



Assistive Technology and Universal Design for Learning

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coffee



I think it's kicking in

Resources for this presentation

1. aldi.learnquebec.ca

- powerpoint

2. bit.ly/EMSBUDL

- UDL tools in this presentation

Our discussion today

- What is Universal Design for Learning (UDL)?
- How to design accessible learning experiences
- The AT toolbox for UDL implementation

What is Universal Design for Learning?

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

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

Student diversity



We have a diverse student population that needs flexible approaches to teaching and learning.

A TYPICAL ELEMENTARY CLASSROOM

***Students with
emotional
difficulties***



Students who are disengaged/unmotivated



***Students with learning
disabilities***

***Students with
autism***

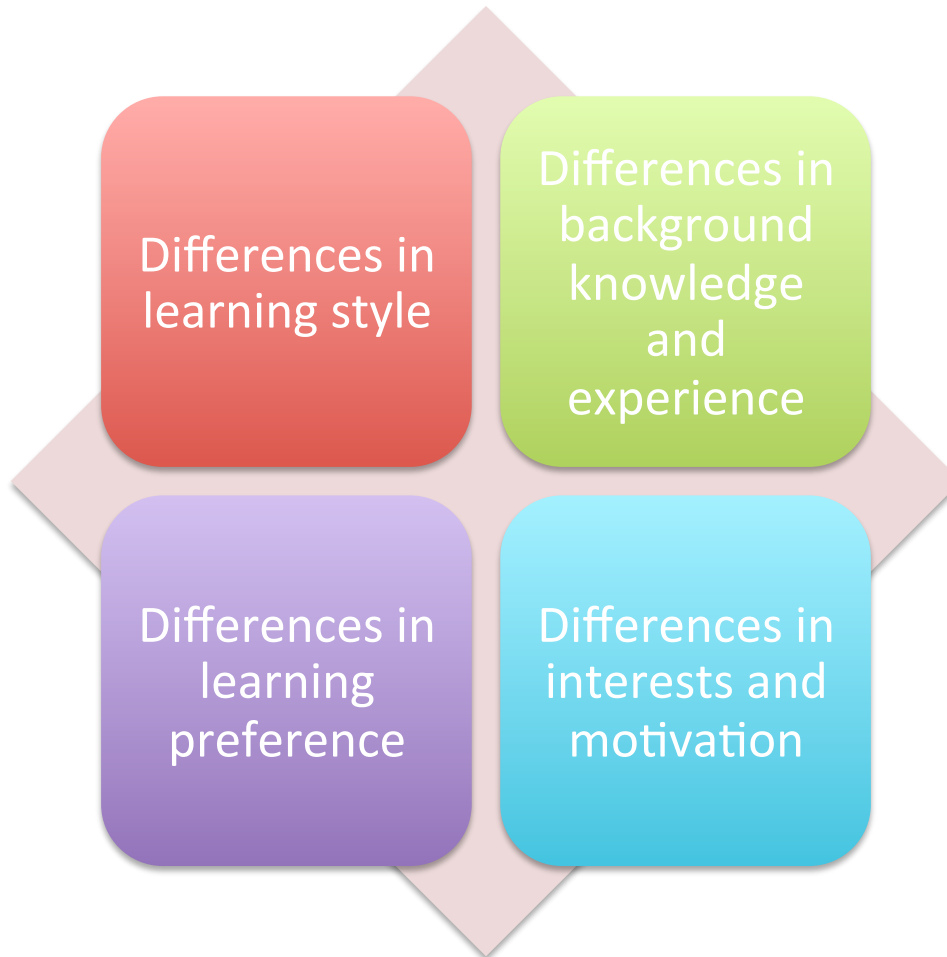


***Students who have difficult home lives/
conditions***



***Students who require
support for mental
health issues***

What does diversity look like?



