

Digital Literacy: An Overview

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ABSTRACT

If traditional literacy involves the skills of reading and writing, digital literacy requires the ability to extend those skills in order to effectively take advantage of the digital technologies. Digital literacy is a person's ability to find, evaluate, and clearly communicate information through various digital platforms. It is a person's ability to perform tasks effectively in a digital environment. It encompasses 21st-century skills that are interdisciplinary in nature and related to the effective and appropriate use of digital technologies. A digitally literate person becomes a socially responsible member of the society. This paper provides an overview of digital literacy and its uses.

KEYWORDS: *literacies, digital literacy, computer literacy, digital literacy skills*

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INTRODUCTION

We live in a digital age with the Internet economy growing rapidly. As digital technology has become ubiquitous, affordable, and portable, increasing number of people worldwide are increasing their online participation. People use different technologies and tools for different reasons. They use technology for exchanging messages, meeting, entertainment, shopping, sharing photos, communicating with people [1]. The use of technology has transformed every discipline and career, from engineering to medicine to politics.

Digital literacy is a relatively new concept that emerged in the 1990s during the era of the Internet revolution. Paul Gilster, a historian and educator first coined the term “digital literacy” in 1997. He referred to digital literacy as a logical extension to literacy, defining the term as “the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers.” Digital literacy refers to person's ability to use IT and digital technology to find, evaluate, create, and communicate information. It involves knowing digital tools and

using them in communication and collaboration with others [2].

WHAT IS DIGITAL LITERACY?

Literacy is often regarded as the ability to read and write. Nations are often ranked in terms of literacy rates, which indicate the adult population that can read and write.

Today, the term “literacy” has become a synonym for skill, competence, and proficiency such as in computer literacy, media literacy, information literacy, emotional literacy, spiritual literacy, data literacy, technology literacy, visual literacy, etc. Being able to read and write are still very much at the heart of digital literacy. Digital literacy is the ability to use information and communication technologies to find, evaluate, create, and communicate information. Literacy is both learned and lived in. It implies that you have the skills to live, learn, and work in a society that is increasingly using digital technologies. It involves the ability to critically evaluate information presented in different formats. A person is digitally literate when searching for

information online, critically evaluating the information, using email, exchanging text messages, using Facebook, or using any other digital technologies. This is why some experts prefer to use *digital literacies* (as a plural) to convey the many facets of reading and writing [3].

Hiller Spire, a professor at North Carolina State University, breaks down digital literacy into three main buckets: Finding and consuming digital content; creating digital content; and communicating or sharing digital content [4]:

- **Finding and Consuming:** Students who are becoming digitally literate ask important questions about the online content they encounter. They question the points of view, lifestyles, and values that may be represented, or missing, from the content.
- **Creating Content:** Digital literacy also embraces content creation. Students learn to become responsible content creators in addition to content consumers. They create content and other forms of media such as tweets, podcasts, videos, emails, and blogs.
- **Communicating:** Collaborating and communicating ideas with others is a pillar of digital literacy. Students should be aware of the consequences of what they share online

The three components of digital literacy are illustrated in Figure 1 [5].

A digital literate is a person who [6]:

- Can operate and use digital resources such as smart phone, computers, laptop, or Internet.
- Can search the web or Internet, book Uber, buy or sell things online, use the digital medium for work, entertainment, education or to create awareness
- Knows how to search for and create content: Uses devices to research, evaluate and compare data.
- Communicates via social media: Understands and uses various social media platforms for purposes ranging from education, entertainment, collaborations to networking.
- Is aware of online threats and knows safe surfing habits: Stays aware of the digital environment and takes basic precautions when online.

At the global level, the International Society for Technology in Education (ISTE) frames digital literacy around six standards: creativity and innovation; communication and collaboration; research and information fluency; critical thinking,

problem solving and decision making; digital citizenship; and technology operations and concepts. The road to digital literacy is shown in Figure 2 [7]. Figure 3 shows a gray area or an overlap where both digital skills and digital literacies are needed [8].

