

## Research Article

# Study on the Acquisition of Digital Skills by Secondary School Students and the Challenges of Digital Literacy

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## A B S T R A C T

Digital communication technology is an emerging field that is widely used by academic user communities to improve their skills in their areas of interest and effectively acquire digital information. Similarly, having well-informed, qualified and globally minded employees is critical to the success of any organization. In this situation, the librarian has her two tasks. To prepare readers for the challenges and opportunities posed by digital globalization and to be the leading supplier of well-educated intellectual capital (knowledge workers). In this context, the COVID-19 pandemic has rocked the world in unimaginable ways. Neither the world nor educational institutions were prepared for the lightning-fast transition to online platforms. Understand the status and purpose of student digital literacy and learn about the different skills secondary school students have acquired using digital devices. Paper also provides knowledge about the challenges students face when using digital technology, enabling teachers and librarians to improve their careers and lives.

**Keywords:** Digital Literacy, Digital Literacy Skills, COVID-19 Pandemic, Challenges of Digital Literacy

## Introduction

Digital libraries have been in development since the late 1990s. Information literacy refers to the set of skills that enable an individual to "perceive when information is needed and to effectively find, evaluate and use the information they need". Bawden (2008) defines digital literacy as the set of attitudes, understandings, and skills for effectively processing and communicating information and knowledge in a variety of media and formats. Bell and Shank (2008) state in their paper that 'Digital literacy is the ability to find, evaluate, use, and create information using digital technologies, communication tools, or networks.' Digital literacy includes computer hardware, software, the

Internet, mobile phones, PDAs, and other digital services.

Digital literacy is thus associated with the traditional association of literacy and democratic rights, and the more specific concept of e-government. The National Digital Literacy Mission has come a long way since its launch in August 2012. The program started as an industry initiative to bring together his nine partners in the IT industry to accelerate India's digital literacy, following the government's vision of achieving 100% digital literacy across India by 2020. Broadband highways, universal access to telephony, public Internet access programs, government reform through technology - e-governance, electronic delivery of services, e-kranti, information for

all, electronics manufacturing, IT for work, Early Harvest Program.

Competence can be summarized in essential elements of so-called digital competence. It explains the theory that understanding (these eight essential elements) can make a person digitally competent. The development of essential elements of digital competencies that correlate with specific situations in which a person can develop skills to meet their needs. Eight Elements are Cultural, Cognitive, Constructive, Communicative, Confident, Creative, Critical and Civic.

While reading and mathematics remain central to education, today's education system has embraced a digital literacy curriculum as essential. This critical life skill is important not only for professional maturity, but also for education and socialization. As technology continues to surround the daily lives of children and adults, the importance of digital literacy for students is becoming increasingly apparent. From social interaction to entertainment, education and professional life, the ability to use technology effectively is considered essential to modern progress and success.

### Digital Literacy Covers

- Understanding the impact of new technologies on society
- Understanding and being able to manage digital identities appropriately
- Being able to locate, organize, understand, evaluate, analyse and present digital information

### Benefits of Digital Literacy

1. A digitally literate population is more innovative and creative.
2. Digital literacy increases ICT infrastructure development and use.
3. Digital literacy promotes smart ICT adoption and increased productivity.
4. A digitally literate population makes good organizational sense.
5. Digital literacy enables public participation.
6. Digital literacy promotes economic and social inclusion.
7. Digital literacy supports and promotes empowerment and engagement.
8. Digital literacy helps children and youth mitigate online risk.

### Values of Digital Literacy in Education

**Digital Literacy Promotes Higher** - Digital literacy translates from the technological world to the real world and meets many of the basic needs demanded by today's learning standards. By teaching strong digital skills, from helping students collaborate on Google Docs to developing the ability to analyze web sources for authenticity, these advanced skills (analyzing, collaborating, creating, etc.) A great opportunity to learn and practice.

**Digital Literacy Breaks Down the Walls of Learning & Information** - The traditional pen-and-pencil system poses myriad barriers to student access and connection, whether it be the predicament of mastering narratives or language segregation. Teaching proficient digital skills enables students to break down these barriers and become knowledge producers. Allowing students to find their own learning resources and analyze the usefulness of the sources creates a truly personalized learning environment. Students are no longer given static text sets that tell them what and how to learn. Instead, developed digital literature skills provide students with opportunities to seek out and utilize knowledge resources that help them make personal learning connections.

**Digital Literacy Prepares Students for a Digital Post K-12 World** - Many of our goals as educators are to ensure students have the tools they need to be successful citizens at K-12 and beyond. It is adjusted to hold This includes being tech savvy. Whether working with Microsoft Office, understanding the nuances of Windows/Mac operating systems, or simply using a mouse and keyboard, it's important that students are ready to sit in front of their digital devices. In today's world, becoming familiar with the features and functions of digital devices is as important as learning to read and write.

