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Paper presentation for seminar on the theme: Digital education in India: A path far away to go

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Abstract
Gone are the days when classroom teaching and learning was restricted to textbook learning, teachers using the blackboard to explain things and students writing down notes in diaries. The education system in India has become modernized, making way for digitalization and thus, taking the place of traditional classroom teaching and learning. Digital Education is accompanied by technology or more specifically by instructional practice that makes effective use of technology and thereby, gives students some element of control over time, place, path and pace so far as their learning is concerned. On the one hand, it empowers students by getting them to be more interested in learning and expanding their horizons, on the other hand it has enables teachers to customize learning sequences for each student and thus, making teachers' tasks much easier. But its expansion at national level is not that much easier due to factors like increased cost of education, basic infrastructure, and lack of sincerity in policy planning and implementation.

Keywords: Technology, Learning, Digital Education

Introduction

Everyone is well versed with the fact that contemporary era is acknowledged as knowledge based global world where knowledge is the only strength both at an individual level as well as from the view point of a nation. This fast growing knowledge can be harnessed only if we have access to new technologies. New technology is also needed to have access to knowledge getting process. And this can happen only with the assistance of the science of information and communication technology. Information and Communication Technology is employed in the shape of tools, equipments and application support which helps in the collection, storage, retrieval, use, transmission, manipulation and dissemination of information as accurately and effectively as possible for the purpose of enriching the knowledge. ICT besides affecting our lives from different angles like entertainment, business, marketing, social life, communication banking etc. has also changed the entire scenario of education by giving it a digital base. Thus, it would not be wrong to say that concept of digital education is the outcome of information and communication technology.

Digital Education: Digital Education is generally also considered as e-learning or online learning or virtual learning also. It is a kind of education that makes learning much more individualized, productive and long lasting than ever before by making effective use of technology or technology aided electronic gadgets. The basic idea behind the digital education is not to replace the traditional educational system altogether, rather to enhance the learning experiences. It can be said that digital education has combined technology and learning and thus, has gone a long way on the behalf of learners in making learning more individualized on the one hand as well as has enabled them to come forward for teamwork on the other hand, if needed.

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Some of the common pedagogies that combine technology and learning are:
- 3D space learning
- Social media
- Virtual reality
- Open educational resources
- Video based learning
- Mobile based learning
- e-textbooks
- Augmented reality etc.

There is no doubt in the fact that digital education will go a long way in providing quality education on the one hand and will make educational opportunities accessible to the learners living in the very remote regions/areas. Digital Education will also enable teachers to expand their horizons of knowledge as well as providing educational experiences to the learners as per the psychology of individual differences. But, it does not mean that effective implementation of the idea of digital education is free from flaws and that much easy. Especially in developing countries like India where 24X7 electricity availability is still a dream to be realized and where basic infrastructure required for education like furniture, black boards, health and sanitation facilities, computers, dedicated personnel is lagging behind. Therefore, it is very essential to take into consideration the very common digital learning challenges. So that our policy planning with regard to digital education must be sound enough to foresee the hurdles that are likely to occur. And some of these are:

Continuously Upgrading Technology: We are living in the era of 21st century whereby not only the knowledge is exploding every hour of the day. In fact knowledge in all the forms available is getting modified. Same is the case with the digital gadgets also. Technology is always changing i.e. upgrading. One cannot expect to use the same technology more specifically the digital gadgets forever. Therefore, policy planning with regard to digital education from top to bottom must have a plan and budget in place for upgrading technology.

Unmatched IT Support: As our educational institutions use more technology, there arises the need to open more IT departments so that required demand of technology can be met. Hence, policy planning with regard to digital education also needs to focus on IT industry.

Increased Financial Expenditure: Introduction of technology oriented education, no doubt, will put an extra financial burden on educational institutions. This is also one of the reasons that create reluctance on the behalf of the educational institutions to adapt themselves to the evolving concept of digital education. India being a developing country cannot suddenly provide huge financial resources or budget instantaneously. All directly or indirectly concerned with the field of education will have to come forward. Govt. at its own level, educational institutions at their own and community support for funding all will have to join hands together to incur this high cost.

Want of Mobile Optimized Software: Software that is already developed and available is not optimized for mobile devices. It is very essential to make all digital resources especially software optimized for mobile devices. Because many students either do not have internet/WIFI access at their homes or do not have gadgets like laptop/PC through which WIFI can be used very effectively and easily. The only opportunity with which they are left with is the use of mobile phones. Reason being mobiles are still cost effective as compared to devices like laptops/ PC. So, sufficient planning and work needs to be done on the behalf of the IT industry in this field also.

