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How virtual reality can be the future of education?

A major way virtual reality will prove to be an advantage in the education sector is making field trips more accessible and cost-effective

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Teaching and learning have gone beyond the norms of reading from a book and understanding. With the rapid development of technology, students are able to better visualise and understand concepts at a much profound level. For example, technologies such as virtual reality allows students to experience the pyramids of Egypt through virtual reality headsets, from their classrooms. We have gone beyond the era of using real-world examples to help students and/or trainees connect to the theory of lessons in text books. Virtual reality, augmented reality and their variations represent computer interface techniques that take into account the three-dimensional space.

Virtual reality will transform the textbook into a real-world scenario, and exponentially speed up the learning process with proper implementation of 3D immersion and virtual reality technology in hundreds of classrooms across educationally progressive schools and learning labs throughout the country.

One may wonder why this technology trend will work in education, when we already have a vast amount of technology to help students. The current generation is adapting quickly to the technologically evolving world. They are engrossed in every form of education, and this works as an advantage when it comes to implementing advanced technologies such as virtual reality in education. It is bound to hold the attention of a student as she travels through a three-dimensional landscape on an exploratory route. This concept caters perfectly to the millennial group/youth, setting a scene similar to a movie in which the student is playing the protagonist. This is more likely to keep the student more involved, in comparison to sitting idly at the back of a classroom.

Furthermore, visualisation of subjects which are not in existence in today's reality presents a challenge for the students. Virtual reality makes this experiential learning possible through the creation of these non-existent environments. For example, if you are a history teacher, virtual reality will give you the opportunity to explore a historic building or visit a time period such as the ancient Indus Valley Civilisation (Harappa, Mohenjo-daro). Students will be able to explore various aspects, often by using head-mounted display (HMD) and data gloves—for interaction in a virtual environment.

Keeping the students more engaged through visualisation is one of the proven methods of learning in



young children.

Another major way virtual reality will prove to be an advantage in the education sector is making field trips more accessible and cost-effective. It will help transcend distance, allowing the virtual presence of students in classes without having to physically visit a place. This also enables large groups of students to interact with each other, as well as within a three-dimensional environment—all in the confinement of their classrooms. This will specifically prove to be beneficial for students from remote areas in the country, as they will be able to conduct experiments or be part of high-end labs without having to travel distances.

The unique ability of virtual reality is that it is able to present complex data in an accessible way to students, which is both fun and easy to learn. This can be applied to a wide variety of subjects, ranging from astronomy to human anatomy. The student and the teacher can be present in the same virtual environment, while perform-

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ing their practical experiments, and errors can be corrected in real-time. This process is highly beneficial in the medical and engineering sector, where complex training can now be imparted more accurately, which otherwise took years of practice to achieve perfection.

Education has moved on from books, pencils and pens, to the use of interactive technologies to help impart knowledge and understanding. While it can be largely applied to schools and colleges, virtual reality can be taken a step ahead and can also be adapted for training purposes. For example, L'Oreal recently launched virtual reality hair education for salon stylists. This only goes to show the positive impact that virtual reality has on learning processes and education.

India will benefit largely from the implementation of virtual reality, considering we face a large challenge in providing the right infrastructure and opportunity to students across the country. Virtual reality can help

bridge this divide through the practical world of learning.

The Google Expeditions Pioneer Program launched in 2015 has already allowed over 1 million students from 11 countries to explore virtual worlds using Google Cardboard. India is not far off from establishing the same, with global companies like Tata Elxsi, which set up the first virtual reality/visualisation facility in early 2000 and has worked on developing virtual reality-based immersive content for the education, retail and marketing areas.

This sort of experience, going in hand with growing start-up companies in the sector, can help develop the future of education in India, through virtual reality.

While we are entering the year 2017, it is only safe to assume that we will see the deployment of technologies such as virtual reality and augmented reality in the education sector, and India is not far off from connecting children across the country to the world—giving them exposure and educational value that is beyond the high standards that we already have. It is only about time that we are the frontrunners in the realm of technology and education. Virtual reality is where the future of ed-tech stands, and India is not far off from implementing and being the frontrunner of this.

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