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



2014-12-11

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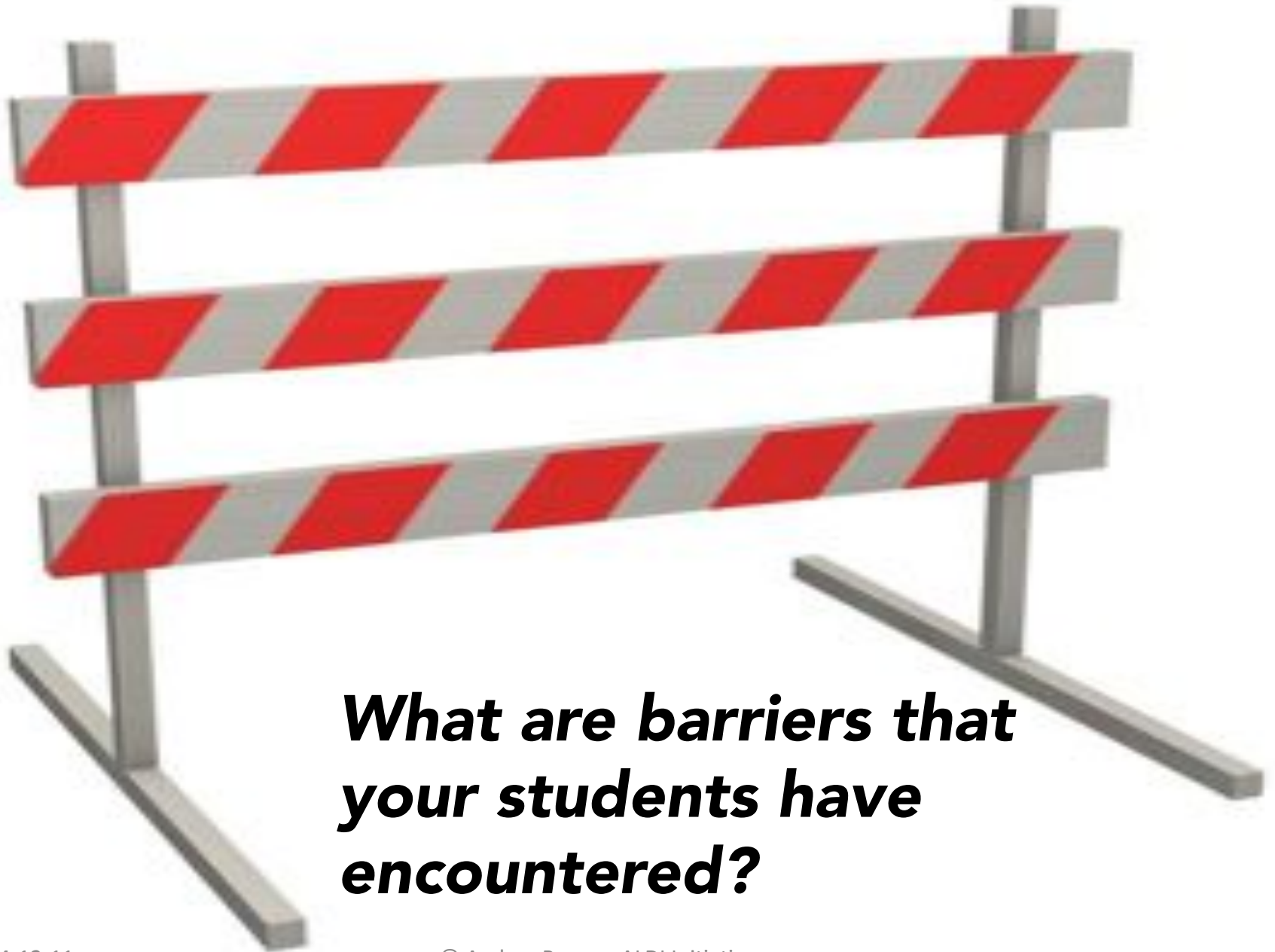
Universal Design in the classroom means....

- *Flexible* learning experiences that can meet the needs of many learners.
- *No retrofitting!* Design accessible experiences from the beginning...

How to design accessible learning

1. Lower barriers

- *Delivery* of the curriculum can be a barrier to learning.
- A one-size-fits-all approach to instruction contains hidden barriers for many learners.



