

# Augmented Reality (AR) in the Classroom



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Bringing Learning to Life

[tinyurl.com/IU13etcAR](https://tinyurl.com/IU13etcAR)



IU13 Elementary Technology Conference

#IU13etc16

# Introduction & Overview

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1. **History** of how Augmented Reality (AR) came to be...
  2. **What** exactly is AR?
  3. **Why** use AR in education?
  4. Practical classroom **applications** and **examples** of AR
  5. **Explore, create, collaborate**
  6. **Resources** and **links**
  7. **Next steps** and **goals**
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# History of Augmented Reality (AR)...

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- In **1962**, the *Sensorama Stimulator*, an "Experience Theatre" in the form of a head mounted display (HMD) was created by Morton Heilig, the Father of Virtual Reality
- Ivan Sutherland, a Professor at Harvard and Father of Computer Graphics created the first computer connected 3D virtual head mounted display (HMD) in **1968**
- Most of this virtual and augmented technologies were funded by NASA, the Department of Defense, the National Science Foundation and the Central Intelligence Agency (CIA) in the **1960s** and **1970s**.
- In **1992**, Tom Caudell coined the term "Augmented Reality" while doing work as a Boeing researcher
- The **1990s through 2009**, as technologies advanced, so did AR most specifically in the entertainment industry
- **Currently**, AR hardware and software are an integral part of consumer audiences across the globe, used in marketing, sales and education

Infographic: The History of Augmented Reality via Augment <http://bit.ly/2FYWhE5>

# What is Augmented Reality (AR)?

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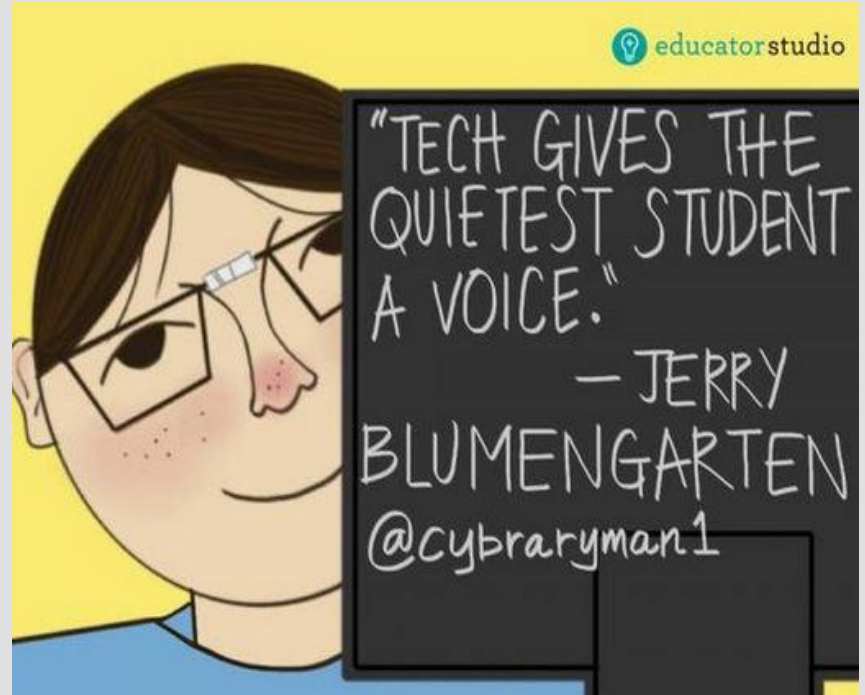
**Augmented Reality (AR)** is a live camera view of the physical environment augmented with computer-generated elements that provide additional information or experiences. **AR** is closer to "real life" than Virtual Reality (VR).

**AR** enriches our real-world with digital information and media, such as 3D models and videos, overlaying in real-time the camera view of your smartphone, tablet, PC or connected glasses.

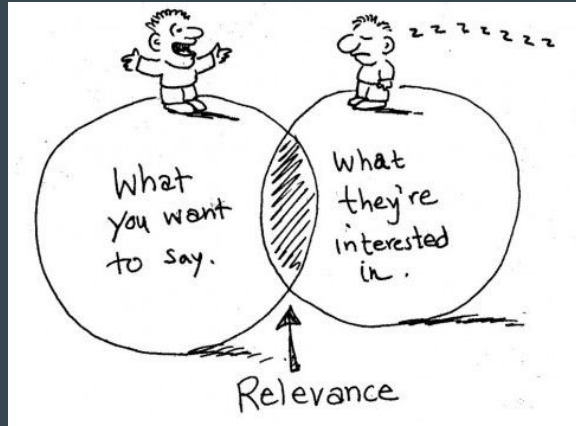
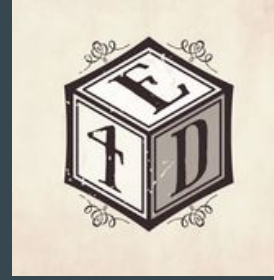
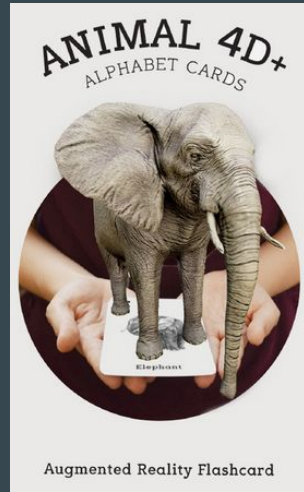
**AR** content can be accessed by scanning or viewing a trigger image with a mobile device that creates a subsequent action. This action can be a video, another image, 3D Animations, Games, QR code, or whatever you want!

