Traditional v. Digital Learning: It's Utility and Efficiency – An Empirical Insight

Gurpreet Singh, Bhuvan Semwal

ICFAI University, Baddi-174103, Solan, Himachal Pradesh, India

Abstract

Education creates knowledge which is a sine quo non for better standards of living and survival of the fittest. The world today has witnessed a drastic change in the field of education and the economy of the country. Every sector of the economy including health and agriculture has undergone tremendous change with the evolution of the new technology or what we refer to as the IT era. There was a time where in India we had witnessed the gurukula system of education which has now transformed into campus-based programs. The era of digitization in teaching is the theme of the new generation of the Y2K clan and we are moving from paper to paperless, hard copy to soft copy, books to e-books, offline classes to online classes. Online examinations, assignments, lectures, e-books, e-videos and edutainment are the various examples of digitalization in education now a days. Information and Communication Technology today has taken a great splurge in the system and is still evolving. The Covid-19 pandemic has shown us how online education is a boon to teaching learning methodology, however, the drawbacks at the same time cannot be obliterated as it lacks the personal touch. The study is aimed to analyse the impact of digital learning over traditional learning and its effectiveness. The study was conducted on 350 students and standard deviation method was used to determine the effectiveness of digital learning. The study also emphasizes the fact that online teaching is an insufficient component and therefore, a unique blend of both online and offline modes are necessary to build the beacons of the tomorrow's society.

Keywords: *Education, Digital Education, Online Education, Information Technology*

Introduction:

India is a secular, democratic nation which has witnessed unity in diversity in every sphere including education. During ancient time, there were Gurukula where *Gurus* taught *shishyas* under trees in the forests. Education underwent a radical change with the introduction of formal education and the advent of Britishers and their interference in the education system. Children were taught in a classroom, in proper schools and the privatization of education led to students studying in air-conditioned classrooms. The 21st century education witnessed an era where technology knew no boundaries and individuals got acclimatized to Smartphones, laptops, and tablets and the education system is catering to a paradigm shift, where the students are more curious and innovative. The education sector in India is vast and growing continuously. Higher Education in India is rapidly growing. Need of the hour is to introduce digitization in our educational system.

"*Digitization is the integration of digital technologies into everyday life by the digitization of everything that can be digitized.*"

Digitalization in education is the latest trend in form of modernization of education system. Digitalization in education refers to the process of using laptops, desktop computers, mobile phones, various software applications, internet and various types of digital tools and technologies to teach all ages students. The new phase of learning i.e digital learning has begun. Some of the techniques of digital learning are Online tests, assignments, Lectures, E-books, E-videos and edutainment, digital text books, animation.
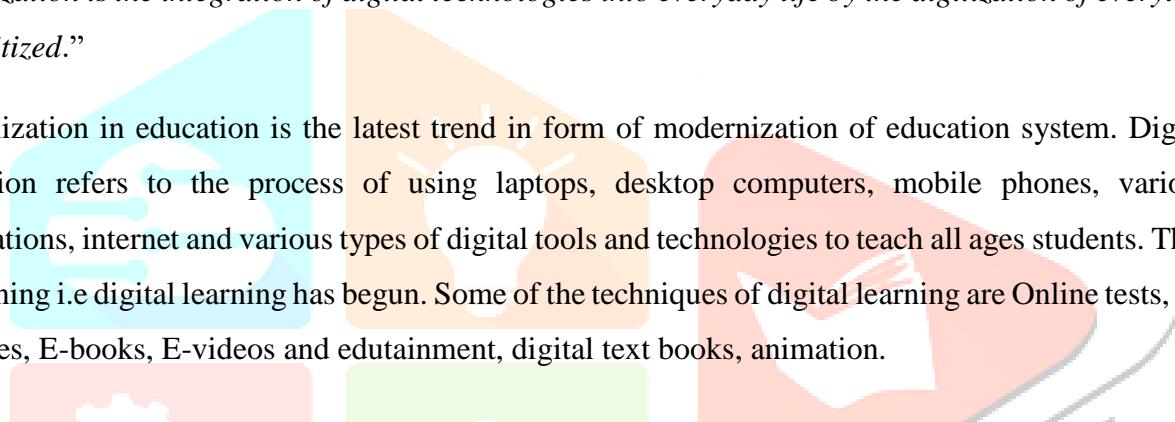
Some educators and technology evangelists believe that, in the future, education will be completely interactive, with artificial intelligence and virtual reality bolstering the process.

