
PURVIEW OF DIGITAL EDUCATION IN INDIA

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ABSTRACT

With the advent of internet, mobile phones, mobile apps, laptops, tablets everything is becoming more digitalized today. This also made a way for our education system to adopt various digital modes in implementing teaching learning techniques. This paper focuses on the scope of digital education in India. It also throws light on the advantages and challenges arising in execution of digital mode of learning. The ease of accessibility of the learning content at minimal cost is the major advantage of digital education. The content can be transmitted to all sections of society specially the under privileged helping to remove the socio-economic inequality prevailing in education system. However the major challenges include difficulty in dispersion of digital content in local language of students and making the platform more users friendly. The study is concluded by making recommendations on how the digital education platform can be nurtured properly in order to provide a multi facet growth in all aspects of education in India.

Keywords- digital education, digital content, e learning.

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Introduction:

The adult literacy rate in India stands at 73% (Census, 2011), which is far below the average of developed nations which is 86%. The literacy rate of males is 80.9% and of females is 64.6% as per Census (2011). The Indian government spends only 3.84% on education as percentage of GDP (UNESCO, 2013). A lot is needed to be done in field of education.

Figure 1: Literacy Rates in India

(In percentage)

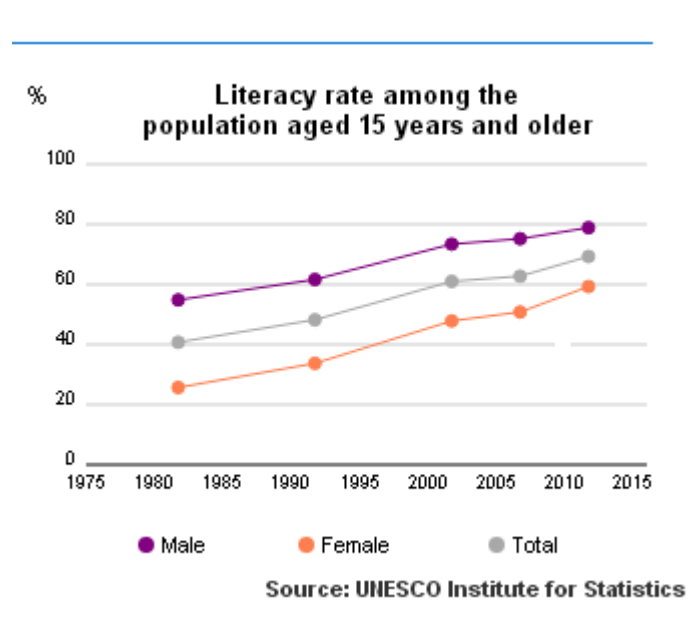
Census year	Persons	Males	Females
1951	18.3	27.2	8.9
1961	28.3	40.4	15.4
1971	34.5	46.0	22.0
1981	43.6	56.4	29.8
1991	52.2	64.1	39.3
2001	64.8	75.3	53.7
2011	73.0	80.9	64.6

1951-1971: Age group 5 and above, 1981-2011: Age group 7 and above

Data Source: Office of the Registrar General & Census Commissioner, India

The literacy rate among population aged 15 years and older has risen from 40% (approx) in 1980 to 70% (approx) in 2011(UNESCO, 2018). The female literacy is far below the male literacy figures.

