

Using the SAMR  
model to examine  
technology for  
learning







Go to: [menti.com](https://www.menti.com)  
Code: 26 20 29

How you feel about technology?

# Quiz/Polling software

- Mentimeter (Short questions, images)
- GoSoapBox (Longer questions)
- Kahoot (Groups, games)
- Socrative (Ghosting)

SAMR is  
a model  
that categorizes  
integration of  
technology

# Trying to answer:

- is the tech required?
- is the tech a good fit?
- is it worth it?
- how to best implement it?

# SAMR

The diagram illustrates the SAMR model of technology use in education. It consists of four horizontal rounded rectangular boxes stacked vertically. From bottom to top, they are: Substitution (yellow), Augmentation (orange), Modification (blue), and Redefinition (green). A horizontal dotted line separates the bottom two boxes from the top two. To the left of the boxes is a vertical arrow pointing upwards, with the letters S, A, M, and R stacked vertically next to it. To the right of the boxes, the word 'Transformation' is written vertically, and to the left of the dotted line, the word 'Enhancement' is written vertically.

Enhancement

Transformation

## Redefinition

*Tech allows for the creation of new tasks, previously inconceivable*

## Modification

*Tech allows for significant task redesign*

## Augmentation

*Tech acts as a direct tool substitute, with functional improvement*

## Substitution

*Tech acts as a direct tool substitute, with no functional change*

For example...



THE SAMR MODEL

<https://youtu.be/SC5ARwUkVQg>

# SAMR



Does tech make a new activity possible?

## Redefinition

*Tech allows for the creation of new tasks, previously inconceivable*

Does the tech facilitate different LO's

## Modification

*Tech allows for significant task redesign*

What do the features add?

## Augmentation

*Tech acts as a direct tool substitute, with functional improvement*

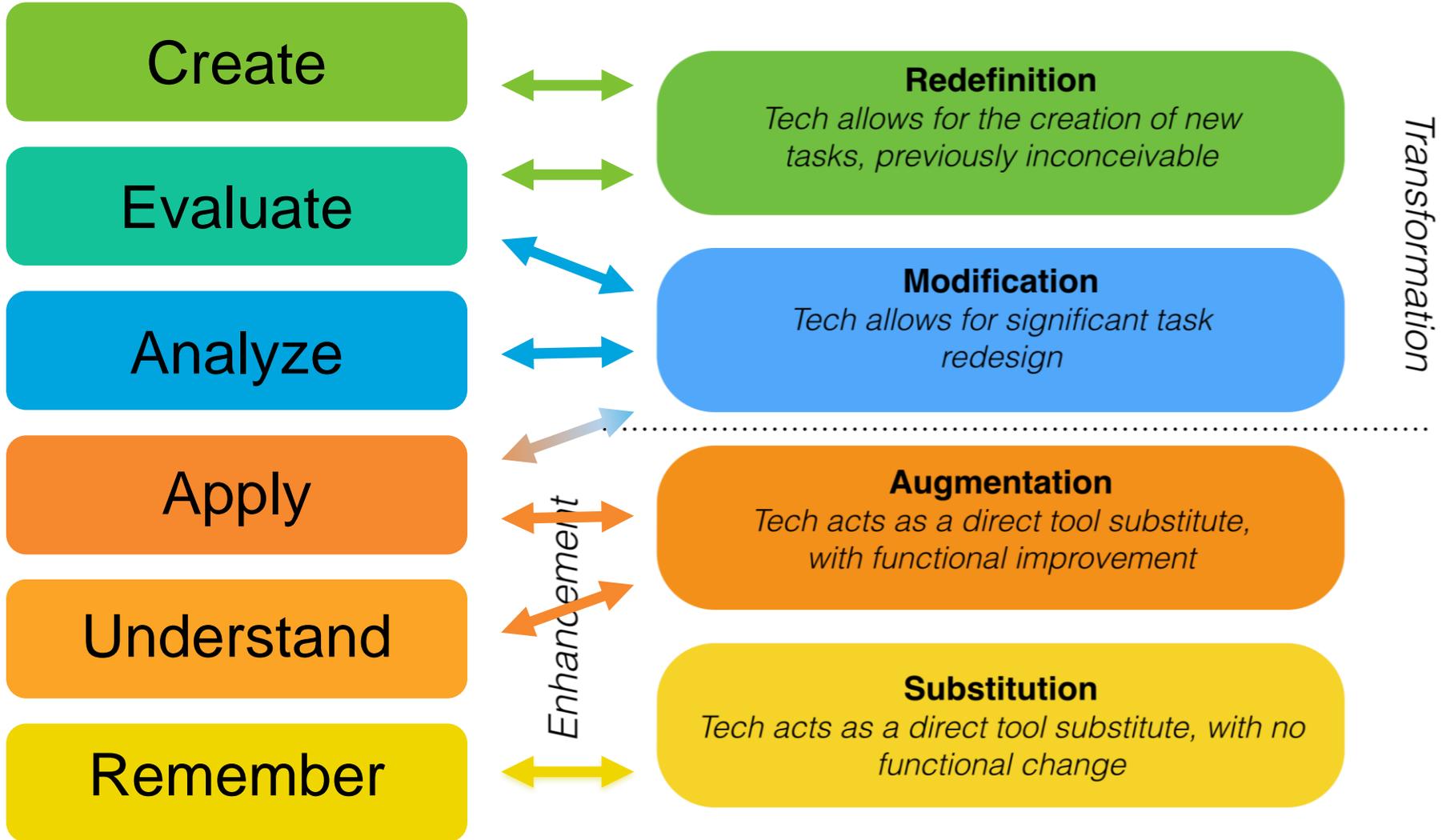
What will be gained by replacing?

