



# **The Assistive Technology Toolbox**

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Teaching for the World of Work Conference

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Sheraton Laval

**coffee**



**I think it's kicking in**

# Our discussion today

- What does assistive technology look like in adult education/vocational education?
- What is Universal Design for Learning (UDL)?
- Barrier analysis-your students
- The AT toolbox-7 great tools
- Creating your own AT toolbox



# What is Universal Design for Learning?

UDL is a guiding framework for implementation of AT in the classroom.

To understand UDL, we have to discuss....

Student diversity

# We know that...

We have a diverse student population that need flexible approaches to teaching and learning in order to succeed in the workplace.



# In a typical adult education/vocational setting we have:

- Students who are second language learners
- Students with learning disabilities
- Students with emotional difficulties
- Students who require support for mental health issues
- Students who are disengaged/unmotivated
- Students who have difficult home lives/conditions

# What does diversity look like?

- Differences in learning style
- Differences in background knowledge and experience
- Differences in learning preference
- Differences in interests and motivation



# How can we teach to diversity?

Implement **different ways of teaching and learning** so that students with varying abilities and strengths can learn together.

# Effective Inclusive Teaching Practices

Introducing...

*Universal Design for Learning (UDL)*



# What is UDL?

- An educational approach that aims to increase **access to learning** by reducing physical, cognitive, organizational and other **barriers**.
- A **flexible** approach that provides students of all abilities equal opportunities to learn.

# The origins of UDL

- Universal Design for Learning is an extension of an architectural movement called *universal design (UD)*

“Consider the needs of the broadest possible range of users from the beginning.”

-Ron Mace, pioneer and visionary of Universal Design



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# Universal Design in the classroom

- We need to provide *flexible* learning experiences that can meet the needs of many learners.
- Instead of *retrofitting*, we can design accessible experiences from the beginning...



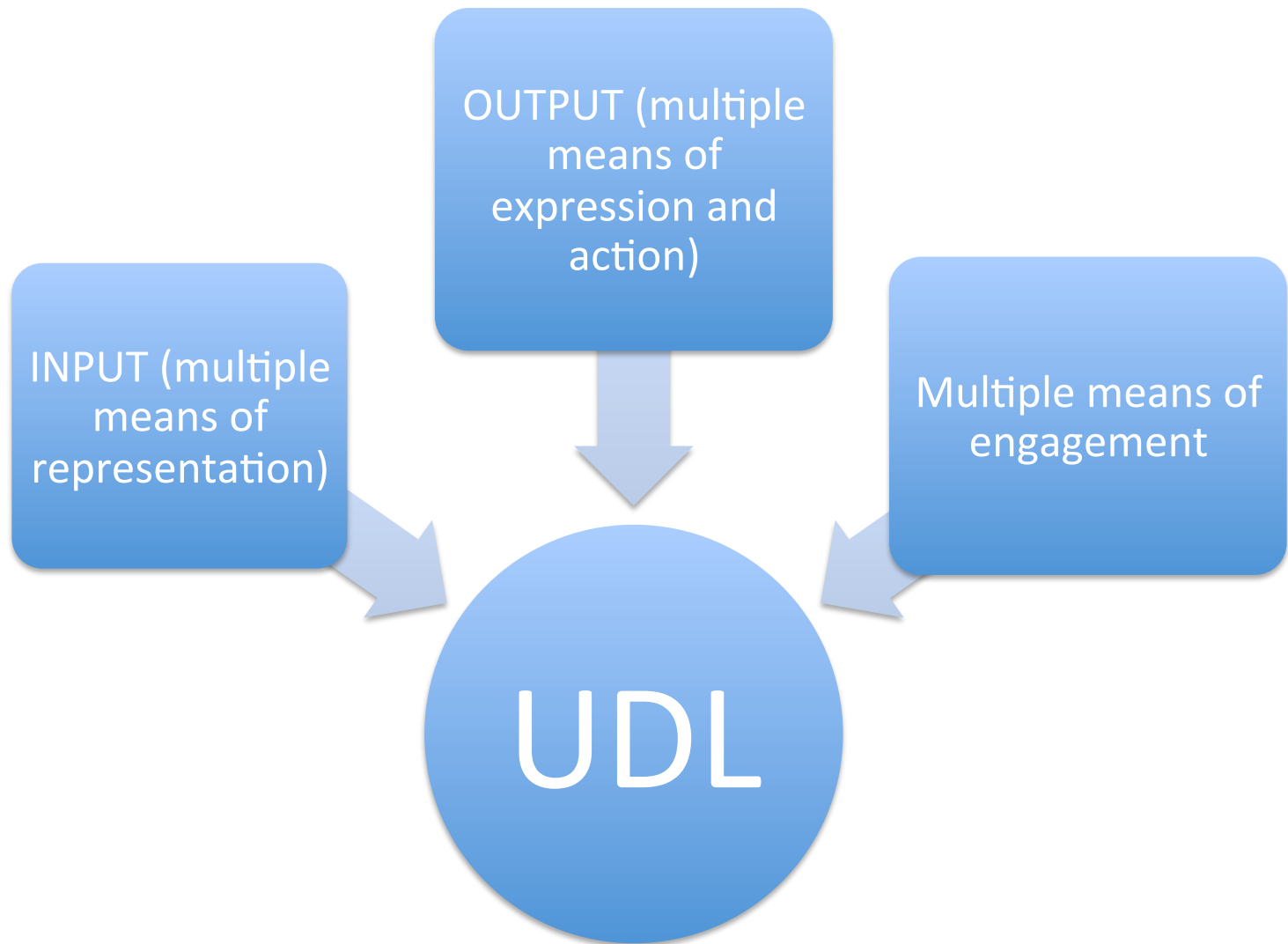
# Designing accessible learning experiences

