

A Study of Digital Education

– Recent initiatives and advancement with respect to degree colleges of Pune city

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Abstract

India is a vast country with much diversity in culture, language and heritage, etc. and innovative technology emerging in the education system. Innovation and technology are playing a predominant role in every sector in India and each sector is undergoing vast change to sustain in the market. It has made everything much more accessible and convenient and allowed various sectors of the economy to adapt to change, as the world is moving fast towards digitalisation. The traditional education system will stay for the long haul with its rich learning experience. The education system needs to be dynamic and to adapt the latest technology. Digitalisation brings in a more practical approach to tracking students' performance.

Due to innovative technology emerging in the education system thus there is a drastic change in the education system from the traditional system to the aid of technology and now online through Microsoft Teams, Zoom, Google Meet etc. The present research aims to study the online education process and also try to explore its advantages, scope and challenges. This study highlights the necessity for developing a positive attitude toward digital education among students to keep themselves abreast of the latest technology.

Keywords: Digitization, Cloud Learning, Innovative

1. Introduction

India is a developing country in all sectors of our economy but now in the world of digitalisation, India has shown & proven tremendous change and growth in digital education. Digitalisation has lots of benefits as it saves a lot of time & is easily accessible 24x7. Digitalisation has changed the approach & behaviour of students and has made more new & innovative things to learn & explore. The traditional education system will stay for the long haul with its rich learning experience. Digital education has lowered the cost and has developed cloud computing in hardware and software cloud solutions.

Digitalisation is the safest mode of learning with its unique features of transparency and accountability. Digital Education has benefited parents also as they can keep continuous track of the progress of their wards by connecting online. Digitalisation enables to the creation of a bond between parents & tutors for ease & efficient learning process. As it has the unique feature of transparency, parents come to know the quality of education their children are perusing which ultimately leads to security and faith in educational institutions with the help of digitalisation only. Digital Education all one needs is a computer with a web browser and a good

internet connection with higher broadband connectivity. Digital education will be a compulsorily very essential and important part of our life since technology has tremendously changed each and everyone's life and had captured all over the world to make life more simple, flexible, easily accessible, cost-effective & digital.

1.1. Advantages of digital learning

i. Personalized Learning: With the help of digital education, a personalized learning approach helps in giving personal attention on one-to-one basis as it analysis the skills, strengths, and opportunities of students. Attention is given to every student as it is the more focused and center-oriented approach.

ii. Makes Smarter: Digitalization helps students to become smarter, efficient and also motivates them to learn more as there is more scope to explore in the world of digitalization. It makes students to be more digital with digital material.

iii. Expanded Learning Opportunities: It's convenient for the wards to learn the fact that teaching takes place at several places and digital learning can be accessible 24x7 anywhere & anytime.

1.2. Disadvantages of digital learning

- i. Absence of social interaction: No physical connectivity between mentors & mentees therefore there is a lack of social & physical interaction.
- ii. Non-accessible: In rural and remote areas the internet connection has extremely limited access. The use of Wi-Fi is very inconvenient. Due to the non-availability of supervision, the watch over during the examination is absent.
- iii. Poor time management skills: E-learners require self-motivation to study on their own and there is a lack of poor time management skills as they are doing part-time work so there is a lack of time management skills.

1.3. SWOT Analysis in digital learning

SWOT is an important tool for examining the perceptions of Digitalization in Education.

STRENGTHS 24x7 Accessible Synergy High quality dialogue Student focused , Access to resources, Creative teaching Saves Time & Money Cost Effective	WEAKNESSES Lack of Motivation & Discipline Lack of infrastructure No scope in extra-cocurricular activities, Poor diversification / poor quality of audio and Video
OPPORTUNITIES Better Quality More Affordable Online Classroom supplementary to classroom Huge increase in federal spending on education More Accessible	THREATS Security Issues Threat of Consistency High Cost in implementation and Maintainance. Adaptability Issues Lack of staff training

Figure1: SWOT Analysis

Source: Author

This paper is driven by three overarching objectives-

- 1) To comprehensively examine the conceptual framework underpinning the digital education process and the contemporary methodologies embraced by educators.
- 2) To investigate the diverse array of innovative strategies within the education sector that have been implemented by degree colleges.

