MAKING SENSE OF PROSPECTS OF DIGITAL EDUCATION

Kiran Rani *alias* Kiran Shayna[1] & Ashish Kumar Dhawan[2]

[1]*Assistant Professor, School of Education, Central University of Haryana, Vill.-JantPali, Distt.- Mahendergarh, Haryana, India.*

[2]*Assistant Professor, Mata Keshri Devi Teacher Training College Rajota, Rajasthan. His area of specialization include Teaching of Science and Teacher Education*

Abstract

There would be no two opinions about the fact that the advent of digital technology has revolutionized modern life. It has drastically changed almost every aspect of modern life. A plethora of questions, however, still haunt us, especially in terms of its accessibility both to rural India and low-income groups in urban India, as also with regard to its use and credibility in the eyes of all those who pursue digital learning and the potential employers of digital learners. An attempt has been made to make deeper sense of these issues by the authors of this Paper through case-studies of two universities of Haryana i.e. Maharshi Dayanand University, Rohtak and Central University of Haryana, Mahendergarh. A questionnaire was developed and administered to a randomly selected sample of 123 teachers and students of the above-stated universities and some interesting patterns were observed through the responses of the respondents along five dimensions i.e. (a) Awareness (b) Genesis (c) Utility (d) Contribution/Participation (e) Potential/Possibilities. It is hoped that the observations and suggestions registered in this Paper will help formulate better policies for the effective implementation of digital education to the extent it is required.

Keywords: Digitalization of Education, Digital learning, On-line learning, Challenges of Digital Education.

There would be no two opinions about the fact that the advent of digital technology has revolutionized modern life. It has drastically changed almost every aspect of urban living and even rural life has been touched and transformed by technology to some extent. The availability of online resources has revolutionized the way we access, receive and use information every day,starting from basicrecreational and travel needs like buying movie or train tickets to making friends and forming social circles. But there is one crucial area which, in its essence and significance, has been far less affected by this technological advancement in spite of a lot of hue and cry having been generated around it –, and that is the field of education. William Fisher et el (2006) from Berkman Klein Centre for Internet and Society

reinforce this view with respect to the arena of education in their foundational White Paper thus,

"Perhaps no area holds more potential for such transformation than education. Many diverse and exciting initiatives demonstrate how rich sources of digital information could enhance the transfer of knowledge. Yet at the same time, the change in education arguably has been less radical, especially in comparison to mundane endeavors such as selling a used bicycle or booking hotel rooms. There are many complex reasons for this slow pace of change, including lack of resources and resistance to new practices."

A more recent document from Frost & Sullivan titled 'Frost perspective: Digital Education in India' (2016) also opines the same, especially referring to the context in India- "…..usage of digital technologies in institutes of higher education is still in its nascent stages and efforts are being made to fine-tune these technologies to adapt to the needs of University students. In short, content development is yet to mature in colleges and universities across India."

Yet another source reinforces this view by pointing towards a specific issue that may be characterized as an important contributory factor, viz.the attitudeof teachers in this context- "Computers do not currently have a strong impact on student learning because most teachers find them to be of limited utility and hard to deploy in their daily teaching, and therefore use them in small doses" (Atwell et al., 2003, p. 280). This, indeed, is a major issue, as is reflected in the results of our survey too, the details of which will be presentedin due course.

Meaning, Forms and Features of Digitalization of Education

Digitalization of Education, in very broad terms, would mean the use of digital resources for the purposes of the teaching-learning process. In this process, the traditional classroom transactions are gradually but surely, drastically transformed: the focus shifts from the blackboard method comprising chalk-duster-pen-paper as its major components to online modes of communication in which means such as the LCD screen and projector, online tutorial videos and other such audio-visual equipment takecentre-stage. This is a part of the larger Information and Communication Technology revolutionthatwe have come to witness in the recent past, of which the Internet,with its world wide web that has an astounding global reach, is the most significant component. The computer and other such gadgets with an internet connection become the point of ignition in this process of learning. In concrete terms, one comes face-to-face with devices as varied as the computer, the laptop, smart phones, tablets and electronic notebooks – these become the substitute of the blackboard and other tools of the traditional methods of instruction to be used by the students and teachers. We are now witness to what are known as "smart-classes" – a space that acts as some sort of a place

for the use of multimedia in education.The classroom-cum-blackboard based lecture-method of instruction is replaced by an online "interaction" with lessons being taught, for instance, not be a human being in flesh and blood but an online distance learning mode with, in some cases, the "teacher as speaker in video" visible on-screen. Lessons and assignmentsmay also be shared online in this mode of teaching-learning.