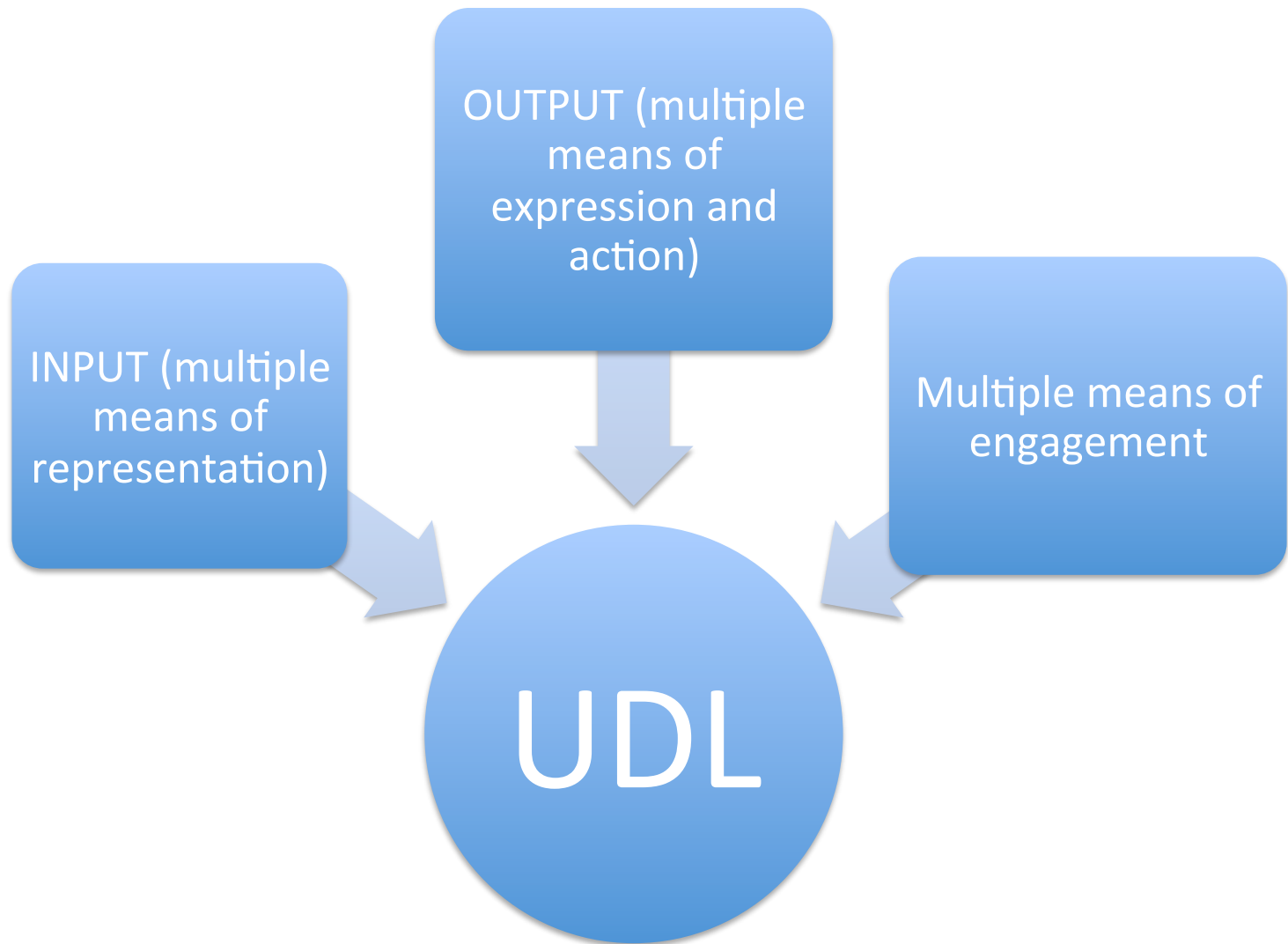
***What are barriers that
your students have
encountered?***

2. Flexible teaching and learning practices

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



Universal Design for Learning

Recognition Networks

The "what" of learning



How we gather facts and categorize what we see, hear, and read. Identifying letters, words, or an author's style are recognition tasks.

Strategic Networks

The "how" of learning



Planning and performing tasks. How we organize and express our ideas. Writing an essay or solving a math problem are strategic tasks.

Affective Networks

The "why" of learning

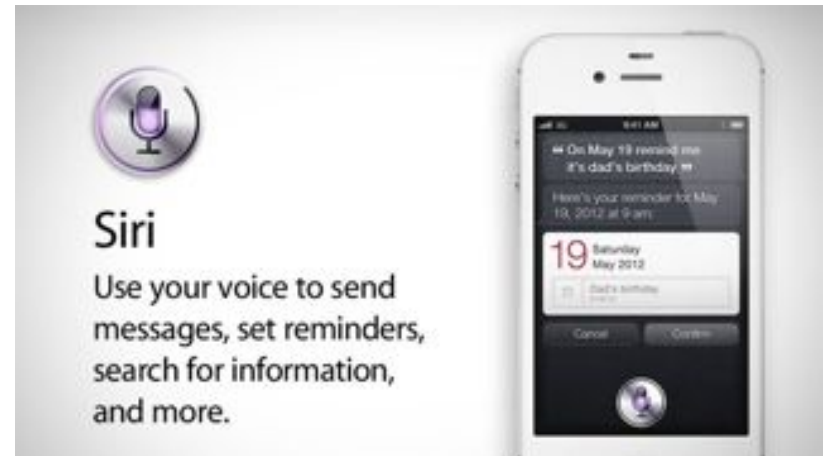


How learners get engaged and stay motivated. How they are challenged, excited, or interested. These are affective dimensions.