## Substitution

*Tech acts as a direct tool substitute, with no functional change*

Transformation





Transformation

Enhancement

**S**ubstitution  
Tech acts as a direct tool substitute, with no functional change.

**A**ugmentation  
Tech acts as a direct tool substitute with functional improvement.

**M**odification  
Tech allows for significant task redesign.

**R**edefinition  
Tech allows for the creation of new tasks, previously inconceivable.

**SAMR**

Starbucks

**W**heel

Wheel

**R**ubén Puentedura

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**SAMR**

Ruben Puentedura

**A**pplications

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**SAMR**

Apps

**E**xamples

Examples

**Transformation**

**Redefinition**  
Tech allows for the creation of new tasks, previously inconceivable.

**Modification**  
Tech allows for significant task redesign.

---

**Enhancement**

**Augmentation**  
Tech acts as a direct tool substitute, with functional improvement.

**Substitution**  
Tech acts as a direct tool substitute, with no functional change.

**SAMR Model**

Class Task	Substitution	Augmentation	Modification	Redefinition
Note taking	Notes taken using iot Notes	Students choose their own notes app	All students use Notability for all notes	Teachers have access to all student's notes
Research	Using safari to copy and paste information	Bookmark and share notes using the share button	Download and annotate with Notability	Collaborative Mindmaps
Presentation	Make a keynote presentation on the iPad	Demonstrate understanding with Explain Everything	Combine audio, video and text in Movie Presentation	Nearpod Presentation
File sharing	Sent by email every lesson	Shared Dropbox folder	Showbie	iTunes U
Reading	Open PDF from email	Use dictionary & search document	Annotating documents in Notability & iBooks	Interactive Book
Assessment	Google form test	Google form test with automatic marking script	Creative projects with Strip Designer Showies & iMovie	Creative Assignments with audio feedback in showbie

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**SAMR**

**The SAMR Model for Technology Integration**

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**NO TECH** | **ENHANCEMENT** | **TRANSFORMATION**

**SAMR MODEL**

Characteristics: No Computer - No Lesson, Student/Teacher's World Expands Beyond Classroom, Technology makes it easier, better.

Teacher Questions: Same Old - Same Old with a computer.

Student Questions: What is this? How do I use it?

**SAMR**

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---

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**THE SAMR MODEL**

Dr. Ruben R. Puentedura

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**ENHANCEMENT** | **TRANSFORMATION**

**QUESTIONS TO ASK**

What will I gain by replacing the task with new tech?

Does the tech add new features that improves the task?

Does the task significantly change with the use of tech?

Does the tech allow for creation of new task previously inconceivable?