DEVELOPING DIGITAL LITERACY SKILLS

Digital literacy skills are in great demand today. No matter what age or background, your knowledge of these skills will allow you to function and thrive in an increasingly digital world. In the digital age, digital literacy is only going to become more important with time. Digital literacy is important for citizens of all ages.

- **Children:** Kids need to be digitally literate even when they are not online. Digital literacy is increasingly recognized as a central element of the skills a child requires for school, work, and life. It refers to the knowledge, skills, and attitudes that allow children to navigate safely in an increasingly digital world, send emails, use social media, or research using search engines. This involves their play, participation, socializing, searching, and learning through digital technologies [9]. Teaching children digital literacy skills is very important because it teaches them understanding technology and using it appropriately. Both parents and teachers should make concerted effort to teach the basics of digital literacy. They should teach children about staying safe online, the threats of Internet grooming, fake news, covert advertising, cyberbullying, and identity theft. This will make life easier for them in many ways as they move through life. Figure 4 shows that digital literacy is important for kids [10].

- **Youths:** Today's youths are often called "digital natives" because of the seemingly effortless way they engage with all things digital. Social media continue to evolve and change, and teens are quick to follow their peers to new sites that afford communication and gratification. When preparing students for the world of work, digital literacy is an indispensable necessity. In order for the youths to be digitally literate, they must develop knowledge, values and a whole range of critical thinking, communication and information management skills for the 21st century. Many teachers are using technology in their classrooms to support different learning styles and to engage students in critical thinking, promote ethical practices, and strengthen their own professional development [11]. Teachers must be committed to providing students with fidelity in instructional practice. It makes sure students are employable

and prepared for 21st century workplace. Figure 5 shows a group of youths learning together [12].

- **Elderly:** There has been programs to provide digital literacy training for older people. The programs aim to enable older people to keep up with technology as it changes, increase older people's trust and confidence of carrying out online activities, and improve their digital inclusion. Figure 6 shows digital literacy training for seniors [13].

APPLICATIONS OF DIGITAL LITERACY

Digital literacy addresses a particular set of competencies that allow you to function and participate fully in a digital world. The uses of digital literacy are endless and they continue to expand over time. These following applications are only typical.

- **Education:** Digital literacy is increasingly being identified as a formal educational goal. It is the ability to use information and communication technologies to find, evaluate, create, and communicate information. It requires both cognitive and technical skills. It applies to the use of smartphones, laptops, tablets, and other devices used to access the Internet. Digital literacy is important in education, the work force, and generally for every Internet user. Digitally literate teachers of this generation should shoulder the major responsibility of imparting education to the new generation. They must equip themselves with the necessary digital skills and various available apps to help their students become responsible digital citizens [14]. What should be taught about digital literacy includes [15]:

- Teach students how to find reliable information from a Google search
- Teach Google search techniques
- Teach students how to encourage critical thinking online
- Teach students about the ethical use of online resources
- Teach students the basics of Internet safety
- Teach students about online bullying

Knowing these basics will help students avoid getting sensitive information or revealing some personal content to others. They will understand that being digitally literate means never assaulting, harassing, or making fun of other people online. Integrated digital literacy education may be regarded as an effective way to teach students essential soft skills. As a result, students' literacy practices and skills become more complex and deliberate.

- **Workplace:** Digital literacy refers to a particular set of competencies that allow you to function and participate fully in a digital world. For large and enterprise organizations with thousands of employees, digital knowledge can vary between people and departments. Digital literacy can help your organization figure out any current gaps, how ready for new technologies your company might be, or where training needs to improve. Many technologies are used to make tasks and their work much more efficient [16].