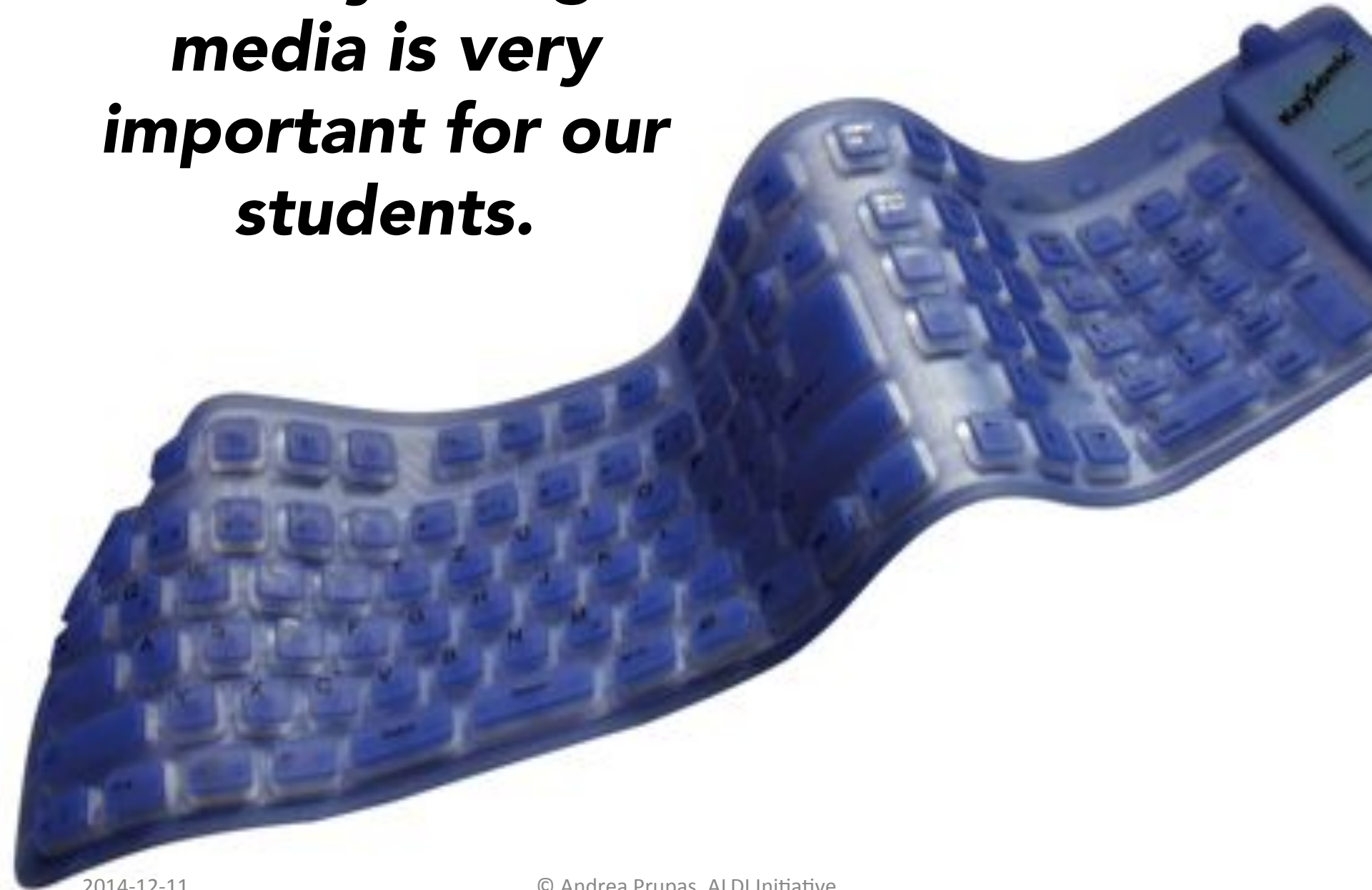
The role of technology in UDL



Yesterday's assistive technology is...
today's everyday classroom technology.



***Flexibility of digital
media is very
important for our
students.***



What categories of assistive technology and educational technology can be used?

