

Waves of Digitalisation on Higher Education

Dr. Ranchay Bhateja¹, Dr. Amit Tyagi², Dr. Mani Tyagi³, Dr. Soliev Ibodullohon Ismatullaevich⁴

^{1,3}(Associate Professor, KIET Group of Institutions, Ghaziabad, India)

²(Associate Professor, CMD Modinagar, India)

⁴(Namangan Engineering Construction Institute, Uzbekistan)

Abstract:

Introduction of technology has revolutionized the teaching methods. It offers the flexible learning at any desired time or place for students traditional classroom teaching is now a matter of the past. Digitalization of education has changed the system in which was defined previously that students and teachers should be present in the same location at the same time. In this paper it is tried draft a sketch of empirical based theory that due to the waves of digitalisation how class room teachings seems to change question to discuss here is what impact does internet have on class room teaching? In this paper focus is on critical analysis of old closed type's classrooms and open community between students, teachers and third parties, here critical analysis will be studies through three waves which appeared from time to time:

Wave First, here discussion will be done on old types of classrooms in which distracted students unaware teachers, no one have knowledge of how to make class room teaching effective. Computers and technologies were challenges for teaching.

Wave Second, in this scenario social media was introduced as teaching pedagogy to attract the students attention towards studies, in this social media was used to re-stabilise the education system.

Wave Third, in this final stage teachers and students move further to establish the interactions with third parties like researchers, foreigners and authors, in this stage it will be studied that does the impact of internet became a new perspective that alter the old educational system.

Keywords: Higher Education, Internet, Social media, Classroom, Digitalisation

Introduction:

In this paper it has been discussed the theoretical analysis of digitalisation of education which is actively taking place in the modern era. Digitalisation can be said as powerful trend for reforming and modernising the globalised education environment. Digitalisation in brief term can be said as transformation of information like text visuals, videos, sounds into digital language.

Knowledge formation and digital stage development of a modern society is a continuous process which is facing internal contradictions in country like India. Major problem is of divergence between the digitalisation speed of educational resources and the speed in which these recourses are adopted in education sectors very low. Learning management system has made students to interact with their peers inside and outside classrooms these interactions can help in steering the soft skills of the students. Systems like learning management systems no doubted leave positive impact on teaching method and students evaluation. It also provides opportunity for both faculties and students to organise or attend session any where any place other then classrooms, therefore it makes the world smaller and accessible.

Literature Review:

The invention of digital online courses were traced in 1990,s in US when the computers became a new place of teaching/learning, initially only few departments like sociology and history started it but in modern time period it is noticed online classes mushrooming around the world and in country like India AICTE also started many programmes compulsory for faculties and students like NPTEL, SWAYAM, COURSE ERA, UDA CITY.

Now digitalisation has become the multidisciplinary and almost all departments have adopted it as convenient process of delivering lectures. It has been discussed in the objectives of this paper whether the digitalisation process is impacting the teaching methods and students assessment.

Objectives:

1. Critical analysis on teaching methods based on old type classrooms and digitalised teaching methods.
2. To analyse the impact of digitalised technologies on process of teaching.
3. To analyse the impact of digitalised technologies on assessing the student performance

Hypothesis:

- H01: No impact of digitalisation on teaching pedagogy.
- H11: Impact of digitalisation on teaching pedagogy
- H02: No impact of digitalised technologies on assessing the student performance
- H12: Impact of digitalised technologies on assessing the student performance

Methodology:

Primary method of research is done by using questionnaire method; sample size was taken as 100 teachers are selected at random based in Delhi NCR technical colleges.

Questionnaire was designed keeping in view the need of digitalisation in education. Discussions were made with academicians and professionals in understanding about the requirement of technology and its impact on teaching and assessing students.

Literature review was done on rigorous basis on the concerned topics to study about the importance of digitalised teaching methodology and its impact on student's assessment. Collected data was analysed by using SPSS software, mean scores were used in various statistical tools to check the research hypothesis.

Why Digitalisation in Higher Education?

If we look at the past teaching styles and modes are changed significantly in last 10 years. Some old faculties are still on chalk and talk styles but it is rare that faculties are not using modern technology in class room sessions, huge resources are available on Wikipedia, YouTube and Google, this online technology has created new options and introduced wide variety of courses also increase the number of students in number of courses. In India if we talk about online resources AICTE had made it mandatory for all faculties and students to enrol themselves for SWAYAM, MOOCS, NPTEL courses so that they can update themselves from new technology of teaching. These technologies made the education system convenient as no regional boundaries are there and education system has been internationalised. New ways of teaching like webinars, video conferencing made faculties too convenient by attending it from their home institutes. These resources had made the world small place for learning and upgrading themselves. For example NITTTR, IIMB, IIT

IIMB, IIT started their satellite campuses in foreign countries and signed MOU with few foreign university to offer their students online education and if we talk about smaller institutes other than IIT and IIM, institutes like Aakash, Brilliant Tutorials they too provide online courses from class VI onwards for the preparation of IIT entrance exams.. This online teaching process has also been noticed as win-win position for all the parties involved, universities are getting more students and it brings more tuition fees and growth. Tuition fees paid by students are comparative less than campus students. Online learners rarely visit campus so infrastructure cost too is reduced; even the professors who are lecturing for online classes too are convenient from video conferencing classes.