This research will help teachers adopt innovative approaches to improve educational transactions. This research will help in the comprehensive development of the school process. This survey will help you organize your digital proficiency training program. This research helps authorities manage in organizing training courses for teachers and students to equip them with new knowledge and skills to make teaching effective. This is very helpful for distant students. Especially online learning programs can be very helpful in meeting educational challenges in the context of a pandemic. Developing innovative strategies to improve the situation in secondary schools in areas of study related to digital literacy would be helpful not only to governments but also to administrative authorities.

**Role of Librarian** - It is the librarian's role to help students learn basic digital skills from K-12 World. This can be achieved by developing a digital literacy community and promoting lifelong learning in digital skills and technology. Once librarians understand the unique needs and concerns of the Internet generation, they are better equipped to facilitate the learning of this group. Librarians also need to understand the digital skills necessary to use technology in the digital age efficiently and effectively. Through carefully planned school library programming, librarians can further the goals outlined. With these goals and the actions to achieve them, the work of librarians can produce lifelong digital literacy learners who will shape society today,

tomorrow, and into the future.

## Research Questions

The following research questions have been formulated to examine the status and issues of digital literacy of secondary school students.

1. What is the present status of digital literacy of secondary school students?
2. What are the challenges faced by the students while using digital technologies?
3. For which purpose the secondary school students are using digital technologies?

## Limitation of the Study

The study is limited to only 120 Secondary school students 'Narsinh Govindrao Vartak English Medium High School, Mount Mary English High School, M G M Academy High School' of Virar situated in Palghar District of Maharashtra. With a view to catch Impression of pandemic period, Data is collected from April 2022 to September 2022, immediately after the pandemic situation got over. The COVID-19 pandemic disrupted the world in ways unimaginable.

To get an impression of the pandemic period, data are collected from April 2022 to September 2022, immediately after the end of the pandemic situation. The COVID-19 pandemic has rocked the world in unimaginable ways Looking back over the past two years and the on-going severe impact of the pandemic, it became clear that one of the hardest-hit sectors was education. Neither the world nor educational institutions were prepared for the lightning-fast transition to online platforms. It was solely intended to explore the state of digital literacy in Secondary school students from 8th grade to her 10th grade, challenges/problems/problems faced by students.

## Methodology

For conducting the present study, descriptive survey method was used to examine status and issues of the digital literacy of secondary school students. All of the students had been using Google meet and zoom apps for learning, in online mode for learning during pandemic period. About Tools Used, Reading academic articles on Digital Literacy Questionnaires and incorporating input from these questionnaires into self-development consisting of objective types related to different aspects of digital literacy, different digital skills, and intended use of digital technologies in learning I summarized it in the questionnaire. Factors/ challenges/ problems/problems affecting digital literacy formulated by researchers. The effectiveness of the tool was ensured by taking into account expert suggestions.

For selecting the sample for the present study, purposive sampling technique was used. The sample was selected

purposively from 3 High school from Virar in Palghar District, State of Maharashtra. 250 Questionnaires were distributed, but only 120 numbers of students (54 male and 66 female) were responded. The data have been collected through distributing questionnaire form and reminder to fill questionnaire. While collecting data, students were contacted, for collecting reliable data for the primary sources. After collecting relevant data from the respondents, the data was analyzed quantitatively by using simple frequency and percentage in MS-Excel and interpretation was made accordingly.

## Data Analysis and Interpretation

Table 1- Indicates that computer literacy, internet literacy, digital literacy and web search skills of secondary school students are good i.e. around 50%. Very few 18% students have poor & very poor digital literacy skills, and altogether 82% students have very good, good and moderate digital skills. 40% students needs to be better in Website Search Skills. 10% students are weak in Internet skill and 11% students are need to do look into computer literacy and typing skills.

Table 2 - 37% Students said that they can change of screen brightness and contrast where as 43% said that they can minimize, maximize and move the windows. Creation/Compilation of information (Text+Audio+Video) is possible only for 30% students. Sharing photos and videos in social media use can be done by 48% students.

More than 70% students have Use a 'search' command to locate a file, Write for online examination skills(objective +Subjective), Download and install applications, Scan disks/pen drive for viruses. Only 29% students feel safe and responsible online. Creation/Compilation of information (Text+Audio+Video) is possible only for 30% students. 15% students can record and edit digital and video sounds are the skills require attention to improve in the students.

Table 3 - 60% students agree that Budget/Finance of Parents & Time Constraint is the issue. 62% students agree that Lack of privacy while learning & no special mobile facility available for self. 65% students agree for Culture Mindset & Fear of learning new things & Lack of Proper IT Skills/ Training. Status of knowledge & Skills of colleagues, family members, friends who can guide as per 65% students opinion.