A somewhat extreme form in this context is the now widely used Massive Open Online Course (MOOC)which is "an online course aimed at unlimited participation and open access viathe web. In addition to traditional course materials such asvideos, readings, and problem sets, MOOCs provide interactiveuser forums that help build a community for students,professors, and teaching assistants (TAs). MOOCs are a recentdevelopment in distance education which began to emerge in2012."(Wikipedia)

As has been pointed out the author in her previous paper,"India is considered to be the biggest market for MOOCs in the world after the USA. Since thepopulation of India is huge, massive open online course (MOOC) are said to be gateways for a lot of Indians interms of bringing an educational revolution." (Rani, K., 2015) They may be seen as an extension of existing online learning.

Quite obviously, these new, digitalized modes of instruction are seen to have many advantages, given the possibilities inherent in terms of scalability, the number of students covered simultaneously in real-time online interaction, and online submission of assignments on a regular basis. It has to be seen, however, as to how much of feasibility they have in terms of their acceptance and objective conditions on the ground.

Case Study of Two Universities of Haryana:

In order to have a more realistic assessment of the problem, some fieldwork was done by the author in the beginning of the year 2017. A Questionnaire-cum-Opinionnaire was developed and administered to the Research Scholars and Faculty of two universities of Haryana i.e. Central University of Haryana (CUH), Mahendergarh and MaharshiDayanand University (MDU), Rohtak. The proforma had 11 questions in all, which were divided into 5 dimensions. Questions in the first dimension were related to the awareness about digital education; in the second dimension, about how much one is contributing to or participating in digital education; in the third, about the genesis of the concept of digital education; in the fourth, about finding out the possibilities for digital education in India, and; in the fifth, about the utility of digital learning. The responses of the respondents were analyzed through SPSS and following patterns were observed. A dimension-wise analysis is given below.

I. Awareness

(i) Do you know what is meant by digitalization of education?

(ii) Whether digital learning is learning through computers or learning about computers?

So far as the basic question of awareness about Digital Education is concerned - that is, knowing what it is – a high percentage of respondents i.e.96 out of 123 (78.04%), said that they know what it is. The percentage being on the higher side applies on the scale of gender as well (47 out of 60 i.e. 78.33% females and 49 out of the 63 i.e. 77.78% males accept that they know what Digital Education is). And yet on being asked whether digital learning was "learning through computers" or "learning about computers", a sizeable percentage with 58 of the 123 respondents, i.e. 47.15% responded that they were not sure about it, indicating that people have heard the term digital education very often without knowing full-well what it means. In terms of gender, this confusion is more in males with 33 of the 63 (i.e. a strong 52.38%) accepting that they were not sure whether digital learning is "learning through computers or "learning about computers" whereas a comparatively lower 41.67% (25 of the 60) females accepted they had this confusion. In response to the same question, 38 out of 123 (i.e. 30.89%) respondents said that digital learning was "learning through computers and/or other technological devices", whereas, 27 out of 123 (i.e. 21.95%)said that it was "learning about computers, which is false knowledge. So, it can be said that the level of awareness about the meaning of digitalization of education was only 30.89% which is considerably low.

So it can be concluded that awareness about digital education is still a half-baked cake. Those who accept that they did not know, at least knew that they did not know. But those who claim to know it, do not know it in the true sense of the term, and are ignorant of their ignorance. Reaching universal awareness about digital education is a far-fetched dream yet.

II. Participation/Contribution

    (i)   Have you ever done any course online

    (ii)   How often do you teach or are being taught using technology?

In terms of participation in digital learning, an abysmally low4.07% (5 out of a total 123) said that they did some course online. In terms of gender, this works out to 5% females (3 out of 60) and 3.17% males (2 out of 63). All the pursuants of online courses were teachers, thereby indicating that whatever little popularity of online courses exists, it exists among in-service teachers only. Students seem to prefer regular courses from traditional institutions.