# Why use Augmented Reality (AR) in education?

AR is engaging, cross-curricular, creative and offers a comfort factor for students who are less likely to share publicly



AR is an example of a technology that can make classroom learning **transformational** and the content delivery system addresses the needs of our visual learners



Augmented Reality (AR) allows educators and students to **unlock** layers of digital information AND **create** layers of digital information on top of their physical world

Todd Nesloney  
Drew Minock  
via @edutopia

## Active vs Passive Learners

With AR, you can create active learning experiences



Create opportunities where teaching  
and learning is transformational  
for the student, not only the teacher

**“Meet young people  
where they are in terms  
of their peer culture,  
their interest in popular  
culture, social media,  
rather than say you  
have to meet us where  
we are as adults.”**

“TECHNOLOGY WILL NEVER  
REPLACE GREAT TEACHERS,  
BUT TECHNOLOGY IN THE HANDS  
OF GREAT TEACHERS IS  
TRANSFORMATIONAL.”

— GEORGE COUTROS @GCOUTROS

[WWW.BAMTRADIONETWORK.COM/QUOTED](http://WWW.BAMTRADIONETWORK.COM/QUOTED)

# Research says...

Technology has become embedded in education and the results indicate a **positive impact** on learning and teaching styles.

Lessons that are supported by technology will lead to more **innovative forms** of teaching and learning. This is because the use of technology involves real-world problems, current informational resources, simulations of concepts, and can include communication with professionals in the field.

Learning using technology is believed to **complement** traditional forms of teaching and learning.

Most research findings on AR, conclude AR technologies have a **positive potential** and **advantages** that can be adapted in education, with further research needed to examine specifics.

Beauchemin, R. W. (2016). Augmenting Education: Using Augmented Reality Technologies. *Handbook of Research on Mobile Learning in Contemporary Classrooms*, 160.

Saidin, N. F., Halim, N. D. A., & Yahaya, N. (2015). A Review of Research on Augmented Reality in Education: Advantages and Applications. *International Education Studies*, 8(13), 1.

Shapley, K., Sheehan, D., Maloney, C., & Caranikas-Walker, F. (2011). Effects of technology Immersion on Middle School Students' Learning Opportunities and Achievement. *The Journal Educational Research*, 104, 299-315.

# Create Collaborate Think Critically

Profound learning occurs when students create, share, interact and explain... so let your students be the directors, you can set the parameters and facilitate the **AR** experiences.



## AR In The Classroom Purposeful, impactful #EdTech

### Biography Writing/Wax Museum

ELL/ESL Classroom Procedures/Info  
Homework Mini-Lessons (all content areas)  
Explain how a math problem was solved

### School-Wide Tours

Mystery Readers  
Book Reviews (Comprehension/Fluency)  
Parent Involvement/Encouragement  
Classroom Yearbooks or Memory Books  
Art Projects

### Handwriting Demonstration (Letter & Number Formation)

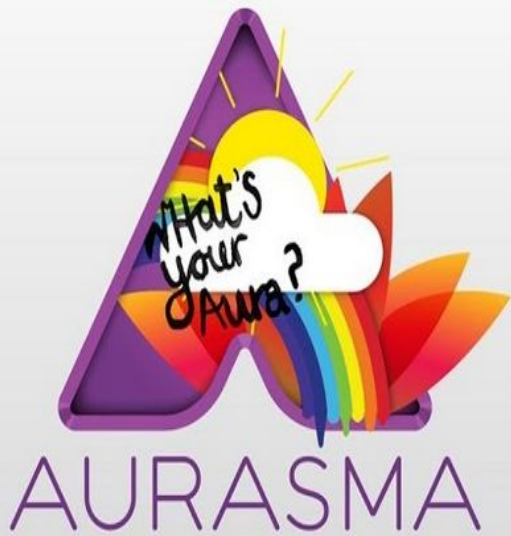
Word Walls - ELA to Foreign Language Classes  
A to Z/Letter Sounds/Rhyming Words/Multiple Meaning  
Science Research & Science Safety  
Deaf and Hard of Hearing (DHH) Sign Language Flashcards  
Social Studies/History stories by students  
Physical Education demonstrations

