

Digital Literacy in the Classroom

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ABSTRACT

Digital literacy means that the ability of using information and communication technologies to find, evaluates, create and communicate information, requiring both cognitive and technical skill. Digital literacy is required for a common man to do their versatile duties easily. Using laptop, computer and smart phone, surfing in the internet, being in social media communicating with messaging apps and email handling are the few examples of Digital literacy. It is an important skill required for all the human beings in the current era of communication world. In Tamil Nadu, the government has provided laptops for the Government school students loaded with lot of source materials related to their subjects. The project work has been undertaken to give awareness on digital and online safety among welfare school children in Cuddalore district in the state of Tamilnadu.

1. INTRODUCTION

Technology connects every nook and corner of the world and the earth is a global village due to fast growing Information and Communication technology (ICT). The people need basic level of digital literacy and awareness to access the digital devices, applications and technologies. The excessive use of internet is possible today due to the availability of accessing the internet and other related facilities in reasonable cost. If a student has digital literate, they can do their school work easily by accessing online

resources like listening video lectures, downloading various study tools, writing online examinations, accessing online library database, studying e-books, etc. The common man can do their day-to-day work like paying bills, fund transfers, managing their personal bank accounts, maintenance of various identity proofs and important document in digital lockers. Accessing all type of tools and online facilities provided by the Government are the major advantages of digital literacy.

Digital literacy is required for a common man to do their versatile duties easily. Through smart phone applications, a person can do online shopping, using online payment system and other online applications like finding routes by using maps, etc., In an organization, even a low-level employee is required to know about e-attendance system for their survival. Lot of e-attendance system is available in the market place like RFID, Finger print recognition, facial recognition, etc. Also, they can access their attendance status through any online portal or mobile apps. So, the low level employee in an organization required a minimum level of digital literacy.

Digital awareness the one is able to understand and utilize the computer technology and online applications safely. Technology has made the world much smaller and much more competitive. Due to advancement in mobile technology and computer inventions, the school students between the age group 14-18 are frequently using various electronic and communication devices and they are accessing mails, surfing

in social Medias, and messaging apps. In Tamil Nadu, the government has provided laptops for the Government school students loaded with lot of source materials related to their subjects. By using the laptop, students are using offline sources to learn related to their school subjects. Most of the high school and higher secondary school students are utilizing online sources through that laptop and they are surfing in social media and other applications to communicate with their mates, family members and some strangers too. So, they need more digital awareness to use their electronic devices to handle the passwords, patterns and other security enable services safely. Few of the students are using the online sources to pay their electricity bills, booking of refill LPG cylinders, recharging mobiles for their self and others, paying dues, etc. Mostly the online users will use their bank ATM/Debit or credit cards of their parents.

1.1 School Education in Tamilnadu

The literacy rate in Tamilnadu is 80.33% in the year 2011. The Govt. of Tamilnadu has Department of School Education to administrate the Government, Government Aided and Private schools in the state. The structure of school education is based on the national level pattern with 12 years of schooling. Very recently the Govt. of Tamilnadu has started Kinder Garden (LKG & UKG) pattern in all the government Anganvadi centers, Primary and Middle schools. Under the Ministry of Education we have some Directorates under the control of School Education Department.

- Directorate of Elementary Education
- Directorate of Government Examinations
- Directorate of Matriculation Schools
- Directorate of Non-formal and Adult Education
- Directorate of Public Libraries
- Directorate of School Education
- Directorate of Teacher Education, Research and Training
- State Project Directorate, District

Primary Education Programme and SSA

- Teachers Recruitment Board
- Tamil Nadu Text-book Corporation
- State Project Directorate, Rashtriya Madhyamik Shiksha Abhiyan (RMSA)

1.2 Working Pattern of a School

School	Working days of a Year	Working hours per day
Elementary and Middle Schools	220 days	9.30 am to 4.30 pm
High and Higher Secondary Schools	200 days	Urban: 8.30 am to 5.00 pm Rural: 9.00 am to 5.30 pm

1.3 Tribal Welfare

The areas which have 50% and more Scheduled Tribe population are identified as ITDP areas. 7 District in the State covering 10 ITDP areas such as Salem (Yercaud, Pachamalai, Aranothumalai and Kalrayan Hills), Villupuram (Kalrayan Hills), Tiruvannamalai (Jawadhu Hills), Tiruchirapalli (Panchamalai Hills), Dharmapuri (Sitheri Hills) and Vellore (Jawadhu and Yelagiri Hills) where Tribal population is 50% or more than the total population.