Flexibility is key:

1. How we **present information** to our students (INPUT)

2. How we allow our students to **express themselves** (OUTPUT)

3. How we **engage** our students





# A shift in perspective

*Delivery* of the curriculum can be a barrier to learning.

A one-size-fits-all approach to instruction contains hidden barriers for many learners.

# What are barriers?

- The best way to spot barriers is to evaluate the materials and methods you use in the context of your students' strengths, needs, and interests.

# Barriers

- Let's find barriers...



Now let's look at ways to reduce barriers that will benefit the student you have in mind, and many others in the class...



# Introducing

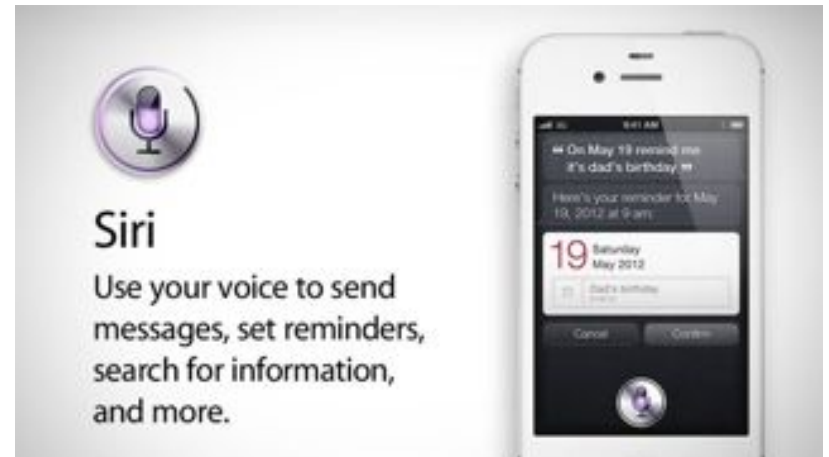
Your assistive technology toolbox to reduce  
barriers and improve access to learning



# How technology supports UDL

- Yesterday's assistive technology is...

today's everyday classroom technology.



# How technology supports UDL

**Flexibility** of digital media is very important for students in adult education/vocational education programs.

What types of assistive technology and ed tech can be used to:

