Research Article

An Exploratory Study on Internet Use and its Application by Underprivileged School Girls

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Abstract

Not knowing how to use the Internet continues to be a significant barrier to digital Inclusion in Developing countries, reports World Wide Web Foundation (2017). Their Digital Gender Gap Audit (2016) reveals that half the world's population is still offline and most of these 3.9 billion people are women in developing countries. Mitigating the digital literacy gap is important to lessen the digital gender gap to ensure inclusive and equitable growth as proposed in the Sustainable Development Goals. The focus now includes - has the access to the internet resulted in potential changes, permeated the social layers and benefitted the Gen Z at the lower social economic strata too? Has it resulted in empowerment, development, and knowledge gaining at the grassroots level? Since the focus is on access, applications, and outcomes of use of the Internet among underprivileged girls, the survey was conducted in Tamil Nadu government schools and Chennai Corporation schools for girls. More than 800 girls were administered the survey questionnaire. The number of filled in questionnaires was 805. The study finds that the underprivileged school girl is aware, ready and motivated to be part of the information society.

Keywords: Internet, access, application, outcome, underprivileged girls.

Introduction

Internet use has recorded a dramatic increase in developing countries with 45.3 per cent of people online in comparison with 7.77 percent 13 years ago, reveals the United Nations. "By the end of 2018, we will surpass the 50/50 milestone for Internet use" declared the ITU (International Telecommunication Union, the UN agency for Information and Communication Technologies) chief Zhou. He added that it represents that we are moving towards a more inclusive global information society, yet "far too many people are still waiting to reap the benefits of the digital economy". The use of computers, Internet and mobile phones are set to hasten the process of making the world a global community but the social, cultural and economic factors determine the uses & values of technology in any society. The evolution of Information and Communication Technologies (ICT) & its rapid adoption is seen as thebackbone of globalisation.

As technological changes set to redefine and reshape societies in fundamental and unexpected ways, technology is believed to be the gateway to accelerate social & economic change in developing nations. According to a government of India Press release (2016), digital literacy refers to the knowledge to handle digital devices such as computers, tablet, PCs and smart phones, and Internet usage. Digital literacy is the usage and comprehension of information in the digital age, describes Gilster (1997) in his book, Digital Literacy. Digital literacy is the set of competencies required for purposes of communication, expression, collaboration & advocacy, thereby ensuring full participation in a knowledge society, according to Wikipedia (2017). A digitally literate person, say Hunt and Miller (2015), will possess a range of digital skills, knowledge of the basic principles of computing devices, skills in using computer networks, an ability to engage in online communities and social networks while adhering to behavioural protocols, be able to find, capture and evaluate information, an understanding of the societal issues raised by digital technologies & possess critical thinking skills. It is increasingly seen as a powerful development tool, used in the global battle to hit child and youth-focused targets in global education, livelihoods and health. According to the UN report, Women 2000 and beyond, (2005), digital divide is often characterized by low levels of access to technologies with poverty, illiteracy, lack of computer literacy and language barriers being the factors impeding access to ICT infrastructure, especially in developing countries. As Castells (1997) observes, the gaps in the Network Society will be defined less and less by geography or by transnational economic structures but rather by a digital divide, those with access to cyber space and others without such access (Melkote, 2001). United Nations Secretary-General Ban Ki- Moon in December 2015 stated that the focus on bridging the digital divide lies in inclusive internet access for all in order to enable the implementation of Agenda 2030 for Sustainable Development & called for intensifying and building an open, reliable, safe, secure, stable and inclusive Internet. The President of the United Nations General Assembly Thomson in July 2017 called for targeted policies and resources to develop the digital skills of today's youth, as well as specific programmes to ensure that women and girls have access to education, health and employment opportunities, at an event held at UN headquarters in New York on the theme 'Skills for the future of work'.