Digital Learning: The Future of Education in India

Earlier in Education System of India, there were many challenges like archaic teaching methods, insufficient teaching student ratio, shortage of eligible teachers, improper infrastructure. Smart technologies are being discovered and changing the education system of India. Due to affordable high-speed internet and various technologies, digital education has also penetrated in rural areas of India. Now, students in rural areas or backward areas can update their knowledge and skills via digital education modes. The digital technology is helping teachers connect with students who are remotely spread and students have access to unlimited e resources.

Digital Learning Tools in India

- **Social Media**: In this digital era, social media exists in every individual life. Social media influences our thinking, lifestyle, working and learning. Social media as a learning tool has progressed in a big way. Social media encourages collaborative environment and interactive sessions which accelerates the critical thinking and creativity of students. There are many social media platforms which can be used as learning tools like Blogs, Skype, course hashtags, Google docs, Wikipedia, LinkedIn, Pinterest, You-tube etc.

- **Interactive Learning Resources**: With the advent of interactive learning digital tools like Edmodo, Google Classroom, Socrative, Projeqt, Thinklink, Kahoot, learning is not limited to classroom teaching. With these interactive tools, teachers can create high quality videos, online quizzes, surveys, multimedia presentations etc.

- **Massive Open Online Courses (MOOCS)**: Massive Open Online Course are online courses that where participants have free access and unrestricted participation to any course of their choice. It provides lectures, videos as well as interactive forum. It encourages students for self-learning. Those who like to upgrade their knowledge and qualification can access MOOCs. It has various skill-based courses which enhances the employability skills of students and working professionals.

- **Advancement in Visual Learning Aids**: Visual aids for learning have lasting impact on the student mind. It combines education with fun which is highly interactive. Educational poster, Educational Info-graphics, educational charts are some of the visual aids.

Online Education: Benefits & Drawbacks

Benefits of Online Education	Drawbacks of Online Education
Location doesn't matter	Isolating
Flexible hours	No competition
Time saving	No interpersonal skills development
Cheaper	Limited topics
Convenient	Must have self-discipline

Offline Education: Benefits & Drawbacks

Benefits of Offline Education	Disadvantages of Offline Education
Individualized monitoring	Fixed location
Structured & disciplined setting	Fixed schedule
Face to face interactions	Study materials
Interpersonal skills development	Dependency on the teachers
Competitive atmosphere	Transport & Accommodation

Review of Literature

Jani and Tere (2020) mentioned that virtual India programme delivered through authorities of India is essential for the improvement of virtual schooling withinside the country. Digital India pressure is a assignment initiated through Government of India for advent of virtual empowered society throughout the country. It will assist in mobilizing the functionality of statistics era throughout authorities departments and facilitates in handing over the distinct governments packages and offerings. Digital India will assist in developing job, presenting excessive velocity net and virtual locker device and so forth. Digital India has 3 essential additives particularly virtual infrastructures advent, virtual handing over offerings and assets and virtual schooling.

Dua, Wadhawan and Gupta (2020) have mentioned the unique issues, tendencies and demanding situations of virtual training in India and counseled the empowering Innovative lecture room version for gaining knowledge of. The destiny fashion of virtual training consists of digitalized lecture room, video primarily based totally gaining knowledge of, and recreation primarily based totally gaining knowledge of and so forth. They have talked about unique demanding situations of virtual training India and counseled measures to conquer those demanding situations.

The emergence of virtual technology and their penetration into all tiers of schooling, from nursery colleges to universities, has challenged better schooling establishments to redefine their coaching and studies practices and to remodel their organizational infrastructures. The virtual technology are carried out in better schooling establishments in coaching/gaining knowledge of processes: retrieval from diverse resources; simulations and multi-media presentations; verbal exchange with commands in –and after classes, verbal exchange among students; drilling sporting activities and pattern tests; magnificence administration, etc.