**S**ubstitution | **A**ugmentation | **M**odification | **R**edefinition

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**SAMR**

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**SAMR**

**The Padagogy Wheel V2.0**

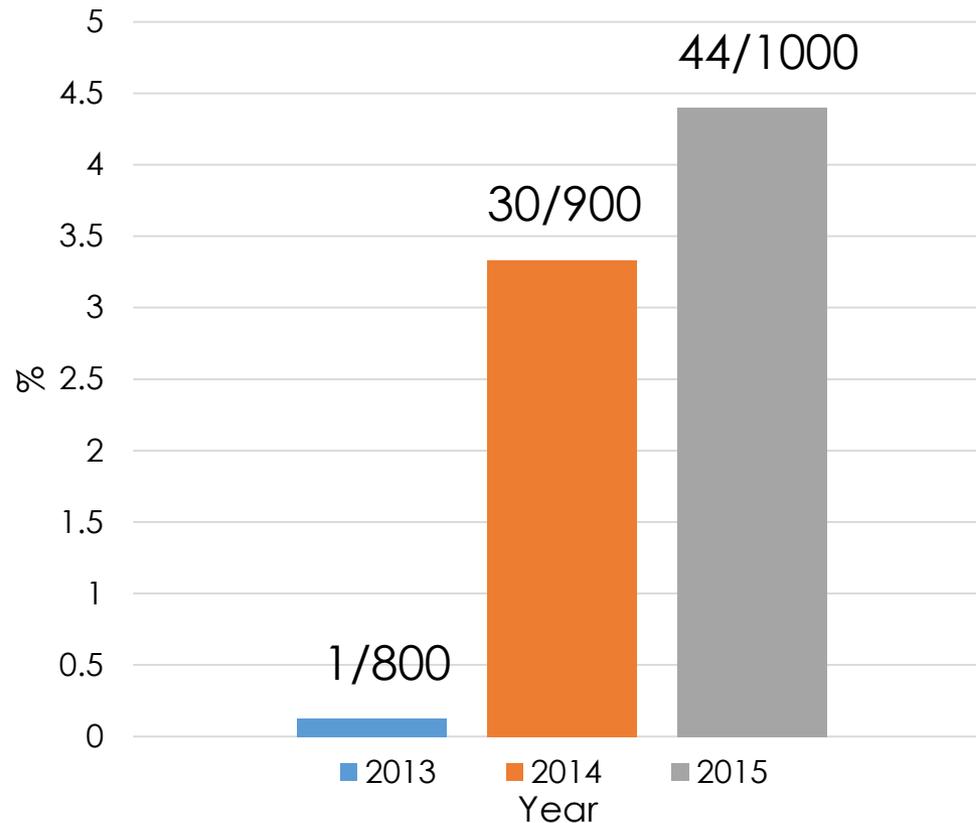
Developed by Alan November

Class Task

How to Use

# Use of SAMR

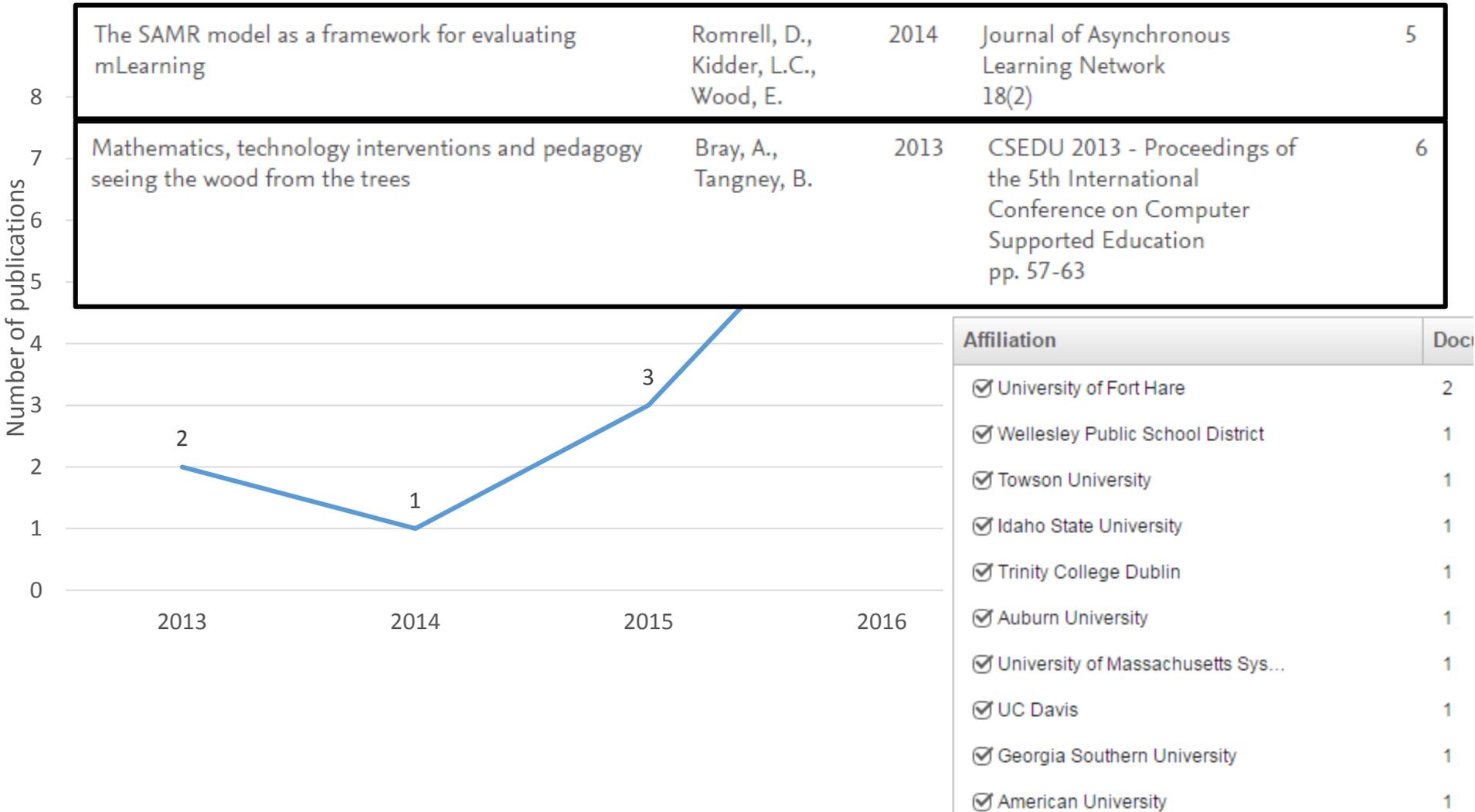
K-12 % of total # of sessions at ISTE mentioning SAMR



(Hamilton, Rosenberg & Akcaoglu, 2016, p.434)  
International Society for Technology in Education (ISTE)

# Use of SAMR

## Scopus Results 2013-2016



# Criticism

- theoretical basis and evidence
- context
- hierarchy
- different interpretations + applications (misuse)

Miller, K. & Putnam, L. (2015). More of the same? Understanding transformation in tablet-based academic library instruction. *Internet Reference Services Quarterly*, 20:105–126. DOI: 10.1080/10875301.2015.1092188

Hamilton, E., Rosenberg, J., & Akeoglu, M. (2016). The substitution augmentation modification redefinition model (SAMR) model: A critical review and suggestions for its use. *Tech Trends*, 60:5 433-441. DOI 10.1007/s11528-016-0091-y

# SAMR is NOT

A tool for evaluating...

- instruction, or instructor professional development
- large scale implementation of technology

# Why I use it

- flexible – student focused
- helps isolate tech from activity & pedagogy
- entry into understanding the impact of technology on learning
- perfect for applying to a single activity or assignment
- simple enough to use as part of a team

How I use SAMR:

My Plans:

Start w context

LO > ACTIVITY > TECH > IMP

# REFLECTING



An aerial photograph of a Martian canyon system, showing a large, dark, winding channel on the left and a more rugged, reddish-brown landscape on the right. The word "MARS" is overlaid in white, bold, sans-serif capital letters in the center of the image.

MARS



# RAMS

A close-up photograph of a person's right arm holding a weathered wooden staff. The person is wearing a light blue sleeveless top and has a silver ring on their ring finger. They are also wearing two bracelets: a colorful braided one and a white beaded one. The background is a desert landscape at sunset, with a saguaro cactus and mountains visible under a warm, golden sky. The word "ARMS" is overlaid in white, bold, sans-serif capital letters across the center of the image.

