
Transforming the Education Sector with Digital Technology

¹Dr. Abha Shukla

¹Assistant Professor, Geography Department, P.P.N. P.G. College, Kanpur, Uttar Pradesh

Abstract

In the last three decades, information and communication technology services have expanded rapidly in every sphere of life. How could the education sector remain untouched? Through the oral tradition of ancient Gurukul and Ashram, education has decided many steps. Passing through the era of more or less traditional blackboard and chalk soil (chowk) of the last century, in this second third-decade of the 21st century, the entire scenario of reading has changed a lot.

Key words: - Education Sector, Transforming, , information, Digital Technology

Introduction

In the current scenario, laptops or tablets are replacing textbooks, smart boards are replacing black boards, different types of marker pens have replaced squares, and laser points have replaced sticks used for pointing. Slide projectors and LCD projectors are now becoming an essential requirement of every classroom, so it has become necessary for the technically savvy students to revamp the curriculum and develop a new curriculum that incorporates digital technology. Higher education institutions are collaborating with IT and software organizations to develop smart learning apps and tools to integrate technologies into their curriculum. Its objective is to provide students with a wide spectrum of knowledge and a variety of learning materials and quick access, thereby incorporating some changes in higher education institutions.

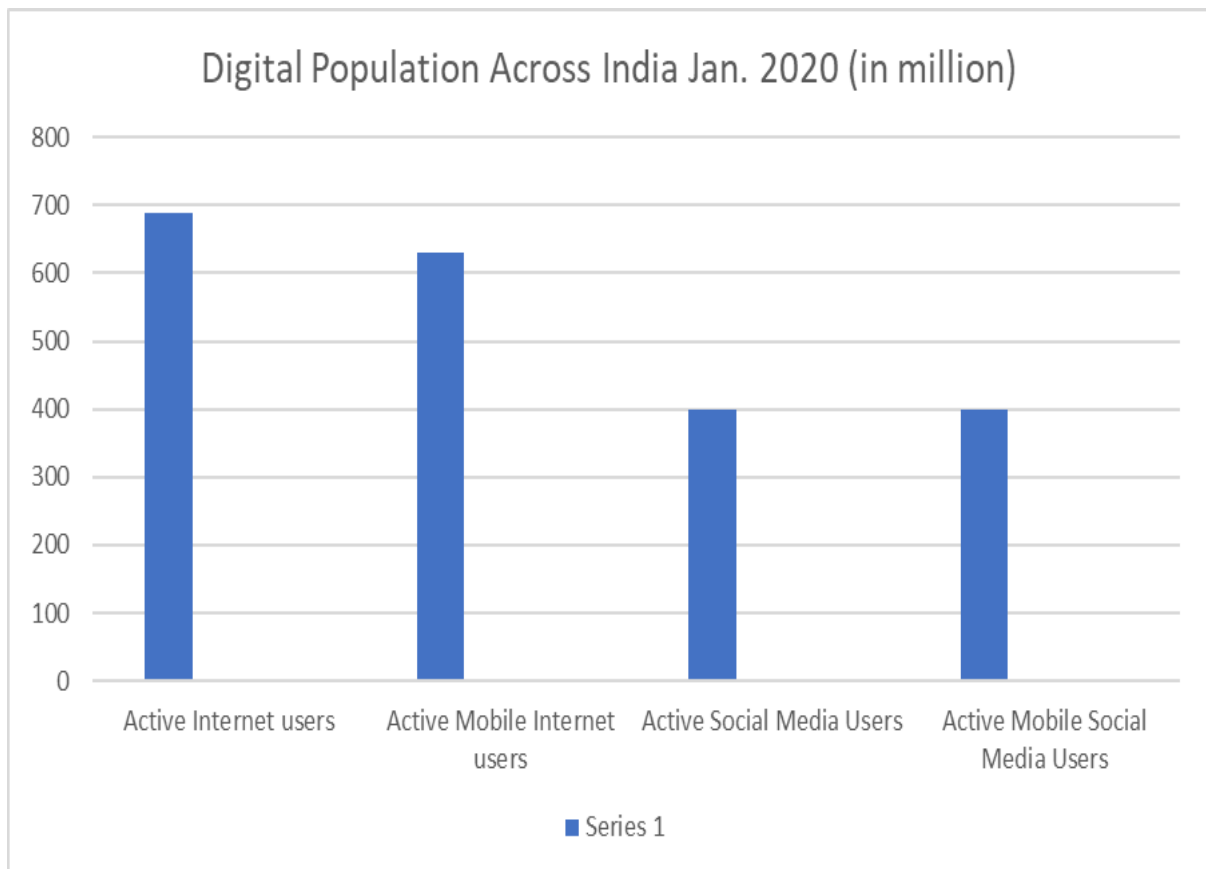
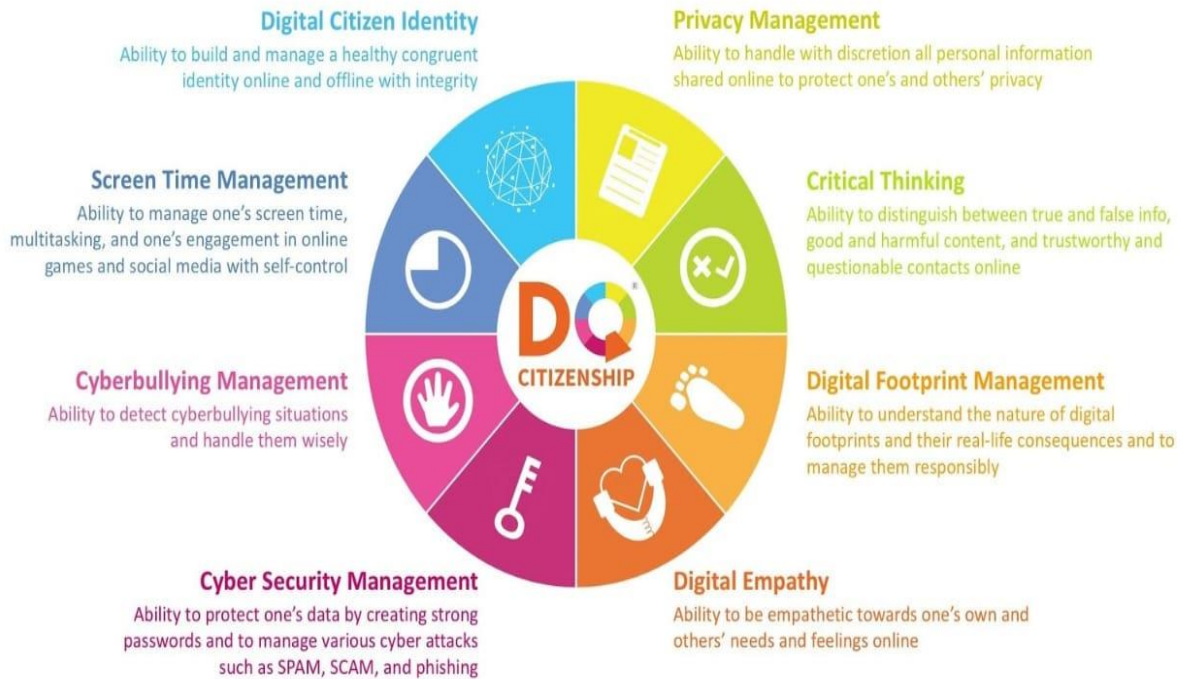
Objectives of the study- India is moving towards becoming a global knowledge superpower. Due to which educational technology digital programs and virtual classes will have an important role for the people of urban, rural and remote areas of India. The integral basis of this growth lies in the three Satambhas.

- Better planner connectivity and accessibility
- Focused skill and capacity building and
- Leveraging technology to drive growth with a focus on sustainable innovation, investing in the digital transformation of the country in a planned manner, and creating a strong demographic dividend that reaches out to the remotest of our vast country is a key pivot.

Research Methodology- The nature of the presented research paper is conceptual and exploratory. Therefore, to fulfill these objectives, secondary data has been published from published materials related to books, journals, magazines, internet and e-education.

Main Point- Terminology related to digital education in the context of urban / rural India - online learning, web based learning, bladed learning, distance learning, virtual learning, digital infrastructure for knowledge sharing, e-pathshala, Swayam Prabha channel, National Repository of Open Education Resources, Samagra ICT scheme under education, Shaala Darpan, Shaala Siddhi, E-Library, Digital Literacy Campaign (DISHA), Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDisha) Role of UNICEF in Digital Rural India.