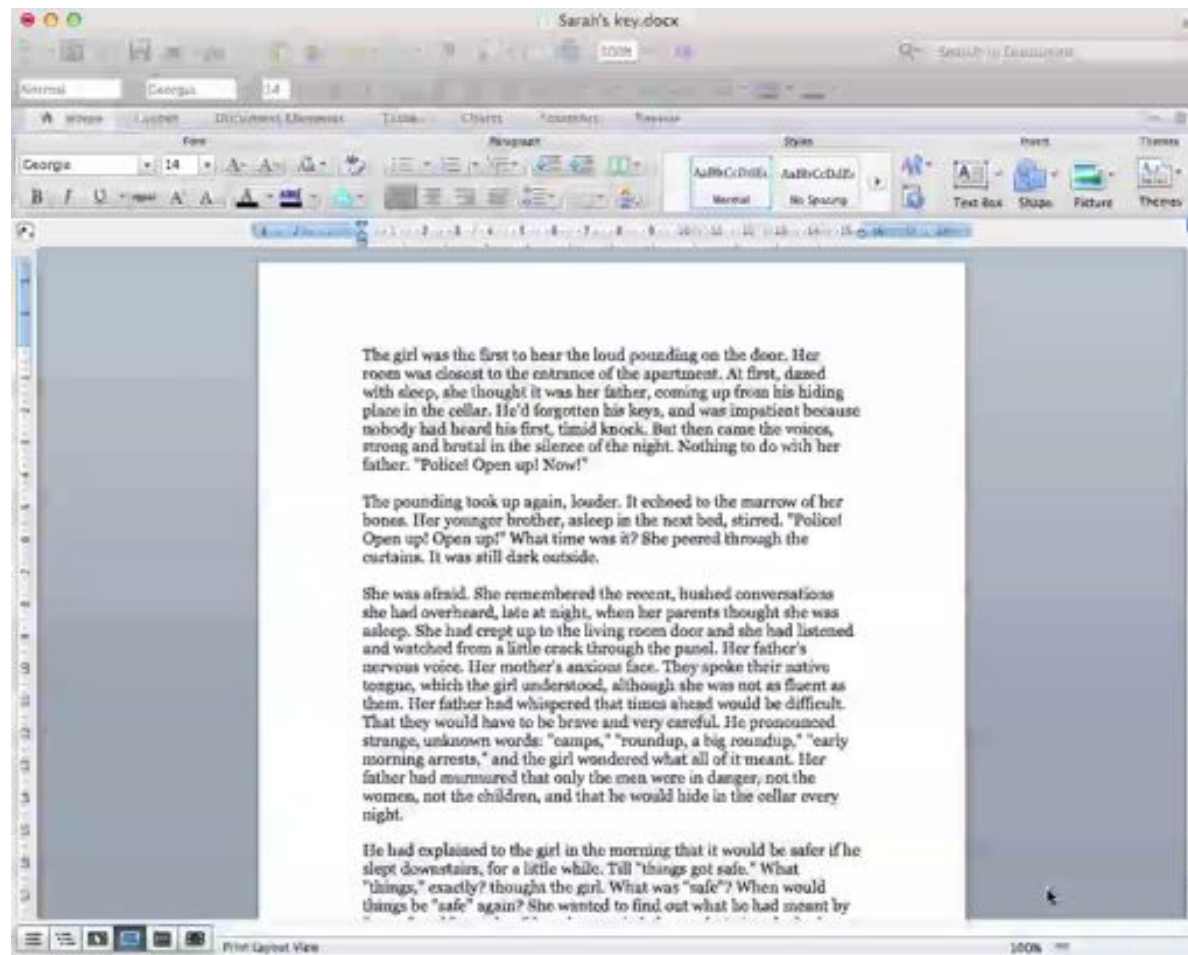


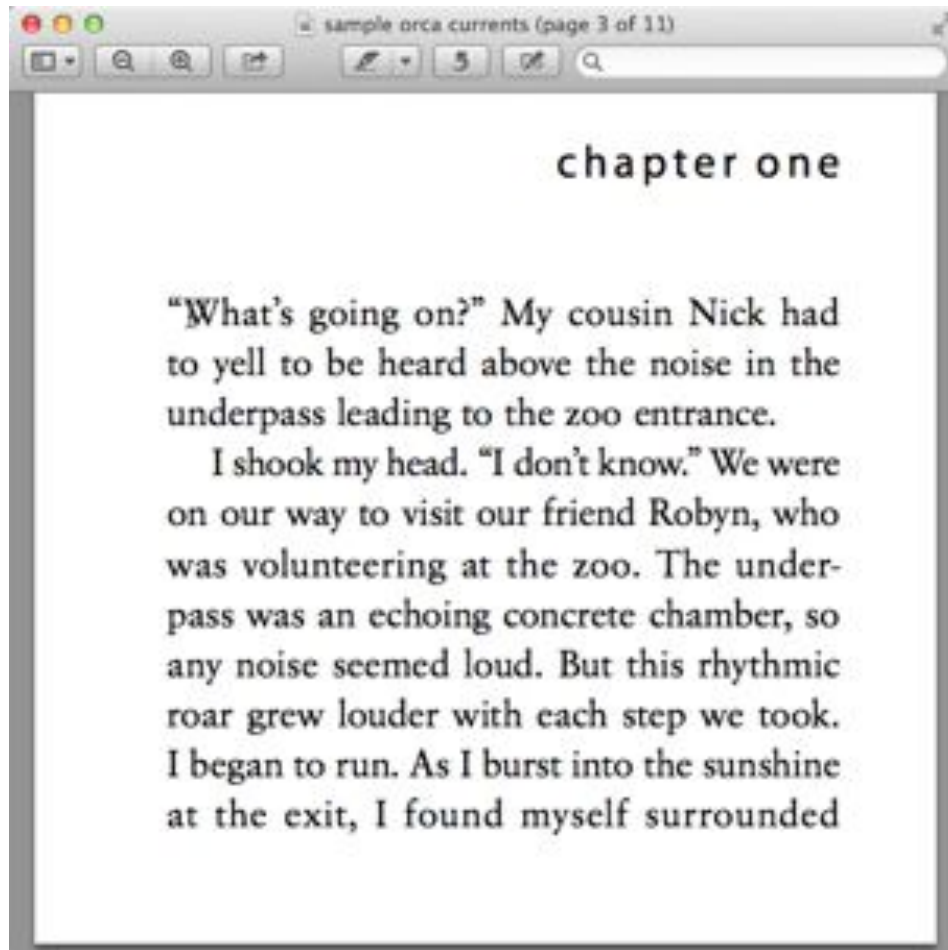
AT tool #1

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.