2. Review of Literature

Screwvala Ronnie (2021) in his article “Plug into Digital Classroom” narrated about the Indian

Universities which have tried to follow global peers and initiated courses in education. It is the case of the delivery of quality education is unattainable at a reasonable cost in India. In order to set up a virtual university, the Government of India plan to leverage India's smartphone base and the growing penetration of the internet. A rapid expansion of 4 G-ready mobile network penetration is the ideal vehicle on which edtech could ride. During the period of the pandemic (Covid-19) struck, Artificial Intelligence, Internet of Things and Virtualisation have been used to enhance the delivery of education over digital medium. The government of India must enroll tech enterprises in building a framework for the future of digital universities across India. Finally, there is a set of regulations and standards that push all digital universities to create value in education.

Anna and Chen (2016) have narrated the importance of online education. The trend of online education will continue to increase its presence and influence higher education through a vagarious process of reshaping, refining, and restructuring. It is most affordable for those who are unable to obtain an education because of physical distance, schedule of conflicts and unaffordable cost. Further focused on the realm of online learning and directed attention to the online learning community by means of promoting social presence, interaction and collaboration between the stakeholders.

Marathe, S. (2018) has described the scope of digital education in the present scenario. The digital market is set to increase at an astonishing rate, CAGR is of 52 percent from 2016 to 2021. The institutions of academicians remained a strong pillar of the education system. Teachers are playing an important role in education and guiding their pupils to identify places where students can apply the knowledge and also the likely pitfalls. Digitization also led to the misconception that the relevance of teachers would gradually fade away in the era of e-learning. It's beneficial to improve efficiency and will be more precise and accurate in the education system.

Adnan et. al. (2020) in their study found that the students are not able to access the internet because of a lack of technical knowledge & financial situations as all of them cannot afford an internet connection. So it concludes that online education is not effective as compared to offline education. Liguori E & Winkler (2020) in their research paper have proved that there is significant covariance between organisational commitment and job satisfaction which has a significant effect on turnover intention. Burgess et. al. (2020) has discussed issues that education sectors in lockdown have created major disruptions therefore it needs to rebuild its all resources in loss of learning.

Crawford et. al. (2020) stated that there should be no compromise in academic education due to digital

education. Nic and Anseel (2020) in their paper discussed that the current crisis creates opportunities to rethink and focus on more education training opportunities. Berezhna et. al. (2020) in their research state that the research into the operations of higher education institutions during the pandemic should be dedicated to analysing organizational work of administrations and subdivisions, students' training process, dormitory functioning, communication links, as well as psychological and medical care. Dhawan (2020) in her research paper has studied and learned about how to deal with the pandemic situation and the challenges associated with online learning.

3. Research Methodology

The study employs both primary and secondary sources have been utilized to gather comprehensive insights. Online journals, reputable books, newspapers, and research articles have been extensively referenced to comprehensively explore the challenges and opportunities inherent in the online education system. The amassed information has undergone meticulous analysis and interpretation employing statistical tools to establish a coherent and substantiated outcome. A specifically designed questionnaire was employed to collect data reflecting the perspectives of educators regarding the online education process. Notably, Pune city boasts a total of 1000 affiliated degree colleges, with an educator population exceeding 10000, including both permanent and visiting faculty (based on clock hours). To achieve a logical conclusion, this study has involved a sample size of 100 participants, constituting approximately 1 percent of the total population, with a balanced representation of genders. The questionnaire was thoughtfully crafted to ensure its relevance to the respondents, and it was refined meticulously before application. The data collection process was facilitated through online platforms utilizing Google Apps.

4. Data Analysis and Interpretation

Researchers have found out the perception of respondents about difficulties and issues faced while performing duties. Through the structured questionnaire, they have been asked to place their views on various parameters to find out the hidden facts about the online education system. There were a total of 100 respondents, who obtained feedback through digital means. The inquiry of statics is as under: -

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(i) Enquiry: How important is the role of technology in the emerging scenario

From above Table 1, it was observed that 65 percent of respondents opined that the role of technology is extremely important in remote learning. Whereas 25 percent of respondents opined the role of technology is

Table 1. Gender-wise responses

Gender	Extremely	Moderately	Slightly	Insignificant	Total	Percent
Male	30	11	5	0	46	45%
Female	35	14	5	0	54	54%
Total	65	25	10	0	100	100%
Percent	65%	25%	10%	0		

(Source: Compiled from primary data)

moderate in remote learning and 10 percent opined about the little role of technology in remote learning.

