



What's Your Reality? AR and VR for Learning

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The eLearning Guild

Support (Karyn Gleeson): Link to the slides and a wealth of additional resources: <http://bit.ly//ARVRWebinar>

Also want to know: what are some really good uses for AR and VR. I use them now, but I'd like to see what else is out there.

Can you please define the diff between AR and VR?

ATTENDEE: VR - virtual reality, typically require some sort of headset device

ATTENDEE: AR = Augmented Reality

ATTENDEE: So to clarify: AR = overlaying a virtual landscape on a physical landscape

ATTENDEE: Forbes Feb 2018 article on VR, AR, and MR distinctions

<https://www.forbes.com/sites/quora/2018/02/02/the-difference-between-virtual-reality-augmented-reality-and-mixed-reality>

ATTENDEE: AR - augmented reality -overaling information ontop of actual objects

David Kelly:Virtual Reality: Simulates a world (real or imagined) and allows the user to interact in that world.

David Kelly: Augmented Reality: Overlay of content (video, photo, sound, GPS data, etc.) onto the real world.

ATTENDEE: do companies typically decide whether they need to invest in AR/VR? Short term vs long term?

David Kelly: - I don't have the 'n' for the SuperData report handy, but the report itself is available via the curated resources.

ATTENDEE: Can you share some examples / use cases for 360 video and AR in training

ATTENDEE: Thanks. Just wondering about the number of orgs using AR/VR are right now.

David Kelly: - I don't think that investment decision for AR and VR is any different than any other technology. It comes down to a simple question: "What problem is this solving that I can't already solve today?"

ATTENDEE: Does "concerns about accessibility" include "ability to create/design materials on AR"?

ATTENDEE: David, I would think the larger corporations would be focusing on that very point. Why do I need it to enhance the current experience?

ATTENDEE: one example of AR I use in training is onboarding. I have a short concept video about this practice, if you're interested. Check out: <https://youtu.be/auTBRuH7RQw>

ATTENDEE: What benefits do the 70%+ companies who show interest see in AR? What do they believe they will accomplish that they cannot achieve / or aren't achieving in an optimal way with other formats?

ATTENDEE Ikea and Wayfair are using AR

ATTENDEE: We're interested in using AR for lab work for online students

ATTENDEE: download Wayfair app and find a product then tap "view in my room"

ATTENDEE: Universal Studios and Zara are using AR

ATTENDEE: I work in higher ed - how many people use AR/VR for student-instructor interaction, or student-student interaction?

ATTENDEE I am wondering for applications in sales training in healthcare

ATTENDEE: Zara lets you see models of their clothing through it

ATTENDEE: Example: Interior Design. In Higher Ed students designed a bus stop with 3D software and then used Augment (AR app) to place the object in different "real world" locations using an iPad.

ATTENDEE: My organization is utilizing VR to teach pre trip inspection procedures on heavy equipment.

ATTENDEE: Thanks, David - well, that's exactly what I want to explore: how is AV solving a problem /opportunity better than other solutions? I like looking at all options, but the question is how to assess options.

ATTENDEE: How else are higher ed students using AR?

ATTENDEE: At UL Lafayette, we're experimenting with using interactive 360 images to teach library skills and orient students to research resources a more fun and visual way <https://www.library360lab.org/>

ATTENDEE: Don't use the images from Shutterstock, in the PPT presentation, like this, because they are not accurate.

Jane Bozarth: Respondents on our survey were about 25% from higher ed

ATTENDEE: In higher ed, are there specific branches that are most likely to use VR? (E.g. business, composition, history, etc.)?

ATTENDEE: I can see the AR applying in the Software industry... Agile implementations, do you see VR being utilized

ATTENDEE: Can you say more about usage within "professional development opportunities"?

ATTENDEE: How do you manage technical difficulty of new adopters (users)? Do we need to prepare IT 1st?

ATTENDEE: Every domain that an error can have massive consequence (H&S, Medical, Heavy industries, etc...) LOVE those technologies because they can test fringe's scenario.

ATTENDEE: STEM is big for us, but the largest is the school of Global Security (homeland security, emergency management, etc.)

ATTENDEE: As an IT guy (as well as an educator), I can tell you -- always check with IT re: specifics, costs, viability, etc. Always involve IT in your projects.

ATTENDEE: Always look at the training need first and then find the tech/methods that will work best to achieve that solution. Agree 100% Dave!

