

A Framework of Disruptive Technologies in Education

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Abstract:

Disruptive technologies in education have a profound impact on the teaching-learning process. This paper provides the review on the various concepts relating to disruptive technologies in education and the role of ICT, MOOCS, Artificial Intelligence, virtual reality etc., especially in the higher educational institutions. In the years to come, most of the academic activities like analyzing student progress, student level of understanding etc., can be automated using artificial intelligence algorithms. Virtual reality makes the learning environment more realistic and interesting to learn like virtual campus tours, following traffic rules etc.,

Key words: MOOCS, ICT, Artificial Intelligence

Introduction:

Conventional education in the past has had its own benefits like more student centric focus and emphasis on learning not only academics but also student's emotional status. The traditional education system does not suit the present requirements such as space, time, location are not a barrier to education due to advancements in technology and globalization. ICT provides a way for online lectures, presentations and video content generation across the world. Change has come not only in technology but also in the mindset of people, including students. Innovative approaches to teaching make the learning process more attractive and attentive. MOOCS (Massive open learning courses) help the students learn not only academic subjects but also additional courses which can be explored and certificates can fetch credits to Academic Bank of Credits. Also the multi disciplinary approach of the National Education Policy 2020 and the MOOCS can transform the higher education system drastically by enabling the students to do the courses in a discipline of their interest.

Concepts of Disruptive technologies in education:

The following are the concepts of disruptive technologies in education:

- 1) E-Learning: E learning is learning in electronic mode through a combination of electronic gadgets or devices and the internet. This makes education more fulfilling apart from being informative and interesting. APCCE LMS is one of the platforms for academic lessons and a repository for varied subjects.
- 2) MOOCS: MOOCS help in career development, e-learning and training and supplemental learning for students. Many MOOCS platforms like SWAYAM, NPTEL, UDEMY, COURSEERA etc., provide a drastic change in the way of learning happens. Students, research scholars and academicians can explore and take the maximum advantage of MOOCS to enhance their learning.
- 3) Artificial Intelligence and Virtual reality: AI provides a mechanism to automate most of the academic activities like analyzing the students progress, results, attendance etc., thus determining the fast and slow learners based on big data analytics. Virtual reality can take the students to different world's to teach lessons and get a more realistic view through virtual reality handsets. For example Micro Soft's HoloLens is being used by medicine students which helps in visualizing human body in three dimensional view. Augmented reality has a potential to change the education system. It can add value of information using mobiles. Google Glass is one such example.

Literature review on Disruptive technologies in education:

The following literature review is available on disruptive technologies in education:

- 1) According to Kusum Yadav, Christensen's theory of disruptive innovation says that these disruptive technologies are not designed for teaching and learning but have educational potential.
- 2) According to S. Gejendhiran, S. Vignesh and others, improvement in hardware and software will bring growth in educational attainment. In chat based collaboration forums, professors and experts in the respective field can chat with the students directly. With IOT, predictive analytics can offer additional insights into performance of students in theory and practical classes. Block chain technology is yet to create its own space in disruptive technologies in education.

- 3) According to Dr C. Kartikeyan, to get disruptive technologies into the picture in education, NEP has to set pathways like PERT or CPM for the technological universities and set targets to achieve the same. The focus should be on policies that focus on research, deskilling and awareness rising to address the outcomes of disruptive technologies in education.
- 4) Kin Wai Michael Siu and Giovanni Contreras, reviews the use of ICT and its impact on higher educational institutions. In 1990's with the introduction of websites online education came to picture and the usage of textbooks is drastically reduced.

Conclusion:

Disruptive technologies have its clamps in all the sectors and the education system is no exemption. Educational institutions are slowly integrating e-learning and MOOCS into their academic aspects. Moving forward AI, VR, AR technologies and cloud computing will have a tremendous impact on the higher educational system. For ex: student's lesson plans can be prepared based on students knowledge using AI and algorithms.

References:

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