(ii) Enquiry: Most accessible and learning platform for digital education.

From the above Table 2 and Figure 2, it was found that

Table 2: Accessibility of online education system.

Sr. No.	Parameters	Male	Female	Total	Percent
1	Excellence	6	10	16	16%
2	Enjoying	11	13	24	24%
3	Most Accessible	20	23	43	43%
4	It's the worst system	02	01	03	03%
5	Required improvement	08	06	14	14%
	Total	47	53	100	

(Source: Compiled from primary data)

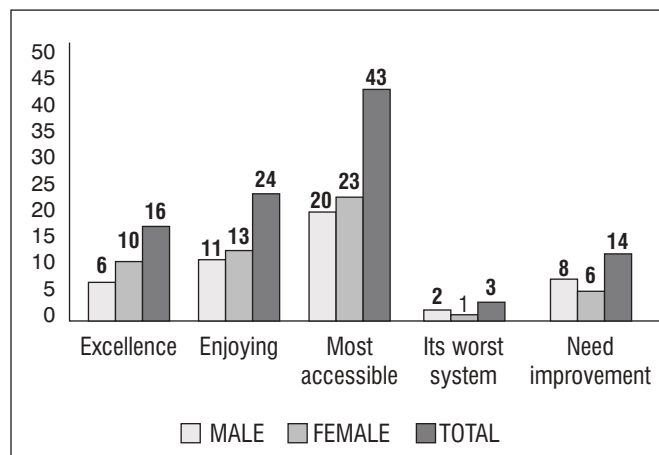


Figure 2: Most accessible and learning platform for online education.
(Source: Compiled from Primary Data)

the majority (43 percent) of respondents opined that the online education system is the most accessible learning tool. Further, 24 percent of respondents are enjoying the online education system and 16 percent have a great impact on the online education system and feel that the online education system is excellent.

(iii) Enquiry: Suitability of digital education for

practical subjects.

Table 3: Digital Classroom is suitable for practical subjects.

Sr. No.	Parameter	Male	Female	Percentage
1	Strongly Agree	1	1	02
2	Agree	4	6	10
3	No comments.	8	6	14
4	Disagree	25	19	44
5	Strongly Disagree	17	13	30
	Total	55	45	100

(Source: Compiled from primary data)

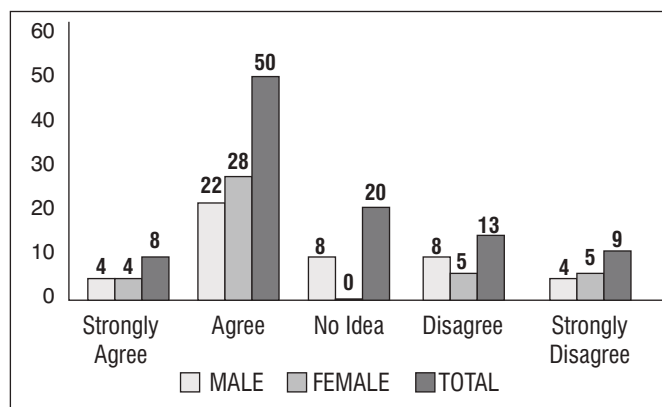


Figure 3: Suitability of digital classroom for practical subjects
(Source: Compiled from primary data)

From the above Table 3 and Figure 3, it is observed that the majority i.e., 74 percent of the respondents opined that the online education system is not suitable for practical subjects. The faculties are not familiar with models for practical subjects and hence, get into trouble while teaching such subjects.

(iv) Enquiry: Digital classroom helps to achieve the target of a higher gross enrolment ratio.