The International Telecommunication Union's (ITU) ICT facts and figures 2017 shows great strides are being made in expanding Internet access through the increased availability of broadband networks. The report finds that 71 % of the world's population of Internet users falls within the 15-24 age category. In developed countries, 94 per cent of the youth population use the Internet, while the proportion is 67 per cent in developing countries and only 30 % in least developed countries. ICTs continue to be a key enabler of establishing an inclusive digital society.

Review of Literature

According to a review on gender digital divide (Antonio and Tuffley, 2014), though women in developing countries have fewer opportunities, they show a great desire and capacity to use ICTs & benefit from doing so. Livingstone & Helsper (2007) in their study among UK 9-19 year olds propose a continuum of digital inclusion. Gradations in frequency of internet use (from non and low users through to weekly and daily users) are found to map onto a progression in the take-up of online opportunities among young people (from basic through moderate to broad and then all-round users), thus indicating why differences in internet use matter, contributing to inclusion and exclusion. Also, demographic, use and expertise variables played a significant role in accounting for variations in the breadth and depth of internet use. Shenglin, Simonelli, Ruidong, Bosc & Wenwei Li (2017) in their policy brief Digital infrastructure: Overcoming Digital Divide in Emerging Economies identify four major challenges - the lack of digital infrastructure and services, the lack of affordable network services, devices and applications, more importantly, the lack of digital skills to create or add value, most importantly, the lack of coordinated efforts to foster social and economic equality. Their recommendations include 1) at the G20 level, general principles should be set for emerging economies, supporting their economic development to close the digital divide globally, thus reducing gaps between poor & rich countries; 2) at the national level, governments should elaborate general policy guidelines and take action to reduce socio-economic inequalities across national populations. These guidelines should also clearly indicate specific measures and strategies to design innovation-friendly policies that every country should follow to sustain their economic growth.

As per a World Bank Report, 1.063 billion people in India are still offline. Manzar (2017) founder of Digital Empowerment Foundation states that in India, 1.4 million government schools, 7-10 million teachers & several millions of children, as per official figures do not have access to the Internet. The article 'What will it take to bring India's children online' (Manzar and Chaturvedi, 2018) reveals that with a computer-student ratio of 1:89 in India (National aggregate), digital inequities are exacerbated. The authors insist on the need to focus on optimal utilization of ICT resources.

In today's world, mobile technology, computers and Internet, social media and online communities shape the way the younger generation learn, communicate and develop. The millennial generation is the largest age group to emerge since the baby boomer generation. Buchanan, (2010) in his book Meet the Millennials states that they are masters of digital communication being highly-skilled and savvy in technology and believe in giving back to society and being civically engaged. Their successors, fondly called Gen Z can aptly be called Digital Monarchs. A study conducted by TCS (2013) among Chennai's 12-18 year old students to find out how tech -savvy they were, reveals that 68 per cent of the respondents use the

Internet for finishing assignments, students like to remain connected constantly at home and elsewhere, and they follow celebrities and sports stars on social media. The digital lives of gen Z (children born after 1995) boys revolves around gaming consoles and girls prefer e-book readers. They also enhance and exhibit their ideas innovatively & creatively with the use of digital technology. Research reiterates that access to the Internet at home or access at more locations increases the tendency to benefit out of Internet usage. Internet skills has a positive impact on academic performance overall, finds the study by Pagani, Argentin, Gui, and Stanca (2016) who held performance tests of Internet skills for tenth-grade students with an aim to find out the 'effects of digital literacy on educational outcomes'. The study also revealed that students who showed low academic performance or were from a low family background seemed to have benefitted more; and this was similar for students in technical or vocational schools.