Lack of interest / motivation, Lack of knowledge & Digital skills of Students, Complex nature of New Technologies, Learning materials shortage (Online) are also other challenges, rated below 50% by students. Most of them 65% state that training is not sufficient. Though there is satisfactory supporting resources around, half of the students agreed that due to lack time, knowledge on digital

literacy, essential skills and facilities the process of digital literacy is hampering. Training program/Digital literacy program should be done frequently in order to face the challenges, and shut out the problems.

Table 4 - All of the students reported that Access information from teacher for learning. 90% students have provided feedback to teachers online way. 89% students agreed that for Assignments/Notes/Exercise/submission plans & Online examination in online mode easier for them. 78% students

reported that Recorded Content- revisiting was helpful for the lesson to further understanding, what they have missed.

76% students stated that learning was more easier and with fun ((From chalkboards to pads and laptops). 89% students liked Online examination made easy due to online mode. Only 56% students feel that Video/Audio clips for learning & 32% students agreed that they could excel in PPT Preparation.

**Table 1. Status of Digital Literacy of Secondary School Students**

Sr. No.	Literacy Skills	Computer Literacy	Digital Literacy	Internet Literacy	Typing Skills	Website Search Skills
1.	Very Good	11(9%)	12(10%)	10(8%)	19(16%)	18(15%)
2.	Good	48(40%)	60(50%)	61(51%)	58(48%)	36(30%)
3.	Moderate	48(40%)	26(22%)	37(31%)	25(21%)	18(15%)
4.	Poor	7(6%)	15(12%)	8(7%)	11(9%)	23(19%)
5.	Very Poor	6(5%)	7(6%)	4(3%)	7(6%)	25(21%)

**Table 2. Different Skills Using Digital Device By The Secondary School Students**

Sr. No.	Digital Device Using Skills	Yes (Frequency & %)	Undecided (Frequency & %)	No (Frequency & %)
1.	Being Safe And Responsible Online	35(29%)	23(19%)	62(52%)
2.	Change of Screen Brightness And Contrast	44(37%)	12(10%)	64(53%)
3.	Creation/ Compilation Of Information- (Text+Audio+Video)	36(30%)	14(12%)	70(58%)
4.	Download And Install Applications	98(81%)	6(5%)	16(14%)
5.	Minimize, Maximize, And Move The Windows	52(43%)	7(6%)	61(51%)
6.	Record And Edit Digital And Video Sounds	18(15%)	8(7%)	94(78%)
7.	Scan Disks/Pen Drive For Viruses	104(86%)	4(3%)	12(11%)
8.	Share Photos And Videos In Social Media	58(48%)	7(6%)	55(46%)
9.	Use A 'Search' Command To Locate A File	84(70%)	11(9%)	25(21%)
10.	Write For Online Examination Skills(Objective +Subjective)	96 (80%)	10(8%)	14(12%)

