

Understanding the Digitalization of Education A Literature Review

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Abstract

Digitalization has become a necessity in education throughout the world, the use of technology made the teaching and learning process more enjoyable, it has become easier for teachers and students to acquire the knowledge. Numerous studies have been carried out to understand digitalization of education, this paper references some research work and categorized the literature review in four themes and analyze it. In the end researcher discuss about the advantages and disadvantages of digitalization and call for further work on this subject.

Keywords: Digitalization of education, COVID-19 impact, opportunities and challenges, perception of students and teachers,

1. Introduction

“Technology will not replace great teachers but technology in the hand of great teachers can be transformational”-George Couros

Digitalization in education refers to teach students by the use of digital technology or by instructional practice for the effective use of technology, it is a process of conversion of information in digital language. In India Internet penetration rate is expected to reach above 55% by the end of 2025 and India plays a vital role in education industry. Digitalization of education allows students to grow effectively and make them capable to analyze what they require to learn. For the past few years use of information and communication technology has been increasing rapidly, now a day's Digitalization is a Mantra to become successful. As we know that pandemic COVID-19 spreading all over the world, online learning help students in the education while schools, colleges are closed. Digitalization is creating a boom in online teaching and learning; learner can directly connect with other person and share their thoughts. Similarly digital marketing provides power to education institutes to make use of social media, various digital marketing tools as search engines and social media sites can be used to share the information with target audience.

2. Review of literature

To analyze the digitalization of education literature review is done and this review of literature is divided into different themes as digitalization of education concept and impact, impact of COVID-19 on education sector, perception of teachers and students toward digitalization and e-learning opportunities and challenges.

2.1 Digitalization of education concept and impact

Digital technology and students higher performance has a relationship between each other to analyze, author discussed about use of electronic educational content, digital technology for knowledge enhancement and Digital learning for social networking. Author highlights many benefits and destructive effect that has impact on students' performance (Elena V. Frolova , Olga V. Rogach , Tatyana M. Ryabova 2020). Cloud learning gives flexibility of learning and technology increases the scope, impact of students and teachers and makes the future of education (Prof. Nevedita Jha, prof. Veena Shenoy 2016).

Author analyse the impact of online teaching on university students. This study is done in small Universities of Rajasthan. Researcher concluded that students are not connected with faculty in online teaching. Teachers and parents should help to children to explore their career by online classes and students should take effective participation in online learning process (Dr. Srinivasan Iyer, Asst. Prof Kunal Soni 2021). Author wants to identify the impact of New Education Technology (NET) on students of tertiary education. Researcher found that NET help students to communicate with faculty, manage class activities and improvement in learning process (Kaushalesh Lal, Shampa Paul 2018).

Digitalization is need of the hour, researcher discussed about basic components of digital education and online learning applications as Google classrooms, E pathshala, Khan Academy and BYJU's and many others. Author also talks about some adverse impact as addiction, lack of concentration, unwanted information (Dr. Himanshu Rastogi 2019). Online education is here to stay, there is no other option but to adopt and author also discuss about Challenges faced by higher education learner in India and how this pandemic affect education of India. (N. VARA LAKSHMI 2016).

Digital India plan and It's impact on education sector. This paper discuss about the digital education in Indian Universities, NEPTEL courses and digital tools used as a learning outcome in Indian schools. Author talks about the challenges faced in the implementation of digital India As- high level of illiteracy, taxation, regular new guidelines, slow infrastructure and development (R.K. MAHALAKSHMI Dr. J. KAMATCHI EESWARAN 2019).

Analysis-

Researchers have pointed out about digitalization of education and it has positive and negative impact on the students. Digitalization is important to convey and share the information to all over the world, although there are some challenges faced in the implementation of digitalization in education sector.

2.2 Impact of COVID-19 on education sector

Online education needs digital literacy and government should develop schemes to enhance the knowledge of students and teachers for digital oriented environment as well as young generation of India should adopt technology on priority bases (Dr. Pravat Kumar Jena 2020). In online education during COVID-19 teachers faced various problems such as – less basic

facilities, technical problems, lack of good infrastructure, family issues, lack of technical knowledge, digital illiteracy. Many studies are based on the student's perspectives but this study focus on teacher's problem (Amit Joshi and MudduVinay, PreetiBhaskar2020).