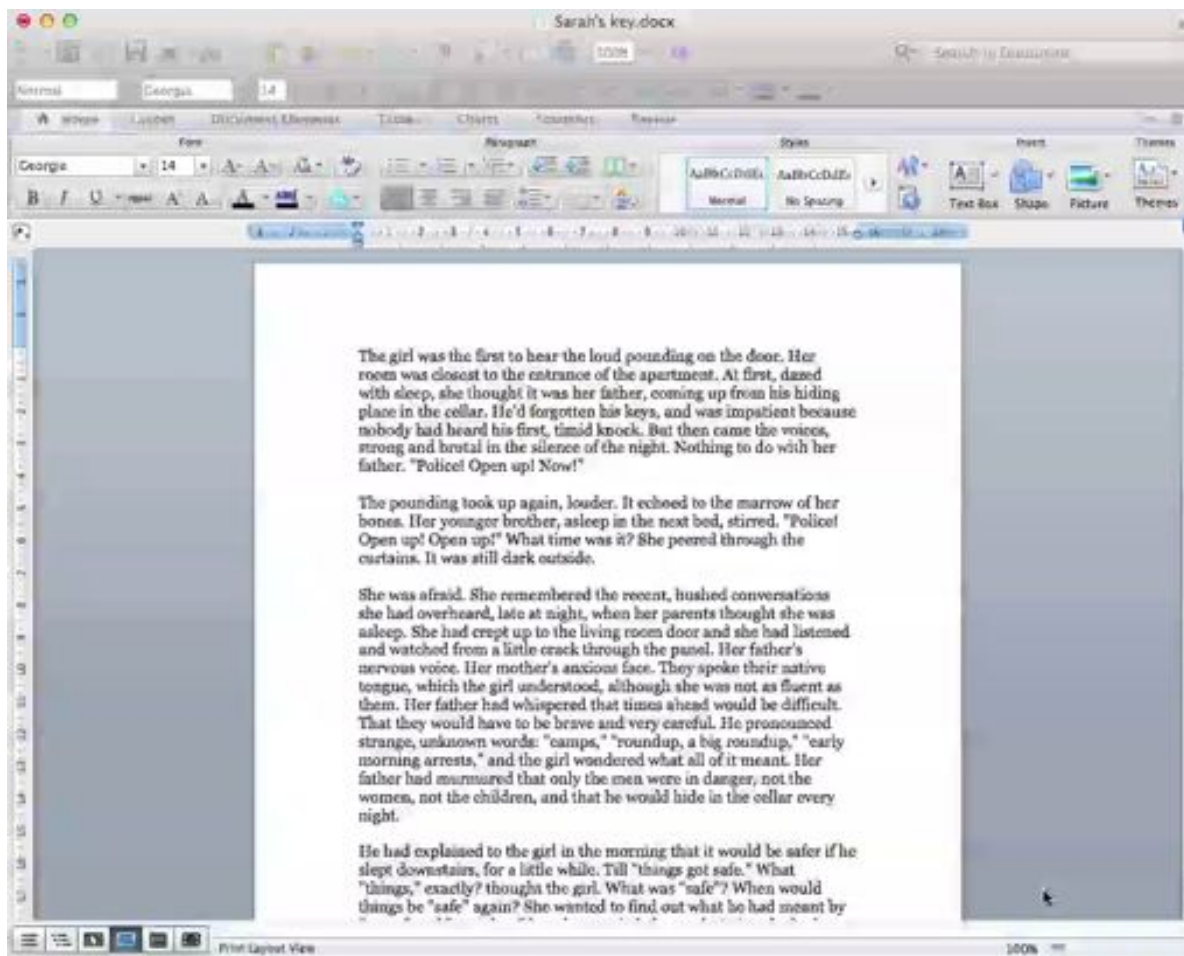
- REPRESENT or provide information in different ways?
- Allow students to demonstrate and EXPRESS their understanding?
- ENGAGE students in their own learning?

# AT tool #1

## Text to speech

- Text to speech technology means that the text on the screen is read to the student using a synthesized voice.
- Students can hear the text spoken rather than struggle with decoding the text.







# AT tool #2

## Audio

- Teachers can deliver verbal instructions and capture lessons for future listening.
- Gives students opportunity to listen to instruction independently, without distraction and at their own pace.
- Students can demonstrate their understanding of learned concepts, create instructional materials and tutorials for peers, conduct interviews.

# cbcradio

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▶ Listen Live

Radio 2  
Radio 2 Morning  
▶ Listen Live

Radio 3  
To be announced  
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## **Summarizing as a reading strategy:**

As you finish reading each paragraph or key section of the passage, **summarize** the main ideas by writing, or speaking and recording in one or two complete sentences.

Main idea one: (write or record here)

Main idea two: (write or record here)

## Generating ideas



Before writing, I:

Say everything I know about the topic here in about 5 minutes:



Summarize my 3 main points here:

1.