Drawback of online classes:

Generally all the stockholders are gaining benefits from online education and treat it as convenient source too still there are some anticipated issues which are faced. **First issue** if the students are doing courses with the objective to cheat the organisation they can seek outside help, online tests only manages the time they cannot anticipate the receiver of assignment and answer provider to the other end. **Second issue**, to be more faithful and organised few exams should be taken on campus under secured protective environment like normal exams on campus. These acts create hassles for students who are working or live at the distance also carrying class room for huge number of students in small infrastructure too is a tedious task.

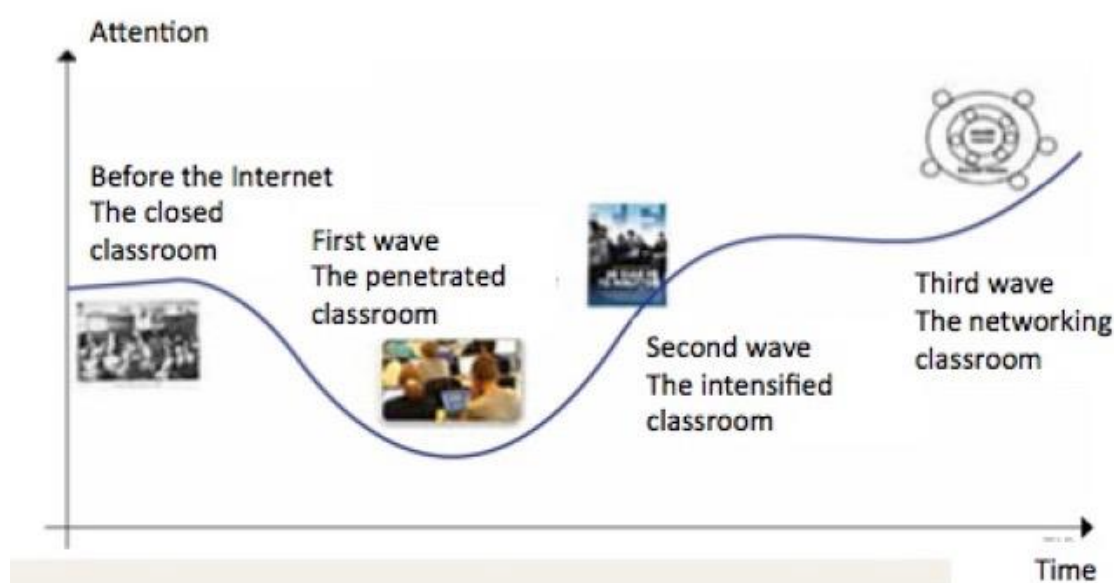
Challenges for Digitalised Higher Education in India:

Digitalisation cannot be imagined without challenges and complications. Actual prospective of higher education is still to be determined; if large mass of population in country like India is still illiterate in field of technology they don't have any access to internet and web. Rural areas are still deprived from technology and lot of efforts are required to connect them from technologies. Universities lacking clear a vision on digitalisation will not be able to respond efficiently to the requisites and challenges of 21st century. Few key reasons behind it are lack

of reliability on digital techniques, lack of knowledge about global environment, the culture among the people to resist changing and accepting new technologies.

Beside these factors, digital literacy is also barrier to accept digitalization. Digital literacy means adapting knowledge and using advanced technology with full confidence. No doubt digitalization had made various new techniques like distance learning programs; new hybrid teaching models and flip classrooms, still academicians not always shows a positive attitude to accept these advancements.

Waves of Digitalization



Waves of Digital Education

The theoretical waves of digitisation discussed the stage where orthodox teaching pedagogy was followed in the classroom before the introduction of internet. These situations are referred are closed classrooms. The proposal was to shift from close end classroom to open end situation where interaction between student's teacher and third parties are feasible. However this shift can't be equipped at once, it moved from three waves which included different educational responses in adopting new situation. In figure above it is narrated in the form of situational change with the development of digital technology.

X axis represents time factor and Y axis represents attention in class rooms. Assumptions made that attention of students differed from subject to subject, time to time and also from student to student. If we discuss about first phase of education, faculties and students generally ignore the new possibilities of outcome and don't use digital media for educational purposes. It is observed that in first wave no sign of new and improved teaching pedagogy is found. No educational interaction too was there with teachers other than solving the queries of the students.

Second phase was the situation where faculties and students started interacting and started using the new media for better interactions. In this phase, faculties tried to draw attention of

students back towards classrooms and also started sharing online documents on which the students are monitored and guided by faculties. Outcome was better participation from student's side. If we compare it with the first phase, better interaction was there without changing the class room settings.