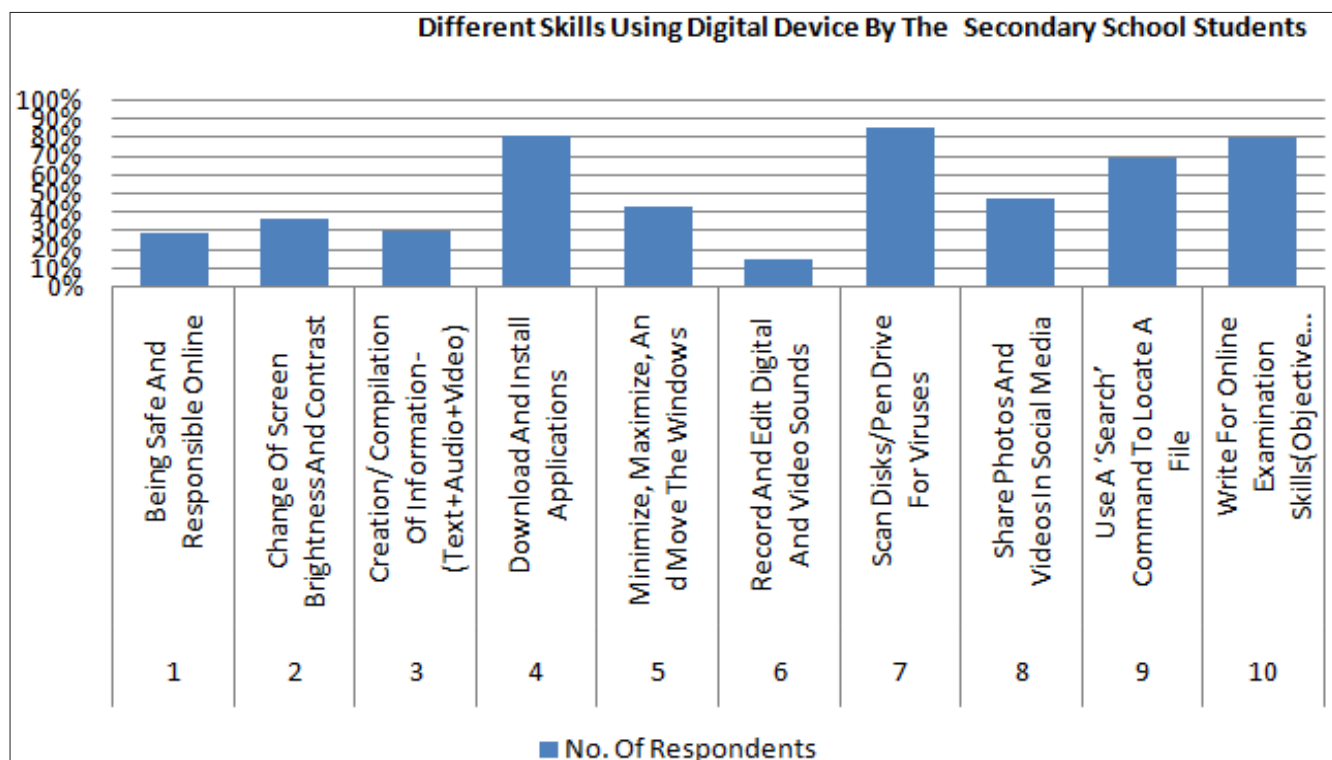


Figure 1. Different Skills Using Digital Device By The Secondary School Students

Table 3. Challenges Faced By The Students While Using Digital Technologies

Sr. No.	Challenges	Agree (Frequency & %)	Undecided (Frequency & %)	Disagree (Frequency & %)
1.	Budget/Finance Of Parents	72(60%)	6(5%)	42(35%)
2.	Complex Nature Of New Technologies	48(40%)	10(8%)	62(52%)
.3	Culture Mindset & Fear Of Learning New Things	78(65%)	12(10%)	30(25%)
4.	Time Constraint	72(60%)	36(30%)	12(10%)
5.	Lack Of Interest / Motivation	26(22%)	30(25%)	64(53%)
6.	Lack Of Knowledge & Digital Skills Of Teachers	31(26%)	13(11%)	76(63%)
7.	Lack Of Privacy While Learning & No Special Mobile Facility Available For Self	74(62%)	10(8%)	36(30%)
8.	Lack Of Proper IT Skills/Training	78(65%)	5(4%)	37(31%)
9.	Learning Materials Shortage (Online)	55(46%)	11(9%)	54((45%)
10.	Status Of Knowledge & Skills Of Colleagues, Family Members, Friends Who Can Guide.	78(65%)	19(16%)	23(19%)



Table 4. Purpose of Using Digital Devices By the Students In the Learning Process

Sr. No.	Purpose	Agree (Frequency & %)	Undecided (Frequency & %)	Disagree (Frequency & %)
1.	Access Information From Teacher For Learning	120(100%)	0	0
2.	Assignments/Notes/Exercise/Submission Plans etc. Timely Preparation Easier	107(89%)	9(8%)	4(3%)
3.	Easier To Track General Progress (Online Record)	67(56%)	13(11%)	40(33%)
4.	Helps To Make Learning More Easier And With Fun ((From Chalkboards To Pads And Laptops)	91(76%)	11(9%)	18(15%)
5.	Online Examination Made Easy	107(89%)	5(4%)	8(7%)
6.	PPT Preparation	38(32%)	19(16%)	63(52%)
7.	Providing Feedback To Teachers Online Way	108(90%)	10(9%)	2(1%)
8.	Recorded Content- Revisit The Lesson To Further Understanding, What You Missed.	94(78%)	7(6%)	19(16%)
9.	Resource Collection For Learning	76(63%)	8(7%)	36(30%)
10.	Video/Audio Clips For Learning	67(56%)	18(15%)	35(29%)

## Conclusion

It can be concluded that digital devices and applications are widely used in schools. Various commissions and committees also focus on digital literacy and the application of ICT in teaching and learning processes. The Government of India has initiated various programs such as Digital India Campaign, E-Pathshala, NROER, SWAYAM, SWayamprava and NDL India to promote his use of ICT in the context of education. Current research reveals that most students are proficient in using smartphones, but a lack of training and counseling programs prevents them from using their resources appropriately and fully. Governments should therefore take the initiative to stop the programs by conducting frequent in-service training programs and providing adequate infrastructure for schools. Although this study is limited to a review of the digital literacy situation and challenges of middle school students, a comparative study of the government and her C.B.S.E. can be proposed. & I.C.S.E. board schools can be held.

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