

THE NEW DOT

Creative Education Newsletter

VOLUME - VI
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A MindBox Initiative

MIXED REALITY & EDUCATION

EMBRACE IMMERSIVE LEARNING





MIXED REALITY (MR)

Mixed Reality brings the learning content in the form of 3D models into the classroom space. Students learn by touching and interacting with the information by using a HoloLens headset, PC/laptop and a motion controller. It is a combination of Virtual Reality and Augmented Reality. Immersive environment helps the students to focus on their learning without getting distracted & understanding becomes easier.



VIRTUAL REALITY (VR)

In Virtual Reality, students connect with the virtual world and totally cut off from the real world by using a VR headset. Instead of a VR headset, students can use a Google Cardboard (a cheaper alternative) which comes with lenses that create a 3D effect. By placing a smartphone inside it, they can go on a 360-degree virtual tour, exploring different places and things without leaving the classroom.



AUGMENTED REALITY (AR)

Augmented Reality uses the lens of a smartphone camera to bring the objects from the textbook pages into the classroom space. Students learn by interacting with 3D images of virtual objects from a smartphone app, as if the objects are present in the classroom. Snapchat and PokéMon Go are popular examples of Augmented Reality.



GOAL

To keep students engaged and interested by changing the way they see, from 2D to 3D and empowering them to see, observe, interact and experience for better understanding.



BENEFITS

The best way one can learn is through participation. When students learn by seeing, hearing, touching and interacting - they are completely engaged and understand things better. Learning transforms into a fun experience, results in more interest and motivation. Students gain confidence to experiment, explore and learn new things on their own. They get clarity about the concepts they learn and understand how to apply them in everyday life. It enables them to remember the learnings for a lifetime.



MAKES LEARNING EXCITING AND EASY



SELF-LEARNING THROUGH INTERACTION



BETTER KNOWLEDGE RETENTION



FREEDOM TO LEARN AT THEIR OWN PACE



ENGAGING STUDENTS WITH SPECIAL NEEDS



ENHANCES STUDENT'S HAPPINESS QUOTIENT

How Can Students Learn Through **MIXED REALITY** IN THE CLASSROOM



LEARN THE STORIES BEHIND INVENTIONS

Students can observe and learn about the inventions made by geniuses from across the globe in a virtual environment. It will give them a platform to dig deeper and satisfy their curiosity through interaction. They can experience the journey of how the Wright brothers invented the airplane, how Thomas Edison invented the gramophone, how Alexander Graham Bell designed and invented a telephone and how Albert Einstein developed the theory of relativity.



EXPLORE THE UNIVERSE

Students can pilot a spaceship and travel across the universe. While on this virtual journey, they can learn how the universe began (Big Bang Theory) and experience the birth of a star. They can get the answers to the mysterious black holes, observe different galaxies and learn about eclipses in an immersive environment. They can also interact with the virtual trip host and get their doubts cleared. After this fun-filled exploration, students can take the learning assessment to measure the understanding gained on the trip.



TRAVEL BACK IN TIME

Students can learn about the different types of Dinosaurs that existed on earth, million years ago. They include Tyrannosaurus, Velociraptor, Spinosaurus, Diplodocus, Allosaurus, Theropods, Carnotaurus, Titanosaurus and the like. Students will be transported to the bygone era. They can observe and study these giant creatures closely. From the evolution to the extinction of the dinosaurs, students can learn it all in an engaging environment.



EXPERIMENT IN A VIRTUAL LAB

A virtual lab will enable students to learn about the atomic structure in a fun and engaging environment. They can study different kinds of solutions, learn about the periodic table and understand how to balance chemical equations. Understanding acids, bases, different chemical formulae and chemical reactions become easier. In the end, students can take the assessment to measure the learning of various chemistry topics.



DISSECT AN ORGANISM

Hologram of a teacher will guide students through the process of dissection. In this virtual environment, students can dissect a Lifesize model of a frog. This experience will cover all the steps, students have to follow - if they were to dissect a real frog in the classroom. This way, students can learn the fundamentals of anatomy without causing harm to a real frog. They can redo the process if they make a mistake. Students can learn in a safe environment which will prevent them from catching any kind of infection caused during dissection.



VISIT A MUSEUM

On a virtual trip to the museum, they can touch the artefacts which are not permitted in actual museums. From science and history to art and culture, students can deep dive into topics of their choice with a flick of their finger. They can read the label on the artefact, move the artefact and observe it from different angles. Students can learn about human evolution and get to know about cultures and practices of different civilizations around the world, in no time.



PROGRAM A ROBOT

Students can learn Robotics in an immersive environment. The hologram of an instructor will guide the students with the steps to be followed. Through interaction, students will be able to understand complex concepts in a simplified manner. They will enjoy the process of designing, constructing and programming a robot. Students can also participate in robot building competition to showcase their talent.



TRAVEL TO ANY PART OF THE WORLD

Students can take a tour to any place across the globe. Without stepping out of the classroom, they can learn about the history of a place. Students can smoothly move anywhere in this virtual environment. They can stop by a place to experience it and explore each element of the scene from different angles. With a touch of a finger, they can also expand the size of the virtual environment and step into a street or a building. The 3D models and the spatial sound will make the students feel as though they are on a real tour and not a virtual one. The hologram of a guide will provide important insights about the places, they visit on the tour.

PARTICIPATE IN DESIGN CHALLENGES

In a virtual environment, students can touch, interact & learn the steps involved in creating engineering marvels. From Palm Islands in Dubai to Pan-STARRS (Panoramic Survey Telescope and Rapid Response System) in Hawaii to Lilypad -the floating green eco-city, they can understand the engineering principles & design phases. They can also participate in the engineering design challenges and attempt to create designs that can solve real life problems.

LEARN ABOUT THE ENVIRONMENT

In a virtual environment, students can learn the significance of using environmental-friendly products. They will become aware of how human actions are causing harm to the environment and endangering our planet's species. Students can take a virtual tour of a recycling plant and experience the different stages involved in the process of converting waste into reusable materials. They will develop a solution mindset and think of ways that can protect the environment.

CONCLUSION

Mixed Reality in education will be a game-changer. It will transform the classroom into a virtual space where students can benefit from active learning and interactive experiences. With smart use of technology, students will understand the content by relating it to the real world which will facilitate faster learning and better knowledge retention. Immersive environment and multisensory experiences will make it easier for students to explore and understand the concepts at their own pace. It will enhance their happiness quotient, enrich their learning experience and inspire them to become pioneers.

MindBox is an initiative in the Creative Education Field with an aim to develop and expand the Creative and Life Skills of students by conducting diverse STEAM based programs in Schools.



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