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"REVAMPING EDUCATION THROUGH DIGITALIZATION"

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Abstract

In this gloomy picture of education in India, the ICT revolution has paved the way to introduce some breakthroughs in different spheres. Today education through digitalization has made tremendous changes in the higher education of the country; Digitalization plays a pivotal role in the economic development of the country. In the present scenario digital transformation in education is one of the important sectors to witness revolutionary changes in the world. The increase in digital technology corresponds with the increase in the use of technology in both virtual and real-life classrooms although many advantages come with digitalized learning. This article tries to present that how the technology brought up changes in recent times through traditional methods was once characterized manually sitting through hour-long to up gradation without any visual presentation.

Purpose: *The Aim of this paper is to investigate how digitalization could set up in order to be a successfully digitalized education and to examine the demographic and other factors having that influence for an increase in the use of digital technologies in the field of education.*

Methodology: *The researcher collected 100 samples by using questionnaires included demographic profile of respondents and closed-ended questions and open ended questions regarding the factors on a 5 point Likert scale. The study analyzed by using Cramer's Value and One-Way ANOVAs Test.*

Findings: *The study investigates the status and developmental trends through the application of technology in higher education. The study found that the present student generation is well-versed with computer systems, laptops, i-pads, and smart phones, these innovative e-learning methods of teaching makes the participation of students more in technology,*

Keywords: *Digital education, e-learning, online sources, smart classes, AI Tools.*

I INTRODUCTION

Digital describes electronic technology that generates, stores, and processes data in terms of two states: positive and non-positive. The process of receiving or giving systematic instruction on digital learning is an innovative method that integrates technology with the process of learning. Digital learning is any type of learning that is accompanied by technology or by technology or by instructional practice that makes effective use of technology. It encompasses the application of a wide spectrum of practices including: blended and virtual learning. Digitalization of education means learning aspects with technology. Digital learning is any type of learning that is accompanied by instructional practice that makes effective use of technology. It encompasses the application of a wide spectrum of practices including blended and virtual learning. Digital technologies in combination with 'big' data and predictive analytics are having a significant impact upon professional practices at individual, organizational, national and international levels. Digital technology of education in India has been overwhelming over the last few years, changing the way of students learning concepts in the educational institution. The traditional concept of chalk and talk method has paved the way for more interactive teaching methods are schools are increasingly adopting digital solutions to keep themselves abreast with the technological changes. The present student generation is well-versed with computer systems, laptops, i-pads, and smart phones, these innovative e-learning methods of teaching makes the participation of students more in technology, there is hope for an increase in the use of digital technologies in the field of education.

Different ways that digital technology is changing the face of education through

- **Availability of online class and program:** One of the first easy observations regarding digital technology and education is that online classes, courses and full online programs are becoming popular and making it possible for young and old learners and to have easy access to a course or program from home.
- **Textbooks are digitalized:** It has been found that textbook replaced with various forms of devices connected to online media likewise e-books, e-readers, and learning programs developed for i-pads, i-phones, and smart phones the textbook is becoming "extinct" in some areas.
- **Mobile learning:** The wide and sudden increase in the availability of online courses [MOOC]'s such as the well-known "Future Learn" MOOC allow you to access your course[s] from your smart phone. Just open the course, plug in your head phones, and the classroom discussions.
- **Internet:** Internet in education has been incredibly useful as it facilitates both information and communication. Student can access free video lectures online Internet also acts as a platform for retired teachers to reach out children in poor countries and educate them.
- **Search engines:** Search engine is a service that allows internet user to search for content via the World Wide Web (WWW). A user engine and receives a list of web content results in the form of websites, images, videos or other online data. This service helped researchers, teachers and students to reach the required information and acquire the knowledge.
- **E-mail:** An individual could share knowledge with a community by sending a message to a group of people. Creating student share knowledge and this is practiced to some extent.
- **Video conferencing:** Video conferencing has made classrooms walls invisible, allowing students to have the entire world as their learning resource. Moreover, this technology has also helped in easy retention of knowledge in learners as visuals are always better remembered than words.
- **Data driven instruction and results:** Another change that is occurring due to the rise of digital technology is the increase in data-driven instruction and results. Although some teachers are being forced to use online grading tools can provide more accurate results regarding student performance.

The new phase of learning has begun and involves various advanced
Techniques like

Online course want to learn a new language or maybe to get trained in some specific course, but have no time to cover the distance? Online courses are developed by expert**s** who have unmatched proficiency in their specific field and can give you the experience of real-time learning by designing their own online course.

Online exams digitization gave way to the online exam, making the examination process convenient for both teachers and students.