Reluctance to Change: Rigid mind set is one of the big hurdles in effective planning and implementation of digital education. Because, teaching community generally give the excuse that it is very hard to change the way one has been teaching throughout his entire teaching career. This problem can be tackled if plenty of information, statistics and examples must be provided to the personnel in the field of education in order to make them aware with the benefits that digital education will likely to yield. Thus, along with the preparation of the policy and its effective implementation, much is needed to be done in changing the mind set of those who actually have to play an effective role in making this dream a reality.

Issues related to Internet/Online Security: Internet/online activity gives birth to the need of more and enhanced security issues. Combating security issues need huge investment. Moreover, teachers and students need to teach basics regarding internet safety.

Required Training on the Part of Teachers: Even if it is assumed that more rigorous and effective planning will be done in the near future in order to make the implementation of digital education policy planning really a success. But still this dream will not be realized without providing adequate training to the teachers who are indeed are supposed to play an important role. So, if we want our digital learning environments to be successful, we must provide training to teachers to use various digital tools.

Low Quality Content Creation: With the amount of digital content, it is overwhelming to create a collection of high quality digital learning materials. In whatever amount and direction, the digital education has made its start, it has been witnessed that digitally available content is suffering on the grounds of quality. The idea of digital education will get successful only when both the teachers (course expert) and expert in software work together. Mere the availability of digital tools will not serve the purpose. It is also the quality content being displayed through digital tools that will be effective and will go a long in producing desired results.

Limited Accessibility: On the behalf of students only the availability of digital tools and the entire required infrastructure supporting it like WIFI at educational institutions is not sufficient enough. Students will be able to get ample benefits from the digital education scenario only when they will have required digital tools at their own disposal, so that they can make 24X7 use of this technology oriented educational idea without any place, time and accessibility bars. But in India, where students generally go for educational loans to bear the expenditure of their education cannot bear this extra financial burden. To

overcome this challenge, educational institutions, govt. and community resources all need to come forward and together.

Misconception about the Idea of Digital Education: It is essential to understand that digital tools are not the substitutes for human interaction. These are rather supplementary and complementary for the classroom interaction. Only the content being displayed through digital tools with appropriate planning and active participation of the teachers will go a long way in yielding expected efficient results so far as the learning is concerned. Therefore, one should not even let the digital tools "take over". Teachers should start preparing themselves for a new role that they will likely to play in the near future i.e. to join hands with technology.

Technophobia: Another factor creating hurdles in the way towards digitalization of education is technophobia. A fear more specifically a dislike towards latest technology and complex devices is termed as technophobia. It has been considered that the new technologies conflict with established beliefs, such as the personal values of simplicity and modest life styles has contributed in developing a feeling of dislike among people in general so far as the usage of advanced technology or technology aided gadgets in day to day life activities is concerned.

Theory Based ICT in the Curriculum: Our curriculums are generally criticized because of being theory oriented. From the last few years, no doubt emphasis has been given to provide due place to ICT related content in the curriculum from elementary to higher education and even in teacher training courses also. But no efforts have been done to give ICT oriented curriculum a practical touch. Various factors like 24X7 electric supplies, improper students- gadgets ratio, over crowded classrooms seem to be responsible for this.

Frequent Disturbance in Network: Although as a nation we have achieved a lot so far as satellite technology is concerned in order to provide more advanced communication and internet services to countrymen. But still our technology lack precise sophistication as compare to countries like Japan, France, and Germany etc. Sometimes, a very little weather disturbance completely disrupts the network availability that hinders the ongoing teaching-learning process based on digital tools. Much advancement is still needed to be introduced in order to make network availability more stable and faster.

Lack of Teacher Training Programs at In-service Level: Provisions have already been done to aware the prospective teachers and teacher educators with the idea of digital education by introducing appropriate changes in the curriculum of teacher training courses. But lack of knowledge regarding the concept of digital education among personnel who are already in job is a big hurdle. Their tendency towards making the use of digitalized tools in education will develop only when they will be acquainted with the theory and practice of ICT. For this workshop, refresher courses, seminars, faculty development programs based on ICT should be organized.

The main idea of discussing all the points mentioned above is just to aware all who are propagating the idea of digital education with the problems that are assuming big hurdles in path towards digitalization of education in India. But this does not mean that we have not achieved any success in providing digital base to our education. Our efforts will be more fruitful if policy planning and implementation with regard to digital education will concentrate on all the related aspects which have an important role to play in making this planning really a success.

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