Digital citizenship education:
Scope and need for Indian society

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Abstract

India has over 550 million internet users (Economic times, 2021) and it ranked second for the largest number of internet users all over the world. The free internet availability, low-cost devices, chip-based technology, and Indian government digital initiatives have revolutionized our society; we are now no longer just adopters of new technology but a member of the global community. As per the study, 83% of Indian children aged 10-14 are using a smartphone, which is 7% higher than the international average of 76 %(The Hindu, 14 May 2022). They are growing in the digital era. Students today are expected to learn and apply skills that differ greatly from those of previous generations. Adolescents need education to learn how to make sound judgments when navigating the digital world. It is the immediate responsibility of educators, parents, and stalk holders to make and support our children and young people to participate safely, ethically, effectively, and responsibly in the digital community. Under this context, a study was taken by the researcher to explain the comprehensive view of Digital citizenship education and address the need for Digital Citizenship Education in Indian society. This paper is based on primary and secondary sources of information gathered from various research papers, authentic websites, organizational reports, newspapers, and magazine articles. This paper tries to focus on the need for a digital citizenship education program in India and the scope of Digital citizenship education for Indian society.

Key Words: *Digital natives; Digital Divide; Digital citizenship; Digital citizenship Education;*

Introduction

2000, the new century started with the dot-com bubble burst. Google opened its office in India in 2004. Social networking sites were introduced in 2005. In 2011 mobile number portability services were offered and in 2019 India crossed the milestone of 500 million internet users (Kantar IMRB ICUBE report). The free internet availability, low-cost devices, chip-based technology, and Indian government initiatives have revolutionized our society; we are now no longer just adopters of new technology but a member of a global community. Before personal computers and mobile phones, when mainframes computers were in the hands of the few, we were trying to understand how they were changing society but now that computers are in our hands, we had to understand how we are changing our society. With the advancement of technology and easy internet access, students are getting many opportunities but potential risks can't be ignored and a deep kind of educational responsibility came concerning social, ethical, and human issues, in a digital society that we hadn't anticipated.

Review of related literature

UNESCO (2015) mentioned in its report" Fostering digital citizenship through safe and responsible use of ICT" that there is an urgent need for active research on digital citizenship in developing countries. Internet and communication technology have changed the way we learn, work, travel, interact, and participate. ICT brought enormous opportunities and benefits to every aspect of our lives. But at the same time, this technological advancement has posed an array of social and ethical issues. Numerous concerns and issues have been raised all over the world, ranging from online security and safety (identity theft, scams, system phishing, hacking, online predators, and cyberbullying) to misuse of information (plagiarism, access to inappropriate contents, and misrepresentation) to health and mental hazard (long exposure to screen, back and arm pains, and game/internet addiction). UNESCO recommended more awareness and practical efforts to combat various physical, social, and ethical issues that arise along with the use of ICT. The Council of Europe report on Digital citizenship education (2017) address the core concept of digital citizenship, describe the relationship between national policies on digital citizenship and the role of industry, examine digital citizenship as sense-making practice, looks at emerging trend and how social literacy is priories within different approaches towards DCE, principle challenges to DCE implementation, various implementation and awareness strategies. Based on their study they recommend various strategies implement and raise awareness regarding DCE. Jindal & Chahal (2018) presented opportunities and hindrances for online education in India. They identified opportunities such as internet penetration; low cost of online education, ease of doing a course, an initiative by the government, employer recognition, and bridging the gap are the key factors that helped in the growth of online education. Certain factors that they presented as hindrances were insufficient digital infrastructure, credibility, and language used in online education. Becker and Lienesch(2018) examined night-time media use concerning sleep problems and anxiety/depression symptoms in adolescents with attention-deficit/hyperactivity disorder (ADHD). The result summarised that the average night-time media use (after 9:00 PM) was 5.31 h. Overall, 63% of adolescents reported less than 8 h of sleep on school nights, and this percentage rose to 77% for parent-reported sleep duration. Moreover, adolescents obtaining

less sleep than recommended had more night-time media use than those obtaining ≥8 h of nightly sleep. Greater media use is associated with shorter sleep duration; more sleep problems, greater anxiety, and depressive symptoms. Anand et al (2018) explored the internet use behavior of engineering students in India and found that a substantial proportion (27.1%) of students have some sort of Internet addiction. Frequent Internet use and wrong posture lead to Headaches, blurred vision, dry eye, and light sensitivity. Rastogi (2019) analyzed the impact of various electronic media on students and society in his study on the Digitalization of education in India.The study suggested that a blend of traditional and modern systems of teaching should be adopted along with digital education teaching.

Meaning of Digital Citizenship Education

Digital Education: Any type of learning that is accompanied by technology or instructional practice that makes effective use of technology is referred to as digital learning.

Digital citizens: Digital citizens are those individuals who work for the digital society and benefit from digital society. According to Karen Mossberg, (the author of Digital Citizenship: The Internet, Society, and Participation), digital citizens are "those who use the internet regularly and effectively, to engage in society, politics, and government".