The study on 21st century skills and digital literacy among rural school children in India by Morrin, Huang & Whalen (2014-2015) using qualitative methods in rural government schools in the states of Delhi, Himachal Pradesh and Rajasthan found that, among other things, while students had access to the computer, there was limited access to the Internet. Students did learn to operate the computer, but used them rarely to find, analyse, and use information. Mobile phones were used by some students to access the Internet, though not for educational purposes. Kim, Buckner, Kim, Makany, Taleja, and Parikh (2011) conducted a study among 210 children, aged 6-14 in 6 marginalized communities in India. Their study revealed a highly portable and relatively low cost mobile learning technology is a potential means to ignite self-directed and exploratory learning & a child-centred model may be beneficial for future ICT4D planning.

Considering the socio – economic constraints that any developing nation faces but with the determination to steer forward, the Government of India has launched several Initiatives. The Digital India Programme is a flagship programme of the Government of India with a vision to transform India into a digitally empowered society and knowledge economy, the vision - Digital India - Power to Empower. Pradhan Mantri Gramin Digital Saksharta Abhiyan with an outlay of Rs. 2,351.38 crore to make 6 crore rural households digitally literate by March 2019 is one of the largest digital literacy programmes in the world reports Hindustan Times, with the objective that digitally literate persons would be able to operate computers and digital access devices like tablets, smartphones etc.), send and receive emails, browse Internet, access government services, search for information, undertaking cashless transactions, etc and hence use IT to actively participate in the process of nation building. National Digital Literacy Mission (NDLM) is a national mission on Education using ICT in Higher Education Institutions, to provide digital literacy to every Indian, aiming to make one person in every family digitally literate it is one of the

integral components of the Prime Minister's vision of Digital India. Also known as The Digital Saksharta Abhiyan (DISHA), the Scheme has been formulated to impart IT training. Online labs (OLabs), SWAYAM, ePathshala are some initiatives to address the dual challenge of reaching out to a diverse clientele and bridging the digital - divide (geographical, socio-cultural and linguistic). The platform offers to its concerned stakeholders (students/ teachers/ educators/parents) access to e-resources through multiple technology platforms, mobile phones, tablets, computers. National Career Service Portal, a national ICT-based portal has been developed primarily to connect opportunities with the aspirations of the youth. The efforts of Rashtriya Madhyamik Shiksha Abhiyan (RMSA) is commendable in organising professional development workshops for teachers of government and corporation schools to implement better teaching methodologies using ICT and have greater engagement with students in classrooms.

With the Government focused on ushering in digital literacy, the non-governmental organizations are doing their bit towards inclusive digital literacy through multitude of projects. For example, a trendsetter & a major contributor, the Digital Empowerment Foundation aims to connect unreached and underserved communities of India in an effort to bring them out of digital darkness and empower them with information access through last mile connectivity, digital literacy and digital interventions. DEF has its presence in 150 locations spread across 80 districts of 22 states in India. It has digitally empowered 50,00,000 people including 25,00,000 women, and through its 345 Digital Resource Centres it has also trained more than 15000 people in digital content creation and dissemination.

A survey conducted across 200 districts of India by Local Circles, a social media platform in which 20,000 parents participated, 8 out of 10 respondents felt that the current school curriculum needs to be upgraded focussing on hands on learning life skills, technology - based learning and inclusion of real issues. Self-awareness, digital fluency and good communication skills are imperative to remain relevant for the future workplace, reveals the white paper by Quest Alliance, an NGO which is working with students in various States.

Tamil Nadu has emerged as one of the States at the forefront of providing digital content to students & teachers. In a revolutionary measure, the curriculum framework committee while revising the syllabus for State Board schools in Tamil Nadu (for the year 2018-19) has given a special focus to ICT in the draft syllabus in a way that it is embedded into the subjects and used in everyday classroom learning. The draft State Board syllabus, within a week of its release saw 1.6 lakh downloads from 17 countries, highlighting the imminent role of ICT based teaching and learning. Tamil Nadu for the fiscal year 2018-19 allocated Rs. 333 crore towards high tech laboratories in 3090 high schools and 2939 higher secondary schools with 10-20 computers each, the