ATTENDEE: It would be great to have a tool list and vendor list for these new technologies on eGuild

ATTENDEE - History would be really cool to dive into. I know there's a VR experience available where the user gets to be on Apollo 11.

ATTENDEE - awesome

ATTENDEE: Wow - didn't know!

Jane Bozarth: This isn't completely new: Think about flight simulators.

ATTENDEE: another strong use case for VR is when you can't get your hands on the product to get the practice you need

ATTENDEE: Recommend book "Experience on Demand" by Bailenson from Stanford. He has lots of examples including the power of VR to create empathy. See "Clouds over Sidra" to get in the shoes of a refugee from the Syrian Civil War. Film was created by UN and increased their fundraising by 30%!

ATTENDEE, this is the one I am exploring

ATTENDEE I see a large overlap between training and support activities with AR

Jane Bozarth: AR: Info embedded in product or task, 3-D visualization, practice moving in a real space, visualize a product or data

Jane Bozarth: VR: Where practice is dangerous, expensive, impossible,

ATTENDEE: Please talk more about 360 video and how it can be applied in L&D

ATTENDEE: we have developed an AR deliverable of a an engine with ability to go 'inside' to view with internal components

ATTENDEE: Many colleges are doing 360 video for campus tours.

ATTENDEE: This is an example from BMW in 2014:

ATTENDEE:<http://www.dailymail.co.uk/sciencetech/article-2543395/The-end-mechanic-Smart-glasses-make-possible-fix-car-engine-just-looking-it.html>

ATTENDEE Please define more of what performance reporting is concerning AR

ATTENDEE: we used 360 video to show the inside and under carriage of a 45 ton Hal truck, which normally you can't get into. Allows the students to inspect and see functions without even getting on equipment

ATTENDEE: Is that the Samsung 360 camera?

ATTENDEE: right performance support and training will overlap more and more

Jane Bozarth: With 360 video you could be "inside" a machine

ATTENDEE: bite size training at time of need

ATTENDEE: Also known as "situated learning".

ATTENDEE: Can you talk about higher ed application?

ATTENDEE: We use Samsung Gear 360, great for price

ATTENDEE: Can you suggest some resources to learn how to develop 360 video?

ATTENDEE we used the insta360 attached to a drone for overhead footage. It is an amazing view!

ATTENDEE completely agree. Especially when tying in telematics

Jane Bozarth: RE higher ed applications: Lab work, geology work, anatomy, medical, there are virtual field trips to museums, historic sites

Jane Bozarth: Higher Ed: Campus maps w info overlays, and virtual tours

ATTENDEE plus accessories like VR gloves etc.

ATTENDEE: Can you talk about the probability to use AR/VR tech. in vocational education area?

ATTENDEE: Eye tracking will also be a game changer for AR, enabling true parallax from the user's perspective.

ATTENDEE: Is there an iPhone in the google cardboard?

ATTENDEE: Do we have data (I know it is early) to show that VR/AR has positive impact, say on attention and engagement?

ATTENDEE what is the output from AR and VR? HTML?

ATTENDEE: cardboard....Less than \$5

ATTENDEE: What do you need to develop Google cardboard content?

ATTENDEE: How does this even work? Isn't it just like watching a video on your smartphone, with cardboard around your eyes?

ATTENDEE: Output is rarely HTML because you need access to the mobile's sensors

ATTENDEE: Output depends on the software used to develop and the platform used for deployment

ATTENDEE: web delivery would be WebGL

ATTENDEE: Could be video (YouTube has 360 support). If using Unity it has its own plugin but is interactive.

ATTENDEE: Unity and Unreal both support VR and AR development. We just released a new course on developing for Mobile VR with Unity - on Coursera.

ATTENDEE: My daughter LOVES Google cardboard I received at 360 conference last year!

ATTENDEE: And Hollywood

ATTENDEE: My son trains on his A-10 using this

Jane Bozarth: Google "how to make a google cardboard app" Really -- lots of help there.

ATTENDEE: Yes, the kids look amazed... but how can we keep up with that type of amazement, especially when learning is complex, needs focused attention for extended periods of time? How do we keep it up and sustain that level of curiosity?

ATTENDEE, yes, lots of iPhone options for Google Cardboard and similar experiences -

<https://www.google.com/search?q=iphone+google+cardboard&source=Int&tbs=qdr:m&sa=X&ved=0ahUKEwjj28mr7pnbAhVEgK0KHR7kD5YQpwUIIQ&biw=1745&bih=863>

ATTENDEE: Can the chat be made available to us later too? This is good content!