Under Special Central Assistance to Tribal Sub Scheme funds are provided for income generating activities (60%), infrastructure development (30%) and employment opportunities (10%) in the above said ITDP areas and other areas which have higher Scheduled Tribe population.

In order to Provide infrastructure facilities in Tribal areas, maintenance of Tribal Residential Schools and for the implementation of FRA necessary funds have been provided under Article 275 (1) of the Constitution of India.

Tribals are classified into two categories viz., Tribal Clusters who are concentrated in a particular area and the Dispersed Tribes who

are scattered throughout the State. Out of the 36 Tribal communities in Tamilnadu, 6 Tribal Communities i.e. Toda, Kota, Kurumbas, Irular, Paniyan and Kattunayakan population is either decreasing or remains static. Hence they are known as Particularly Vulnerable Tribal Groups (PVTGs). Funds are provided under PVTG Scheme for the development of the above tribal group. An exclusive Tribal Research Centre (TRC) was established in the year 1983 with the assistance of Government of India at Muthorai Palada, Udhamandalam in the Nilgiris District, for data collection about the Tribes and to conduct necessary research about their life style, culture, language and socio economic and educational status. A Director, who is specialized in Anthropology is heading the TRC. A Library and a Tribal Museum have been setup in which the tribal photographs and artifacts on the life style of the tribes are displayed. A sales emporium has also been built to facilitate the sale of Tribal handicrafts.

Table 1. Details of Tribal Schools and hostels

Sl.No	Classification	Nos.
1.	Government Tribal Residential Schools (GTRS)	308
2.	Tribal Welfare Hostels	43
3.	Eklavya Model Residenciatial School (EMRS)	7

2. LITERATURE SURVEY

Binu Sahayam D and Maya Rathnasabapathy (2021)¹ in their study focused on digital education and digital divide with case studies in India. This study provided a platform in understanding and tackling digital divide existing as a barrier among those not privileged to make use of the opportunity. **Trinayan Borgohain and Trishna Deka (2019)²** undertook a study on “case study on awareness of Digital Information Literacy skills among students of Royal

Global University Guwahati, Assam”. The main purpose of this study was to find the awareness of digital information literacy skills among the students of Royal Global University, Guwahati. **Shabana Tabusum SZ et al (2014)³** made a study on “Digital Literacy Awareness among Arts and Science College Students in Tiruvallur District: A Study”. The study was undertaken in the Tiruvallur District of Tamil Nadu to understand the digital competency of Arts and Science Students with special reference to three colleges. **Varalakshmi N (2016)⁴** studied digital education in India. The researcher concluded that with so many different ways to define e- learning and the educational approaches that can be taken in these learning environments, e-learning is an innovative approach to learning. **Norazilah Saubari and Baharuddin MF (2016)⁵** aimed in their study to develop the awareness of digital literacy among students. This paper mentioned about the ways to develop the knowledge performance towards students by practicing a good skills to deal with the appropriate digital tools and knowing variety types of digital tools which can be used in digital literacy among students. **Lukasz Tomczyk (2019)⁶** in their study showed the importance of digital literacy among teachers in Poland. The research was carried out with a sample of 279 teachers throughout Poland. The research tool involved are a knowledge and skill test on ethreats and a diagnostic survey. **Lukasz Tomczyk and Katarzyna Potyrala (2021)⁷** in their study presented the level of knowledge and literacy held by the parents of primary school students regarding internet safety in the context of digital literacy (DL) in terms of both technical skills and knowledge. The study was made in Poland. The study found that that the most neglected areas were the protection of children against unwanted communication with other users, and secure logging-in. **Lukasz Tomczyk et al (2019)⁸** in their study presented the results of research on the level of digital literacy among parents of secondary school students. The study was commissioned by the Ministry of national education and conducted among 466 parents and guardians in 2016. The

aim of the study was to show the level of knowledge and skills regarding electronic threats and views on education in the era of digital media dominance.

Lauren K. Mark and Thanh Truc T. Nguyen (2015)⁹ made a study on “An Invitation to Internet Safety and Ethics: School and family collaboration”. The study concluded that ultimately, when dealing with Internet safety, it is important for awareness and education to be the top priorities of all members of a professional learning community.

Bilal Ahmad Dar et al (2019)¹⁰ in their paper attempted to investigate the Information Literacy levels among the Students of selected institute of higher learning. The survey method has been used, wherein a structured questionnaire was framed up to get the required data and analyzed vis-à-vis the objectives of the study. The major findings of the study reveal that majority of the students were not well versed the concept of information literacy.