proposed cost being Rs. 462.60 crore, set aside Rs. 758 crore for providing laptops to school students and sought Rs.200 crores from Centre to provide tabs (computers) to the children in government schools. According to the syllabi of classes I, VI, IX and XI, all textbooks have QR codes that link to the digital resources and the audio and video resources to be hosted on MHRD's digital platform DIKSHA. Every lesson has an ICT corner which will link students to portals to understand concepts better through maps and simulations. The initiative received massive response with 9.38 lakh views in the initial ten days of the schools' reopening. A senior official from the Education department attributes this to the fact that basic parameters like reasonable e-literacy, exposure to online content amongst students and teachers, network connectivity etc. are quite strong in the State The recent data from June 2018 to end of February 2019 reveals over 2.1 crore QR code scans, 1.79 crore content downloads & over 6 lakh plus hours spent so far on digital content. The numbers lesson from the class VI mathematics textbook has received over 41 lakh scans and is the most popular online resource as per the data.

To ensure effective implementation of the new syllabus, hi-tech labs with printers, tablets, projectors and computers with Internet connectivity along with a command control centre to monitor and manage the labs and training for five teachers from each school under the auspices of the centrally sponsored ICT scheme have been initiated by Tamil Nadu government across 3090 high schools and 2939 higher secondary schools. To strengthen the Teachers' abilities with ICTs, under the Tamil Nadu Innovation Initiative, the State Council of Educational Research (SCERT) has been conducting workshops on the use of Free and Open Source Software (FOSS) to encourage teachers to adapt and use technology. 2880 teachers have been trained to use several tools and applications to make their classrooms more interactive and learner-centric.

Equity in digital literacy still remains a challenge. The Annual Status of Education Report (ASER), 2017, that studied 1000 young adolescents aged 14-18 in 60 villages in rural Tamil Nadu indicates that while students have access to laptops because the State government has provide them to higher secondary school students, the young adults used it to watch movies rather than for education. Oliver, state head of the Pratham Education Foundation states that while infrastructure in the schools in the State had been steadily improving over the last few years, learning outcomes in both students of government and private schools were found to be nearly the same. ASER Rural survey, 2018 carried in 750 schools in 31 districts finds only a little increase in the number of computers available in the schools, 58.4 per cent in 2016 to 58.9 per cent in 2018. With the importance for ICT in the revised syllabus and the plan for hitech labs in the implementation phase, it will have to be a wait and watch situation.

While all efforts to usher in a digitally literate and digitally secure young

India are being made, it is imperative to assess if we are doing enough in terms of reach and scope. Equipped with knowledge and resources, the information elite have better access to new technologies and have in fact been overwhelmed by its dynamic nature. The focus now includes - has the access to the internet resulted in potential changes, permeated the social layers and benefitted the Gen Z at the lower social economic strata too? Has it resulted in empowerment, development, and knowledge gain in at the grassroots level?

Methodology

The policy brief on Digital Literacy in Education (2011) states, "digital literacy has become much more than the ability to handle computers – just like traditional literacy and numeracy, it comprises a set of basic skills which include the use & production of digital media, information processing and retrieval, participation in social networks for creation and sharing of knowledge, and a wide range of professional computing skills". (Karpati, 2011). The present study will focus on Internet and online media access, competency of use, its applications and outcomes among underprivileged school girls.

Definitions

Access: For the study, access was studied in terms of availability and use of computer and the Internet on the computer & or Smartphone. Frequency of access and place of access is also considered.

Competency: Competency will be studied using the constructs Manage, Integrate and Evaluate (CETF ICT Digital Literacy Initiative – Consensus Document, 2008). These include degree of comfort and assessing capability in performing Internet activities like search, surfing websites, selecting relevant information, verifying reliability of information, uploading and downloading information, using email, social media and other.

Application: The California ICT Digital Literacy Assessments and Curriculum Framework- using the constructs Create and Communicate (2008)- forms the basis for defining application which is studied in terms of digital skills like identifying, creating & communicating information- for example, to complete projects, create documents or a presentation; here, it will be done in terms of using the Internet and online media.