Digital Citizenship: Digital citizenship is a 21st-century critical life skill that ensures safe participation in the digital world and makes the best use of the internet in professional and personal life. The term digital citizenship is a big umbrella that means everything from being safe online, being media literate, knowing about one's digital footprint, rights and responsibility, and cyberbullying (Ribble, 2015) in a digital world. Arif (2016) breaks digital citizenship down into three concepts: ethics, information literacy, and participation/engagement of digital citizens in Internet-mediated societal action safely, ethically, effectively, and responsibly in the digital community. Safe and responsible online communication and collaboration have brought the concept of digital citizenship (Ribble, Bailey, & Ross, 2004; Ribble, 2008; Shelley, 2004). According to Ribble and Bailey (2007), digital citizenship is the online display of behaviors that ensure the legal, safe, ethical and responsible use of information and communication technologies. Digital citizenship refers to the responsible use of technology by digital citizens. It reinforces the positive aspect of technology so that everyone can work and participate in the digital world. It refers to the ability to think critically, behave safely and participate responsibly in our digital world.

Digital Citizenship Education: Digital Citizenship Education is the empowerment of children through education or the acquisition of knowledge & skills for learning and active participation in the digital society. "The competent and positive engagement with digital technologies (creating, working, sharing, socializing, investigating, playing, communicating, and learning); participating actively and responsibly (values, skills, attitudes, knowledge) in communities (local, national, global) at all levels (political, economic, social, cultural and intercultural); being involved in a double process of lifelong learning (in formal, informal and non-formal settings) and continuously defending human dignity"(Council Of Europe).

According to Mike Ribble, digital citizenship education is the norm of appropriate, responsible behavior concerning technology use. The nine elements were identified as a way of understanding the issues of technology use. They are Digital Access, Digital commerce, Digital etiquette, Digital Law, Digital well-being, Digital rights and responsibilities, Digital communication, Digital literacy, and digital commerce.

Digital initiatives by Government of India

The Indian government has taken numerous initiatives to support digital education, which will eventually be used to continue education for many people and help to increase the nation's enrolment ratio. In India, popular online platforms include NPTEL, mooKIT, edX, Coursera, and SWAYAM. Aside from the platforms mentioned above, others offer online education in a variety of fields but are relatively unknown. The online course providers in India are SWAYAM, NPTEL, mooKIT, IIT Bombay, Shikshit India, Skills, etc.

DIKSHA

DIKSHA (Digital Infrastructure for Knowledge Sharing) is a national platform launched in 2017 by the National Council for Educational Research and Training (NCERT), under the Ministry of Education for school education. It has been adopted by almost all the States, Union Territories, and central autonomous bodies/boards including CBSE. It is an initiative for knowledge sharing and contains open digital content like video lessons, worksheets, textbooks, and assessments for students teachers and parents. Under the guidance of the national boards of education (CBSE) and NCERT, the content has been created by more than 250 teachers who teach in multiple languages. Here the content is in multiple languages for classes 1 to 12. It has more than 80,000e-books and can be used offline.

e-Pathshala

It is an e-Learning app by The National Council of Educational Research and Training (NCERT) for classes 1 to 12 in multiple languages. It was launched in November 2015. This app is a storehouse of- audio, videos, e-publications, flipbooks, etc., and can be accessed easily by downloading small spaced e-pathshala app. This app contains 1886 audios, 2000 videos, and 696 e-books in multiple languages for classes 1 to 12.

National Repository of Open Educational Resources

(**NROER**) the portal offers a variety of resources in multiple languages for students and teachers, including books, interactive modules, and videos, as well as a variety of STEM-based games. Curriculum-aligned content is provided for classes 1-12, as well as teacher resources. It contains 14527 files in various languages, including 401 collections, 2779 documents, 1345 interactive, 1664 audios, 2586 images, and 6153 videos.

SWAYAM

SWAYAM is a program launched by the Government of India to achieve the three cardinal principles of Education Policy: access, equity, and quality. Swayam is a national online learning platform launched in 2017. The goal of this effort is to make the best teaching and learning resources available to everyone, including the most disadvantaged. SWAYAM aims

to bridge the digital divide for students who have been left behind by the digital revolution and are unable to participate in the knowledge economy hosting.1900 courses spanning both schools (grades 9 to 12) as well as higher education (undergraduate and postgraduate) programs in all disciplines, including engineering, law and management, humanities, and social sciences courses. Its distinguishing feature is that it is integrated with traditional education. Credit transfers are permitted.

SWAYAM PRABHA

It is a group of 34 DTH channels developed in 2017 to broadcasting high-quality educational programming 24 hours a day, seven days a week via the GSAT-15 satellite. Every day, there will be new content for at least four hours, which will be repeated five times in a day, allowing students to choose the time that works best for them.NPTEL, IITs, UGC, CEC, and IGNOU provide the content. The web portal is managed by the INFLIBNET Centre.

e-PG Pathshala

It is for postgraduate students. Postgraduate students can access this platform for eBooks, online courses, and study materials during this lockdown period. The importance of this platform is that students can access these facilities without having internet for the whole day.