Jane Bozarth: I will again mention flight simulators.

ATTENDEE: NFL quarterbacks are also using VR instead of watching film

ATTENDEE. Google has a tool called Cardboard Camera - you can make a very simple 360 photo to share. I also send people to YouTube - type in cardboard or 3d and you will get many options. (Carefully select what you want to use.

User-friendly: Orbulus and Discovery channel for field trips)

ATTENDEE: Jane - indeed! Had friend in college working for Flight Safety. Neat stuff.

Jane Bozarth: Right, Hedrick. The quarterbacks can play in realistic virtual games rather than watch games that have already happened

ATTENDEE t: Case Western University medical school is using VR now. They've done away with cadavers because of it.

Jane Bozarth: In thinking about questions re engagement, attention: Think about flight simulators.

Support (Karyn Gleeson) 2: - I will curate the chat and post with the recording.

ATTENDEE:<http://www.cbc.ca/news/canada/nova-scotia/gaming-medicine-virtual-reality-1.4641702>

ATTENDEE: yes, I'm in the airline field and we have lots of business cases for VR use because getting access to equipment for training can be challenging

ATTENDEE: thanks Karyn

Jane Bozarth: Yes, --you don't need the real product, or the real body.

ATTENDEE: Thank you Karyn!

ATTENDEE Boeing is using AR a lot. They say it has helped reduce error rate by over 25%.

ATTENDEE: I love this cell phone tower AR use example. Brilliant!

ATTENDEE - I would be interested in how you are using AR/VR

ATTENDEE: Building VR experiences requires a strong understanding of code like C# - right now the main tools are Unity3D, Unreal Engine --- Amazon Sumerian might offer a less code-heavy approach

ATTENDEE: Medical field, flight simulations and other simulations - that's' good. That narrows the focus, and leads to figuring out "when VR is NOT necessarily a better solution than anything else".

Jane Bozarth: Steve I have Sumerian on my list of things to get to just any minute now...

ATTENDEE:*than other forms of learning formats."

ATTENDEE: This example is half miss, Manufacturing nowadays use RFID in the equipment itself, So you don't need AR, the equipment broadcast itself it's status... it real time....

ATTENDEE just to add on that some of the tools have ways around the need to code such as Unreal engine's blueprint system.

ATTENDEE: Google Earth VR is free with Oculus Rift and is very cool.

ATTENDEE: I like Sumerian, but have found that I need very high quality internet to develop (it is cloud-based)

ATTENDEE: I love <https://eyes.nasa.gov/curiosity/>

ATTENDEE: Second Life - Yes

ATTENDEE: not the right use of that tech

Jane Bozarth: AARRGHHH Second life: lectern with a speaker and audience in chairs. smh.

ATTENDEE: lol

ATTENDEE yes, flight simulators were really the first VR experiences going back to the 50s.

Jane Bozarth: Completely aside: The new VR theme park rides are great for me. I have trouble with motion sickness. If VR ride is bothering me I can just...close my eyes.

ATTENDEE: I think sometimes people need to experience new tools in order to ask better questions aimed to discover what's possible. We don't know what we don't know ... yet :)

ATTENDEE: lol, but have learned a lot poking around in SL about what does and does not work

ATTENDEE: Second Life was used very poorly by training & development; lots of potential, wasted :)

ATTENDEE: AR/VR/MR ... all exciting. Overlook AI/NLP/5G impact at your own peril!

ATTENDEE: Had a fantastic SL internship in a still active public library system in Caledon. Learned so much I am still using today in other contexts.

Jane Bozarth: yes: SL taught us a lot. I am always amazed that people seeing a new tech immediately try to replicate existing practice with it. I saw a VR onboarding program that was nothing but a virtual HR director talking about policies....

ATTENDEE: This NY Times story can be seen in 360 video "Clouds over Sidra"

ATTENDEE: Ironic, Jane

ATTENDEE The Louvre is famous for its virtual tours.

ATTENDEE: And they do not have to worry about you touching the item.

ATTENDEE Absolutely, Jane, totally get what you are saying. So true.

ATTENDEE I forget the museum that allows you to pose in the position of certain statues...

