Research categories:

* Current VR products
* Current Cardboard products/applications
* Education/education technology

https://en.wikipedia.org/wiki/Magic\_Leap

Dreams of Dali

VR/AR Constellation

Astronomy

Physics

Charlie:

<https://www.youtube.com/watch?v=dhIxY6G-UHE> - VR graffiti game

Idea: can we use VR for arts teaching experiences “on the cheap”?

<https://touchstoneresearch.com/the-top-10-companies-working-on-education-in-virtual-reality-and-augmented-reality/>

* Talks about various VR education startups, as well as Google Expeditions.
* However, most companies seem to be using VR for “virtual tours” of natural environments or of museums, not necessarily interactive, and not used to teach many subjects (ie math)
* Thought: what about using Bluetooth keyboards to manipulate a student’s VR experience in cardboard, thus creating a cheaper way to achieve more interaction
* Or: voice commands? Through some Google API (on phone)?

Cathy

VR game: VR technology + projection mapping

<https://vimeo.com/98645954>

Birdly: experience flying like birds in VR

<https://www.youtube.com/watch?v=gWLHIusLWOc>

VR in museums:

<http://mw2016.museumsandtheweb.com/paper/virtual-reality-at-the-british-museum-what-is-the-value-of-virtual-reality-environments-for-learning-by-children-and-young-people-schools-and-families/>

New York Times cardboard news:

<http://www.nytimes.com/marketing/nytvr/>

3D VR drawing

<https://www.youtube.com/watch?v=GSbkn6mCfXE>

HTC Vive: Fantastic contraption

<https://www.youtube.com/watch?v=nx-esx_KbJE>

Cardboard game: InCell -----BIOLOGY SUBJECT

<https://www.youtube.com/watch?v=eEI9gi7X1M4>

When VR meets Education

<https://techcrunch.com/2016/01/23/when-virtual-reality-meets-education/>

Jaya

Effect of 3-D simulations on learning

<http://www.cyber-classroom.de/fileadmin/cyberclassroom/FOTOS/3D_STUDIEN/The_3D_in_Education_White_Paper_US.pdf>

-increases attention - but any more than video?

Companies working on VR

<http://alchemylearning.com/adopting-virtual-reality-for-education>

https://vr.google.com/daydream/

-content creation space is saturated

-teaching engineering?

-rentable VR spaces

-attention - learn more content faster

-the more education you can receive in a given amount of time, the more educated you will be

**Attention and motivation**

**Change the way students are assessed - homework is not stressful and boring**

**VR HOMEWORK** - no one wants to do homework...until now

A way to test retention for one subject for one VR experience

Measure retention within the VR experience? Auditory queues

Wanted to start with VR and testing

Give teachers a platform for designing homework in VR - a way to plant quick learning assessments into the VR experience

Auditory information and transferring it to

Audio queues - how tall is the Burj Kalifa? Then they say it out loud.

**What is it about VR that makes it successful for education in general?**

-Attention

-Motivation

**As much as VR could be the future of education, one part of education that’s not going away is assessment.**

Testing and retention is an important part of education. Can we transform the testing experience with VR? Can we measure experiential learning?

How can we explore this space in a smaller scale

HW - no one likes homework, you come home and it’s boring and stressful

Imagine you came home and could do VR at home

How can we measure retention in VR experiences?

Feedback in video games

**Lays on top of VR experiences**

**Allows teachers to create their own assessments for the experience**

**Pick one subject and one platform - one way to put**

**Testing deep learning**

**Augmented reality and building an engine**

**Euphoria**

**All the scnearios would work’**

**Strengths and weaknesses of VR**

**Privacy and isolation**

**Big idea - riskier**

**Not invent content**

**Google forms - testing tool for teachers**

**Make bubble test, screen shot**

**Autograde**

**input - true/false**

Bubble sort

Input on VR is hard

Write a report or learn something and express some essential truth from a situation

What can you do with audio and recognition?

Learning the pedagogy before the game

Inputs can get different output - differenet levels of knowlegde. Gamify homework

Bring education home with VR - it’s personal

Series of youtube clips - path a and path b - video content very engaging

Meant to be consumed by yourself

Without teacher guidnce