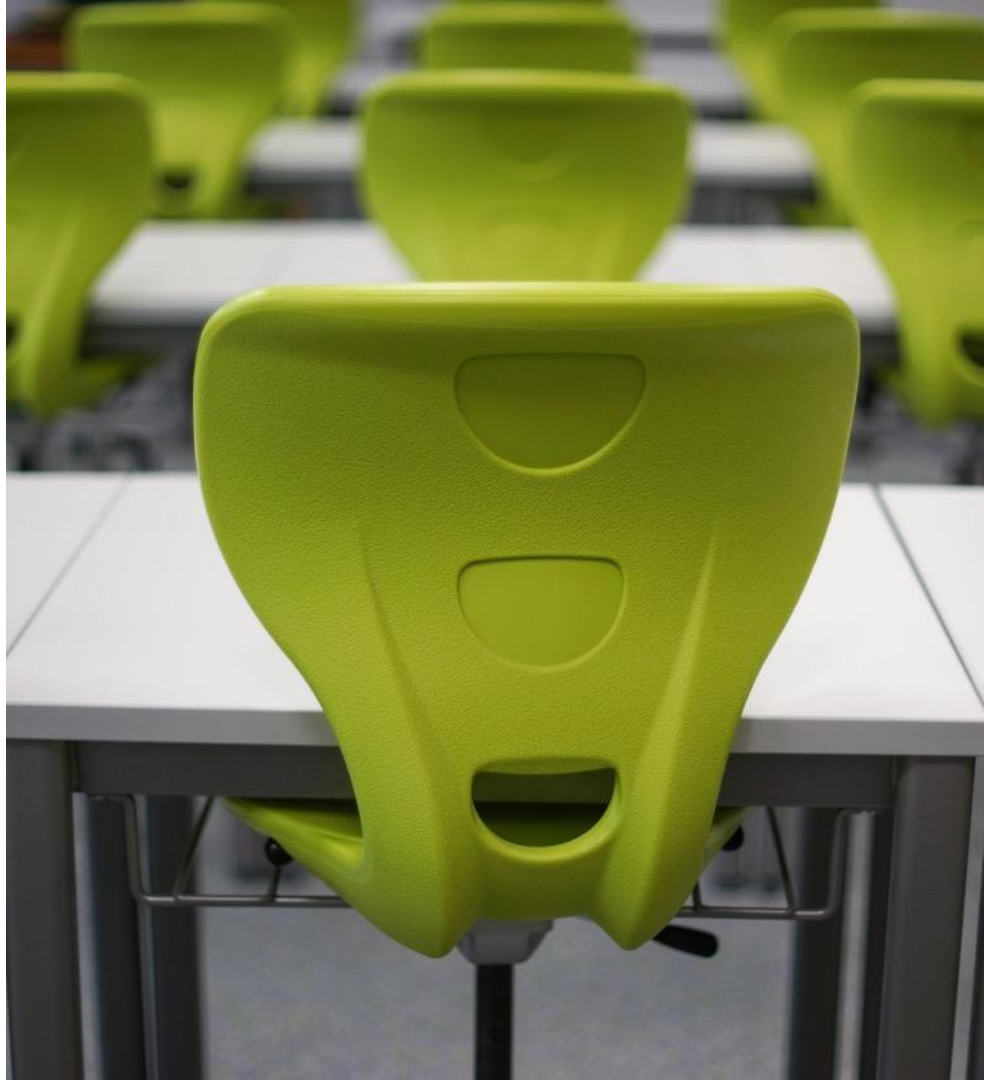

Deploying Virtual and Augmented Reality at Scale

Learning

We are curious and love to learn new things. Our brains can learn through many methods by listening, reading, seeing, discussion and doing. The more we learn and study a subject the more we build our **Muscle Memory** and better understand and retain what we learn reducing the chance of errors or needing assistance.