Oye, et al., and Keshavarz stated that E- learning reduces cost, saves time and icrease the accessibility of the students to learning.

Jaggars (2020) concluded that many college students want the ability of on-line coursework so one can stability college with work of own circle of relatives demands, at the same time as others war in on-line publications because of fairly low ranges of self-directed studying skills.

Bennett and Maniar (2015) concluded that instant feedback is not available in case of E-learnig which is one of the biggest drawbacks of E-learning.

Additionally, Ross and Schulz (2014) argue that a chief drawback of E-studying is that the scholars want to have self-discipline.

Moore, 2014; Swan and Shih, 2014 The role of a good mentor, as well as high-quality course material, were found to be critical elements in courses that effectively promote online student interaction and learning.

Hall and Snider defined "e-learning as the process of learning via computers over the Internet and intranets". Hall and Snider also defined "e-learning as web-based training, online training, distributed learning or technology for learning". They defined "Distance learning, as a learning process meeting three criteria: a geographical distance separates communication between the trainer and participant; the communication is two way and interactive; and some form technology is used to facilitate the learning process".

Hall described that Full courses, access to content for "just-in-time" learning, access to components, a la carte courses and services, and the distinction of "courses" for gaining and evaluating information vs. content as an immediate, applicable resource to solve an immediate, maybe one-time-only problem would all be part of e-learning. Learning is and will remain a lifelong experience that can be accessed at any time. More real-time data and analysis links will be accessible, according to Hall. Web-based training, online learning, e-learning, distributed learning, internet-based learning, and net-based learning all refer to the same thing, given the evolution of meanings. (Hall & Snider, 2000; Urdan & Weggen, 2000).

Urdan & Weggen suggested that Computer-based learning, web-based learning, virtual classrooms, and interactive partnerships are all examples of e-learning. They further customised their concept for the purpose of their study to include content distribution through all electronic media, such as the Internet, intranets, extranets, satellite broadcast, audio/video tape, interactive television, and CD-ROM.

Objectives of Study

- To analyze the performance of students in online and campus teaching scenario.
- To study how beneficial online learning is in comparison to meeting in a traditional classroom environment.
- To determine the degree of student satisfaction with online classes based on a variety of factors.

Sample Design

The population for the study is Undergraduate, Post Graduate and doctoral students of various universities. The study was carried out during the period from August, 2020 to March 2021.

Sampling Process

A total of 350 students were chosen as a sample from the population of 1000 students. Performance of students was analyzed in two different scenarios-online and campus teaching. Standard Deviation method was applied to consolidate the empirical data.

Performance Calculation

The academic success of the students is one of the most critical aspects of the current study. Students have been learning how to quantify and assess their academic success during the course. In a university, students' accomplishments are evaluated and achieved in terms of course goals in terms of assignments, class participation papers, and assessments, which are both conventional measures of evaluation, as well as project presentations, in which students can express their comprehension and mastery of course content, which can be documented either manually or inside blackboard.

Table 4.1 Effectiveness of online learning compared to campus/ offline classroom

Parameters/Result	Much less effective	Somewhat less effective	Equally effective	Somewhat more effective	Much more effective	Mean	Standard Deviation
Convenient	18.85	9.84	45.90	9.02	16.39	0.60	2.79
Meeting Student Learning Expectations	9.84	17.21	41.80	19.67	11.48	0.62	2.83
Contributing to Viable Communication	6.56	11.48	69.67	4.10	8.20	0.60	1.15
Building Abilities and Information	17.21	36.89	29.51	12.30	4.10	0.51	0.99
Understanding through Recorded Lesson	4.10	8.20	17.21	42.62	27.87	0.78	1.56
Level of Interaction	9.84	9.02	16.39	39.34	25.41	0.74	1.50
Question Sessions	18.85	18.03	21.31	24.59	17.21	0.62	1.28
Practical and Theoretical Experience	30.33	9.84	47.54	6.56	5.74	0.50	1.01
Development of Professional Career	14.75	18.03	45.90	15.57	5.74	0.57	1.12