In response to the question as to "how often do you teach or are being taught using technology?", the responses were not very robust. 32 out of 45 i. e. huge 71.11% faculty members accepted using technology "only on some special occasions" and not for routine class-room interactions. This fact was reiterated by Research Scholars' response for 60 out of

78 i.e. a strong 76.92% said that they were taught using technology only on some special occasions. The other most common response was "once or twice a month" which was given by 23 respondents out of 123 i.e. 18.7%. This trend is maintained across the gender where 36 out of 60 i.e. 60% females accepted teaching or being taught through technology only on some special occasions. Here males seem more biased against digital learning as a very big percentage i.e. 88.89% (56 out of 63) said that they were teaching or were being taught using technology only on some special occasions. The response which was received least number of times was "Most of the course content I teach or learn" was being delivered using technology.

These responses clearly present quite a dishearteningpicture so far as use of technology in day-to-day teaching-learning is concerned.

III Genesis of the idea

(i) Do you think it is important to digitalize education to catch up with the changing times?

(ii) Do you think that the hype around digitalization of education is created by the IT sector multi-national companies without assessing the ground realities in India?

Where does the idea of digitalization of education find its genesis? Does it originate from the changing needs of changing times or it is gaining popularity because of the hype created around it by the IT sector multi-national companies?

In response to the question as to whether itwas important to digitalize education to catch up with the changing times, the responses were not very robust- less than half of the respondents responded in a positive vein about this. Exactly one-third respondents, (if it is expressed in numbers, just 41 out of 123) i.e. 33.33% of the respondents considered it important to digitalize education to catch up with the changing times. This negative response was reflected amongst the faculty and the research scholars almost equally. This opinion was reinforced by a strong 'yes' for the next question of this segment in which 77 out of 123 i.e. 62.6% of the respondents opined that theidea of digitalization of education is gaining popularity because of the hype created around it by the IT sector multi-national companies. Along gender dimensions, there was a slight difference of opinion on this idea (46 out of 63 i.e. 73.01% males and 31 out of 60 i.e. 51.67% females came up with a 'yes' for this question). A similar trend of difference of opinion was observed between faculty members and research scholars - 36 out of 45 i.e. 80% faculty members and 41 out of 78 i.e. 52.56% believed this hype around digitalization to be resulting from multi-national companies' propaganda.

IV Utility

(i)Do you think that online learning certificates have the same credibility in the market as the traditional degrees and certificates have?

(ii) Do you think that the effect of digital learning will be the same as that of traditional learning with real classmates, teachers and institutions so far as personality development of individuals is concerned?

In response to the question regarding credibility issues among the employers about courses done through online mode, a high majority of people believed that they are not perceived as credible as degrees or courses done through the traditional mode. This trend was similar for teachers and students and also across gender. 94 out of 123 i.e. 76.42% respondents said a 'nay' when asked whether online learning certificates have the same credibility in the market as the traditional degrees and certificates have. Overall, 52 out of 60 i.e. 86.67% females and 42 out of 63 i.e. 66.67% males responded negatively about the credibility of online courses. The percentages of research scholars and faculty with negative opinion about the credibility of online courses were also quite obviously very high (59 out of 78 i. e. 75.64% research scholars and 35 out of 45 i.e. 77.78% faculty members). Overall, in all these segments, there is, to some extent, a uniformity of response.

V Possibility/Potential

(i) Do you think digitalization of education is possible in entire India where 70% people still live in villages with little access to electricity, internet and other basic amenities?

(ii) Do you think digitalization of education is unfair because it will further widen the economic divide i.e. gap between the rich and the poor because digital learning requires costly modern gadgets and access to internet?

(iii)Do you think that digital learning can ever replace traditional learning?

With regard to potential of digital learning, overall 78.05% people i.e. 96 out 123 believed that digitalization of education is NOT possible in entire India where 70% people still live in villages with little access to electricity, internet and other basic amenities. Among teachers, 40 out of 45 i. e. 88.89% and among research scholars, 56 out of 78 i.e. 71.79% opined that digitalization of education in India is not possible due to lack of basic amenities such as electricity, internet connection etc without which digital learning is impossible. A greater number of females held this opinion as compared to males (53 out of 60 i.e. 88.33% females and 43 out of 63 i.e. 68.25% males).