Digital India

Digital India initiative is the Government of India's flagship program, intending to transform India into a digitally empowered society and knowledge economy. The government has a target of connecting all Indians through the Internet by 2025 mostly through broadband of Bharat Net. The government is taking various steps for digital access to every Indian. They are trying to spread internet facilities to the village through **Public Internet Access Programme**. Government initiative has helped the country to achieve significant digital progress.

Benefits of Digital citizenship education for Indian society

❖ To address and manage the Digital risk:-The rise of the internet and especially after corona pandemic our lives now take place online and the process of digitizing society is accelerating day by day. Now everyone with an internet connection is a digital citizen. According to a report by IAMAI and Kantar IMRB, there were 481 million users of the internet in India and this is growing at the rate of 11.34%. Also, internet penetration in urban India was 64.84% while in rural India it was 20.26% till December 2017. However, with this great access, our society may face some potential risks. The potential risk can be as follow
➢ Risk of attack of cyber criminals.
➢ The threat of online harassment, bullying, and stalking. According to a 2018 survey of children's online behavior it is found that approximately 60% of children who use social media have faced some form of cyberbullying. In 2015, the Central Board of Secondary Education (CBSE) issued anti-bullying guidelines due to the rising cases of bullying in schools.

- ➢ Risk of Cyber-crimes against persons, Cyber-crimes against property, and Cyber-crimes against government like Cyber terrorism.
- ➢ Risk of Brainwashing.   Political ideology and terrorist ideology are an example of brainwashing through social media.
- ➢ Risk of Physical and Psychological Problems. Anand et al.(2018) explored the internet use behavior of engineering students in India and found that a substantial proportion (27.1%) of students have some sort of Internet addiction. Frequent Internet use and wrong posture lead to Headaches, blurred vision, dry eye, and light sensitivity. Cervical pain is the most common problem associated with prolonged use of computers (Zheng et al.,2016) Computer vision syndrome, carpal tunnel syndrome, and severe neck and back pain are long-term effects.
- ➢ Risk of becoming a Cyber-criminal unknowingly: According to Norton Cybercrime Report 2011, 30 million people in India were victims of cybercrime and the primary reason for this is cyber illiteracy. Children are highly vulnerable to cybercrime. They need to be educated on how to be cyber-smart.
- ❖ To address the Digital divide:-Digital citizenship program can be used to address the digital divide in India. According to the IAMAI-Kantar Report ICUBE 2020, India has 58 percent male internet users and 42 percent, female internet users. The National Family Health Survey 2019-21 ("NFHS"), on the other hand, reveals a much larger gender gap in internet usage. According to the NFHS Report, only 57.1 percent of males and 33.3 percent of females have ever used the internet. The digital divide has serious social consequences. Access to technology has the potential to exacerbate existing social exclusions and deprive individuals of essential resources. Students from low-income families, having limited or no internet access at home can be helped by schools and nearby community centers through digital citizenship education.
- ❖ To get maximum Digital opportunity:- Digital citizenship education teaches us about internet safety, privacy, and security, managing good online relations and communication, information literacy, avoiding cyberbullying, and developing skills to harness the full potential of technology.

Future Research Direction

- ➢ A Qualitative study can be conducted on the perception of children and adults on digital risk.
- ➢ The need for Digital Citizenship Education can be assessed for different age groups of students in Indian society and accordingly, the educational program can be implemented for the students.
- ➢ A longitudinal study of the Digital citizenship program can be implemented on small kids/toddlers and the effect of education can be manipulated/checked at the adolescent age.

Discussion

India is the second largest online market in the world with over 560 million internet users, Ranked only behind China. And it is estimated that by 2023, there would be over 650 million internet users in the country. The availability of the internet at fast speed and very affordable price is the main reason for the growth in mobile internet users. The Indian government has taken numerous initiatives to support digital education like SWAYAM, ePathsala, National

Repository of Open Educational Resources, etc. The government has a target of connecting all Indians through the Internet by 2025 mostly through broadband of Bharat Net. The government is taking various steps for digital access to every Indian. They are trying to spread internet facilities to the village through Public Internet Access Programme. Government initiative has helped the country to achieve significant digital progress. Though the Internet and the Digital world are incredible tools in educational and professional settings, however, the freedom and accessibility that makes them so useful can be the source of hidden risks like gambling, pornography, self-harm games, risky online friendship, cybercrimes, and trauma of cyberbullying. According to the latest national crime records bureau, NCRB data cyber-crime in 2013 was 5693 and it reached, a total of 27, 248 cases in 2018. Cybercrimes are flourishing because students are living, working, and studying on the World Wide Web, but they don't know how to protect themselves.

Different digital education initiatives by the government of India can also include Digital citizenship education that equips students with the knowledge, skills, and resources that are critical for their success. Digital citizenship education in India can be beneficial in minimizing internet risk, the digital gap and while utilizing the maximum benefit of the digital world. UNICEF, UNESCO, ISTE, and the Council of Europe strongly recommended Digital Citizenship education for children and youth. We should prepare our future generation to make the best use of internet opportunities and effectively deal with online challenges.

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