

Teaching matters

Articles and opinions on primary teaching, with tips and ideas for the classroom

Augmented reality; virtual reality; some ideas!

With a lot of talk and discussion about augmented reality (AR) and virtual reality (VR), this article will explore examples of same and applications to the classroom.



Flashcard from Animal 4D+ range when viewed by the naked eye

Augmented reality (AR), blurs the line between the physical environment and tablet devices/smartphones using computer-generated images/animations/video. For example, Octagon Studio produce what look like standard flashcards when viewed by the naked eye. These flashcards take on a reality of their own when viewed through the accompanying app on a tablet/smartphone.

The same flashcard triggers an animated image when viewed through the app on tablet/smartphone. In this case, the physical attributes of the giraffe can be explored in great detail and appropriate oral language developed.



The cards can act as a stimulus for teacher-directed lessons when the augmented reality images are demonstrated to the whole class using a tablet connected to a projector. Pupils, in turn, can use the cards (perhaps in the context of station teaching) to enhance understanding through manual manipulation of the images when interacting directly with a tablet.

Flashcard from Space 4D+ range of the International Space Station when viewed by the naked eye and augmented reality image of the International Space Station when viewed through app



For more senior classes, the Space 4D+ range can enhance exploration of the solar system as well as some of the well-known spacecraft used in space.

Virtual reality (VR) can provide a more immersive experience for learners. VR headsets used in conjunction with smartphones allow 360 degree images and simulations to be viewed in response to the body movements of the viewer. For example, in a class exploration of their locality, locations/physical features of note can be captured as 360 degree images (using Streetview app or using a 360 degree camera – see example at tinyurl.com/lacken360).

Once placed in a VR headset (like Google cardboard or more durable plastic versions), the 360 degree

Using a plastic VR headset



When viewing this image on a smartphone, the option to view the same image in a virtual reality headset is presented. Press the headset symbol highlighted by the arrow

image can be viewed in response to physical movement of viewer.

Apps/sites like Google Expeditions and New York

Times VR (NYTVR) can bring this immersive experience to all learners. The inside of every pod of the International Space Station (already explored using augmented reality) can be viewed using a

VR headset. A multitude of international locations such as the Galapagos Islands can be explored in this immersive way.

Exploration of planets of the solar system is also possible.

Virtual worlds are being created whereby the student wearing a VR headset controls a virtual representation of themselves

(avatar) and can interact with their virtual surroundings. These virtual reality surroundings can allow for risk-free experimentation in what might be harmful surroundings in the real world, yet learning through experimentation – e.g. exploring the cone of an active volcano.

While appreciating that augmented reality and virtual reality are making initial forays into the world of education and need to be researched, there is certainly potential for this type of technology to enhance teaching and learning. The PDST would love to hear from teachers using this technology in their classrooms. Ideas can be shared through the PDST Twitter account @PDST_TechInEd.

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