Gautam Kumar, Gulbir Singh, VivekBhatnagar, Rajeev Gupta, Sushil Kumar Upadhyay (2020) wrote an article on "Outcome of Online Teaching-Learning over Traditional Education during Covid-19 Pandemic" In this research authors found that online learning increases confidence, knowledge skills, exposure but at the same time it has some negative impact also, this research concluded that email and whatsapp were the best medium to online-teaching. Yamini Chandra (2021) this paper wants to analyse the student's stress due to online education during COVID-19 and discuss about the impact of academic stress and emotional intelligence. Author found that students feel academic pressure in their lives and this study is helpful to parents, teachers and students to understand the impact of online education.

NettaIivari, Sumita Sharma, LeenaVentä-Olkkonen (2020) wrote an article on "Digital transformation of everyday life – How COVID-19 pandemic transformed the basic education of the young generation and why information management research should care?" this paper discuss about that how digitalization affect everyday life and how COVID-19 transformed the basic education of the young students. Researcher found that there are various issues related to use of technology for teachers and students, so we should prepare the society for digital transformation.

Analysis-

Review of literature reflected that COVID-19 has serious impact on students, teachers and on the whole education sector. As e-learning is widespread it increases knowledge and confidence but at the same time online education increases pressure on the students and teachers are facing various problems such as slow infrastructure and many other.

2.3 Perception of teachers and students toward digitalization

"Students Perception towards Digitization of Education after Covid-19: A Survey" Aim of this study to identify the student's perception towards online education during pandemic and discuss their views about online examination or online evaluation. Data is collected by survey and 320 students are respondent in this study. Author conclude that less % of students satisfied with online education due to network issue, lack of technological knowledge, many students can't afford laptop and smart mobiles and on the other hand students are happy with the e-assessment and e-examination (Sonia, Dr.Raju Kumar 2020). E-learning provides fast information worldwide and everybody can easily communicate with each other and at the same time it creates frustration because of anti-technology person, device challenges, network issues and typing difficulties with mobile (Joanne Gikas, Michael M. Grant 2013).

(Ritimoni Bordoloi, Prasenjit Das, Kandarpa Das 2020) "Perception towards online/blended learning at the time of Covid-19 pandemic: an academic analytics in the Indian context" author wants to identify the perception of teacher and learners about the use of online

education and what are the challenges of online education during the pandemic situation. In this time teachers and students have the opportunity to enhance their technical skills along with some challenges. This study provides an effective roadmap for the future scope and digital learning. (Samta Jain, Marie Lall and Anviti Singh 2021) wrote an article on “Teachers’ Voices on the Impact of COVID-19 on School Education: Are Ed-Tech Companies Really the Panacea?” this paper identify the voice of teachers affected by the pandemic and discuss about the pedagogical skills gap towards technology. In this study issues faced by teachers are classified in three categories as access gap, pedagogical skill gap and usage gap. Author concluded that teachers are not trained for technology and teachers don’t have idea that how they can reach to students.

Florence Martin, Brandy Stamper, and Claudia Flowers (2020) wrote an article on “Examining Student Perception of Readiness for Online Learning: Importance and Confidence” the main purpose of this study to identify what are student’s perception, competencies and demographic factors. The data was collected by survey. It concluded that students were confident in online classes and this study also analysis demographic differences and helps administration to understand student’s need.

(MehwishWaheed, Kiran Kaur and AtikaQazi2016) wrote an article on “Students’ perspective on knowledge quality in eLearning knowledge quality in eLearning context: a qualitative as assessment” authors want to understand the quality of e-learning and analysis the quality of knowledge. In this study author presented 26 dimensions as accuracy, level of detail, appropriate data, objective, innovativeness and so on. This study explores the student’s perspective towards knowledge quality of e-learning then author found that students want accuracy and correctness of the content in e-learning. (AbhinandanKulal, AnupamaNayak2020) wrote an article on “A study on perception of teachers and students toward online classes in Dakshina Kannada and Udupi District” Author found that students are comfortable with e-learning and they are getting support from their teachers but on the teachers point of view they are facing technical problem and training support.