Elements of Safe Digital Education



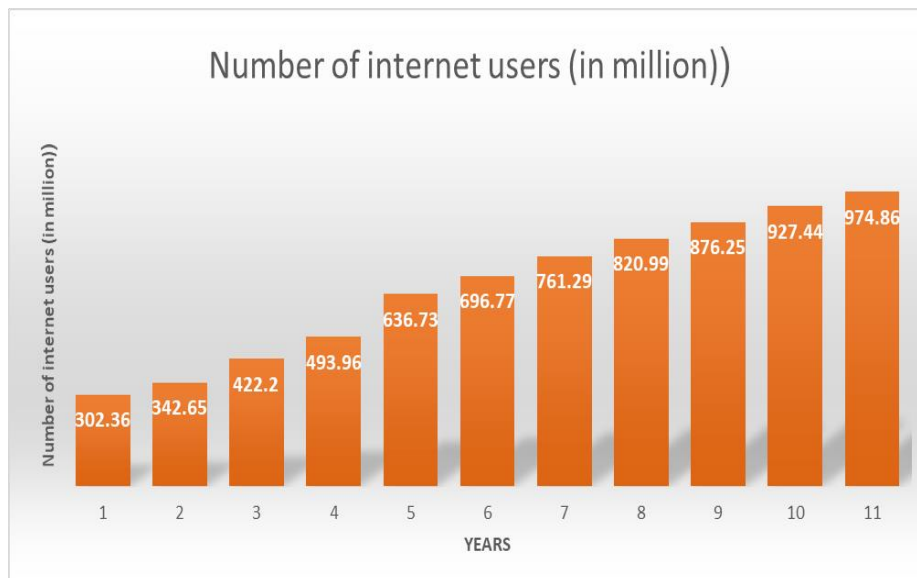
Source : Statista 2020

Government Efforts-

1. **PM E-Vidya** has been started by the Government of India due to Kovid-19. Under this, 12 direct-to-home channels were made available in video homes. Online courses were started in major higher education institutions of the country.
2. **SWAYAM** itself- stands for 'Study Webs of Active Learning for Young Aspiring Minds'. It is an integrated platform for digital education through which it provides online courses from class 9th to 12th and postgraduate level. Till date 2769 MASSIVE ONLINE COURSES - (MOOC) have been offered on SWAYAM, thereby developing modules for the education system in 12 subjects for around 102 crore students.
3. **SWAYAM PRABHA** - It is an initiative to provide 32 high quality educational channels through direct-to-home all over the country on 24*7 basis. Its primary objective is to provide quality access to areas where internet availability still remains a challenge.
4. **National Digital Library** - The National Digital Library of India is a framework project for a virtual repository of learning resources under a single window search facility. Through this, more than 50 lakh students have registered with more than 3 crore digital resources and about 20 lakh active users.
5. **Spoken Tutorials** - 10 minute audio video tutorials on open source software available online in 22 languages for self learning i.e. without teacher presence to train the user on the course Designed for.
6. **Virtual Lab** - This project is used to develop an interactive simulation environment by collecting data and answering questions. It has around 225 laboratories with more than 1800 experiments which are benefiting more than 15 lakh students.
7. **E-Yantra** - This is a project to enable teachers impacted on Embedded Systems and Robotics in Engineering Colleges in India. Materials developed by NCERT in the form of e-resources (audio video in interactive etc.) are accessible through web portals 1856 audios, 1999 videos, 698 e-books and 504 flip books eg SWAYAM, e-Pathshala, National Report Depository Open School Resources and Mobile Application.
8. **Free and Open Source Software App for Education (FOSSEE)** A project to promote the use of open source software in educational institutions, which is done through teaching materials, spoken-tutorials, documentation, awareness programs such as conferences, trainings, workshops and interactions. Around 2000 college students and teachers participated in it.
9. **Quick Response** -It contains NCERT books duly mapped with each chapter of the books in National Repository of Open Education Resources (NROER).Total 14145 files till date including 401 collections ,2779 documents , 976 interactive , 1664 audio, 2586 images and 6140 videos uploaded.
10. According to the **Statista (2020) report**, the number of Internet users in the country is estimated at 700 million, which is expected to increase to 974 million by 2025. Clearly, a huge market is likely to be created in the field of e-learning in India.