Outcomes: This is studied in terms of the benefits of using the Internet and other online media; specifically, acquiring knowledge, networking, entertainment & personal enrichment.

Objectives

The objectives of the study are:

- To find out access to Internet among underprivileged girl students
- To identify competency levels of use of Internet among underprivileged girl students
- To find out the application of Internet by underprivileged girl students
- To understand outcomes of the use of the Internet and online media among underprivileged girl students

Design and Sampling

Methodology used is survey among girls aged 13- 18 in Chennai. Since the focus is on underprivileged girls, the survey was conducted in Tamil Nadu government schools and Chennai Corporation schools for girls. More than 800 questions were administered the survey questionnaire. The number of filled in questionnaires was 805 (Table-1.1).

Part one of the questionnaire dealt with demographics that was considered relevant for the study.

Age was considered important because this could mean more opportunities to go online using the mobile phone or / and the computer as age increased. Class in which the student is studying is equally important because most schools have a computer lab with at least 2-3 computers which can be accessed more frequently by girl studying in higher classes.

Girls of the age group13 to 18 years, studying in classes ranging from VIII to XI were respondents of the study.

Part two comprised questions that helped answer research objectives.

To understand applications, competencies and outcomes of use of the Internet among underprivileged girls, the California ICT Digital Literacy Assessments & Curriculum Framework (CETF ICT Digital Literacy Initiative - Consensus Document-November 2008) was used.

Analysis and Findings

Underprivileged girls from the lower socio-economic strata studying in Tamil Nadu government and Chennai Corporation schools, studying in classes VIII to XI, in the age group of 16 to 18 were administered the questionnaires in their respective class rooms. The total number of completed questionnaires was 805.

The response to the survey was extremely positive- whether they had access to the Internet or not, all of them were aware of the Internet, and were excited to be part of the survey.

Table - 1: Profile of the Respondent

Categorisations		Levels of Education					
		VIII std.	IX std.	X std.	XI std.	XII std.	Total
		No.	No.	No.	No.	No.	No.
Age group	13 years to 15 years	128	117	169	24	20	458
	16 years to 18 years	0	0	108	123	116	347
Total		**128**	**117**	**277**	**147**	**136**	**805**
Family size	1 - 3 members	12	17	57	23	25	134
	4 - 6 members	109	92	213	118	101	633
	7 and above members	7	8	7	6	10	38
Total		**128**	**117**	**277**	**147**	**136**	**805**

Family Income	Less than Rs. 15000	102	81	161	73	83	500
	Rs. 15001 to Rs. 30000	21	23	51	42	36	173
	Rs. 30001 to Rs. 45000	2	5	12	7	3	29
	Rs. 45001 to Rs. 60000	3	5	30	17	8	63
	Above Rs. 60000	0	3	23	8	6	40
Total		**128**	**117**	**277**	**147**	**136**	**805**

N = 805

Respondents were from public schools run by the Tamil Nadu state government or the Chennai city corporation. Most were from low income families- 62.11 per cent of the girls were from families with less than an earning capacity of 15000 Rupees per month, and only 8.9 per cent were from a high income background (Table - 1). 56.8 per cent were girls from the age group 13-15 years, and the remaining 43.10 percent were from the age group 16 to 18 years, studying in the tenth, eleventh and twelfth classes. Smaller families were only 16.64 per cent of the respondents; very few, that is, just 4.2 per cent were from large families of 7 and more members.

Table - 2: Devices Used by Respondents to Access the Internet

Device	Always	Sometimes	Rarely	Never
Laptop/Tablet	66	141	99	499
Desktop	87	69	68	581
Smartphone	326	213	70	196

N = 805, Figures are in numbers

The Smartphone is a great leveller - a whopping 75 per cent of the respondents use the Smartphone to access the Internet (Table - 2). 326 of them claim to use the Smartphone always, to access the Internet (Table - 2). Not owning a computer was the reason why 45 per cent of respondents accessed the Internet rarely, or never.