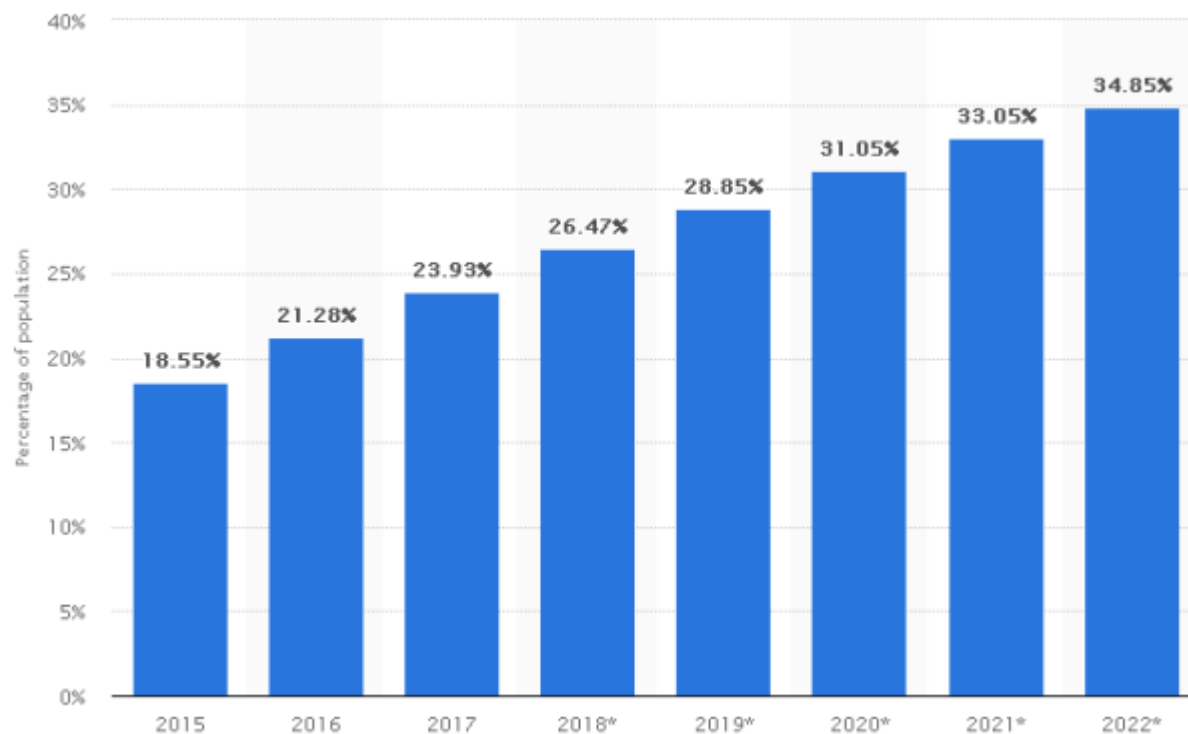
Figure 2: Longitudinal growth of literacy rates in India from 1980 to 2011



This lag in gaining literacy can be achieved by using digital platform. Information and communication technology has introduced new breakthrough in field of education as it did in banking, health and other sectors. The education sector has witnessed revolutionary changes in recent times due to growing digital content. The digital education mode is proving itself a solution to curb lower reach of quality education all across the globe. Easier access and affordability has made it a widespread medium in developing countries. The content, technology

and delivery platform together constitute digital education system. Government, content experts, IT companies, learners and whole teaching community need to collaborate in order to facilitate widespread digital education in India. The potential to digitally educate the masses in India is very rich as nearly a billion people are having mobile phones and over 460 million have internet connectivity which is expected to reach 635 million in 2021(Statista, 2018).

Figure 3: Mobile Phone internet user penetration in India



Source: Statista 2018

- There has been a consistent rise in digital and virtual class rooms in recent years. Rural areas which are not accessible to teachers can be major beneficiary of digital mode of teaching. A report from Delloite (2015) pointed that mobile phones have taken a preferred medium for consumption of digital media. The smart phones market has seen an unprecedented growth in last five years growing at CAGR of 17%. This increase in number of mobile phones is making it easier for learners to access digital study material. Digital learning platform provides a great opportunity to all those children who are unable to attend the school. As per census 2011 data, there are around 8.4 crore children who have not gone to school at all. The reason cited is increase in cost of education, lack of importance given by families to education. Amongst these, 19% are working and rest are marginal workers in agriculture and other artisan business. The annual drop out rate is highest in secondary level which is 17.06% as per National Institute of Educational Planning and Administration (2014-15).

Table 1: Average Annual Drop-out rate in School Education: 2014-15

Level	ALL			SC			ST		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Primary	4.36	3.88	4.13	4.71	4.20	4.46	7.02	6.84	6.93
Upper Primary	3.49	4.60	4.03	5.00	6.03	5.51	8.48	8.71	8.59
Secondary	17.21	16.88	17.06	19.64	19.05	19.36	24.94	24.40	24.68

Source: National Institute of Educational Planning and Administration, New Delhi

But with the aggressive reach of mobile phones in lower strata of society, these pupils can also be embraced in teaching learning system via digital mode of education using mobile phones. It can help those students who get dropped out of school due to various reasons like social pressures from family, working at early age to bear the financial burden of family or students have to leave school because of long distance from home and work place. With help of digital platform, such students who are not able to attend the school can get their share of knowledge in cost effective and time saving manner.