Johan @ Eddy Luaran*, NurNazleenSamsuri, Fazyudi Ahmad Nadzri, KamarolBaharenMohamad Rom (2014) wrote on article on “A study on the student’s perspective on the effectiveness of using learning” Author want to analyse students effectiveness, advantages and disadvantages of e-learning. Qualitative research is done and for data collection 45 students taken as sample. In this research author found that students had exposure to e-learning as well as it increase efficiency and provide many more advantages and it reduce face to face communication among friends and teachers.

Analysis-

Review of literature found that students are ready to engage with online learning education, this pedagogy increases efficiency and effectiveness of students but teachers perspective is different they faces technical issues, infrastructure issues and less training.

2.4 E-learning opportunities and challenges

Digitalization increases employment skills, mobile learning, global exposure and platform for share the knowledge globally as well as Digital education has some disadvantages (K Seethal, Dr.BMenaka 2019)

Mr. RAMPRAVESH GOND, Dr. RASHI GUPTA (2017) “A STUDY ON DIGITAL EDUCATION IN INDIA: SCOPE AND CHALLENGES OF AN INDIAN SOCIETY” This paper reveals benefits of digital education for students, teachers, parents and for institutions. This study is based on qualitative research and data is collected by secondary sources and by literature reviews. This study present some challenges of digital education as network issue, infrastructure, untrained employees that could be resolved by government and individual efforts.

(R. Raja, P.C. Nagasubramani2018) wrote an article on “Impact of modern technology in education” this paper wants to identify the opportunities, need and limitations of e-learning in education sector. The principle of evolutionary economics and institution theory used to identify the possibility of using e-learning and social approach used to know the perception of higher education students.

(Enaam Karim Abed2018) purposed an article on “Electronic Learning and its Benefits in Education” this paper discussed about the benefits and technique used in e-learning. This research is based on secondary sources and descriptive approach, author also talks about the techniques of e-learning as CD-ROM, internet, videoconferencing, satellite programs and virtual classrooms. This study concluded that e-learning is ease to access, it increases the possibility of communication, reduce administrative burden for the teachers.

(Nurul Islam , Martin Beer, Frances Slack2015) wrote an article “E-Learning Challenges Faced by Academics in Higher Education” this paper focused on e-learning challenges those are faced by students in higher education. In this study challenges are classified in five categories as- learning style, cultural challenges, pedagogical e-learning, technological challenges and time management challenges.

Analyse-

Researcher analysed that digitalization is the need of the society although e-learning give some adverse impact on the society.

3. Conclusion

The literature review has identified the gap in research to understanding the digitalization. E-learning enhances the flexibility and effectiveness of students as well as it increases difficulties for the students and teachers. As COVID-19 spreading all over the world and its affect the student’s education globally, some students take it as an opportunity and explore the knowledge and skills but at the same time during pandemic situation students are becoming addicted for mobiles and laptops. Researcher analyze the perspective of students and teachers and found that students are happy with the digitalization of education but

teachers are facing various problems in work from home situation as family disturbance, low level of infrastructure, less training therefore they are not reaching to the target students.

This study also discussed about the opportunities and challenges, when we summarized it major challenges of globalization in India are energy and resources, government rules, equity, security and ecology. Similarly Digitalization increases access to new culture, the spread of technology, literacy rate become high and most favourable impact on environment, owing to the need for less paper, reduce administrative burden for the teachers and make possibility of communication.

4. Further Research

On the basis of literature review, further research would be carried out on the Government policies and university policies on awareness of digital education. We should also consider that how we could empower and make trained teachers, we have to fulfil the training need of students and we should discuss what factor affect students in online education. Most of studies are done on the higher education learner not on the primary level students.

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