclusively from the Srikakulam and Vizianagaram districts. The data was collected using a self-designed Digital Literacy Scale, which exhibited a high reliability with a Cronbach's alpha coefficient of 0.8.

Hypothesis-1

There would be no significant difference in digital literacy among adult learners based on their Age.

Table 1: Mean Digital Literacy Scores by Age Group Among Adult Learners (N = 60)

Age	N	Mean	Std. Deviation
26 to 35 Years	20	123.55	4.24
36 to 45 Years	20	151.55	66.23
46 Years above	20	75.20	18.84
Total	60	116.76	50.44

Table 2: ANOVA Results for Digital Literacy Scores Based on Age Groups Among Adult Learners

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	59673.633	2	29836.817	18.805	0.000
Within Groups	90437.100	57	1586.616		
Total	150110.733	59			

Interpretation

An analysis of variance (ANOVA) was conducted to assess the effect of age on digital literacy among adult learners. Participants were categorized into three age groups: 26 to 35 years, 36 to 45 years, and 46 years and above. The results indicated a statistically significant difference in digital literacy scores between the different age groups, $\mathbf{F}(2, 57) = 18.81$, $\mathbf{p} < .001$.

The mean digital literacy scores were as follows: 123.55 (SD = 4.24) for the 26 to 35 years age group, 151.55 (SD = 66.23) for the 36 to 45 years age group, and 75.20 (SD = 18.84) for the 46 years and above group. The significant **p**-value suggests that age has a substantial effect on digital literacy, leading to the rejection of the null hypothesis that there would be no significant difference in digital literacy among adult learners based on their age.

Finding:

The study found a significant difference in digital literacy among adult learners based on age, with the 36 to 45 years age group having the highest mean scores and the 46 years and above group having the lowest. This suggests that digital literacy decreases with increasing age.

Hypothesis- 2. There would be no significant difference in digital literacy among adult learners based on their socio-economic status.

Table 3: Mean Digital Literacy Scores by Socio-Economic Status Among Adult Learners (N = 60)

Socio- economic status	N	Mean	Std. Deviation
Low	23	103.0000	37.65634
Medium	17	105.1176	21.07689
High	20	142.5000	69.54627
Total	60	116.7667	50.44056

Table 4: ANOVA Results for Digital Literacy Scores Based on Socio-Economic Status Among Adult Learners

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	19909.969	2	9954.984	4.358	0.017
Within Groups	130200.765	57	2284.224		
Total	150110.733	59			

Interpretation in APA Format

An analysis of variance (ANOVA) was conducted to explore the impact of socio-economic status (SES) on digital literacy among adult learners. Participants were classified into three SES categories: low, medium, and high. The results revealed a statistically significant difference in digital literacy scores based on socio-economic status, **F**(2, 57) = 4.36, **p** = .017.

The mean digital literacy scores were 103.00 (SD = 37.66) for the low SES group, 105.12 (SD = 21.08) for the medium SES group, and 142.50 (SD = 69.55) for the high SES group. The significant **p**-value indicates that socio-economic status has a notable effect on digital literacy, leading to the rejection of the null hypothesis that there would be no significant difference in digital literacy among adult learners based on their socio-economic status.

Finding:

The study found a significant difference in digital literacy among adult learners based on socio-economic status, with the high socio-economic group achieving the highest mean scores. In contrast, the low and medium socio-economic groups had notably lower scores, indicating that socio-economic status influences digital literacy development.

Discussion:

The findings from the ANOVA indicate a significant relationship between socio-economic status (SES) and digital literacy among adult learners. Participants from the high SES group exhibited notably higher mean digital literacy scores compared to those in the low and medium SES groups. This suggests that individuals from higher socio-economic backgrounds may have greater access to technology, educational resources, and opportunities to develop their digital skills. Conversely, the lower scores observed in the low SES group highlight potential barriers that may hinder their digital literacy development, such as limited access to devices or internet connectivity. These results emphasize the need for targeted interventions and support for adult learners from lower socio-economic backgrounds to enhance their digital literacy and ensure equitable access to digital tools and resources in today's technology-driven society. Future research should further investigate the specific factors contributing to these disparities and explore effective strategies for improving digital literacy among disadvantaged populations.