Digital textbooks also prevalent with other names like e- textbooks and e-texts, digital textbooks provide an interface in which the students have access to multimedia content such as videos, interactive presentations and hyperlink.

Animation this is a captivating approach in which students learn in a better manner. By offering a visual representation of the topic, students grasp the concept in a more understandable manner.

AI tools AI has changed human life drastically. There is no such profession in the world which has not derived any benefit from AI. Same goes with the Teaching and Learning.

AI-powered learning platforms available are as follows:

1. OpenAI
2. Gemini
3. PerplexityAI
4. PresentationAI

5. CanvasAI, etc.

II REVIEW OF LITERATURE

Ravenscraft (2001), this article focused on the development in e-learning in terms of learning processes and interactions that are stimulated, supported and favor innovative educational technologies. **Reeves (2003),** author tries to say that though digital education is growing across all the sectors of higher education, many unresolved challenges remain unresolved. **Singh et'al (2013),** author tries to say that today with the advent of technology, teaching and requirement of the time, so digital education provides active participation of students as well as teacher. **Jha and Shenoy (2016),** author tries to say that the use of digital technology is usually more successful as a replacement for usual teaching. **Patel (2017),** author tries to express that the teachers and students are interested in web based digital learning. **Singh et'al (2017),** author tries to say the Digital India program with the vision to transfer India in to a digitally empowered society and knowledge economy **Costello et'al (2018),** author tries to say that although some of the hope, hype and hysteria of the MOOC phenomenon may have abated, the number of courses running and of learners enrolling continues to climb. **Freitaset'al (2018),** authors tries to express that, the learning in environments such as massive open online courses [MOOCs] and its variations have become a turning point in the design and range of universities. **Begum (2018),** author tries to say that the digital technology creates the possibility of a wide variety of learning practices. **Saxena (2018),** author tries to say the quality of higher education scenario in India today is highly influenced and simplified by the propagation of digital innovative tools and solutions of educational technological advancements.

III RESEARCH GAP

With the advent of digital technology blended learning takes on new dimensions and merges the features of conventional face-to-face instruction and online learning. Teaching through digital is difficult for numerical analytics and empirical subjects like mathematics cannot be overcome by appropriate classification of contents.

IV OBJECTIVES OF THE STUDY

1. To study the concept of revamping education through digitalization.
2. To assess the perception of digital education among students in India.
3. To evaluate the impact of digital pedagogy on student engagement, participation, and learning outcomes.

V HYPOTHESES OF THE STUDY

Hypothesis 1

H0: There is no significant difference in students' perception of digital education in India based on demographic factors such as age, gender, and field of study.

H1: There is a significant difference in students' perception of digital education in India based on demographic factors such as age, gender, and field of study.

Hypothesis 2

H0: Digital pedagogy does not have a significant impact on student engagement, participation, and learning outcomes.

H1: Digital pedagogy has a significant positive impact on student engagement, participation, and learning outcomes.

VI SCOPE OF THE STUDY

The study cover only selected area of Karnataka. This study helps to analyze through perception of students and teachers about transformation of digitalization of education, assessing and evaluating the impact of digital pedagogy on student engagement, participation, and learning outcomes of Karnataka.. The study is limited to sample size of 100.

VII RESEARCH METHODOLOGY

The study has used both primary data and secondary data. For collecting the primary data, a structured questionnaire was distributed among the respondents. Secondary data for the study has been collected from Google, books, journals and articles.

The researcher collected 100 samples by using questionnaires. This questionnaire included demographic profile of respondents and closed-ended questions and open ended questions regarding the factors on a 5 point Likert scale. The study analyzed by using Mean. Standard Deviation, Cramer's Value and One-Way ANOVAs Test.

VIII DATA ANALYSIS AND INTERPRETATION

Table – 1 Frequency Analysis for the PERSONAL INFORMATION of respondents and Results of Cramer's Value tests

PERSONAL INFORMATION					
SL. NO.	**PARTICULARS**	**CLASSIFICATION**	**F**	**%**	Test Statistics
1.	GENDER	Male	30	30%	CV=0.40; p=0.0001
		Female	70	70%	
2.	AGE	20-25	86	86%	CV=0.72; p=0.0001
		25-30	14	14%	

3..	EDUCATION	Graduation	13	13%	CV=0.73; p=0.0001
		Post-graduation	82	82%	
		Other specialization	5	5%	

Sources: Primary data
F-Frequency; %-Percentage; CV=Cramer's, P-Probability

Interpretation: The above table-1, gives clear information: About **Gender** says 70%male and 30% female respondents. The **age** of respondents between 20-25years are 86% and 25- 30 ages are 14% lowest is highest. **Education**- majority of them are post graduates i.e., 82%, it was found only 13% are graduates and other specialization are only 5%. Further, Cramer's V revealed a significant association between respondent groups and their responses (CV=.436; p=0.0001).