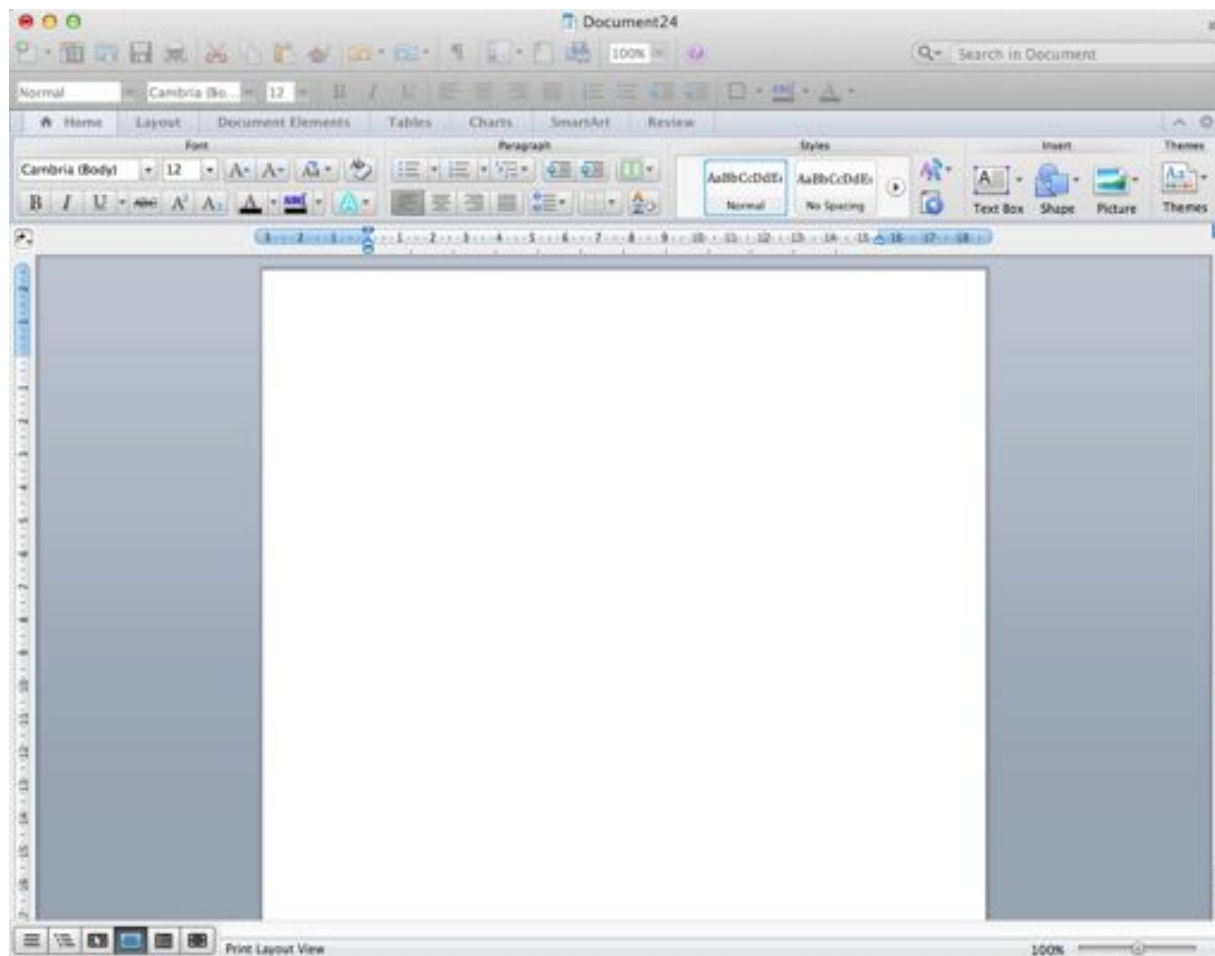
2.