Literature Review:

Jha (2018) illuminated that digital platform provides opportunity to access learning sources irrespective of place and economic status of teachers and learners, bestow better accessibility to teachers and students consequently breaking the age old barrier of in equivalent socio-economic levels in society which create a fence in gaining quality education by under privileged sections of society. Gond and Gupta (2017) propounded that digital education is very effective tool of learning for all cadres as it inculcates fun by implementing innovative audio video features which further helps in boosting the cognitive elements in learner's mind. Dua et.al., (2016) described digital education as the use of combination of technology, digital content and instruction in education system making it more effective and efficient than traditional teaching learning methods. A report by E-Kavach (2016) elucidated that digital education is gaining popularity because of wide spread use of internet. Technologies like cloud and virtualizations, data centers, data mining have immense potential to integrate with education system. Budhede

(2016) stated that the urban-rural divide in terms of access, equity and resources can be filled by using digital education systems in under privileged areas.

Advantages:

- The prime advantage of digital education is increased accessibility and reduced cost. Students, trainees and learners find it flexible option to opt as gives them their preferential time to study. The new trend of video based learning permit students to learn the syllabi both in online and offline mode consequently helping them in their formal training as well as performance enhancement. Teachers can prepare their learning plans by blending audio visual effects and animation systems. Teaching becomes more convenient.
- Digital education makes the learning more enjoyable and generates rational thinking among the learners of all ages. The audio visual features make the content interesting so that a student can relate it to more practical situations and surroundings. In digital platform, with help of data mining, student feedback can be captured for the content provided so that the entire offering to the student can be improvised to enhance benefit for them.
- Digital platform enables personalize and adaptive learning by modifying the ways of teaching. It helps the students in practicing their leanings, managing their schedules enhancing the academic potential of each student. Digital education can be seamlessly offered on varied devices like laptop, mobile phones, desktops, tablets which provides students flexibility in accessing the educational content.

- The advent of virtual reality in digital education space has hugely impacted the efficiency of offering to students. Virtual reality techniques allow the students to interact with the study material. This results in high engagement level of students resulting in their better performance and sustained motivation to learn the subject.

Challenges:

- The vast majority of Indian population still does not understand digital devices and technologies. India is a diversified country with assorted culture and languages. It is difficult for content provider to create digital content in regional languages as it is time consuming and cost incurring. At present most of the digital content is in English language which makes it difficult for masses to understand.
- Although the number of internet users have been growing vigorously but still most of the population does not have required bandwidth for smooth functioning of digital education mode. Poor internet connectivity in rural and semi urban areas pose a major challenge in digital education.
- Making digital education system sustainable in unserved and underserved area is also a major challenge. There is scarcity of teachers who are well trained in using digital technology. Appropriate skill and knowledge is required to host any digital platform. The

digital platform should be made more interactive in order to engage students else it will turn boring.

- Maintenance and up gradation of digital equipment prove to be costly in such areas. Implementation of digital technology requires adequate funds and infrastructure. Insufficient funds lead to application of poor infrastructure and obsolete technology.

Conclusion:

In order to make digital education more inclusive and sustainable for large chunk of population efficiency of mobile internet should be increased and skill centers in rural areas should be established to remove ignorance of people about digital technology. Opinions from all stake holders of education system should be taken to make digital education more appropriate and effective. More innovative efforts should be poured in to make digital platform interactive.

In order to achieve deeper penetration in Indian panorama, creation of digital content in local languages is utterly required as not all population understand english. This will help in tapping the rural and semi urban areas which display huge potential. Further internet access and other data enabled services need to be made more affordable to common public. For bringing digital awareness, education institutes, governments and other concerned authorities should adopt a multi facet approach by conducting technical workshops for volunteers, informative sessions for students and learners. The speed of digital change is impacting all aspects of education from

research, teaching learning etc. The only thing which needs to be taken in consideration is how one can maximize gains and mitigate risks associated with digital technologies.

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