Lisa M. Jones et al (2014)¹¹ undertook a study on “A Content Analysis of Youth Internet Safety Programs: Are Effective Prevention Strategies Being Used?”. The results of the study indicated that ISE programs are mostly not incorporating proven educational strategies. Common ISE messages have proliferated without a clear rationale for why they would be effective.

Samita Kher et al (2016)¹² made a study on “A Study of Awareness among Youth about Digital India Initiative”. The sample size of the study was 125, they were selected using convenient sampling method. The study found that there was a lack of awareness among the youth about the Digital India Initiative.

Ajay Kumar Sinha et al (2020)¹³ made a study with the aim to analyse online safety and internet addiction among adolescents in New Delhi. The study was conducted among school going adolescents in the age group of 13 to 18 years, spread across urban and rural areas of Delhi-NCR.

Hussein MT and Hussein RM (2020)¹⁴ in their study aimed to shine the light on the importance of educating students on digital literacy and netiquette, for technology has become a common denominator in most of our tasks. This study concerned with involving schools in educating students on this matter since students spend most of their time in schools.

Kamini Rai and Mamta Sharma (2020)¹⁵ in their research work aimed to find out the level of awareness among students of higher educational institutes about digital financial services in Delhi. To collect the responses from students including male and female (both) of higher educational institutes a questionnaire based survey was conducted.

3. PROPOSED WORK

Tamilnadu is the top state in India in terms of education both school and higher education. It is one of the top states in the country in terms of large number of enrolments in school and higher education institutions. It showed the importance and growth of education in the state. This part of the research work presents the profile of the study area namely, Cuddalore district.

3.1 Sample Selection

The study has been undertaken in Cuddalore district to study the digital knowledge of school children under the age group of 14 to 18 years in welfare schools in Cuddalore district in the state of Tamilnadu. A total of 200 school children under these age group were selected randomly in the study area.

3.2 Data Collection

The project work has been undertaken based on primary data. These data were collected from the sample school student respondents through interview schedule by contacting them directly. They are contacted in their school itself in the study area.

3.3 Tools of Analysis

The study has been undertaken with primary data collected from the sample respondents of school children under the age group of 14 to 18 years studying in welfare schools in Cuddalore district. The collected data were analysed using simple

percentage and chart analysis.

4. ANALYSIS AND INTERPRETATION

4.1 Digital Awareness

Having digital awareness is very important for school children in order to lead life in the digital life. Operating computer / laptop / smart phone are basic knowledge in digital world, apart from these many other digital awareness are there.

4.2 Using Laptop for Academic Purpose

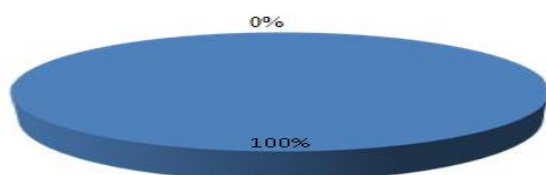
The results of the above table reveal that a total 125 student respondents owned smart devices for internet usage. The smart devices can be used for either academic purposes or for non-academic purposes. The following table brings out the results regarding whether the student respondents are using the smart devices for academic purpose or not.

Table 2. Usage of Smart Devices for Academic Purpose

Are you using your smart device for your academic purpose?	No. of Respondents	Percentage
Yes	125	100.00
No	0	0.0
Total	125	100.00

Table 2 reveals that a total of 125 student respondents used their smart devices for their academic purposes, it accounted for 100 per cent on the total student respondents who owned smart devices. Hence all the welfare school students who owned smart devices used it for their academic purposes. These results are presented in pictorial form in the following figure.

Figure 1. Usage of Smart Devices for Academic Purpose



4.3 Device Used for Internet

The above results indicated that a total of 144 student respondents owned smart devices either smart phone or laptop.

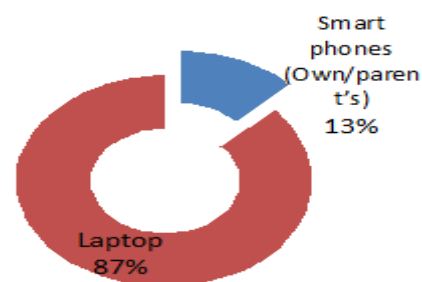
Internet can be used in either laptop or smart phone. Table 2.6 shows the results regarding which type of device is used by the student respondents for internet usage, i.e. whether laptop or smart phone.