- **Eliminate the Digital Divide:** Poor access to digital educational resources in racialized communities leaves individuals vulnerable to racism and hate. Digital literacy resources can prepare, engage and empower disadvantaged individuals to disengage in situations of online prejudice [17]. Digital literacy helps bridge the gap between the poor and the rich. Some students, volunteers, local officials, and the private sector in US have addressed the issue of digital inequity in our society. To bridge the digital divide, they provide digital literacy resources such as low-cost computer equipment, Internet access, and computer skills training. They also use both new and donated computer equipment to teach low-income individuals, seniors, and other non-profits companies business-related computer skills. Their goal is to ensure that all students have affordable access to essential at-home technology and digital literacy training. This will support academic success and prepare them for college, careers, and beyond [18].

- **Public Library:** It is the responsibility of librarians to engage patrons in experiences that promote and improve digital literacy. The library staff provides digital literacy help for patrons in one-on-one, at the desk or through an appointment. Patrons may need help in using the computers or databases, navigating government websites, or using the library's resources and equipment. In 2013, OITP's Digital Literacy Task Force defined digital literacy as: "Digital literacy is the ability to use information and communication technologies to find, understand, evaluate, create, and communicate digital information." Digital literacy initiatives within local libraries are important to help patrons to use emails, download an app, create and edit a powerpoint presentation, use the online databases, search for a new doctor online, and more. The job of librarians is to provide digital literacy services and resources to enable patrons to develop professionally and personally [19].

BENEFITS

The digital world offers many benefits to everyone. It provides platforms that allow us to connect and collaborate. Some other benefits of digital literacy include [20,21]:

- Digital literacy is important for the correct use of various digital platforms.
- Digital literacy can prevent people from being taken advantage of online.
- Digital literacy is necessary to become digital citizens.
- A literate digital citizen possesses the skills to read, write, and interact with others on online and has an orientation for social justice.
- Cultivating digital literacy is important when it comes to an entrepreneurs, starting and growing new ventures.
- Developing digital literacy skills to take students from school to the workforce.
- Digital literacy helps students to develop some essential life skills.
- Digital literacy helps students stand out from competition in the job market.
- Digital literacy enables forms of thinking that are not as readily enabled by traditional literacy.
- After COVID scenario, social distancing become a norm and libraries became off limits for students. Therefore, providing virtual libraries is the way forward.
- Reduce stress and increase student satisfaction.

CHALLENGES

Without proper use digital technologies, the digital world can be dangerous. Since the term “digital literacy” is so wide-ranging, it can cause confusion. The key barriers to digital literacy include lack of teachers’ and trainers’ capacity; lack of ICT infrastructure; low connectivity (especially for remote areas); and a lack of understanding from decision-makers. Other challenges include the following [22]:

- Digital literacies have been defined in many ways. The proliferation of competing definitions and inconsistency of the references to different types of digital literacies is problematic.
- There is a major concern that childhood Internet use results in unhappy and anxious children.
- Digital platforms make children vulnerable to criminals and cyber bullies.
- Students share inappropriate sexual content.
- There is lack of global consensus and standards that makes it difficult for governments and other stakeholders to design and implement comparative and cost-effective initiatives, especially within developing countries.

CONCLUSION

Digital literacy refers to the ability to use digital technology, communication tools or networks to locate, evaluate, use and create information. It involves the full range of skills needed to read, write, speak, view, and participate in online spaces. Digital literacy is everywhere, and we all possess it to some degree. It is about being able to make sense of digital media. September 8 is celebrated as the International Literacy Day. More information about digital literacy can be found in the books in [23-33] and the following journals devoted to robot-related issues: *International Journal of Digital Literacy and Digital Competence*