Jane Bozarth: Jane raises hand: envisioning blueprints

ATTENDEE Jane it's true, coolness often outweigh usefulness

ATTENDEE: The AR wine labels are very cool...

ATTENDEE: Variety and options? Yes. Who could disagree? But choosing what ingredients you use and for what purpose to create the variety, requires purposes for each one of the ingredients.

ATTENDEE I got terrible claustrophobia from the Space Station simulator in Oculus-- and that's a GOOD thing, since it made me feel the emotions of being someplace different

ATTENDEE Swore I saw a Microsoft AI commercial where they are using 360 and AI to recreate historical locations so they aren't lost forever

ATTENDEE: it has come so far in the last few years. So much more immersive

ATTENDEE: what about glasses wearers...?

ATTENDEE: You're right, Just saw that myself about 10 days ago.

Jane Bozarth: Headsets fit over glasses

ATTENDEE: I can wear most headsets with my glasses

ATTENDEE I attended a Unity session on educational possibilities and the speaker told us that users did not want to wear a headset because of fear of messing up their hair.

ATTENDEE: that is a drawback for VR and any headset device

ATTENDEE I wear glasses and can adjust the Oculus headset around my glasses. Sort depends on how much I want to adjust.

ATTENDEE: The hair thing is real :)

ATTENDEE: How do you see this interacting with eLearning?

ATTENDEE HoloLens+Unity+Ai+5G: on demand holographic mentors

Jane Bozarth: Again: Does it solve a problem? If it could have kept my guy on the scaffold from dying? Yes. To have a virtual HR director read policies? No.

ATTENDEE Star Trek Holodeck

ATTENDEE: Flight simulations is great. Like medical field - what matters in these fields is "0% tolerance for mistakes and errors". You cannot afford a mistake that crashes a plane, for example. But if you teach finance or compliance training for example, the situation is different.... so, using VR will require a different rationale.

Jane Bozarth: How long do you think before the headsets go away? 2 years?

ATTENDEE they have a new VOID VR experience in Las Vegas. Be sure to check it out if you are attending DevLearn.

ATTENDEE Jane - good application - create the potential risks in a VR environment, and then ask them if they have done anything to prevent this?!

Jane Bozarth: They're going to figure out how to get rid of the headsets. Soon.

ATTENDEE did a "holodeck" demo at local Dunkin Donuts last year! Blew the customer's minds.

ATTENDEE you might want to define "Haptic feedback". The sense of touch as part of VR.

ATTENDEE: @Jane Battery is the bottleneck nowadays

Jane Bozarth:: Yep

ATTENDEE Tesla suits are pretty crazy - haptic and climate response

ATTENDEE Ran across intriguing tool yesterday for building VR from within VR, like TiltBrush
<https://store.steampowered.com/app/517170/Tvori/>

ATTENDEE you can try out Oculus Rift at Microsoft Stores

Jane Bozarth: I WANT TO TRY A TESLA SUIT

ATTENDEE: Any good recommendations for resources on writing XR content?

ATTENDEE: Is that Star Wars experience still available?

ATTENDEE): Some companies use Arduino, and 3D printing to provide alternate hardware to do VR.

Jane Bozarth: as we've said, this isn't the solution to every problem. I don't know that we need immersive VR in the mortgage business right now. As we've said, use it where it solves a problem.

ATTENDEE That Star Wars experience is one they just opened in Vegas.

ATTENDEE has anyone worked with STRVR?

ATTENDEE: Your next phone should look like a pair of Ray-Bans.

ATTENDEE There is a good realtor experience that lets you tour homes for sale in 3d

Jane Bozarth: There are lots of uses of AR for compliance training. (Note: AR and VR are different)

ATTENDEE anyone attending AWE later this month? - <https://augmentedworldexpo.com/>

ATTENDEE this is what Dave did in Orlando (Star Wars) <https://www.disneysprings.com/activities/star-wars-secrets-empire-ilmxlab-void/>

ATTENDEE what are these public speaking apps? We're working on communication skills in higher Ed a lot.

ATTENDEE note Disney is calling it hyper reality

ATTENDEE <https://www.thevoid.com/dimensions/starwars/secretsoftheempire/>

Support (Karyn Gleeson) 2: Link to AR, VR, & Enhanced Realities White Paper: <http://bit.ly/2GHN4YO> Link to Research Report page: <http://bit.ly/2KLRRuK>

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David Kelly: - realities360.com