VIII. Educational Implications:

These study findings can imply the following educational implications:

1. Educational institutions should develop specialized digital literacy programs tailored to the needs of adult learners, especially those from lower socio-economic backgrounds, to improve their technological skills and competencies.
2. Schools and community organizations must prioritize resource allocation, such as providing funding for devices and internet access, to ensure that all adult learners have equitable opportunities to enhance their digital literacy.
3. Curriculum designers should integrate digital literacy training into adult education programs, emphasizing practical skills relevant to the modern job market, thus equipping learners to succeed in a digital economy.
4. Ongoing professional development for educators is essential to keep them informed about the latest digital tools and effective teaching strategies, enabling them to provide meaningful support to adult learners in developing their digital skills.
5. Establishing partnerships between educational institutions and local organizations or businesses can create mentorship and resource-sharing opportunities, fostering a supportive environment that promotes digital literacy among adult learners from diverse socio-economic backgrounds.

IX. Conclusion:

This study highlights the significant impact of age and socio-economic status on digital literacy among adult learners. The findings indicate that younger adult learners, particularly those in the 36 to 45 years age group, tend to possess higher digital literacy skills compared to their older counterparts. Additionally, socio-economic status plays a crucial role, with those from higher socio-economic backgrounds demonstrating superior digital competencies. These insights underscore the necessity of addressing the digital divide that exists among different age groups and socio-economic strata, as well as the importance of targeted educational interventions.

Furthermore, the implications of this research extend to the development of effective digital literacy programs and policies. Educational institutions and community organizations must prioritize resource allocation and create inclusive curricula that cater to the diverse needs of adult learners. By fostering partnerships and providing professional development for educators, we can enhance digital literacy skills across all demographic groups, thereby promoting equity and access to digital resources. Ultimately, investing in adult learners' digital literacy is essential for empowering them in a technology-driven world, facilitating lifelong learning, and improving their overall quality of life.

References

Abrosimova, G. A. (2020). Digital Literacy and Digital Skills in University Study. *International Journal of Higher Education*, *9*(8), 52. https://doi.org/10.5430/ijhe.v9n8p52

Anti-Phishing Working Group. (2021). Phishing Activity Trends Report. Retrieved from apwg.org.

Antón-Sancho, L., Vergara, D., Lamas-Álvarez, V. E., & Fernández-Arias, P. (2021). Digital Content Creation Tools: American University Teachers' Perception. *Applied Sciences*, *11*(24), 11649. https://doi.org/10.3390/app112411649

Association of College & Research Libraries. (2015). Framework for Information Literacy for Higher Education. Retrieved from ala.org.

Audrin, C., & Audrin, B. (2022). Key factors in digital literacy in learning and education: a systematic literature review using text mining. *Education and Information Technologies*, *27*(6), 7395–7419. https://doi.org/10.1007/s10639-021-10832-5

Bacalja, A., Beavis, C., & O'Brien, A. (2022). Shifting landscapes of digital literacy. *The Australian Journal of Language and Literacy*, *45*(2), 253–263. https://doi.org/10.1007/s44020-022-00019-x

Bawden, D., & Robinson, L. (2009). The dark side of information: overload, anxiety and other paradoxes and pathologies. Journal of Information Science, 35(2), 180-191. https://doi.org/10.1177/0165551508095781

Bawden, D., & Robinson, L. (2012). Introduction to Information Science. London: Facet Publishing.

Bennett, S., Maton, K., & Kervin, L. (2008). The 'digital natives' debate: a critical review of the evidence. British Journal of Educational Technology, 39(5), 775–786. https://doi.org/10.1111/j.1467-8535.2007.00793.x

Brady, K. P., Holcomb, L. B., & Smith, B. V. (2010). The use of alternative social networking sites in higher educational settings: A case study of the e-learning benefits of ning in education. *Journal of Interactive Online Learning*, *9*(2), 151–170.

Graham, C. R., & Halverson, L. R. (2023). Blended Learning Research and Practice. In *Handbook of Open, Distance and Digital Education* (pp. 1159–1178). https://doi.org/10.1007/978-981-19-2080-6_68

Hague, C., & Payton, S. (2010). Digital Literacy Across the Curriculum. London: Futurelab.

Hatamleh, I. H. M., Safori, A. O., Habes, M., Tahat, O., Ahmad, A. K., Abdallah, R. a. Q., & Aissani, R. (2023). Trust in Social Media: Enhancing Social Relationships. *Social Sciences*, *12*(7), 416. https://doi.org/10.3390/socsci12070416

Helsper, E.J., & Eynon, R. (2013). Distinct skill pathways to digital engagement. European Journal of Communication, 28(6), 696–713.

Hendricks, D. (2019). The Ultimate List of Marketing Tools. Retrieved from https://www.digitalinformationworld.com.