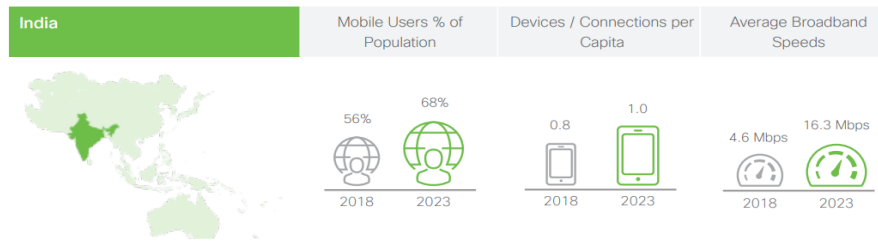
**Number of internet users in india
(2015-2020 projected 2025)**

S.No.	Year	Number of internet users (in million)
1.	2015	302.36
2.	2016	342.65
3.	2017	422.20
4.	2018	493.96
5.	2019	636.73
6.	2020	696.77
7.	2021	761.29
8.	2022	820.99
9.	2023	876.25
10.	2024	927.44
11.	2025	974.86



In March 2020, as estimated in the Statistics Research Department report, India ranks second in the world in internet users, but according to the report of Telecom Regulatory Agency TRAI, in the year 2017, only 34% of the population had access to the internet, out of which 30% were women. The discrepancy between % and 70% for males is very high.

Cisco Annual Internet Report Highlights Tool

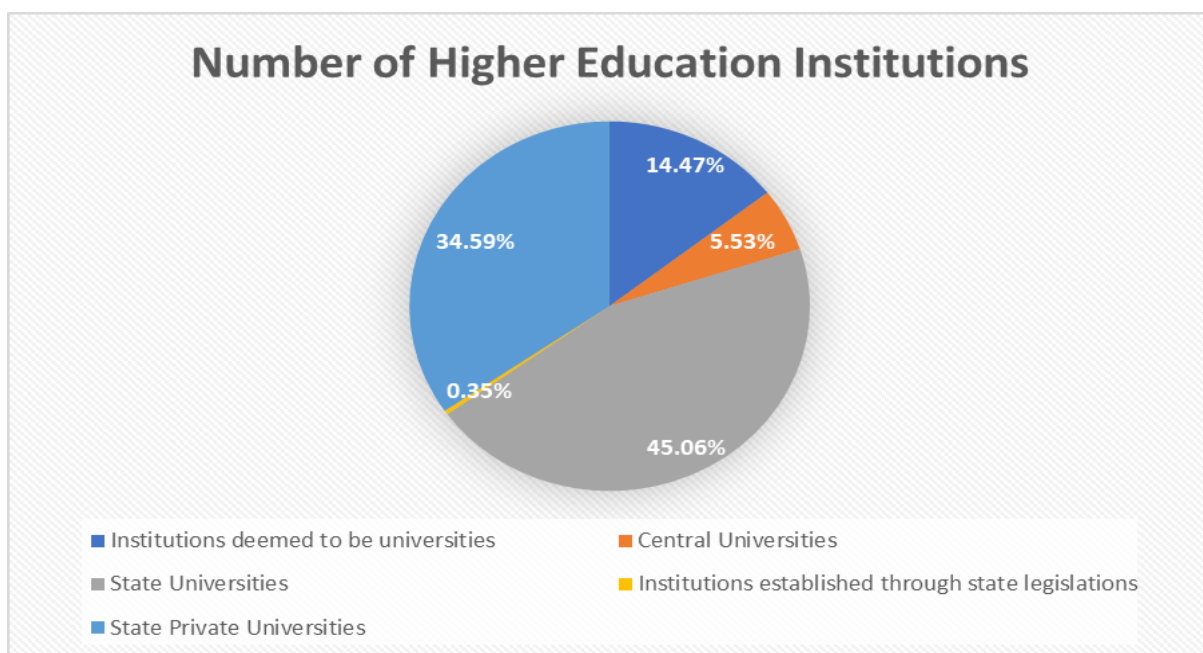


Internet Users -

- In India, there will be 907.4 million total Internet users (64% of population) by 2023, up from 398.2 million (29% of population) in 2018.
- In India, there will be 966.4 million total mobile users (68% of population) by 2023, up from 763.1 million (56% of population) in 2018.
- In India, the population will be 1.4 billion by 2023, up from 1.4 billion in 2018