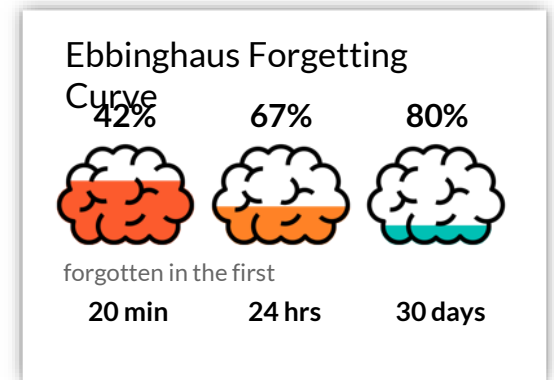
However, training provided today can be insufficient and does not always provide the level of **Emotion**, **Situational Awareness** or **Impact** to be effective.



Missing the Mark

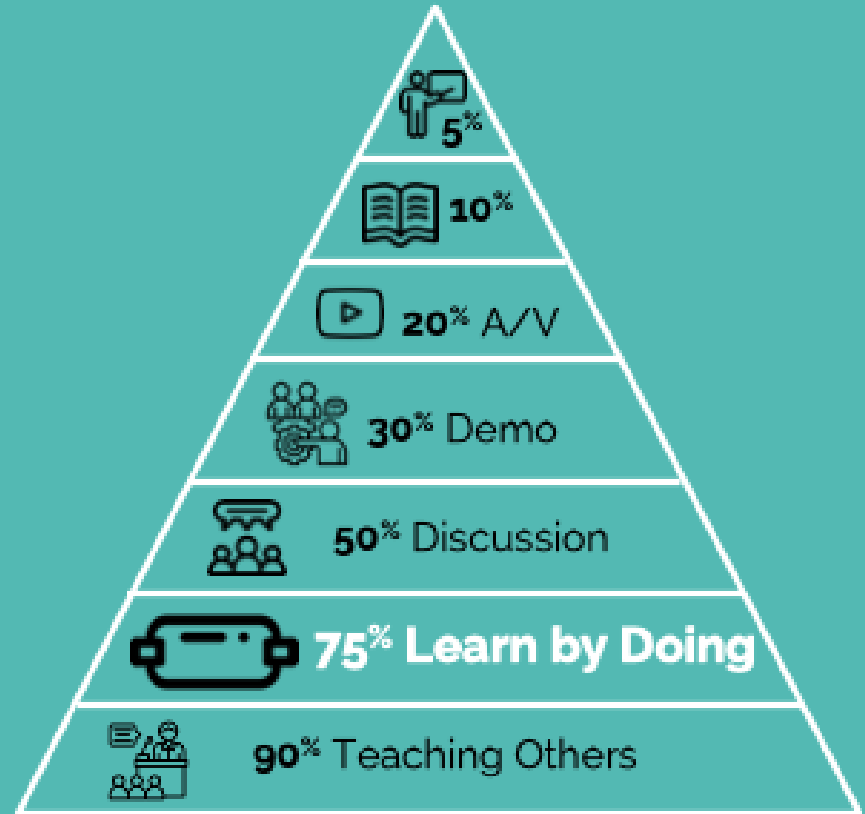
Traditional training by video, slide presentation or lecture are **Not Retained** and **Lack Engagement** by the audience.

Teaching dangers, empathy and hands on training of tasks can be **Costly**, **Impossible** to replicate and **Inconsistent**.



Our **Retention** of information is directly related to the way we are taught. Lectures, reading and discussion are much less effective than **Learning by Doing**.

Learning Pyramid



Retention

Virtual Reality

User wear head mounted displays to experience a digital environment replacing the users physical world with an immersive experience

Augmented Reality

Using head mounted display or a handheld screen like a smartphone or tablet to overlay digital content on physical world for users to interact with



Increases Retention

Fully Immersive

Always Consistent

When VR is most effective

It is a powerful medium that can take learners to places not possible before or actually put them in someone else's shoes as well as allow them to practice when the physical is not available.

