

The State of Digital Pedagogy in Higher Education

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Abstract

We have to acknowledge that the inventions in the field of technologies had offered a lot to renovate our education system. A large number of students/teachers accept that digital curricular resources provide a richer and more personalized learning experience than traditional print materials and even they prefer these resources since these are more efficient for them. More often the academic leaders advocate for the value and potential of digital pedagogy to enhance learning and student engagement since they understand the strategic value of institutional investments in IT resources. Though government has launched a number of digital programs in education in general and higher education in particular, still these are not accessible for every learner due to poor infrastructure. Infrastructure must include assistance for teachers, as well as recognitions and rewards that force to make serious and significant efforts to grip pedagogy resources in instructional activities. It is not surprising that a number of campuses nationwide have challenged about digital accessibility that point towards a larger question: who is responsible for this designing with disabilities. As we know ICT has now become an important resource and has an important prominent role in knowledge due to its changeable ability and its capability to making relationship among students. Under the aegis of IT, the inequities and hand can be reduced and educational system can promote knowledge and skill of the learners.

Key words: Pedagogy, Digital resources, Infrastructure, ICT, Designing, Strategy

Introduction:

Pedagogy, comes from Greek 'padios' (child) plus 'agogos' (leader), and is the study of how knowledge and skills are exchanged in an educational context. Johann Friedrich Herbart, a German Philosopher and Psychologist, is considered to be the founder of 'Pedagogy' as an academic discipline. The meaning has undergone numerous iterations over the centuries, but the concept has always been associated with the history of the development of thought, instructional institutions, and the advancement of knowledge. This broad term includes how teachers and students relate together as well as the instructional approaches implemented in the classroom. An effective teacher must have a range of teaching and

learning tools that can be drawn upon and used in the classroom. Right from the beginning it was an art, but at the end of the 19th century, with the emergence of such scientific fields as psychology and sociology, is considered as science. However, today, we no longer debate whether it is an art or science, but simply consider it as an 'applied science'.

History of Indian Pedagogy: The history of Indian Pedagogy can be traced back from the Vedic times to the Indus Valley civilization, the different Dynasties, and Colonial periods, Post Independence, and finally to contemporary times. Starting from the concept of Guru Jee and their Ashrams, the concept has been modified over the centuries with the changing infrastructure and emergence of

Psychology, Sociology and its practice. In the last two-three decades, various attempts have been made to evolve a set of principles. The understanding of pedagogy was central to NCERT's efforts in 2005 to reformulate the National Curriculum Framework (NCF). The Indian Institute of Advanced Study (IIAS) has made some great attempt in advancing pedagogy.

The State of Digital Pedagogy:

Digital Pedagogy refers to the use of technologies in Teaching and Learning. In other words, the process of teaching and learning takes place through digital engagement and reflections where the encouraged participations of a teacher and learner makes the task as easy as a game for them. It not only discusses the use of technologies but also approaches digital tools from a critical pedagogical perspective. The student gets the information with practical knowledge and the teacher always has a chance to get familiar with the unknown things. The students can collaborate with other relevant things as well as their level of creativity and critical thinking grows up. If a student is working on a project with the help of the technology s/he can perform the task easily, since whatever information is required over there s/he can collaborate with the teacher or with other students or can get the same through websites with the help of technology.

Emerging from Distance Learning, Digital Pedagogy has brought numerous changes in the field of education. Over a century ago, the distance learning started at The University of London in 1850s and gave freedom to Higher Education. As inventions in ICT took place, the process of teaching and learning became easier day by day. The 20th century inventions shaped the

distance learning with the help of Computer, TV, and Radio that changed the course of education. The second half of the 20th century paved way for the establishment of community colleges and revival of Tele-courses and by the end of the century, the advent of INTERNET brought revolutionary change in the field of education. The correspondence courses, which were running earlier through Letter, TV, Radio, and Tele-communication, got shifted to online mode.

Now, how has technology helped the teaching and learning process or what is the impact of technologies in pedagogy. The answer is very simple – it has made the process of teaching and learning easier day by day. Before the invention of printing machine by Caxton, the teaching and learning process was performed either verbally or through manuscripts. The very first change made in pedagogy was the use of printer in the form of books and other printed material that helped to improve the teaching and learning process. The inventions of Postal Services, Telephone, Radio and Television took place respectively that helped to improve the communication technology and provided the base for the concept of distance education. In 1940s the invention of computer brought a renaissance in the field of information and communication technology (ICT). It took some time to get a shape and modified version and then after it has proved its importance in almost every field. When we discuss about digital pedagogy, the very first thought that comes to our mind is the computer. The computer has boosted this teaching and learning process and has made it as simple as it can be.