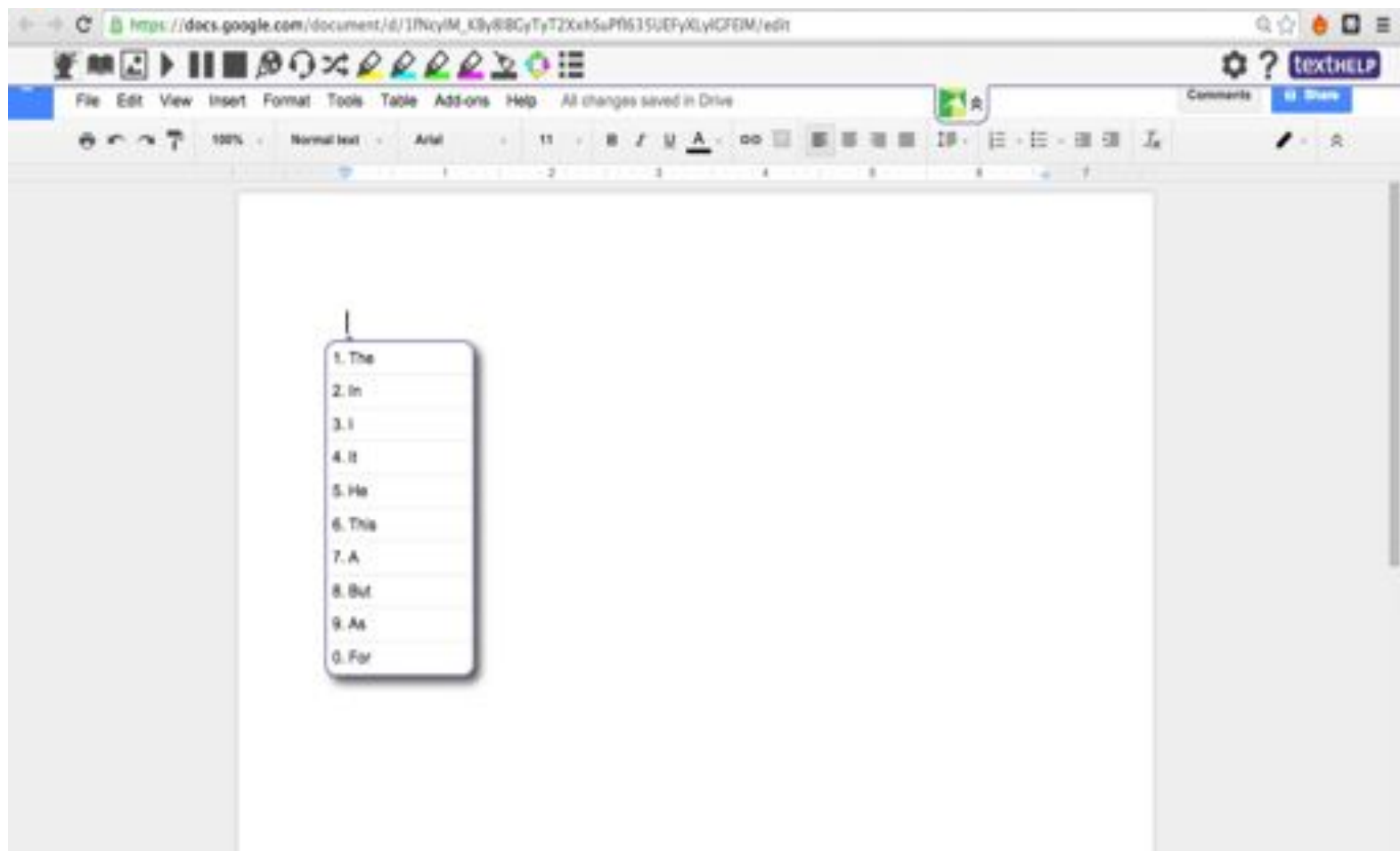




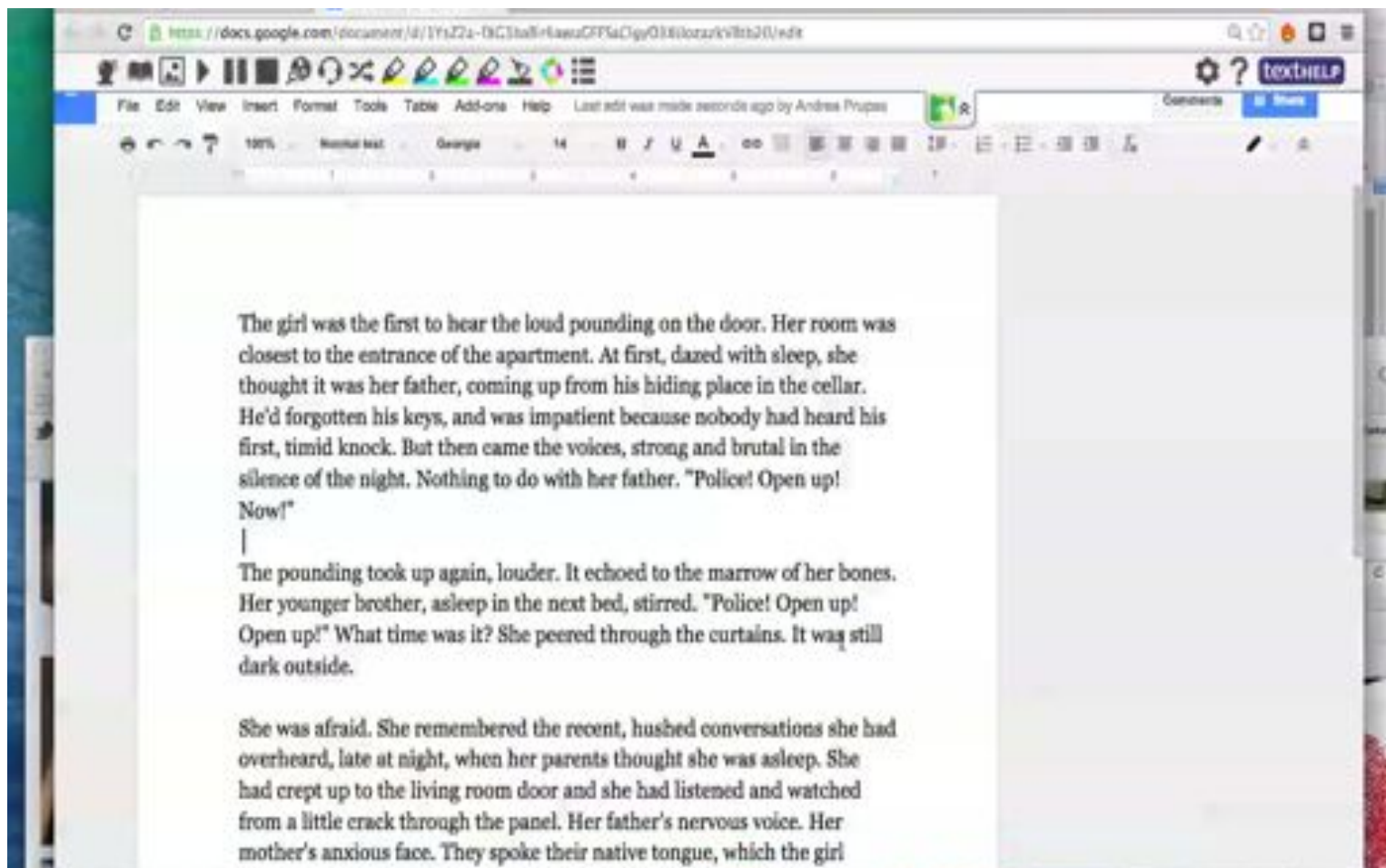
AT tool #2

Reading and listening support tools

- Allows students to become more active and independent readers
- Includes features such as word prediction, highlighting, note extraction, vocabulary support, picture dictionaries, text to speech.