### Back to School Night

Share Research for ANY Subject, Content or Grade Level



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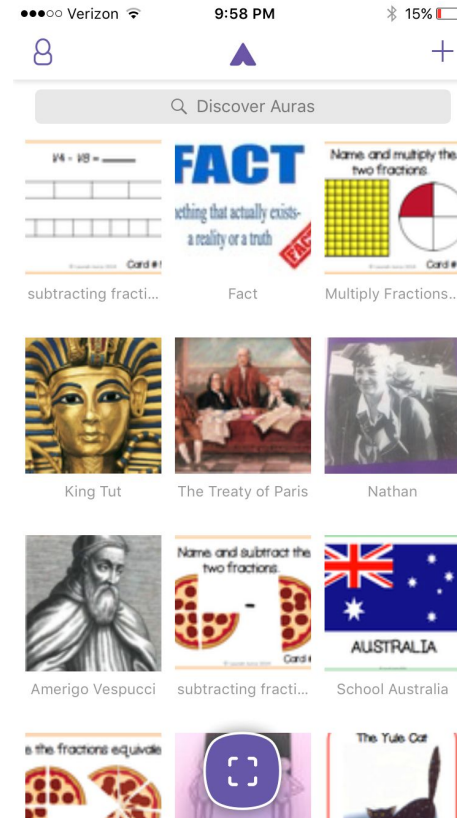
**Aurasma** is an augmented reality app that lets users create their own "Auras" or augmented reality experiences

**Aura:** Is an augmented reality experience that consists of a trigger image and an overlay

**Trigger Image:** Is an image that is scanned with the Aurasma app

**Overlay:** The video, animation, link or other item that appears when the trigger image is scanned (the overlay is "connected" to the trigger image)

# Aurasma App View (iOS)



Create a Free Account

Use the "+" to take a photo  
This can be your trigger image (this is what you want to "come to life")

Then choose an overlay -  
from the Library or your Device... Select Upload to pull from your Photo Album or record right in the App

Name your overlay  
Position your overlay  
Save it w/ a name  
Select which channel you want to save it under

Click Submit - then Done

# Explore & Create

**PART 1: TEST OUT** Scan trigger images around the room using Aurasma, Aug That or 4D+ Animal or 4D+ Space... watch the magic!

(Download any of these FREE apps to your device OR borrow a presentation demo iPad)

**PART 2: CREATE** Take a piece of paper, draw a picture... this picture will become your trigger image, as you will be making an Aura using Aurasma

(Download the FREE Aurasma app & set up an account - classroom or personal)

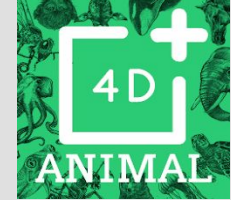
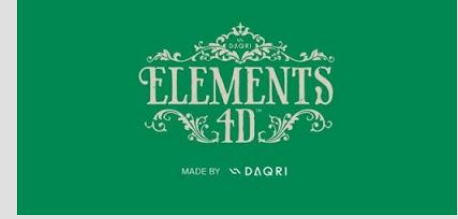
**PART 3: REFLECT** Ponder, reflect, collaborate... how could you use AR in your classroom?

# Collaborate

The smartest person in the room is never as smart as all the people in the room.

John C Maxwell

# Augmented Reality (AR) Apps & Web Based Resources



# AR Resources, Links & More!

Aurasma Studio - Web Platform <https://studio.aurasma.com/login>

Aurasma How To Guide: Updated 2016 Created by The Book Bug/ATBOT <http://bit.ly/2fqm2ws>

Apps and Tools that Aid Reading with Augmented Reality via EdTechReview <http://bit.ly/2fUtxb1>

How to Transform Your Classroom w/ Augmented Reality via EdSurge <http://bit.ly/1LOCLAE>

The Best Augmented Reality Apps to Use with Students (Accompanied with Tutorials & Lessons) via Educational Technology and Mobile Learning <http://bit.ly/2gwYulw>

Augmented Reality for ED SMORE by Christopher Beyerle <http://bit.ly/2bMq39p>

The Augmented Reality Education Ed Shelf of MANY Apps by Christopher Beyerle  
<http://bit.ly/2gx1b6D>



[tinyurl.com/1U13etcAR](http://tinyurl.com/1U13etcAR)

Pinterest Augmented Reality Apps Board <http://bit.ly/2fGPWeq>

Augmented Reality: Resources to Get You Started by Karey Brown <http://bit.ly/2bEzPNq>

Two Guys & Some iPads - AR <http://bit.ly/1fx0h5M>

Augmented Reality for Ed via Smore (Tons of Apps listed here) <http://bit.ly/2bMq39p>

Augmented Reality Brings New Dimensions to Learning via Edutopia <http://edut.to/ld7mDHP>

Making Posters Interactive with Aurasma via Learn Moore Stuff <http://bit.ly/2bgBnJf>

Dr. V's EdTech Help Page (AR Resources) <http://bit.ly/2bgBAMq>

Join the AR Revolution, Blog Post by Todd Nesloney <http://bit.ly/2bEznPG>

Augmented Reality SMORE by J2 Training. Created by Janet Corder & Joan Gore <http://bit.ly/2g4l9cZ>



# Questions Next Steps Goal Setting



<https://todaysmeet.com/IU13etcAR>

1. What app or resource could you try in your educational setting in one month?
2. Do you have a project where student voice in the form of video would increase engagement and offer an opportunity for students to create meaningfully?
3. Questions or anything for the good of the group?

# Let's stay in touch...



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