# AT tool #3

## Dictation

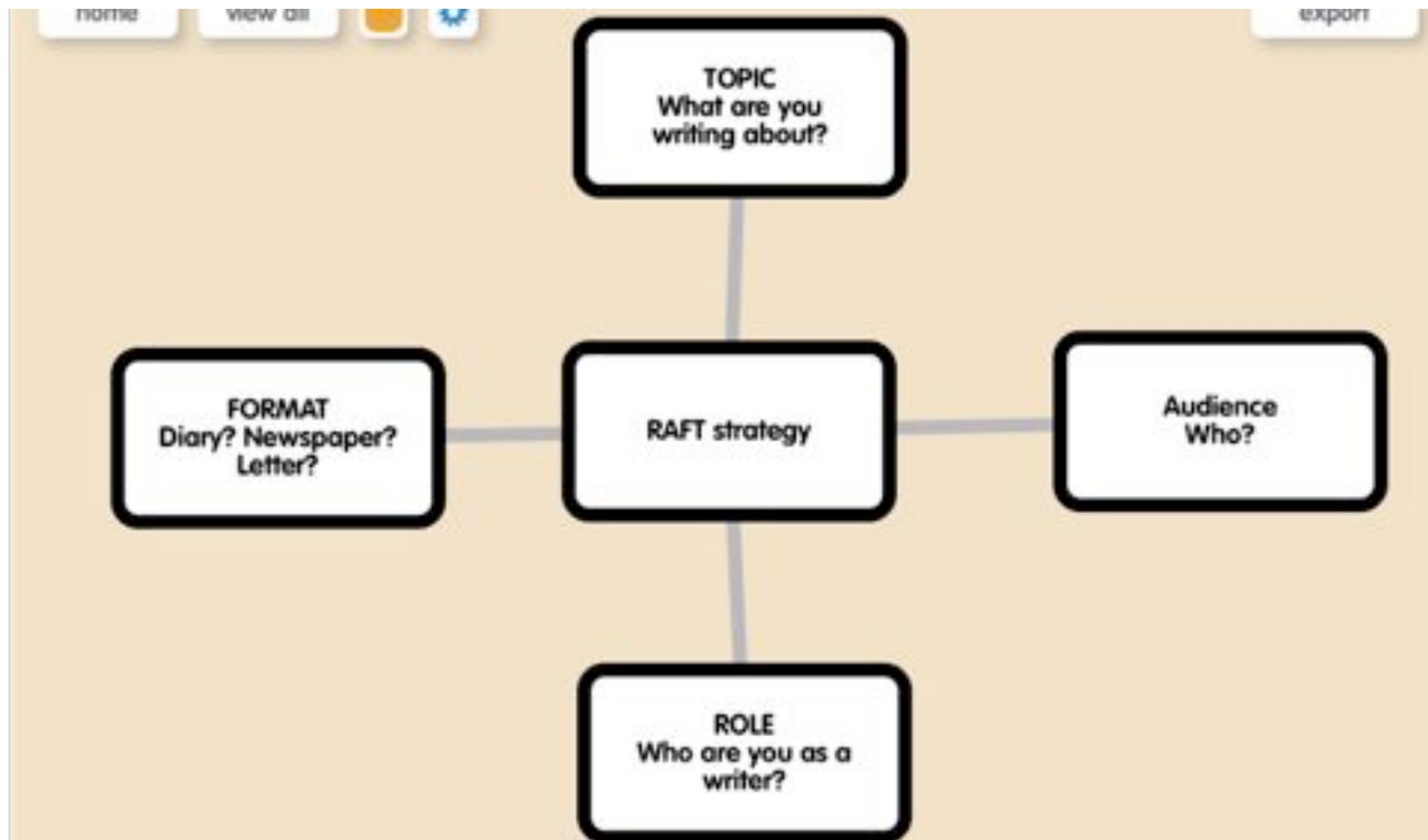
- A viable option for students who are better expressing themselves through oral language rather than writing.
- Can speed up the writing process
- Important: requires a process of implementation, and practice!



# AT tool #4

## Graphic Organizers, Outlines and Templates

- Graphic organizers and templates present visual backup to auditory information.
- For students who struggle with organization and executive function, templates and organizers are very beneficial.
- Helps students identify areas of focus within a broad topic, such as a novel or technical manual.



# popplet: Facts About Earth

home

view all

zoom



what's popplet?

go fullscreen

log in

share





# popplot: The Civil Rights Movement



1896

Plessy v. Ferguson  
establishes "separate  
but equal"



1948

President Truman  
desegregates the army



1954

Brown v BOE declares  
school segregation  
unconstitutional



1955

Rosa Parks actions  
initiate the Montgomery  
Bus Boycott



1963

Martin Luther King Jr.  
leads the March on  
Washington



1965

President Johnson  
signs the Voting  
Rights Act



1968

Martin Luther King Jr.  
is assassinated in  
Memphis

Mix flour and salt in food processor. Add water gradually.

