

THE FUTURE IS HERE

BY MATTHEW MASON



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Mention the words augmented or virtual reality and for many it conjures up imagery of futuristic environments, virtual worlds where we are interacting with people and objects that are not really there. But the future is here. We have the capabilities to implement augmented reality (AR) or virtual reality (VR) learning experiences today.

What is AR & VR?

AR and VR could be described as cousins. In movie terms, AR would be *Ironman* (with the heads up display) and VR would be *The Matrix* (a completely virtual digital world).

AR is computer generated content, overlaid onto real world objects. A real world object or image is scanned by a mobile device and displays an augment, such as a 3D model or video.

With VR, you are immersed in a digital environment. With VR, the user is surrounded by the environment, sound, images and other stimuli making them feel physically present in a digital world.

How can it be used in learning?

For those that attended the recent AITD conference and caught Donald Clark's keynote address, you would

have seen a number of examples of VR in the learning space. This included education on sight problems and learning applications in medical surgery. Other learning applications of VR have included virtual tours to identify health and safety issues and controlling virtual equipment, such as a forklift. VR provides the ideal opportunity to provide high quality experiential learning.

AR can be as equally effective in the application of learning, providing just in time instruction; overlaying digital information on real world objects; and provide further information. Applications allow for 3D objects to be viewed and interacted with. Digital overlays provide an example of what could be or what was in geographical locations.

Integrating AR and VR into learning

Is integrating AR and VR into learning possible for a small training business? Yes, simple AR and VR experiences can be easily implemented by any training business. Yes, with tools such as Aurasma and BuildAR simple augments can be built. I have managed to build a number of simple augments, such as a



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promotional video when my business card is scanned, an interactive Point Of Sale system which displays information when buttons are pressed and a basic 3D model when an image is scanned.

There are numerous free educational AR and VR apps which can be used to provide virtual experiences for your learners. Most AR and VR content can already be experienced on flat screens as mobiles but without the factor of immersion. Your learners may not yet have AR or VR headsets, but you can field test scenarios on mobile or desktop before they do. Cheap VR headsets (including Google Cardboard) can be combined with a mobile device to provide an easy and accessible option into the VR space.

The drawbacks of AR and VR

While they have been around for a while, AR & VR are still not main stream technologies and have a few areas that can be improved. There are no formal AR standards, meaning that the file type required to create a 3D model

augment in one system is different to the file type required in another system and different apps are required to view different augments. There is also no way of knowing that an image is augmented. Geolocated augments (augments that appear based on your position) are still not perfect due to mobile devices being calibrated differently and providing slightly different locations.

There are less drawbacks with Virtual Reality, however the VR experiences can take some time to code and develop. This can mean a higher cost to develop quality learning experiences.

Is AR/VR going to take over the training and development sector?

AR & VR will become a quality tool to provide rich and engaging learning experiences. A great experiential learning experience is going to provide for better training outcomes and better returns. AR may also become a saviour for print resources, with augments built into text books and other print resources

adding another dimension which may see them remaining in use for a while longer.

The biggest technology companies (Google, Facebook, Apple, Sony, Microsoft to name a few) are all getting involved in the development of equipment to experience virtual environments. With their involvement the access to content, development tools and viewing devices is only going to get better and cheaper. Many of the hurdles will be overcome and AR & VR may soon become the answer to providing quality digital learning experiences.

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