Review of ICT Issues in Higher Education Challenges and Solutions- Information and Communication Technology (ICT) Higher Education - According to the United Nations Development Program it is an information management tool i.e. a specific set of goods, applications and services used to produce, store, process, distribute and exchange information. goes. At present the number of higher education institutions is increasing rapidly. As per UGC data (2018), a total of 851 universities/institutions and 244 institutions/universities were eligible for central assistance in March 2018. Which included central, state, political universities and institutions established through state legislation and institutions deemed to be universities.

UGC Annual Report 2017-18



Purpose of ICT- The current enrollment rate in higher education which is 15% is to increase to 30% by the end of 11th plan. The Ministry of Human Resource Development launched web portal named 'Sashakt' which is a one stop education portal. High quality e-content will be uploaded on it across all subject areas and subjects which is expected to bring about a paradigm shift in the teaching and learning system in India. Presently the project 'Developing Pedagogical Attitudes Appropriate to Different Classes, Intellectual Abilities and Research in E-learning' is being implemented by IIT Kharagpur. Faculties from all IITs and many NITs are participating in this curriculum development plan .

National Education Mission Created virtual labs, open source and access flows, virtual conferences and non-invasive glucometer through ICT and a dye electric frequency shift application for low cost oscillator for stimulated laboratory experiments. The Centrally Sponsored Scheme envisages upliftment of ICT capability through this technology by providing high quality personalized and co-active knowledge modules on the Internet/ Internet to all students in Higher Education Institutions.

- Mission critical components
 1. creation of content
 2. Provision for access devices for institutions and learners.

This means bridging the digital divide i.e. bridging the gap in skills of urban and rural teachers/students in using computing tools for teaching and learning purposes and enabling them to empower those who remained untouched by the digital revolution till now. The mission will create high quality e-content for elite groups as well as expand computing infrastructure and connectivity of more than 18000 colleges in the country. Each department of 400 universities, deemed universities and institutes of national importance is included.

Challenges with Digital Education in India- Availability of internet connection for all is one of the biggest requirements for digital education. To provide equipment and technology to the people of the socio-economically weaker sections so that they are not deprived of education. When teachers are technically trained then only they can conduct digital classes.

That's why they have to be trained as well. Proper facilities should be made available for digital classes in government schools and colleges. The problem is that technological progress is not as progressive as the number of entities. So we are going towards an increase in quantity and a decrease in quality. The quality of higher education is directly related to the removal of backwardness of the society.

ICT findings- Higher education is a very important subject for any country as it develops the citizenship and attainment of the majority of the work force serving the nation. Presently the higher education system is developing rapidly. It is important to incorporate innovative approaches and technological advancements in the educational system to ensure quantity as well as quality. The increased use of ICT has brought changes in teaching and learning at all levels of higher education systems leading to enhanced quality.

Possibilities- The use of ICT in the higher education system not only improves the classroom teaching-learning process but also facilitates e-learning, distance education (teaching community capable of reaching remote areas).

Conclusion and Recommendations-

5 Ways to Digital Transformation Higher Education - Modern technology has brought about a revolutionary change by reshaping student interaction and course delivery. Digital transformation that was once an option for education has now become a necessity to drive student and staff experience. COVID-19 pandemic accelerates digital literacy in higher education as digitization and online education transform higher education circles into a collaborative learning experience

1. marginal range
2. student experience
3. Prohibition on recruitment of students and staff
4. Digital connectivity solutions for greater collaboration
5. alumni management

In the present scenario educational institutions need to adopt technologies as the needs of the students change with time and advancement in technology. Gradual upgradation of curriculum is necessary. Technology integration is an important step in making learning effective and collaborative, which in turn will prepare students for the future. Covid-19 is a glaring example.

Sources:-

- Praveen Patel Managing Director MEEA, North America
- Yojana 2019 July , October 2021
- Kurukshetra December 2020
- Pragyata - Digital Education Guidance by Government of India
- <https://www.drishtias.com/hindi/daily-updates/daily-news-editorials/digital-education-in-india>
- IITM Journal of Management and IT
- Data from Cisco annual internet report highlight tool