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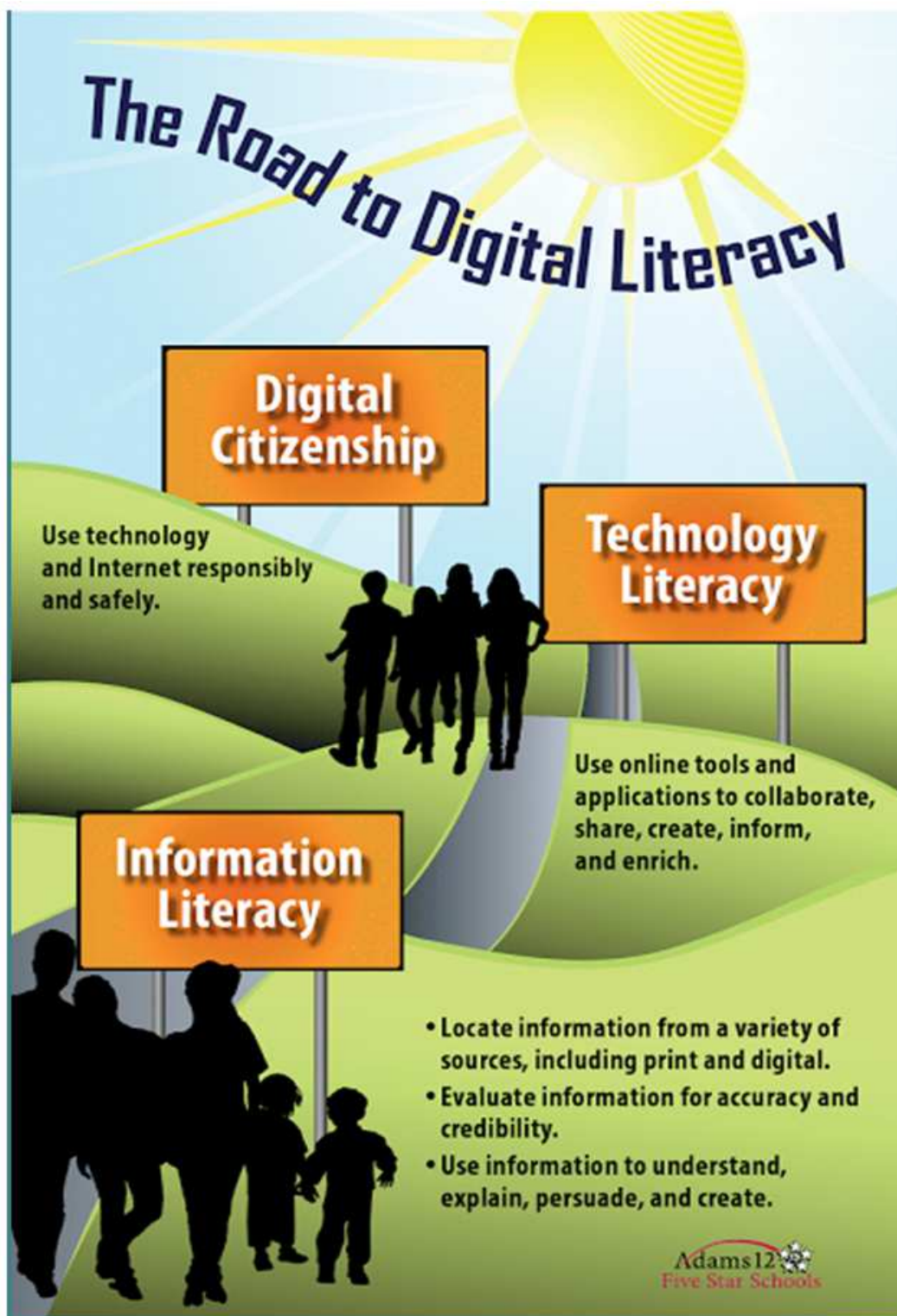
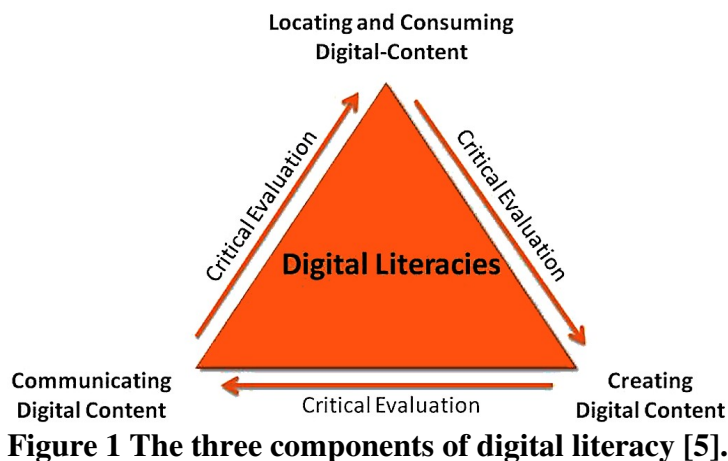