ARMS

# Anthropology 250

Professor Katie Sinclair

## Topic Crafting with Google Docs

Starting Topic	Focused Question	Keywords
Residential Schools	The History of Blue Quills Residential School	Blue Quills, St.Paul, History
Healthcare (In)access & Discrimination	What are some factors that contribute to patient-doctor dissonance between Indigenous people and the Canadian healthcare system? How can this be reconciled?	Healthcare, health access, Canadian healthcare, mental health, patient-doctor dissonance, patient relationships, cultural competency, anti-oppressive practice, institutional racism, healing, intergenerational trauma
Language Revitalization	What does language revitalization look like in our local, Edmonton, Treaty 6, context?	Language rights, culture, cree (nehiyaw), Alternative narratives

# SAMR Reflection – replacing paper with Google doc for topic brainstorm

## Cost

- 5-10 min
- Typing in tiny URL

## Benefit

- Easier collaboration – group access after class
- Anonymous sharing
- Engagement
- Better topics

= worth it

So much work

R

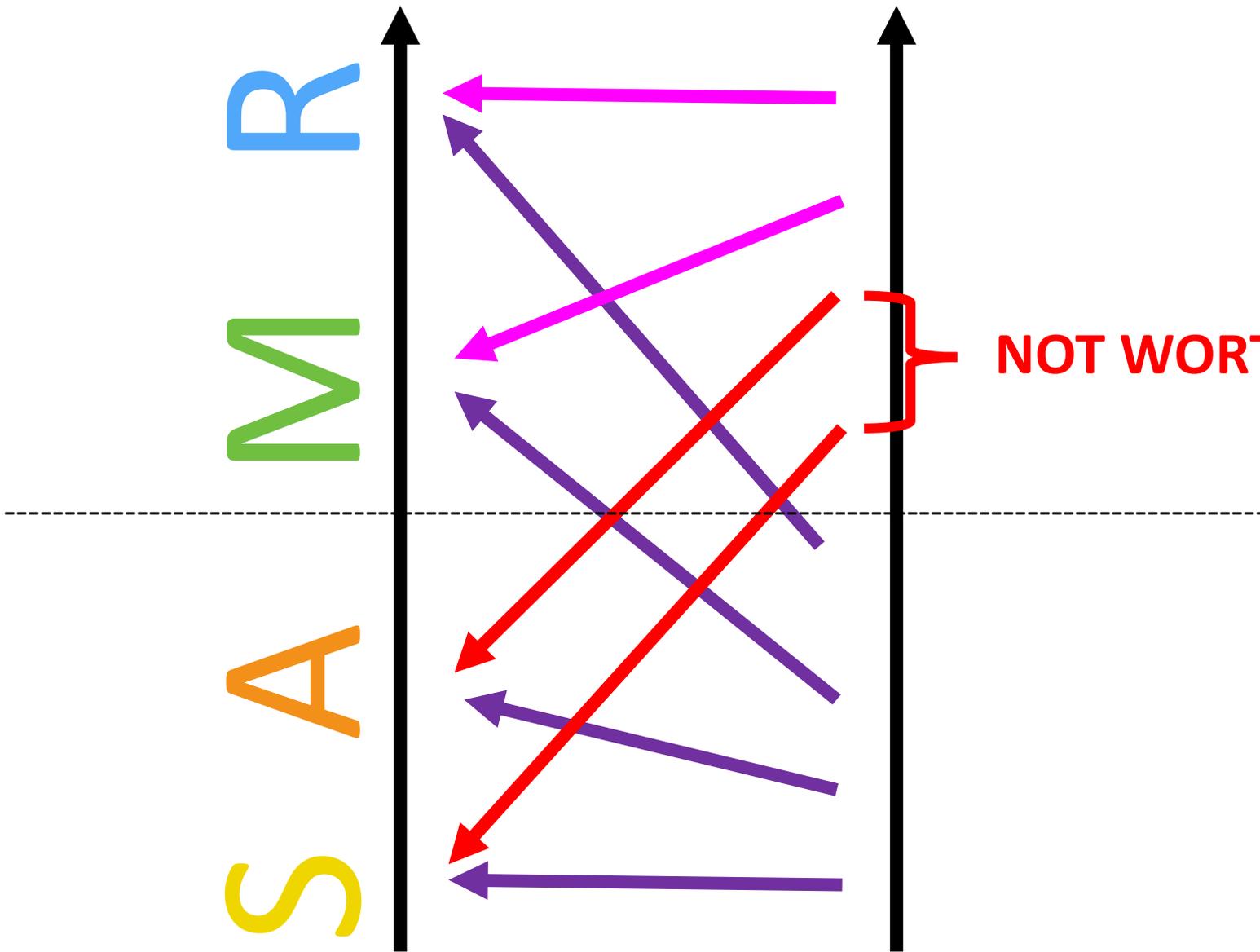
M

A

S

NOT WORTH IT!