Huang, C., & O'Connor, P. (2020). The role of communication technologies in the workplace. International Journal of Information Management, 52, 102066.

Jimoyiannis, A., & Gravani, M. (2010). Digital Literacy in a Lifelong Learning Programme for Adults. *International Journal of Digital Literacy and Digital Competence*, *1*(1), 40–60. https://doi.org/10.4018/jdldc.2010101903

Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. Business Horizons, 53(1), 59-68.

Keller, P. A. (2017). Designing Effective PowerPoint Presentations. Business Communication Quarterly, 80(1), 10-12.

Kharat, S. A., Nagarkar, S., & Panage, B. M. (2022). Design and development of digital information product and service using colour QR codes for smartphone user's of academic libraries. *Library Management*, *43*(8–9), 577–600. https://doi.org/10.1108/lm-10-2021-0086

Mangkhang, C., & Kaewpanya, N. (2021). The Digital Etiquette Enhancing to Global Citizenship of Social Studies Teachers in a New Normal Society. *Higher Education Studies*, *11*(3), 89. https://doi.org/10.5539/hes.v11n3p89

Mayer, R. E. (2009). Multimedia Learning (2nd ed.). Cambridge University Press.

McAfee. (2020). The Hidden Costs of Cybercrime. Retrieved from mcafee.com.

Metzger, M. J. (2007). Making sense of credibility on the Web: Models for evaluating online information and recommendations for future research. *Journal of the American Society for Information Science and Technology*, *58*(13), 2078–2091. https://doi.org/10.1002/asi.20672

Moreno, R., & Mayer, R. E. (2000). Engaging students in learning: The role of multimedia in learning environments. In The Cambridge Handbook of Multimedia Learning (pp. 313-339). Cambridge University Press.

Ng, W. (2012). Can We Teach Digital Natives Digital Literacy?. Computers & Education, 59(3), 1065-1078.

Pew Research Center. (2019). Americans and Privacy: Concerned, Confused and Feeling Lack of Control Over Their Personal Information. Retrieved from pewresearch.org.

Reddy, P., Chaudhary, K., & Hussein, S. (2023). A digital literacy model to narrow the digital literacy skills gap. *Heliyon*, *9*(4), e14878. https://doi.org/10.1016/j.heliyon.2023.e14878

Royal Society for Public Health. (2017). #StatusOfMind: Social media and young people's mental health and wellbeing. Retrieved from rsph.org.uk.

Sebetci, Z. (2019). Approach to the Concept of Literacy for Information Systems Used in the Business Areas of and Daily Studies. *Journal of Business Research - Turk*, *11*(4), 2691–2697. https://doi.org/10.20491/isarder.2019.768

Sharp, L. A. (2017). Enhancing Digital Literacy and Learning Among Adults With Blogs. *Journal of Adolescent & Adult Literacy*, *61*(2), 191–202. https://doi.org/10.1002/jaal.675

Tondeur, J., Van Braak, J., Sang, G., Voogt, J., Fisser, P., & Ottenbreit-Leftwich, A. (2012). Preparing pre-service teachers to integrate technology in education: A synthesis of qualitative evidence. *Computers & Education*, *59*(1), 134–144. https://doi.org/10.1016/j.compedu.2011.10.009

Tufekci, Z. (2017). Twitter and Tear Gas: The Power and Fragility of Networked Protest. Yale University Press.

UNESCO. (2011). Digital Literacy: An Essential Skill for the 21st Century. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000216476

Van Deursen, A. J. A. M., Helsper, E. J., & Eynon, R. (2016). Development and validation of the Internet Skills Scale (ISS). Information, Communication & Society, 19(6), 804-823.

Voogt, J., Erstad, O., Dede, C., & Mishra, P. (2013). Challenges to learning and schooling in the digital networked world of the 21st century. *Journal of Computer Assisted Learning*, *29*(5), 403–413. https://doi.org/10.1111/jcal.12029

Vosoughi, S., Roy, D., & Aral, S. (2018). The spread of true and false news online. Science, 359(6380), 1146-1151.

Walther, J. B. (1996). Computer-mediated communication: Impersonal, interpersonal, and hyper personal interaction. Communication Research, 23(1), 3-43.

Wardle, C., & Derakhshan, H. (2017). Information disorder: Toward an interdisciplinary framework for research and policy making. Council of Europe Report.

World Economic Forum. (2020). The Future of Jobs Report 2020. Retrieved from https://www.weforum.org/reports/the-future-of-jobs-report-2020