Digitalization of education was considered unfair by a very large number of respondents on account of the apprehension of there being a further widening of the economic divide i.e. gap between the rich and the poor because digital learning requires costly modern gadgets and

access to internet. A whopping 102 out of 123 i.e. 82.93% overall, 54 out of 60 i.e. 90% females, 48 out of 63 i.e. 76.19% males, expressed their doubts about the potential of universalization of digital education due to lack of supporting paraphernalia. Faculty members were in a deeper disagreement over the possibility of digitalization of education as 42 out of 45 i.e. 93.33% teachers said "no" in response to this question as compared to 60 out of 78 i.e. 76.92% students.

A similar trend was observed for the responses when asked whether digital learning can ever replace traditional learning, as 106 out of 123 i.e. 86.18% respondents refused to believe in any such possibility. Out of this, teachers and females held a stronger negative opinion with regard to digital learning replacing traditional education, as compared to research scholars/students and males (42 out of 45 i.e. 93.33% teachers, 60 out of 78 i.e. 76.92% students, 55 out of 60 i.e. 91.67% females, 47 out of 63 i.e. 74.6% males).

CONCLUSIONS

The answers to the questionnaire indicate that overall, there are serious issues in the minds of both teachers and students with regard to the acceptance of digitalization in education on almost all the points raised therein. And so, it is quite apparently clear from this smallStudy, limited though it be in scope and number of respondents covered, that digital education still has a long way to go before it can gain real acceptance at least in this part of the world. Even the so very "popular" MOOCs (Massive Open Online Courses) are yet to gain credibility among employers as compared to courses conducted through tradition education system.

The conclusions towards which our Opinionnaire takes us are corroborated in some ways even by the scenario abroad. Surprisingly enough, even the United States of America, in spite of all the inroads it has made in the field of digitalization, there are problems. Brain A. Jacob, quoting sources, says in a Report – "Computer-aided instruction has been studied extensively over the past twenty-five years and the findings have not been encouraging. Consistently, programs that are implemented widely and evaluated with rigorous methods have yielded little to no benefit for students on average." He also reveals that "Hundreds of thousands of students attend full-time online schools, but a study released last year found that students of online charter schools had significantly weaker academic performance in math and reading, compared with demographically similar students in conventional public schools" (Brookings, 2016)

This is all the more so true for India: we can safely say that digitalization of education is not a panacea, especially in the Indian scenario where a great economic divide exists which, indeed becomes a digital divide because going digital requires costly gadgets and huge

infrastructural costs, which pushes digital education away from the reach of more than 70% Indians who live below the poverty line. There are, indeed, serious issues in terms of infrastructural development and its maintenancein this field, at the level of schools, colleges and universities given the scale and spread of populations and educational institutions in the country.

And when one thinks in terms of the essence of Education and its role in an individual's life, so far as the all-round development of an individual is concerned, online courses lack the important role that socialization plays inhis or her development. Classroom interactions between students and teachers as also sports, games and other co-curricular activities are likely to take a backseat in such a scenario – and these are the components that play a serious role in theprocess of an individual's development.

We can, therefore, safely say that the scenario with relation to digitalization of education in India still has its pitfalls – the journey is not as rosy as it is made out to be.

References:

Attewell, P. Belkis. S. G., & Battle, J. (2003) Computers and young children: Social benefit or social problem? Social Forces, 82(1): 277-296. Funbrain.

Brookings (2016).Opportunities and challenges of digital learning.Retrieved from [https://www.brookings.edu/research/the-opportunities-and-challenges-of-digital-learning/#ftn7].

Brookings (2016). Skills in the digital age: How should education systems evolve. Retrieved from https://www.brookings.edu/research/skills-in-the-digital-age-how-should-education-systems-evolve/

Frost Perspective on Digital Education in India (2016).https://ww2.frost.com/frost-perspectives/digital-education-india/ retrieved on 20.06.2017.

Rani, K. (2015).Social media for promoting excellence in women development: Miracle or myth,Paripex - Indian Journal Of Research, Vol. 4 (6): 41-42