Figure 2 The road to digital literacy [7].

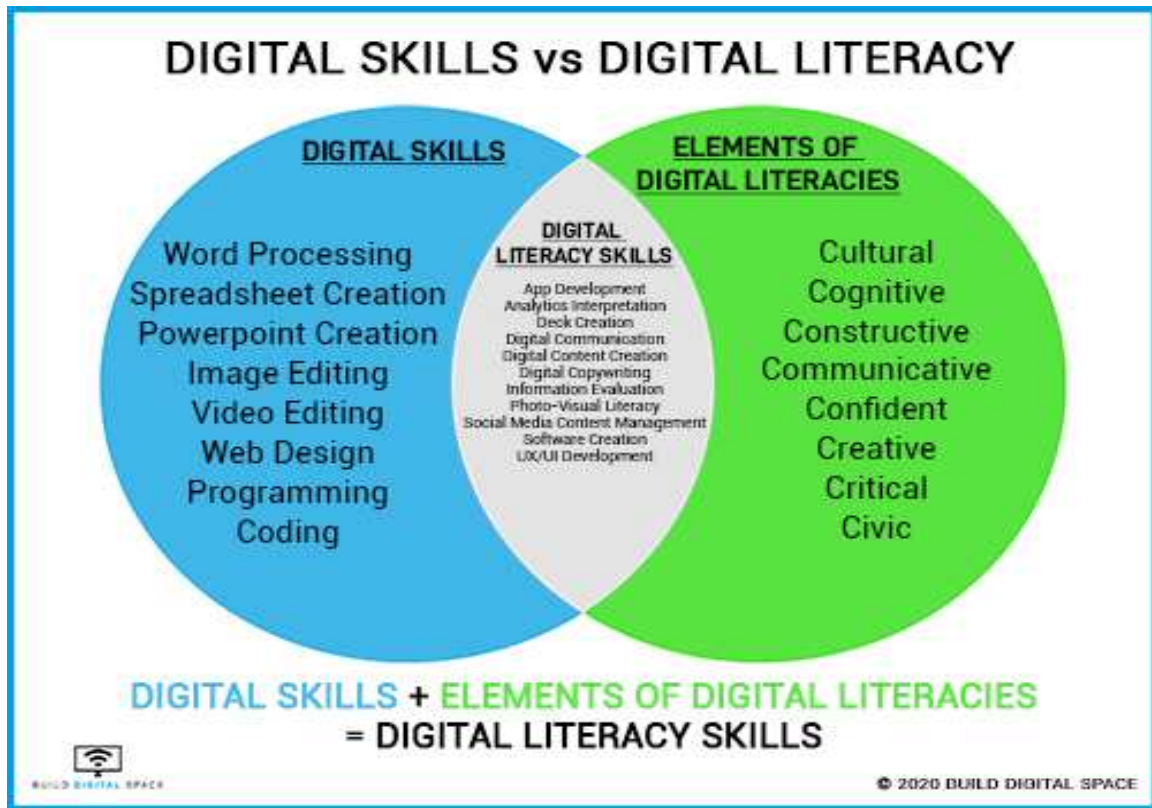


Figure 3 Gray area where both digital skills and digital literacies are needed [8].



Figure 4 Digital literacy is important for kids [10].



Figure 5 A group of youths learning together [12].



Figure 6 Digital literacy training for seniors