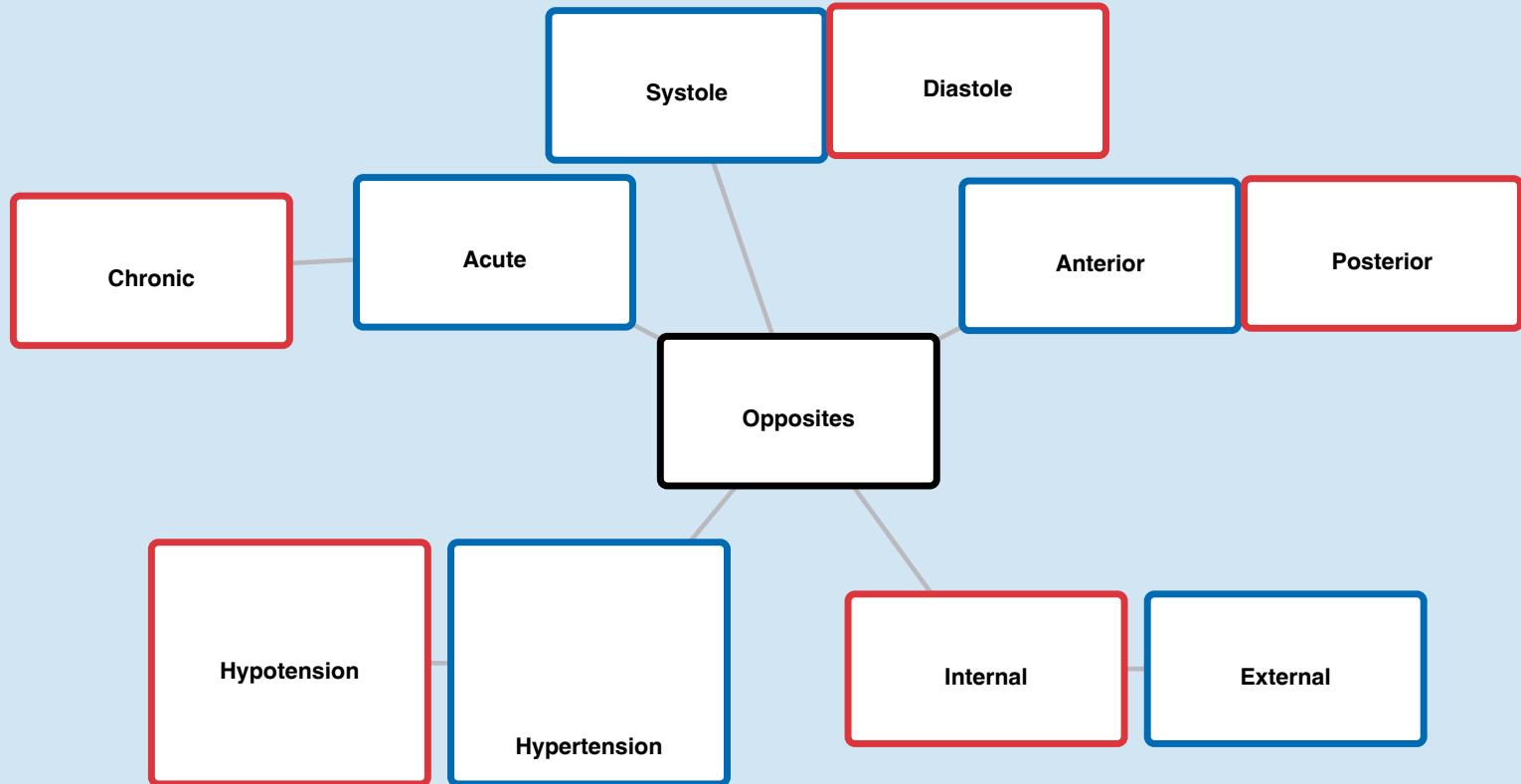


Soften the cold butter between two sheets of baking parchment.



Roll out a little and mark dough into thirds.

# medical voc ed



# **Persuasive Essay Template**

## **Persuasive Essay Title: School Should Start Later**

### **I. Introduction**

A. Subject: Why students should be allowed to start school later in the morning.

B. Opinion

Statement: School should not start until 9:00 a.m.