Imagine experiencing a fire from inside the building or seeing the view of an elderly person alone in their home.

UCLA Surgical Study,
showed those training
in VR out performed
those trained
traditionally by

130%

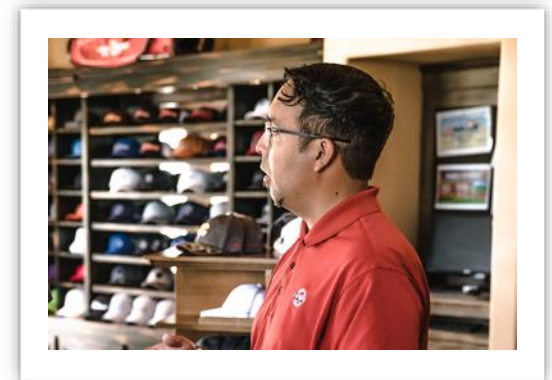


Source: [UCLA, Road to VR 2019](#)

Empathy

Today training on empathy can consist of role playing or third person video.

Virtual Reality allows the user to see the world from another person's view. Providing real situational awareness of what the person is seeing or what they might be feeling.



Dangerous

When delivering training on active shooter or chemical spills much of the training can be done only through video or lecture.

Recreating an actual chemical spill experience in VR can provide a better perspective of the situation and need for quick critical thinking.

**CEO of Walmart,
Doug McMillon,**
credited the active
shooter VR training
their employees
received for saving
lives in the El Paso, TX
shooting



Source: [Fortune](#)

Costly

Some training requires the need to train hands on with large and expensive equipment making almost impossible to effectively train.

For airline every minute a plane in on the ground cost them money and for a manufacturer stopping the line for training is impossible.



VR is not always the answer

Why provide a isolated environment to train someone to make a salad in the back of the restaurant when they can do it side by side with an instructor in the real world.

VR is an extremely powerful tool however you must look at how it benefits and why it is needed.



What to consider

From a training perspective you need to ask yourself a few questions on when VR should be implemented.

What are the training completion requirements?

How many people do you need to train?

What challenges are you experiencing with your current training deliverables?

Who and how will you build the content for your VR training?



Moment of Need Contextualized In World Access

When AR is most effective

AR enables you to enhance the existing working environment with just-in-time instructions and guidance.

Fighting the forgetting curve AR can help provide the instruction on the job when users have forgotten or not had the opportunity to train.



Step-By-Step

Today manual and step-by-step instructions are provided in notebooks, tablets and computers, requiring the user to stop and get directions.

If a user is wearing a pair of AR glasses they are able to continue with the job as they pull up the instruction in their field of view.



Expert Help

Today when a user comes across something they can't do many times they either guess or require someone else to do the job.

Using AR can allow the onsite user to call an expert and conduct a point of view video call to allow the person to walk them through the job.



Quality Assurance & Compliance

When working a job any QA is typically done after the job is complete by a supervisor and compliance is often assumed.

Using AR we can require steps be completed before moving on to the next one. Even require that documentation of compliance steps.



AR is not always the answer

You must continue to think about the environment the user is in and the acceptance of the use of AR glasses. It is not for those working in someone home or perhaps with customers.

However, AR will become more and more prevalent in our daily lives at work, home and play and as it does more will be accepting.



Scaling

What to consider

When scaling VR and AR remember this is technology new to the business.

Involve everyone, IT, Operations, Finance, etc.

Plan like you are going to succeed don't just plan for a pilot.

Consider these devices don't have a keyboard.

Connectivity is only WiFi

User experience of the hardware is as important as the user experience of content

These will NOT replace all your current training

Return on Investment

What ROI Can I Expect

The cost of developing VR and AR can seem overwhelming but the return can be considerable if you look at what you can avoid and save

What travel can you reduce?

Can you eliminate training?

Are new users increasing their speed to competency?

Can you reduce resource deployment by getting the job done the first time?

Can you scale to train more people in less times?

Questions

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Thank You