Table 4: Achievement of higher gross enrolment ratio

Sr. No.	Parameters	Male	Female	Total	Percent
1	Strongly Agree	04	04	08	08%
2	Agree	22	28	50	50%
3	No idea	08	12	20	20%
4	Disagree	08	05	13	13%
5	Strongly Disagree	04	05	09	09%
	Total	46	54		100%

(Source: Compiled from primary data)

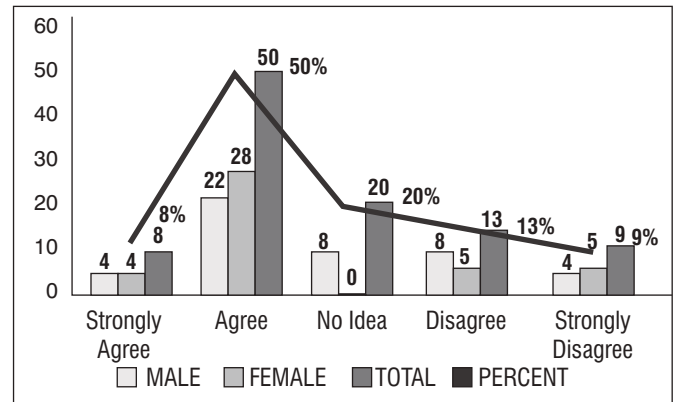


Figure 4: Achievement of Higher Gross Enrolment Ratio
(Source: Compiled from primary data)

From the above Table 4 and Figure 4, it is observed that the majority i.e., 50 percent of the respondents agreed that the online classroom helps to achieve the target of a higher gross enrolment ratio due to its easy accessibility and convenience. Whereas 1/5th of respondents (20 percent) are not ready to comment on the enrolment ratio of students.

5. Findings of the study

Within the context of remote learning, a substantial portion, accounting for 52 percent of educators, underscores the paramount significance of technology. This digital tool not only serves as a formidable defense against the ongoing COVID-19 pandemic but also provides a protective shield for the academic community.

Regarding their experiences with online instruction, educators express a varied range of perspectives. Approximately 43 percent consider digital teaching to be a commendable initiative, while 24 percent find satisfaction in conducting classes through online platforms. Furthermore, 15 percent acknowledge the inherent quality within their online instructional practices.

When evaluating the outlook of co-teachers, it becomes evident that 52 percent of educators benefit from valuable support in the process of delivering digital education. Concerning preferred electronic applications for facilitating digital education, Zoom applications take the lead, garnering favor from 40 percent of educators. Microsoft Teams follows closely at 36 percent, while Google Meet is favored by 21 percent of educators. A notable 65 percent of educators concur that their institutions furnish them with high-speed internet services, thereby facilitating smoother online interactions.

However, a majority – 54 percent – of educators assert that digital education falls short in comparison to traditional face-to-face instruction. This sentiment gains prominence due to the observation that a considerable number of students choose not to activate their video

during online classes.

6. Conclusion

Digitalisation plays a very crucial role after Covid 19 and now it will continue and will long last forever since its easily accessible, transparent and accountable. Digitalisation saves time as its easily accessible 24x7. Digital Education is bringing positive attitudes among students and has started accepting worldwide. Digitalization is playing a crucial role in changing society and business. Digitalisation will stay forever and will last forever as it has many benefits rather than very few disadvantages. It helps growth in the education sector and becomes more efficient education with unique features such as transparency, accountability, and proper measurement of quality initiative. Thus now it's time to switch to digital education as it has many positive impacts and a positive attitude in society and it is accepted worldwide.

In the present research paper, there is an attempt to study the innovative strategy & technology used in the education system and teachers' perceptions about the same. The researcher has made an attempt to find out issues with various e-learning applications used in the education sector by learners and teachers using digital education. With the help of technology, the education system will continue to be efficient in the future. There

will be a good opportunity for internet service providers and all other required accessories related to digital classrooms. Digital education is encouraging as innovative strategies in the education sector and it is one of the good options in the short run to connect all stakeholders including societies for the socio-economic development of the country. This research paper also aims to indicate that education institutions are required to be more efficient and adopt digital education. As per WHO guidelines education sectors have to properly design the process of digitalisation and take efforts to organise seminars, workshops and faculty development programmes for training and effective learning in the world of digitalisation. Finally, it also concludes that education sectors need to be more alert all over the world in the adoption of online as well as offline education systems and as far as the teaching field is concerned both options are now become a necessity.

7. Directions for Future Research

Since digital education has been adopted from COVID-19 Education sectors should provide hybrid courses i.e. educational sectors should run parallel online as well as offline education and training must be given to faculty members arranging workshops, seminars etc. Education institutions should be well-versed & experts in using digital technology in this digital world.

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