Digital Resources:

Now, it is 21st century, a century of race, where everyone is looking for a new world, a new space, where they are looking to sit at the top, to get the topmost position and that is not possible without the artificial intelligence, without technology. Technology has been instrumental in the gradual improvement of either individual or an entity. Now, people are familiar in every field with technology and so in the education system. The digital resources have also made a great impact in the education system through teaching and learning process. It has a great impact in the course of teaching and learning since both the students as well as the teachers are utilizing happily these resources in growing their knowledge. The advent of internet has introduced a number of terms in teaching and learning. Here are some digital resources that have somehow changed the thoughts of teachers and learners over the time.

Computers have become the basic requirements in the 21st century. Most of the organizations like banks, institutions, private organizations as well as government institutions, have provided computers in their offices and somewhere to their employees also. In the field of education also, computer is available for teaching and learning as well as to maintain the office records. It has the capacity to perform the task in short time with accuracy. It is an important source of knowledge in the 21st century. Today almost every student and teacher of the new generation is familiar with this device. They use to work on computers in their respective fields. The teachers use it to prepare their lesson for their smart class on computers. The students prepare their assignments and even notes on computers and also use it for visiting websites, watching movies and listening to

music and soon.

E-books are one of the important digital resources. Here, the persons need not carry a weight (books in physical form) with themselves and still they can study the same on their laptops or mobile phones or with the help of other technologies that can display the same. Most of the books are available in digital form and at a lower price than its printed form. Some of these books are free for reading that means the publisher is not going to charge for reading that book online but some books are chargeable where the readers need to pay a lesser amount than its physical form. Software is needed to read these books as 'Kindle' and these e-books are sometimes known as Kindle edition. These books can be downloaded in the pdf and zip forms also.

Blogs are more relevant if someone is/are researching in a particular field. These blogs provide the updated knowledge and deep observations on the concerned topic which helps the researcher to get updated. Blogs are also helpful in other fields rather than teaching, as Economics, Science, Politics, Cinema and others. If a person is an expert in any relevant field, his blog can help the others.

E-journals/Papers also help in the course of teaching and learning. Whether a person needs to write a research paper, or a conference paper, or needs to get some idea on a concerned topic, these e-journal/papers or even printed will surely enhance their knowledge. The wide range of academic journal has helped the students and teachers in their concerned subjects and has a great future. For the students from distance education in particular, these academic journals are the master source of their study.

- Emails are also important in digital pedagogy, since it is most

commonly, being used for the purpose of sharing the related information. A teacher can share the notes or can discuss the lesson plans with the students by email. One can share pictures, audio, video, and other different types of files through emails.

- Videos have made the teaching and learning process very easy to receive and get compatible with the concerned task. By going through these videos, a teacher as well as students can enhance his/her knowledge, particularly the practical knowledge which even s/he has not gone through. A large number of such sites are available that provide educational videos, which helps the students as well as teachers in their teaching- learning process. 'You tube' is the most famously known website which offers such videos.

- Websites are also of great importance. Any student or teacher can get the desired information they seek, through websites. They can check the programs offered by the institutions, important notices regarding their exams, results, placements and much more. Search engines like Google, Yahoo, Bing, and informational websites like Wikipedia, and others, display the desired contents searched by the viewers. One can download the relevant contents from these websites which further helps in their teaching and learning.

- Social media, both digital and print is important in terms of information sharing. The important news is also being circulated now a day for students and teachers through social media. One can get the details of job openings, exam information, and admission notice through news channels, papers, facebook, twitter, whatsapp and

other sources. Some TV channels are offering educational programme for the students. Ovation, Nasa TV, Discovery, Nat Geo Wild are some of the educational TV networks which provide information to the learner. Indira Gandhi National Open University (IGNOU) runs his own TV channel in the name of Gyan Darshan. Other Indian educational channels are Gyanvani, Gyandhara, DD1 and Sakshat.

- Mobile phones have become the most important tool for a person now a day. One can share information, search for knowledge with internet, save files, and click photos, record videos, and make conference call and much more. A student can carry mobile phones to his/her classroom also and use the same for knowledge purpose. Some other important digital resources are Wi-Fi, UFB, Cloud, Tele-networks.

Infrastructure:

Infrastructure plays the central role behind the success of digital pedagogy. The digital pedagogy is not possible without using ICT in education and that ICT is not possible without desired infrastructure. The infrastructure is the biggest positive as well as the drawback of the digital pedagogy. The growth of an organization depends much on its infrastructure. The infrastructure consists of buildings, electricity, water, transportation, manpower, health and education, financial, safety, public space and so on.

Now the government is providing more funds to the institution for the betterment of the infrastructure and for introducing new programs. They are also focusing to open new higher educational institutions like engineering, medical, agricultural, management, law and

traditional colleges, to provide these educational facility in every district. These institutions receive funds directly from central and state government through, UGC, AICTE and other specialized professional bodies for start up and expansion.