Table – 3: Place and Frequency of Internet Use

Device	Every day	4-5days a week	2-3 days a week	Once a week	Fortnightly	Rarely	Never
School	13	22	20	33	4	77	636
Home	184	51	54	127	9	158	222
Internet Café	11	8	20	51	11	122	582

N=805, Figures are in numbers

Seventy nine per cent have never used the Internet at school-most schools do not encourage the use of Internet at school time. 72 per cent of them accessed the Internet at home either at least once a week, fortnightly or rarely (Table - 3). 184 of them accessed the Internet every day at home. The computer centre was also a less popular place for accessing the Internet. While all were curious and excited to use the computer and the Internet, lack of access to computers, not having enough time in school and lack of Wifi at home, were main reasons for accessing the Internet rarely, or never.

Table – 4: Online Platforms Used by Respondents

3.1 Search Engines and Websites					
	Platforms	Often	Sometimes	Rarely	Never
1	Use search engines like Google	172	281	73	279
2	Go on websites and download information for project and school work	211	276	100	218
3	Go on websites for information other than school needs	131	178	109	387
4	Access e-learning sites	39	76	134	556
3.2 Interactive Platforms					
1	Use the Mail (like Gmail, yahoo mail, Rediff)	46	109	97	553
2	Chat online	152	103	126	424
3	Use Internet call apps like Skype	86	98	138	483
3.3 Social Media Platforms					
1	Access/use sites like Facebook, twitter	124	132	89	460
2	Videos on You Tube	157	223	92	333
3	Follow blogs	42	92	99	572
4	Write your blog	38	75	117	575
3.4 Other Platforms					
1	Apps for uploading photos	136	179	94	396
2	Apps for downloading photos	151	199	92	363

N=805, Figures are in numbers

More than half the respondents (56.27 percent) use search engines like Google either often or sometimes and a few more, that is, 60.49 percent access websites online, for school work either often or sometimes (Table – 4). Also, more than half the number of respondents have never used interactive platform like the email, chat or Internet call apps. Using social media platforms like facebook, twitter and blogs is also rarely or never done by

more than half the number of respondents. The least popular activity on the Internet is blogging. Other popular uses are accessing videos on YouTube (47.20 per cent), downloading photos (43.47 per cent) and uploading photos (39.13 per cent), either always or sometimes.

Table – 5: Degree of Competency in Using the Internet to Perform Different Online Activities

Sr. No.	Online activities	Good	Somewhat good	Average	Somewhat poor	Poor
1	Using appropriate words to search for information using search engines	257	190	99	23	236
2	Opening websites by keying in the URL	121	158	154	32	340
3	Selecting relevant information on websites or in search engine results	115	88	213	37	352
4	Verifying reliability of information	157	83	151	57	357
5	Surfing websites or multiple pages	93	68	155	55	434
6	Downloading/copy pasting text files	302	130	105	15	253
7	Uploading text files	159	96	144	57	349
8	Downloading photos/ audio visual files	326	93	134	19	233
9	Uploading photos/ audio visual files	242	96	133	26	308
10	Bookmarking websites	91	84	162	53	415
11	Using words that are hyperlinked	47	65	151	99	443
12	Completing and submitting online forms	91	83	101	110	420
13	Using email	104	48	103	91	459
14	Registering & accessing social media sites	105	46	91	108	455
15	Accessing and writing blogs	42	50	106	91	516
16	Using the help option	111	52	107	83	452
17	Using the troubleshoot option	44	31	78	117	535

N-805, Figures are in numbers

The number of students who are poor at performing Internet activities increases with the complexity of the process. Comfort areas are downloading text files, photos and audio visual files. An almost equal number feel that they are good (31.92 per cent) or that they are poor (29.31 per cent) at using appropriate words to search for information using search engines (Table - 5). Competency levels in sending emails, following or writing blogs, are low. 64 per cent of the girls felt they were poor at blogging or accessing blogs, and 56 per cent did not know to register and access social media sites. More than 50 per cent of the girls lacked the competency to make use of offline options like bookmarking, troubleshooting and using help. Lack of practice, either because they could not access the computers or Internet often were given as reasons by the respondents for the poor competency, which means that it is a case of lost opportunities for the underprivileged girls.

