Use of Technology in Education:-Indian Context

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Abstract
Computer networks and digitisation is playing important role in education domain. Since the invention of internet, sharing information has become easy and quick. Now the same technologies are being used for disseminating knowledge in more and more interactive ways. Up coming technologies are effectively being used to deliver attractive digital content to aspirants. Especially in Indian context, it becomes important to see how good governance principles are being achieved in education domain using technology. Globally technologies are effectively being used in industries, corporates, service sectors, education, etc., to improve performance and quality of decision making. But using technology for education raises few questions like does it really playing role in Indian Context? How effective it might be? Are Indian students capable of coping up with the speed of content delivery? Are technologies used to deliver academic contents only because they are available or they are really helping to achieve better performance? Are technologies effective for long lasting impact of delivered contents? How effective the methods like flip classroom and blended learning in Indian Scenario and so on. This paper tries to analyse the situation and raise some of the necessary concerns about use of technology in education domain in Indian Context.

keywords
Internet, Education, Technology, governance, knowledge dissemination, digitisation of contents, effective delivery of educational contents.

Introduction
Use of internet and technology is increasing day by day. It is reported by Intenetworldstats\(^1\) that India have 462,124,989 Internet users and internet penetration is 34.4% which is growth of 914.2% in 2000 to 2017. Of course China is no. 1 having largest Internet penetration of 52.7%. As per estimation, 3731 Mn users globally are internet users.

For every second there is an increase in use of internet for sharing information and data around the globe. As the global bounders are becoming thin and mostly now dissolved from the technological perspective. For education domain again, the same huge growth is being seen by the world. With the introduction of MOOC (Massively Open Online Courses) and LMS (Learning Management Systems), use of technology in domain is flourishing with tremendous speed. The recent MOOC movement which was started in late 2011 by Stanford is an old story now. In 2016 there were 58 Mn Students,

\(^1\) http://www.internetworldstats.com/top20.htm
700+ universities and 6850 online courses were available. The number is increasing\(^2\). The top five MOOC providers by registered users in 2016 were Coursera - 23 Mn, edX - 10 Mn, XuetangX - 6 Mn, FutureLearn - 5.3 Mn and Udacity - 4 Mn. The numbers are astonishing. Business and Technology seems consuming big chunk of courses.

Coursera says that in India they have 1.7 Mn users which is their second largest market. India is also looking at technologies which are necessary to replace rigid teaching styles and scarcity of educational institutes. The official statistics mentions that \(~70\%\) of population in India stays in rural area. Now technology is penetrating with the speed in rural area, but still it has to go long way to deliver educational contents effectively which are regional in nature.

Especially in India, Still the educational systems and examination systems are yet to gear up for using technology for education. Certainly there are few experiments happening in the government of national level, but still lot needs to be done in local and regional context. The numbers are interesting to see the distribution\(^3\).

In Indian context methods/techniques like flip classroom or blended learning is still a distant dream especially with rural India.

Research Methodology
Descriptive and Exploratory research methodology is followed for this paper. Secondary data is been used.

Analysis and Discussion
Using technology for education still a distant dream for India, though to achieve the goals and objectives it will prove a catalyst. The current Unesco report states that India will achieve universal primary education by 2050, universal lower secondary education by 2060 and universal upper secondary education in 2085\(^5\). It also further mentions that in education sector fundamental changes needs to be introduced to achieve sustainable education goals. Also stated that over 60 Mn children in India receive little or no formal education and has over 11.1 Mn out of school students in lower secondary level.

Now it really shows the opportunity to use technology in education domain. If India would like to speed up the process of making population educated, there seems no other option than using technology. In rural India, still the basic connectivity is a problem with remote places. Now at-least in urban areas use of Internet and technologies are being used in classrooms. There is also a mandate for use of information technology in the classroom which mainly remains restricted to Power Point Presentations and few videos on the youtube. There are few initiatives on the government side for digitisation of contents and delivery of the same through Learning Management Systems which is online like Swayam, SwayamPrabha, ShodhGanga etc.

NPTEL (National Programme on Technology Enhanced Learning) which is also a part of Swayam Now, initiative was taken up to use the technology to deliver the contents. But it dose’t seems working in rural areas because of the heavy contents.

Online recorded lectures are virtual classrooms are provided today in India for educational content delivery. But blended learning or flip classrooms are not being provided even in the urban areas.

Researchers intend to discuss about some of the popular methodologies available for using technology in education domain and its different aspects in Indian Context.