Table 4.2 The Satisfaction Level of Students with regard to Online Classes

Parameters	Strongly dissatisfied (%)	Dissatisfied (%)	Neutral (%)	Satisfied (%)	Strongly Satisfied (%)
The study material provided by teacher was helpful?	9.84	25.41	32.79	13.11	18.85
Are you satisfied with the practical concepts taught in class?	18.85	36.89	14.75	12.30	17.21
How much you are satisfied with the instructor's teaching style?	11.48	19.67	20.49	28.69	19.67
How much you are satisfied with the e-resources available?	5.74	9.84	19.67	36.89	27.87
How much you are satisfied with the assistance provided by instructor?	10.66	27.87	19.67	21.31	20.49

Out of nine parameters, Students feel that it was less convenient to attend online class. Also, learning expectations are not met. On other parameters, like communication, viable environment, interaction, question sessions, students rated e-classes to be least effective. Students feel that online classes are equally effective in building capabilities and abilities. (Table 4.1).

With regard to instructors teaching style and e- resources available students are satisfied. Students are dissatisfied with the study material and practical concepts taught in class. They are slightly dissatisfied with the assistance provided by instructors. (Table 4.2)

Discussion:

The current research was conducted at a university to determine the effect of online classes on student success and attitudes toward online classes. The analysis suggest that on majority of parameters, online classes are equally effective as shown in Table 3. It implies that online learning is not as effective and there is a need to develop better online resources and teaching methodology.

Conclusion:

In the era of digitalization, students still prefer to have traditional method of teaching .This is true that online learning provides better flexibility to instructors and students. Hence, there is a need of blended learning where both innovation and knowledge are merged into single component. It is true that digital learning is need of hour but it should be analyzed how digital learning and e learning can be made effective. Also policy makers should define which information is not meant for students and how purity of relationship between teacher and student can be maintained.

References:

[1] Jani J, Tere G. Digital India: A need of hours. International Journal of Advanced Research in Computer Science and Software Engineering. 2020; 5(8):317-319.

[2] Dua S, Wadhawan S, Gupta S. Issues, trends & challenges of digital education: An empowering innovative classroom model for learning. International Journal of Science Technology and Management. 2020; 5(5):142-149.

[3] Guri-Rosenblit S. Digital technologies in higher education: Sweeping expectations and actual effects. New York: Nova Science, 2009.

[4] Oye N. A., et al. "The impact of e-learning on students' performance in tertiary institutions." International Journal of Computer Networks and Wireless Communications, Vol. 2, No. 2, 2012, pp. 121-30.

[5] Jaggars, Shanna Smith. "Choosing between online and face-to-face courses: Community college student voices." American Journal of Distance Education, Vol. 28, No. 1, 2014, pp. 27-38.

[6] Bennett, E., and N. Maniar. "Are videoed lectures an effective teaching tool." ResearchGate, 2007.

[7] Ross, Jonathan, and Robert Schulz. "Can computer-aided instruction accommodate all learners equally?." British Journal of Educational Technology, Vol. 30, No.1, 1999, pp. 5-24.

[8] Garrison DR, Vaughan ND. Blended Learning in Higher Education: Framework, Principles, and Guidelines. New York: John Wiley and Sons; 2007. p. 9-11.

[9] Khan, Badrul Huda, ed. Managing e-learning: Design, Delivery, Implementation, and Evaluation. IGI Global,2005.

[10] Jahng, Namsook, Don Krug, and Zuochen Zhang. "Student achievement in online distance education compared to face-to-face education." European Journal of Open, Distance and E-Learning, Vol. 10, No. 1, 2007, pp. 1-12.

[11] Swider, Lillian (2000) "Making the Case for Synchronous Web-Based Software." http://www.learningcircuits.org/jun2000/swider.html June 2000.

[12] Thompson, M. (2000). Factors Influencing Student Learning Outcomes in Distance Education [Online]. Available: http://www.lucent.com/cedl/learningworks/facinfl.html