### **II. Supporting Facts**

A. More sleeps helps students retain more information that they learn at school

B. Helps prepare students for the common 9-5 work day

# AT tool #5

## Screencasting

- Screencasting is a video and audio recording of what occurs on a presenter's screen.
- Great for “frontloading” information and students who need increased revision of content.
- Have your students create screencasts for other students in the class.



# AT tool #6

## Content curation

- Allows the teacher to present resources in an organized, visual way.
- Allows students to organize themselves for writing, research, or can be a place to gather and store resources.
- Can be collaborative

# Padlet for this presentation

<http://bit.ly/adultvoked>



**UDL resources for adult and vocational education**  
Resources that accompany presentation for ENMB conference November 7th, 2014

**Dictation: How to use Siri in the classroom**  
Great video by Avi Spector, RECTE.



**Dictation: guide to Siri (mobile iOS devices)**



**Dictation: how to enable dictation on Windows**



**Dictation: how to enable dictation on a Mac**



**Content curation: Padlet**  
What we're using right now! Use to gather and display resources, assess and evaluate learning, or use as a research tool for students. Collaborative tool for the classroom.



**Graphic organizers: Inspiration and InspirationMaps**  
Transfers mindmaps into writing outline.



**Graphic organizers: Idea Sketch**  
FREE mobile mindmapping tool that converts mindmap into writing outline.



**Graphic organizers: Popplet**  
Web and mobile tool to create mindmaps.



**Social media tool: Voicethread**  
Online media album in which students can add comments via text, voice, video and images.



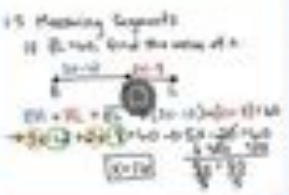
**Audio: CBC podcasts**



**Screencasting: Edcreations**  
Free screen casting tool (mobile only)



**Screencasting: ShowMe**  
Free screencasting tool (mobile only)



**Screencasting: Jing**  
Free screencasting tool (software only)



**Audio: Using Audacity in the**

**Audio: Math for Primates**

## Highlighting techniques (foiling)

Watch this video and then respond to the following question: What is one important tip or trick for highlighting

**Your video:**  
Foiling techniques  
(highlighting)



**Cassie**

Use a circular motion to saturate the hair with the color.

**Deb**

Apply the product by pressing on the brush.

**Sara**

Take the teeth of the comb and line it up with the parting of the hair.









## Faces, Edges, Vertices

In groups use the iPads and iPods to find a 3D shape in the environment. Upload to this Padlet and discuss the amount of faces, edges and vertices.

**Chruk, Seth, Jacob**

Sphere

Faces-1

Edges-0

Vertices-0



**Arthymus and Anthony**

Faces-3

Edges-2

Vertices-0



**Tiffany, Sevil,**

Faces-3

Edges-2

Vertices-0

Cylinder



**Tiffany, Sevil,**

Faces- 5

Edges-

Vertices-6

Triangular prism



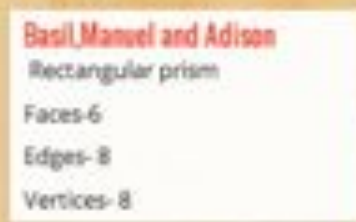
**Basil, Manuel and Adison**

Rectangular prism

Faces-6

Edges- 8

Vertices- 8



**Chruk, Seth and Jaco**

Shape-Square prism

Faces-6



**Stavro and Emir**

Cube

Face-6

Edge-12

Vertices-8



Bin

Edges: 2

Face 3

Vertices 2



**TIFFANY,KYLJE SEVIL**

Faces-6

Edges-12

Vertices-8

Cube



# AT Tool #7

## Social media tools

- Social media tools are engaging
- Collaborative aspect is powerful
- Use as a tool for communicating, interactivity and sharing ideas.
- Transform media (images, powerpoint, video) into a CONVERSATION.