Table 3. Device Used to Access Internet

Using Internet	No. of Respondents	Percentage
Smartphones (Own/parent)	19	13.20
No	125	86.80
Total	144	100.00

It could be known from table 3 that a total of 19 student respondents told that they used smart phones of their own or their parents used for connecting internet, it accounted for 13.20 of total respondents owned smart devices. A total of 125 student respondents used laptop for connecting internet, it accounted for 86.80 per cent of the total respondents owned smart devices. It was evidenced that more than three fourth of the welfare school students in Cuddalore district used laptop for internet usage. These results are presented in pictorial form in figure 2.

Figure 2. Device Used to Access Internet



4.4 Having E-mail ID

Having e-mail ID is essential one for using internet, since in the usage of smart phone or to login any other websites, E-mail ID is mandatory. Hence in order to know

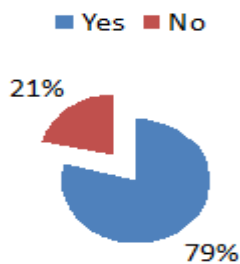
whether the welfare school students had e-mail ID or not, an analysis was made and the results are presented in table 4.

Table 4. Do you have E-Mail id?

Do you have E-mail id?	No. of Respondents	Percentage
Yes	114	79.17
No	30	20.83
Total	144	100.00

It could be noted from table 4 that a total of 114 student respondents told that they had their own E-mail ID, it accounted for 79.17 per cent of the total respondents who owned smart devices, a total of 30 respondents told that they did not have their own e-mail ID, it accounted for 20.83 per cent of the total respondents who owned smart devices. It was evidenced that majority of the welfare school students (79.17 per cent) in the study area had their own e-mail ID. The results regarding having e-mail ID of welfare school students are presented in pictorial form in the following figure.

Figure 3. Do you have E-Mail id?



5. ONLINE SAFETY

Now a day, people are using internet abundantly. For every activity they depend on internet. On the other side, some people make fraudulent activities in internet such as misappropriation of personal photos or videos, hacking e-mail ID, bank account etc. Hence it is important for people to have proper awareness to prevent from internet fraudulent activities. With the intention of providing internet safety among welfare school children aged between 14 to 18 years in Cuddalore district, a study has been done on online safety. This part of the project report brings out the results regarding online safety among those students.

5.1 Frequency of Using E-Mail ID

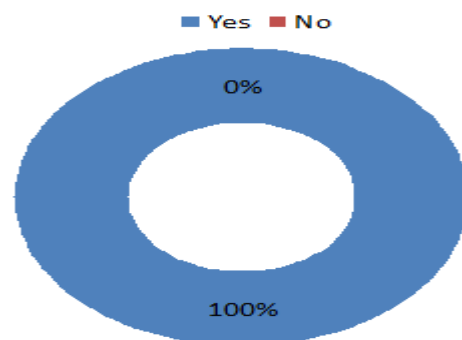
Frequency of using E-mail ID and using E-mail ID in other devices other than owned devices will lead for misappropriation of e-mail ID of the students. In order to know whether the welfare school student respondents in the study area are using e-mail IDs frequently or not, an assessment was made and the results are presented in table 5.

Table 5. Are you using your E-mail ID frequently?

Are you using your e-mail id frequently?	No. of Respondents	Percentage
Yes	144	100.00
No	0	0
Total	144	100.00

It was known from table 5 that a total of 144 student respondents who owned smart devices told that they are using e-mail id frequently, it accounted for 100 per cent on the total respondents. It was observed that all the welfare school students having smart devices are using E-mail ID frequently. This result is presented in pictorial form in the following figure.

Figure 4. Frequency of Using E-Mail ID



5.2 Having Account in Facebook

Facebook is one of the popular social media used by people around the world. It is used to have contacts with friends living around the world. Eventhough, there are some misappropriations in Facebook account by fraudulent people. Frequency of usage of Facebook and using the account in other devices will lead for misappropriations. The

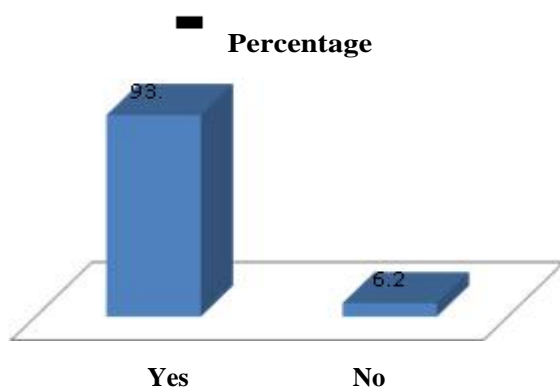
following table brings out the results regarding whether the respondents are having Facebook account or not.