Table -2 Analysis Perception of digital education among students

SL No.	Statements		Yes	Yes/But inadequate	No
1.	Necessity of the digital education	F	79	20	1
		%	79	20	1
2.	Digital education is better than offline teaching	F	38	35	27
		%	38	35	27
3.	Recommendation of digital education to students	F	90	8	2
		%	90	8	2
4.	Teaching methods must adopt when digital tool interpreted in education	F	80	10	10
		%	80	10	10
5.	Digital education is having future	%	88	6	6
		%	88	6	6
6.	Evaluate whether digital learning effective	F	92	2	6
		%	92	2	6

Sources: *Primary data.*

Descriptive Statistics

Response Category	Mean	Standard Deviation	Standard Error
Yes	77.83	20.22	8.26
Yes/But inadequate	13.50	12.13	4.95
No	8.67	9.54	3.90

One-Way ANOVA Table

Source of Variation	SS	df	MS	F	p -value
Between Groups	17,892.33	2	8,946.17	41.47	0.000001
Within Groups	3,235.67	15	215.71		
Total	21,128.00				

Interpretation

The survey reveals from the above table-2, the study aimed to examine the perception of digital education among students by analyzing their responses across three categories: Yes, Yes but inadequate, and No. The following hypotheses were formulated:

A One-Way ANOVA test was applied to compare the three groups. The results revealed an F-value of 41.47 with a p-value of 0.001, which is less than the 0.05 level of significance. Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted.

Table-3 Analysis of Impact of digital pedagogy

SL No.	Statements	Mean	Standard Deviation	Standard Error
1.	Digital education increase the Potentiality of students	4.45	0.77	0.07
2.	Digital education building the successful academic career	4.37	0.84	0.08
3.	Digital education creates gap between teachers and students	3.94	1.24	0.11
4.	Digital education is a tool to up-date the education system	4.39	0.82	0.07
5.	Digital education is only way to standardize the system	3.70	1.20	0.11
6.	Digital education is more useful for higher education then the lower education	4.30	0.99	0.09
7.	Digital education reaches to rural students	2.79	1.30	0.11
8.	Digital education Avoids illiteracy	3.87	1.16	0.10
9.	Students become resourceful through digital education	4.31	0.97	0.09

Sources: *Primary data.*

One-Way ANOVA Table

Source of Variation	SS	df	MS	F	p -value
Between Groups	218.46	8	27.31	26.42	0.0001
Within Groups	835.21	807	1.04		
Total	1053.67	815			

Interpretation
The test result shows that the impact of digital pedagogy is significantly differ across different aspects. Students strongly agree with positive aspects like increasing potentiality and building career. But disagree with certain aspects like reaching rural students shows accessibility is still a challenge. Mean responses differ significantly across the nine statements. Since F (26.42) and $p < 0.05$. Means HO null hypothesis is rejected and the alternative hypothesis is accepted.

IX FINDINGS
Digital pedagogy has a significant impact on student engagement, participation and leaning outcomes by its effectiveness is uneven. Among the categories of student responses a majority of students expressed strong agreement with the necessity and effectiveness of digital education. While a smaller proportion acknowledged its benefits but raised concerns about inadequacy. While students were strongly support its role in enhancing potential, career and system of moderation, still they express doubts about its ability to reach rural students and avoid illiteracy.

X SUGGESSTIONS
The findings highlight that while digital education enjoys strong acceptance among students, there are perceived limitations that require attention. Institutions must work on addressing the inadequacies by improving digital infrastructure, ensuring accessibility, and training educators to enhance the effectiveness of digital learning. This would bridge the gap between positive perception and practical challenges, thereby strengthening the future role of digital education in higher learning.

XI CONCLUSION
After thorough research on the field of digital education the study concludes that education across the world has a changed character, most students enjoy learning about digital media due to the fact that it is close to the dynamics of play. Digital education makes possible new forms of overarching classroom practice, providing a framework that brings coherence and integrates activities. Digital technology also creates the possibility of a wide variety of learning practices, including exposition, independent research and construction. Digital education increases the interest among the students so it avoids the illiteracy in future. Digital education is very necessary for all the students, especially for students who are come under the higher education system. The study clearly points that development of technology is required for the development of digital education across the country and helped to transform the country into a knowledge heaven.

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