In the third phase there was tremendous change and it was made possible, due to digital literacy is spread among the students in the second phase. In this phase not only students and the faculties but the third party also played a vital role as a part of interaction.

When it happens on regular interval of time, it converted closed session of interaction which was among students and teachers into open interactive session. Here other faculties and students of outside institutions are also participating. In this phase faculties are connected with the outsider and they build a network other than classroom. Students are connected with group globally and started using digitalization as medium to impart education.

Hence we can say that the total education system has passé through three phases to finally become digitalized.

Before discussing these three phases first we should look in the period without internet. Social media facilities, traditional class room system of teaching is like a closed class room in which teacher seating in front of a student teaching those monitoring those making discussions etc. In this type of teaching there is no interaction from outside sources. To avoid this destruction classes are taken into a closed space. It is called close class room because teacher explains from text book, writes on the black board and students copy the important sayings in their notebook. Finally their evaluation is done through the tests which are conducted from time to time.

First Phase: Penetrated Classes

With the digitalization of education system and networks the class room become more interactive. This makes the system more communicated from anywhere and anytime. Faculties can interact with students from anywhere even the whole world can be connected can be connected with students of faculties sitting in the classes. There are few drawbacks to this phase as the interactions are in and out of classroom increases and attention from main content of teaching is diverted.

If we look at students in higher education they try to do multitask while surfing on internet, they chat on Whatsapp, Facebook and at the same time they are listening to the faculties also. It creates frustrating among the faculty and students.

Second Phase: Intensified Classes:

This phase starts when faculties and students begin to use digital media for worthy interactions. This was the moment of internet in which faculties used it to draw attention in the class rooms. In this phase, the animated videos and films were used to measure source to recapture the attention and simultaneously questions were asked from the films the students have seen. In this scenario, the students are more active in class rooms and they pay attention to the questions asked by the faculties and other students and they try to trigger and focus. Also the student doesn't look down to their mobile phone or laptops also follow other things on the websites. This can also be because faculties and students sitting together and discussing and motivating for active participation. For example if German class is going on in a German song can be played and students can be asked to pick the German words and write it down in the notebook with their Indian meanings. This will make the class interesting.

In discussion with the faculties, the feedback came positive telling that this participative class is better than the old traditional class rooms study.

Faculties may use this way of teaching for better trust building and relationship with the students.

In the second phase it was also noticed that students acquire better competencies if compared with other classes where digital media was not being used. Students developed their skills in using media as a way of communicative and interactive sessions, discussions of educational content. Many of the students who were less interactive in the class gained voice and started interacting more.

Third Phase: Contact Seeking Classes

In the third phase, interaction of students outside the class rooms was in focus. In this era smart boards are being used in the class rooms. MOOC classes have been introduced as a medium of education. One of the examples can be posting of assignment of Wordpress.com to make them more interactive. The solutions were uploaded and the students can check their answers after submitting their solutions. In interacting with the faculties, they said that students are reluctant in submitting theoretical assignments but practice of online submission of assignment is motivating and students participate very enthusiastically

This wave made the students more involved and motivated regarding assignments and quizzes, Many times authentic cases are given to them which enhance their interest in solving the cases by improving their analytical abilities. During this wave the students are trained to become internet savvy as it focussed that during education the students must actually learn how to solve problems. This is how they will be prepared to face the real problem while entering into corporate. This wave doesn't say that actual teaching using chalk and duster should be stopped completely but the faculty must use the technology to make the class more interesting and interactive. This phase encouraged the students to come out from their nutshell and learn new things from outside world with the help of their faculties.

Conclusion:

In this paper it was focussed that digital media has been passed through three phases revolution. In the first phase old class and traditional class rooms were there using computer. Little of internet knowledge and use of technology was here in this wave. Hence in this phase, old types classes with routine teaching methodology the use of internet was a challenge.

Then the phase came when faculties and students entered the second wave where they tried to regain attention in class room with the use of digital media. This phase made media as a major factor to intensify the education system. An echo class room was made with the combination of new and old means of teaching methods.

Third phase came when both faculties and students taken step forward and were successful in establishing educational interaction with the third parties which includes research associates and other students. In this phase internet was able to break the glass and new perspective of e - digitalized education was established. In this phase, faculties adopted a new role of mentor

and mediators and students learnt not only from faculties but also from outside. Three phases can be described as “Distraction”, “Concentration” and “Involvement”.

From theoretical analysis it is noted that digitalization supports teaching styles. It is more practical method rather than old style using chalk duster approach. No doubt it is clear that we are in transition phase. It is also agreed that digitization of higher education is today’s necessity to sustain. After discussion with many learned people conclusion come that digital education will help a lot in research work and will bring more healthy communication among faculties, students and researchers. It will increase research activities, globalized and improve Indian education system by making it more competitive.

Future Scope of Research:

This research was conducted in Delhi NCR with small sample size and it focussed especially technical and management colleges. It can be conducted in other states, cities and more analytical results can be discussed.

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