Table 6. Having Facebook Account

Do you have account in Facebook?	No. of Respondents	Percentage
Yes	135	93.75
No	9	6.25
Total	144	100.00

Table 6 shows that a total of 135 welfare school student respondents has Facebook account, it accounted for 93.75 per cent of the total respondents who owned smart devices. A total of 9 student respondents do not have Facebook account and it accounted for 6.25 per cent of the total. It was found that majority of the welfare school students between the age group of 14 and 18 years have their own Facebook account. Usage of Facebook account without proper precautionary steps may lead for misappropriation of their account. The above results are presented in pictorial form in the following figure.

Figure 5. Having Facebook Account



5.3 Purchase of Products through Online

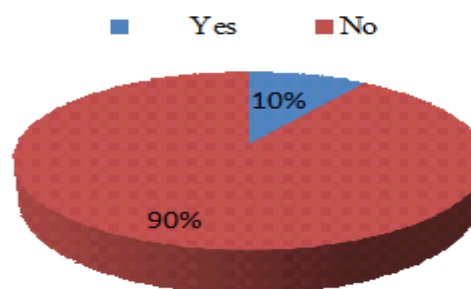
Apart from Facebook and other social media, many fraudulent activities may occur while making purchases through online. The following table brings out the results regarding whether the welfare school student respondents make purchase through online or not.

Table 7. Purchase of Products through Online

Did you purchase any products through online?	No. of Respondents	Percentage
Yes	14	9.73
No	130	90.27
Total	144	100.00

It could be noted from table 7 that a total of 14 welfare school student respondents told that they used to purchase products through online, it accounted for 9.73 per cent of the total and a total of 130 student respondents do not purchase products through online and it accounted for 90.27 per cent of the total. It was evidenced that majority of the welfare school students (90.27 per cent) in the study area do not have the practice to purchase products through online. These results are presented in pictorial form in the following figure.

Figure 6. Purchase of Products through Online



5.4 Using Online Payment System

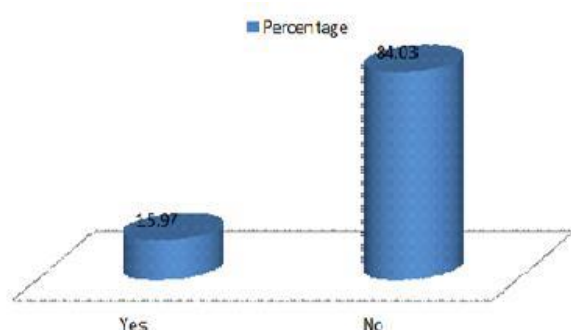
Sufficient precautionary steps should to be taken while making online payments to any payees. Otherwise the customers may suffer from online frauds. The following table brings out the results regarding whether welfare school student respondents are using online payment system or applications to pay bills to different payees.

Table 8. Using Online Payment System

Will you use online payment system apps to pay EB	No. of Respondents	Percentage
Yes	14	9.73
No	130	90.27
Total	144	100.00

bill/recharge, etc.		
Yes	23	15.97
No	121	84.03
Total	144	100.00

The results of table 8 indicate that a total of 23 welfare school student respondents told that they used to make online payments to different payees, it accounted for 15.97 per cent on the total and a total of 121 welfare school student respondents do not make online payments and it accounted for 84.03 per cent on the total. It was evidenced that majority of the welfare school student respondents (84.03 per cent) do not have the practice to make online payments. Making online payments is encouraging one, but at the same time that should be done with proper knowledge and awareness. Hence before making payments through online, the user should have proper knowledge about it. The results of the above are presented in the following figure in pictorial form.



6. CONCLUSION

The main objective of this study is to know the awareness level of school teenage students while they are using laptop/tablet and internet for various purposes. In the study area it was observed that 66.67% of the welfare school students preferred to use Google Chrome browser for using internet. It was evidenced that more than three fourth of the welfare school students in Cuddalore district used laptop for internet usage. The majority of the welfare school students 79.17% between the age group of 14 and 18 years have their own E-mail ID and Facebook account. It was found that three fourth of the welfare

school students do not have the practice to send friends request to strangers. 68.05% of welfare school students accept friends request from strangers. 90.27% of the welfare school students do not have the practice to purchase products through online, 84.03% of students do not have the practice to make online payments and 75.70% of welfare school students used same password for different logins.

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