Convenient



Anthropology 101  
Professor Katie Sinclair

# Evaluating with Google Docs

ANTH 101 Online Source Evaluation ☆

File Edit View Insert Format Tools Table Add-ons Help Last edit was made on February 12 by anonymous

100% Normal text Arial 48 **B** *I* U A            

**Would you use it?**  
**Why or Why not?**

<http://bit.ly/2j5njLc>

It is recent, has many sources, but would have to check out to see if they are credible. The article is very general and hits a lot of points under one topic. It is also biased as it comes from a poverties website itself. Depends on how you go about with your opinion.



**Looked at 2 of the sources, and they are legitimate sources (research article, academic journal)**

The facts don't seem reliable and the grammar isn't great; the source lacks reliability. Also, it is not peer-reviewed which leaves room for error in the facts.

**Shoutout to Professor Sinclair.**

**Recent article, uses lots of sources, some from 2010. Even though it is not from an academic journal, it looks to be reliable**

**Also the author is a digital strategist and filmmaker which brings the idea that he may skew information to make it more interesting for his blog -FACTS**

# Anthropology 101

Professor Katie Sinclair & Kim Peacock, Tech Coordinator

## Bonding with Aurasma AR app



# In pairs...

- Discuss if you think the ANTH 101 activity is using Aurasma at the Substitution, Augmentation, Modification or Redefinition level and why
- Share your answer:  
Go to: [menti.com](https://www.menti.com)  
Code: 26 20 29

# Astronomy 120/122

Dr. Stefan Cartledge

## Wiki with Pbworks - Blackboard

### Astrophotography

Astrophotography is the photographing of objects in space and can be as simple as amateur photography to more advanced forms such as the Hubble Space Telescope. Seeing truly is believing, especially when dealing with distant planets, stars, and nebulae. Not only are the images absolutely stunning, but also very revealing of the mysteries of the universe. Astronomers utilize high budget large orbiting telescopes such as The Hubble Space Telescope and the James Webb Space Telescope to see better quality images outside of the distorting atmosphere. Different lenses can capture different wavelengths, such as near-infrared, ultraviolet, and visible light, viewing nebulae in a whole new light (pun intended). The images on the right were taken by Hubble's Wide Field Camera 3, revealing just how broad the wavelength range truly is. The above image is taken in near visible light, while the bottom image is taken in near-infrared light. By using infrared light to penetrate the dust, the infant star is revealed!



# Evolution of the wiki

- Made better use of wiki features to benefit LO's
- Added more collaborative, interactive, interest-based, peer evaluation

# What is one thing you learned that stays with you?

**The types of distances and variability in the types of solar systems we can get.**

I think we all have used wikipedia but never thought how much effort needs to be put in to create a wikipage. Just the fact that we had to do extensive research on the topic and then take all of that information and write in a form that is easy to understand was the most challenging and part.

How to search for appropriate sources, that are credible.

**Our topic was Adaptive Optics, and prior to completing the wiki assignment, I did not understand how adaptive optics work. Was very interesting learning about AO systems.**

I really hate APA citation.

I did not particularly enjoy the Wiki project, so I guess it confirmed that I do not enjoy group work. In saying that, I felt it went well in spite of that.

The value of the contract

How to distinguish credible websites.