Table – 6: Application of the Use of Internet

Sr. No.	Application	Number
1	You have used the Internet to gather, evaluate and use information	265
2	You have used the Internet to complete a project using digital tools and resources	313
3	You have identified and mentioned your sources	112
4	You know about the safe use of the Internet	337
5	You are aware of your privacy options on the Internet	187
6	Offline, you have put together different file types to create a document or a presentation	164
7	You have sorted small software and hardware problems	145

N=805, Figures are in numbers

While 41.8 per cent of the respondents were confident of the safe use of the Internet, a little less than a quarter of them (23.22 per cent) were aware of the privacy options of the Internet (Table - 6). About 40 per cent of them have used the Internet to gather, evaluate & use information, to complete projects. But, only 13.91 % of them identify and mention sources.

Table – 7: Outcomes of Using the Internet

Sr. No.	Outcomes	No.
	6.1 Knowledge Outcomes	
1	Helped improve the quality of assignments	298
2	Helped submit better projects	359

3	Helped perform better in examinations	259
4	Helped gain instant information and updates on news/ events	261
5	Educated through online education portals like tutorials, so that I learn more	152
6	Helped acquire skills like fitness, baking, hairstyling, make-up etc.	256
6.2 Networking Outcomes		
1	Helped to express and maintain relationships on social networking sites	246
2	Helped keep in touch with teachers to clarify doubts, seek advice or submit assignments	269
3	Helped coordinate and work on group assignments and projects	247
4	Helps in participating with likeminded social or cultural groups/communities	202
5	Helps to keep posted on what others are doing with their lives	142
6.3 Entertainment Outcomes		
1	Spend leisure time	265
2	Use the Internet play games by oneself/with others	367
3	Access free downloading audio/visual sites on the Internet	379
4	Listen to music/watch videos/archives at no cost	350
5	Access free do-it-yourself videos/tutorials on YouTube etc.	222
6. 4 Personal Enrichment Outcomes		
1	Helped improve self-confidence and personal esteem	292
2	Identify how to use the Internet safely, legally and responsibly	209
3	Keen to get updated with new digital technologies	132
4	Given opportunities to take part in social causes/campaigns/ events/public forums	183
5	Helped discover inner capabilities, skills and talents	275
6	Helped showcase talent/skills	243
7	Created an awareness of various opportunities in education and occupation	186
8	Sharpened goals for the future	194
9	Given confidence to aspire for higher socio-economic levels	178
10	Widened understanding of different cultures and people	140

N=805, Figures are in numbers

The true success of digital and Internet literacy among the underprivileged is the kind of impact it has on their overall growth. While entertainment-based use was the most popular with 47.08 % going online to access free audio-visual sites for downloading, 45.59 per cent playing games on the Internet, and 43.47 per cent going online to listen to music or watch videos at no cost (Table - 7).

The other most important outcome was knowledge based- 44.59 per ent of the respondents said that the use and application of the Internet helped them submit better projects in school, 37.001 per cent felt that it helped improved the quality of assignments and 32.17 per cent even claimed that it helped them perform better in their examinations.

36.27 per cent of the respondents felt that accessing the Internet helped improve self-confidence and personal esteem, and an almost equal number (34.16 percent) were able to discover their inner capabilities, skills and talents. 13.39 per cent found that it helped widen their understanding of different cultures and peoples.