# What's a Voicethread?

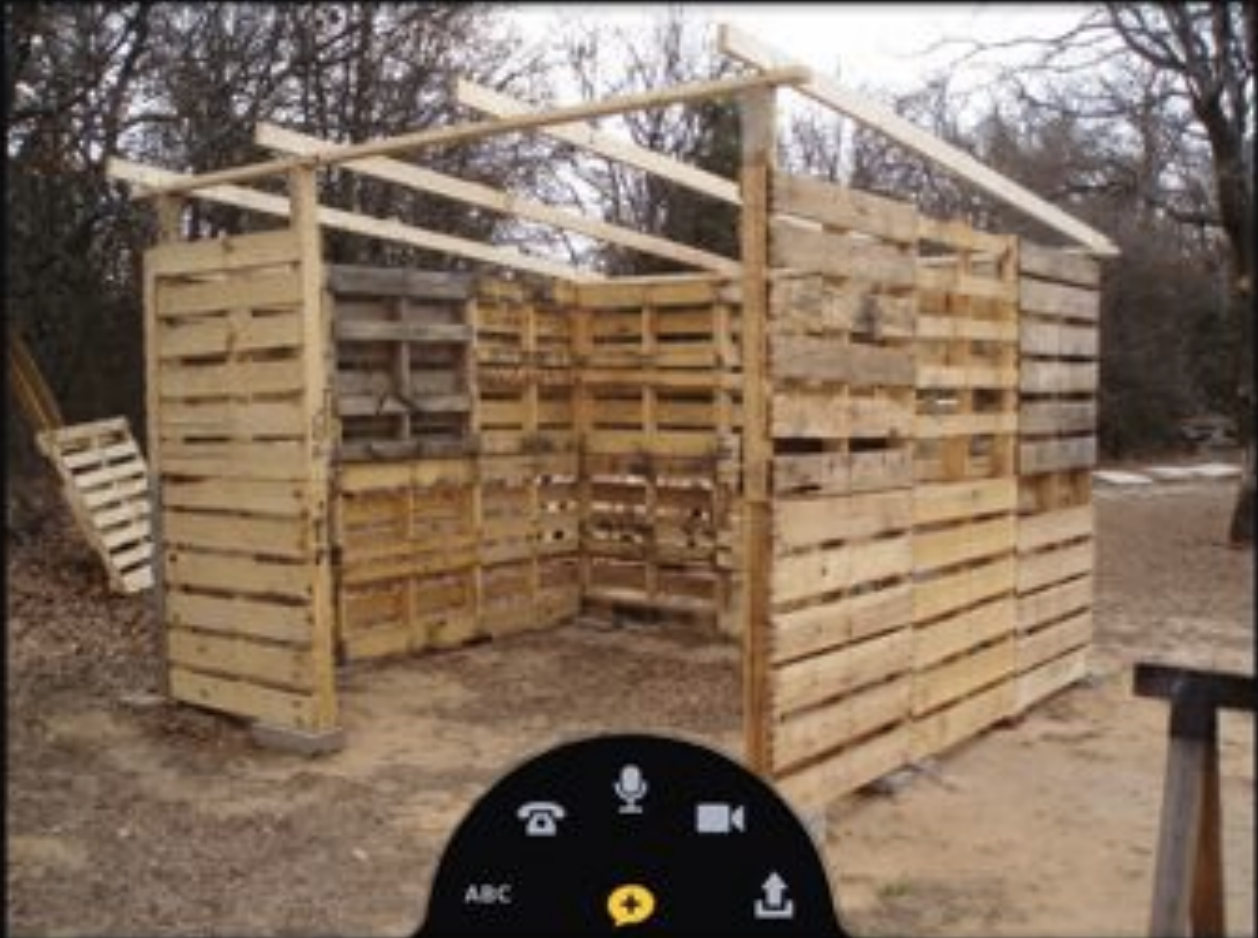
- A VoiceThread is an online media album that can include different types of media (images, documents and videos).
- Allows people to make **comments in 5 different ways** – using voice (with a microphone or telephone), text, audio file, or video (with a webcam) – and share them with anyone they wish.

# What's a Voicethread?

- <https://www.youtube.com/watch?v=r6PaGGLA7uU&feature=youtu.be>







- <http://voicethread.com/myvoice/#thread/67978/350123/362518>
- ESL:[https://voicethread.com/about/library/Language\\_learners\\_use\\_VoiceThread\\_to\\_practice\\_speaking/](https://voicethread.com/about/library/Language_learners_use_VoiceThread_to_practice_speaking/)

# What's in your AT toolbox?



Take the pledge!





A close-up photograph of a small green seedling with two leaves growing out of dark, rich soil. The seedling is positioned on the right side of the frame. The soil is dark brown and textured. The background is blurred, showing more soil and some small rocks.

From little things  
**BIG things grow**

COVER\_01

# Thank you!



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