Information and Communication Technology (ICT):

Education system is gradually improving with the help of technologies. ICT has made revolutionary changes in the field of pedagogy. In the 21st century, it has become a common tool worldwide to improve the teaching and learning. It has made the process of teaching and learning easier for teachers as well as for the students. It provides students the opportunity to direct their learning and to get information required to enhance their learning outcomes and to complete their works and projects. Whether it is a teacher or students, all are using technologies to facilitate themselves. ICT covers technologies such as, computer, TV, radio, mobile phones, printers, projectors, audio devices, camera, CD, DVD, multimedia, internet etc. These technologies help students as well as teachers to perform their task comfortably. They save their time and their work carries more accuracy. Teachers prepare their lesson plans on their PC/laptops and deliver the same in the smart class with the help of projectors, LED screens, audio devices and other tools related to ICT. Students are also doing the same thing by using these technologies in their learning by carrying laptops, mobile phones or tab to receive the desired information. The multimedia software offers them to experience real lifesituations.

In higher education, the institutions having ICT facilities are offering better outcomes. It helps in imparting quality

education through collaborations. The teachers as well as students avail these facilities in planning and projecting themselves. It provides quick access to the desired information with the facilities like access to online library, journals, research papers, and other educational websites. Students can develop their skills related to study like logical, analytical, reading, writing, listening, speaking and so on. Students can check their gradual development through solving online practice sets, quiz, MCQs, and enhance their existing knowledge. It helps teachers to share their knowledge with other institutions. A teacher can conduct online courses that will help the students worldwide. The 21st century students are getting online notes, video lectures and blog in their concern subject. They keep themselves updated with the current development in their respective fields and become an active and smart learner. New technologies like smart class, audio visual presentations, smart board, and virtual learning environments has made the teaching- learning process and eased the comforts of the learners. The concept of Distance Learning came in force after the involvement of ICT in pedagogy. A large number of distance learning programs are running worldwide to facilitate the students. It has become more effective through virtual classrooms and tele- conferences.

Strategy:

In terms of pedagogy ICT has been proved to be the greatest success since it has provided a new framework to improve teaching and learning. It has played a major role to bring new dimension in teaching. The government has introduced numerous programs to improve our Education system. A self-paced learning is also possible in online mode through Flipped classrooms,

MOOCs, SPOCs and other sources. A number of initiatives have been taken by the MHRD by introducing numerous programs in higher education.

- IGNOU – has tried to increase the Gross Enrolment Ratio (GER) by providing high standard teaching through Open and Distance Learning (ODL). It provides access to higher education not only in India but also outside India by facilitating innovative, qualitative and need based programs.

- NMEICT – a MHRD sponsored project for the benefits of all learners in higher education. Its focuses on using ICT in teaching and learning and provides connectivity to access devices to students and teachers.

- NPTEL – a government funded initiative by IITs to help the learner worldwide by providing free access of videos on You Tube to enhance their knowledge.

- SWAYAM – a unique educational facility, initiated by Indian government that focuses on access, equity, and quality. It provides all courses from 9th class to Post Graduation which is accessible at anytime, anywhere.

- NDL – initiated by NMEICT, a pilot project which facilitates the teachers and learners with learning resources in a single-window search facility.

Apart from these there are numerous programs introduced by the central government such as INFLIBNET, ISLERS, Oscar++, etc. which are facilitating the learners with the help of digital technologies.

Design:

In digital pedagogy, technology

dominates almost every online discussion of teaching and learning. Without technology, this hybrid experience can't take place. Design plays the much needed role in the success of digital pedagogy. Previously, it has been believed that by the use of interactive flash exercise and scaffold learning, one can lead the students in a duplicate classroom interaction. But, for now, it is totally about the instructional designer that how they design the course for the teachers and learners. They need to design and implement the course in a module that will help in the betterment of the digital pedagogy. Sometimes, the role of a teacher seems to be a kind of promoter that is to be involved in assembling or branding in the digital pedagogy. As an automobile brand does not manufacture all the concerned parts or elements of a vehicle but only use to assemble or branding the same under their Brand name, in very similar way the role of a teacher in digital pedagogy is just like branding and promotion of their particular courses. Designing of the digital pedagogy is not only concerned with the teacher and learner but also in the pre- launching of a particular program that is going to be instrumental in digital pedagogy. Since the main reason behind introducing ICT in pedagogy is to make teaching and learning process easier for the target population so, it should be programmed in a way that can achieve maximum success.

Conclusion:

The introduction of digital pedagogy in the process of teaching-learning would assist in degree of comprehension at the level of recipient as well as at the level of instructor. The technical devices have replaced the conventional strategy of teaching –learning process. Technical tool and computer aided learning have brought

the huge modification in the thought process as the learners have begun taking interest in learning through these ICT tools. The technology aids are playing an important role in developing the new pedagogies of language teaching. It took

some time to get a shape and modified version and then after it has proved its importance in almost every field. As a result, the student enrolment ratio in higher education is suddenly growing up.

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