**I learned so much about exoplanets which made me interested enough want to continue with Astronomy.**

**I was fascinated by the many different ways that we, humans, can view the universe through many different types of electromagnetic radiation, and it interested me to learn about the ways that technology allows researchers to achieve those visualizations and data that allows us to understand our universe.**

**I found that for me the wiki project made me want to know more about the different robotic missions. I'm really interested in the surface conditions of other planets so it was neat to find information on our own!**

# Feedback/Improvements

- Deadlines/Timeline
- Clarity – More examples
- More Technology support (1 comment)

# Nursing 424 – High Priority Populations

Professor Mona Haimour & Kim Peacock, Tech Coordinator  
UN Sustainable Development Goal's with Pictochart,  
Biteable video & Twitter



Quality Education @SDGeducation - Jan 31

It's Global Awareness Day!! Bringing light to current issues. #SDGmove  
@JustinTrudeau @RachelNotley @doniveson @cblackst  
@CityofEdmonton



water4CAN @water4CAN - Jan 31

It's complete! Check out  
6: Canada's Indigenous  
[youtu.be/oyKbOi8DtGo](https://youtu.be/oyKbOi8DtGo)  
#WaterForCAN2017 #SI  
#bethechange



Sustainable Develop

Made with <http://biteable.com>  
youtube.com



2



1



Do you think what you learned about your topic and the SDG's be useful to you as a nurse?

**Yes, because of it's impact on the lives of many individuals I will eventually serve.**

Do you think what you learned about making videos/infographics and using twitter will be useful to you as a nurse?

**I don't think it will be helpful because I don't think there is any relevance to what I plan on going into as a career path, for my nursing career.**

**I greatly appreciate this fun project more than writing a paper! It was a thoughtful choice!**

# Unintended Consequences

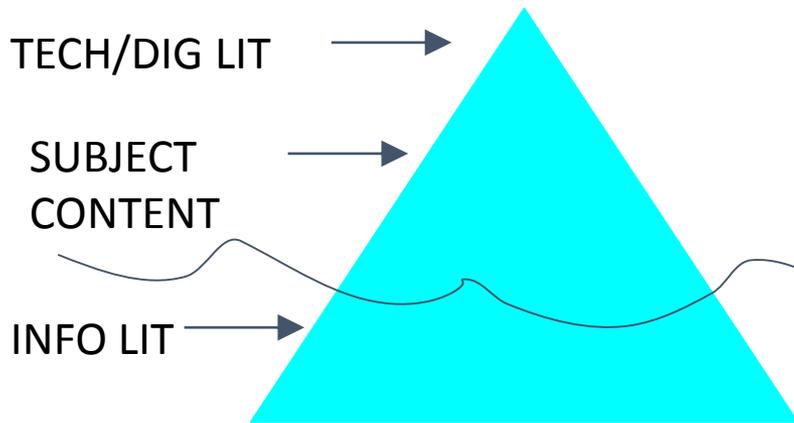
- Hidden competencies and required learning areas that distracted from main learning objectives
- Students did more work than was required
- Students worked ahead of our schedule



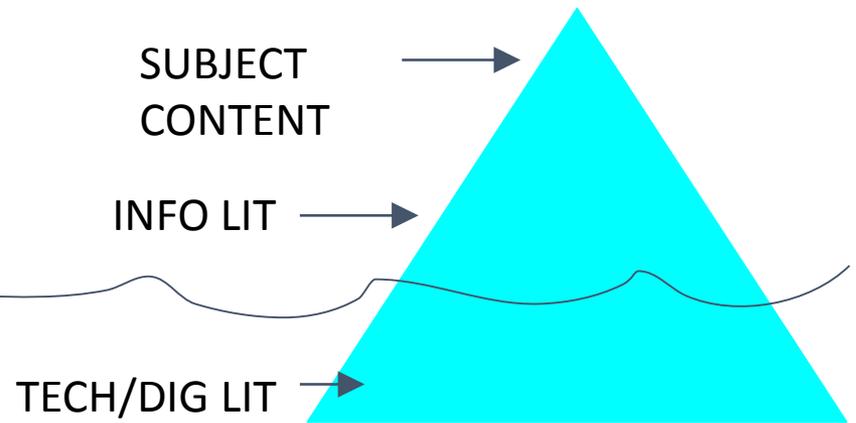
# Learning goals decide where & how to use tech

## **Making/Technology Activity**      **Subject Content Activity**

Tech skills/knowledge is primary focus



Use of tech is a means to an end



# What do you want to try?

Go to: [menti.com](https://menti.com)  
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Use SAMR to weigh the value of  
technology & features to your  
learning design



Contact:  
Martina King  
[kingm10@macewan.ca](mailto:kingm10@macewan.ca)