

A Study on the impact of Virtual Reality and Artificial Intelligence as ICT Tools in Management Education

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Abstract: *Technology has affected our lives deeply and has drastically impacted every sector of business. The education sector is also no exception to this. In this post pandemic world, the rise of Edtech has been phenomenal and in fact Covid-19 actually gave a boost to online platforms such as Zoom and Google Meet and various other such technologies. We have even seen the rise of edutech giants like BYJU's, UNACADEMY and UPGRAD also in the latest past. Artificial Intelligence and Virtual Reality are also a part of various business processes in both manufacturing and service sectors. Hence it becomes imperative for educational Institutions to adopt these technologies as part of their pedagogy for the benefit of students. Management Education also needs to evolve and integrate these technologies in their curriculum to ensure that students are updated on these platforms and perform accordingly. This paper tries to examine the various technologies adopted by B-Schools all across the globe and their impact on students. The study also aims at exploring as to how these technologies can be used in the Indian context to benefit students.*

Keywords: E-Learning, Online Learning, ICT Tools

I. INTRODUCTION

Different countries adopt different education systems by considering the tradition and culture and adopt different stages during their life cycle at school and college education levels to make it effective. Recently Government of India announced its new Education policy which is based on the recommendations by an expert committee headed by Dr. Kasturirangan, Former chairman of the Indian Space Research Organization (ISRO). It is predicted that India will be the third largest economy in the world by 2030-2032 with estimated GDP of ten trillion dollars. It is evident that the ten trillion economy will be driven by knowledge resources and not by the natural resources of the country. To boost the growth of the Indian education sector, the present government decided to revamp it by introducing a comprehensive National Education Policy 2020.

Online learning has shown significant growth over the last decade, as the internet and education combine to provide people with the opportunity to gain new skills. Since the COVID-19 outbreak, online learning has become more centric in people's lives. The pandemic has forced schools, universities, and companies to remote working and this booms the usage of online learning. Even before the pandemic, Research and Markets forecasts the online education market as \$350 Billion by 2025, so the numbers might be updated after analyzing the growth impacts of COVID-19 on the online learning market.

There are numerous online learning platforms in the market such as Udemy, Coursera, Lynda, Skillshare, Udacity that serve millions of people. The platforms are getting shaped by different user verticals as well. While Skillshare is mostly for creatives such as giving courses on animation, photography, lifestyle, Coursera is mostly academic with giving access to university courses.

Top tier universities are also democratizing the learning by making courses accessible via online. Stanford University and Harvard University give access to online courses under categories of computer science, engineering, mathematics, business, art, and personal development.

Mobile platforms have given access to more people to benefit from online learning, and this has created a huge data, then machine learning has given personalized solutions to the course content with using the big data. In the future, it

will not be surprising to see more elements in the online learning structure such as VR/AR or more advanced machine learning algorithms to democratize the learning more.

II. LITERATURE REVIEW

When art was first discovered, humans were limited to seeing it with their eyes. Virtual reality technology, on the other hand, has made it possible for individuals to see aspects of art that they previously could not see. In fact, it manages to create an illusion of realism that is not based on anything actually present.

According to Bin et al. [2019], a combination of curricular theories, review of related literature, and on-the-ground inquiry was used to explore the potential impact of AI in middle school English courses. Artificial intelligence (AI) will be used to aid in the instruction of college English as part of this strategic objective. The English education system is enhanced and given a more personal touch when English instruction is added. Improvements to English training via the use of AI are now being studied According to Shorey et al. [2019], to start preparing student nurses for their clinical settings, researchers created and evaluated virtual patients (VPs) that they could engage with. Development of VPs for teaching nursing student communication skills may lead to authentic learning environments that boost students' self-efficacy and confidence in their ability to communicate effectively. According to Ke et al. [2020], for the purpose of educating university graduate teaching assistants, this research examined the advantages and limitations of a virtual reality-based learning environment. Using virtual reality as a teaching tool, the researchers found that teachers were better able to engage their students in the learning process by including interactive teaching and demonstrations into their lessons. To develop and implement a VR-supported learning intervention, we suggest integrating experience, affordance, and learner analysis [9]. According to Chen et al. [2021], using robotics, artificial intelligence, and virtual reality technologies, this action research project is aimed at developing an application system and training materials for English tour-guiding in the field. Because the research concludes that technological growth has created new possibilities for educational innovation while also creating new obstacles, it is essential to offer teachers with training to help them explore these opportunities and overcome the challenges they have faced. According to Guan et al. [2020], we show that, as sophisticated technologies in education continue to grow, certain fields of study seem to have survived the time of test, while others have suffered highs and troughs. To begin a conversation on the advantages and disadvantages of integrating AI and DL into classroom instruction, this paper was written. According to Kim et al. [2019], robotics research has made it possible for machines to aid humans in a variety of ways. Using chatbots in the classroom is becoming more common, and researchers are looking at ways to incorporate this technology into the classroom. Following the findings of this study, new research paths and educational implications for chatbots in the area of language learning are provided. According to Johnson et al. [2005], computer games nowadays have the capacity to teach as well as amuse its players. In order to keep players engaged and motivated, game designers utilise a variety of approaches. Nonplayer characters in the game are controlled by artificial intelligence, and intelligent coaching gives further support. According to Ma [2021], this article focuses on the AI- and ML-based VRT college English immersive context teaching approach. The goal is to help students enhance their English language skills. When two freshman classrooms at a university were compared, the experimental class used virtual reality technology to educate from a constructivist viewpoint, although the manage group used multimedia equipment and standard education techniques. This indicates that students' English levels can be improved by using constructivist theory and virtual reality technology into college English immersive context education. According to Huang et al. [2021], as new technologies arise, they have an effect on how students are taught and educated. AI applications in education, as well as examples of how AI may help improve the educational system, is also included. According to Qian [2022], virtual reality technology has grown in popularity over the last several years, and it has also become a new approach to digital media art in the process. Regardless of the virtual reality technology employed, all results showed that efficacy was substantially greater than conventional approaches. According to Divekar et al. [2021], the use of AI and XR in numerous foreign language teaching apps has increased the accessibility of experimental learning techniques analogous to global fascination programmes, such as the use of virtual reality. AI and XR work together to generate conversational engagements that mimic real-world encounters in order to help students learn foreign languages more effectively