Conclusion

Four important observations can be made from this study:

1. The mobile phone or the Smartphone is the most important device used to access the Internet, making it an important tool in education.
2. The Internet is being used for study purposes- to make better projects, to submit better quality assignments and to some, to do better in examinations, to network with teachers for school related information.
3. The Internet is used for entertainment on YouTube, gaming sites, and photography apps.
4. Social media participation is low, this could be due to the lack of access to computer, lack of time spent on the Internet and also, importantly, lack of linguistic competency.

What was unmistakable was the awareness and excitement about computers, Smartphone, the Internet and its immense possibilities.

Internet Access

The Smartphone has replaced the computer as the preferred device used to access the Internet, with 75 per cent of the underprivileged girls surveyed using it for this purpose. The revolutionary growth of the mobile phone technology, easy access to people across all classes to the mobile phone at reasonable prices has made it a ubiquitous device that is used to go online anywhere, anytime, helping narrow down the digital divide. Mobile phone technology in developing countries now accounts for four out of every five connections worldwide. In a recent report by the GSMA (Mobile for Development Programs) into m-learning, more than half of all young people surveyed in Ghana, India, Uganda & Morocco who had accessed the Internet, had done so on a mobile device (https://www.theguardian.com/sustainable-business/technology-empower-children-developing-countries).

Most students were not allowed to go online while using computers in school, and a large number of the younger respondents were not allowed by their parents to go to cyber cafes, thus reducing their opportunities to use the Internet. Even among those who use the Internet, almost 64 per cent of the respondents used the Internet less than ten hours a week.

Online platform use among respondents

Popular platforms were search engines, websites for information, YouTube and photo downloading and uploading platforms. Interactive platforms and social media were least accessed or used- less time spent on the Internet or lack of competency in language could well be the reasons for this.

Internet Competence

Competency decreased with an increase in the complexity of the application. Most respondents were good or somewhat good at using search engines, downloading text and audio visual files. Most respondents were not comfortable networking online through social media. However, respondents insisted that poor competency was because of lack of access to the computer or the Internet, and not because they found the applications difficult to use.

Internet Application

Almost half the numbers of respondents (41.08 per cent) are aware of the safe use of Internet, but most have to be taught about the privacy options available on the Internet. According to an article on technology empowering children in developing countries in the Guardian (https://www.theguardian.com/sustainable-business/technology-empower-children-developing-countries) a UNICEF study in developing countries found that up to a quarter of children in urban areas and one in every five children in rural areas surveyed in Vietnam had shared personal information such as their phone number or name of their school with someone online. In South Africa, more than 70 per cent of users on an online social networking site talked to strangers at least once a week. In Vietnam 49 per cent of urban children had been exposed to indecent content online, while 20 per cent of rural children reported having been bullied, threatened or embarrassed online.

Internet usage Outcomes

The most important gratification seems to be in the area of entertainment, followed by positive educational outcomes from submitting better projects and homework to doing better in examinations. Networking outcomes are mentioned mainly for schoolwork with 33 per cent getting in touch with teachers, and 30 per cent networking with classmates for group assignments and projects. Using the Internet has personally enriched 36 per cent of the girls- it has helped discover their inner capabilities, skills and talents. 20 per cent of them feel that the Internet has sharpened their goals for the future.

To conclude, it was found that the underprivileged girl is aware, ready and

motivated to be part of this information society. Lack of regular access - which a significant number of them are facing - may result in stunted personal growth and enrichment. In the information age where the Millennial and Generation Z are considered digital natives, inclusiveness is the need of the hour for the underprivileged girls.

Recommendations for further Research

The study focused on underprivileged girls in Chennai government/ corporation schools. The study could be made more complete by including focus groups with underprivileged girls, in-depth interviews with teachers of government/corporation schools, and some case studies of underprivileged girls especially in the higher classes, who made an efficient and effective use of Internet to improve their performance and achieve higher goals.

A survey among underprivileged boys is also recommended. Also recommended is a study among the urban middle and upper classes, who have a clear advantage of better access to the Internet, as a comparison group.

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