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\(^2\) https://www.class-central.com/report/mooc-stats-2016/

\(^3\) http://niti.gov.in/content/population-number-male-female-rural-urban

\(^4\) https://data.gov.in/search/site/rural+urban+population+2016

1. Online Videos:- There seems the variety of material available about any domain, any subject/topic even with the youtube like technologies. Today it seems the first choice of population. Internet users in India will touch 500 Mn by 2017 was the google’s prediction\(^6\). So even for the students, teachers it has become a major source for academic contents. Being a popular technology, different people/experts are trying to upload and share their academic contents to youtube and Vimeo type of sources. The contents may be rich academically and you many get many flavours of the same topic/content. Here the major problem is what to search and which one to be adopted. Most of the time people seems spending time finding you which one is right for them to pursue. There is so much variety available that for your any search you get millions of pages which you might feel relevant so there are high chances of students getting lost in the information. Especially with the rural India, where accessibility is still a challenge, it might not prove effective and there is possibility that for examination purpose, students will use the source only to pass the exam without understanding the concepts. One of the problem here is there is nobody to watch you and ensure that you understood the concept. Of course this is not problem only in Indian Context, world wide this is true.

2. Online Learning Management Systems:- As mentioned above with the top educational service/content providers in structured manner, are growing day by day. World wide students and aspirants are getting enrolled with the courses. But it seems more with the global approach so regionality and localisation of the contents may be difficult for students. Being the global context, the relationship of the contents with the local surroundings may be difficult for students to grasp. This problem is more prevalent in Social science subjects. With the pure sciences, the examples may be the problems with rural students to correlate with.

3. Use of Power Point Presentations and other tools like smart boards:- This was the first and most popular methodology used by experts and at least in India which replace OHP (Over Head Projectors), it is still evident that it is popular for delivering contents. Many have opted choice of distributing the presentation material to students and many don’t. But this seems effective only with the specialised training how to use these tools. Otherwise is merely remains the copy of blackboard on digital screen. Many of the experts are not trained on how to use PPT effectively in the classrooms and then the contents are lost while delivering the same. It is to be used to be structured and use of different multi-media for effective content delivery, which seems a challenge with many of people. People still tend to write whole line by line on the presentations.

4. Blended learning:- Even with the lack of computers and connectivity, India is trying to add blended methods to its schools. Many believe that with the huge population and educational goals of India, blended learning have potential to have impact in education. Personalised Interactive approach to deliver contents have important role to play in education. Mass personalisation is one of the important aspect for teaching and learning. Blended learning refers to a mixing of different learning environments\(^7\). Most of the Learning Management Systems provide facility of blended learning where material is distributed in digital form and being discussed the applications in the classroom. But again for majority of India, the basic connectivity and computers is a challenges. Here because instructors role is critical to understand the transformation from teacher to learning facilitator. And many of teachers needs to be trained which takes time and money to apply the technology in the classrooms.

5. Flipped Classroom:- It is a pedagogical model in which typical lectures are homework elements are reversed. It is also an instructional strategy and type of blended learning. Learning Material is provided to the students before the class and classroom sessions are used for exercises, projects and discussions. Here also technologies are playing vital role today. But Students doesn’t seem geared up for such situation at least in India. Being with the University, we face lot of problems with such scenarios. 80% of the student don’t study the material which is prior distributed and then teacher again needs to turn towards traditional teaching/learning. This is difficult even with the urban areas in India.

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\(^7\) [http://www.aicte-india.org/mobileblended.php](http://www.aicte-india.org/mobileblended.php)
Mobile Based Learning:- Today is the world of smaller devices and combined with telecommunication facilities, learning has become easier. Mobile based learning again is picking up world wide because of the ubiquitous computing facility. Many students seems adopting mobile based learning in urban areas, but in rural areas again its a challenge of the bandwidth and cost for the students.

Discussed above are some of the popular methodologies of using technology in education its pros and cons in Indian Context.

conclusion
Globally in general and India in particular, use of technologies in educational domain is becoming prevalent. To achieve the educational goals, India needs to use technology for speed, accessibility and inclusion. But with each of these technologies there there certain challenges which needs to be addressed on national and regional/local level. India certainly would not like to have certified un skilled students which cannot use their knowledge in day to day life. Not only efficient but effective delivery of educational contents should also be a concern while using technology. With the digital content delivery, India also need to address challenge of skill and employability of students and long term sustainable knowledge base of different subjects.

References
3. http://niti.gov.in/content/population-number-male-female-rural-urban