III. RESEARCH METHODOLOGY

We have taken into consideration the qualitative aspects of the research study. This study is completely based on the secondary data. A systematic review was done in detail for the collected literature. Secondary sources of data used are (a) journals, (b) reports, (c) search engines, (d) company websites and scholarly articles, (e) research papers, and other academic publications.

3.1 Current Practices in Foreign B-schools

According to a report published by Gartner, a global research and advisory firm, by the year 2021, 60 percent of higher education institutions in the U.S. will be using VR to create simulations and put students into immersive environments. A few are already well along in expanding applications. Training companies can also use extended reality in professional situations. Police departments are now using VR to train officers to deal with riots or arrest people in specific situations in an effort to make streets safer for citizens and officers alike. Understanding VR technology and how it can "create emotional-physical responses" is vital, Haber says, because it allows students to conceptualize how businesses can apply these tools in new ways, such as increasing brand engagement with customers. Learning languages can feel very theoretical when you're reading books, but virtual reality educational software companies like Mondly can provide an immersive language-learning experience without having to travel to a foreign country. In Mondly's VR worlds, you can have real conversations with real people, making your language learning more powerful and more likely to stick. MIT Sloan is part of a growing number of graduate business schools worldwide that have integrated different virtual reality tools into their curricula. These can range from virtual escape rooms that teach leadership and collaboration to customized programs that can change interiors of retail environments as part of marketing exercises. Virtual Speech helps you improve your public speaking skills with immersive, realistic virtual reality simulations.

Spain's IE Business School upgraded microphones and cameras in the classroom to enhance the link between faculty and students. The school also implemented software that would project students' faces onto a large screen as if they were in the room with their professor. INSEAD, one of the world's top business schools, recently uses VR as an aid to teaching. VR has allowed INSEAD students to take part in case-based interactive sessions that include visiting wet markets in Singapore and running juice bars in Zanzibar. Birmingham Business School is also looking at incorporating VR into its Online MBA and other distance learning degrees. POLIMI Graduate School of Management uses AI to provide personalized learning recommendations for students on its online Flex Executive MBA. This includes course suggestions that align with your career goals. The Rady School of Management at the University of California—San Diego has found similar success using the VirBELA platform as the centrepiece of its global micro-MBA program in partnership with Waseda University in Tokyo.

While some administrators have been concerned about the costs of VR tools, these are dropping fast. It's clear that within a few years virtual reality will become a daily reality for many business students. The timing also coincides with the decision of various Fortune 500 businesses like Honeywell, Walmart, Volkswagen and United Parcel Service to integrate VR into their worker-education programs. As virtual reality tools gain a bigger foothold in more industries, experts say, graduates who have used these technologies as part of their curriculum will be prepared to help take their employers to the next level.

3.2 Uses in the Indian Context

In management education in the Indian context there are certain critical areas where the situation has been very challenging for students. Especially in the area of communication and public speaking as we all know that many students come from rural backgrounds and have a problem with English communication. In addition to this they also have stage fear. VR and AI tools can be extremely useful here as they can be used from home and the help of parents can also be enlisted here. In other areas of management education such as Finance it can be of great help to use VR to see how well students can learn and understand market fluctuations and what their respective response shall be. In the field of Marketing VR and AI offer unlimited opportunities especially in Rural Marketing and distribution related issues as students can be given real life situations to demonstrate their selling skills in various markets and what would they do if a peculiar situation cropped up in distribution. Interview preparations can also become a lot more easier. However the



faculty needs to innovatively build such case scenarios which will give the students the right set of circumstances to deal with. Experts from the corporate field can also be asked to join in building as well as evaluating these situations and how students should deal with it. The Institutions can also look forward towards entering into meaningful tie-ups with other Universities and organizations to help students in their learning environment.

IV. CONCLUSION

Adaptability and scalability are very crucial features for any University or educational Institutions. The changing global scenario has compelled many educational Institutions to adopt these changes and ensure that they remain competitive in the market. However it is also true that investing in such sophisticated technologies requires a substantial financial and infrastructural commitment but it is a commitment which is future oriented. It will definitely take time to adopt and learn these technologies for both faculty as well as students so it definitely makes sense to start early.

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