Jason Brill came in late and almost sat to my
right, but luckily I stopped that from happening
at the last second.

I can add a note right here! This is called annotation. ✓ ✗ 🗑



Next period, I should just sit in the middle of a

AT tool #3

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.



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.



Book Review

by

Caden Schweyer



Cloudy With a Chance of Meatballs

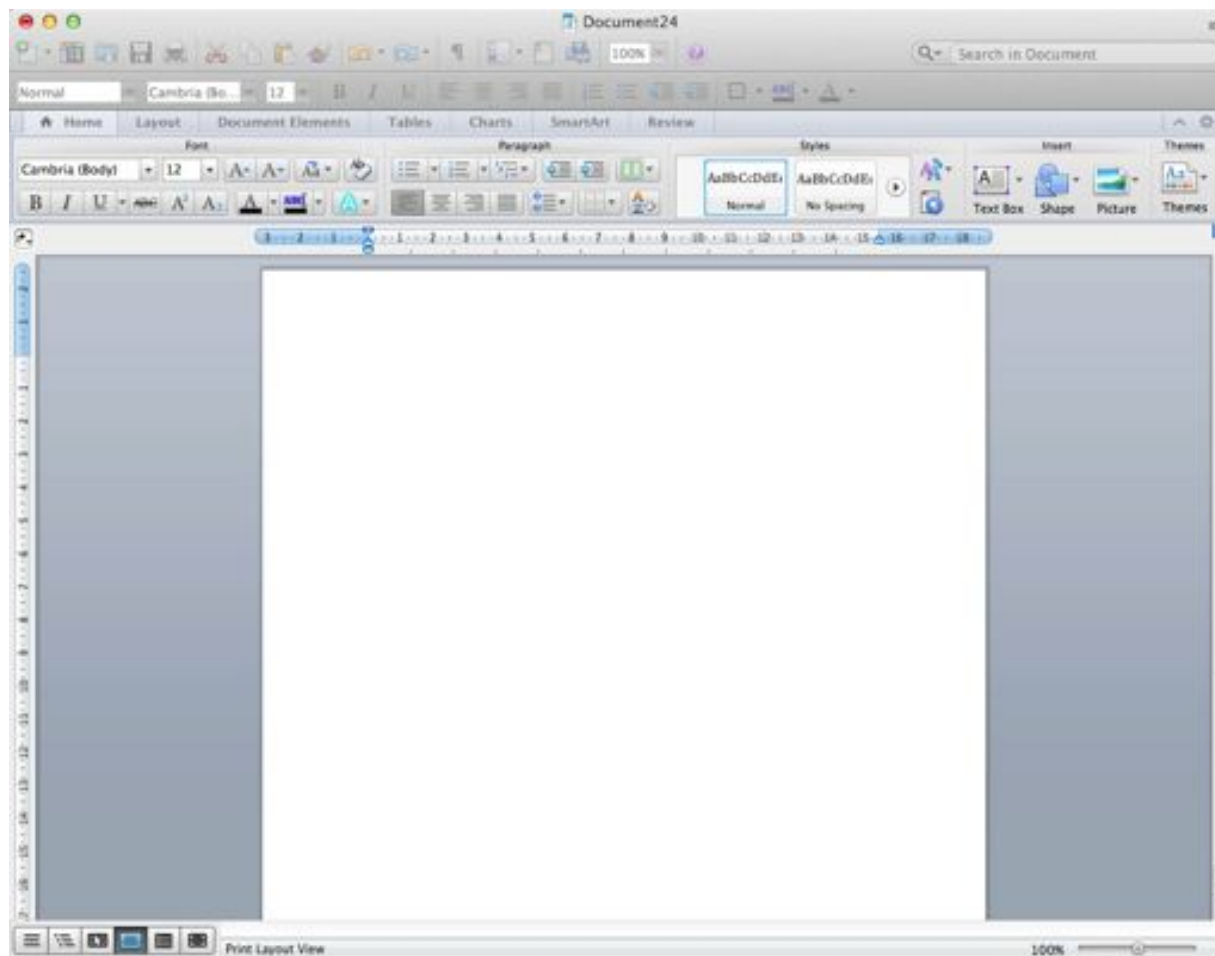
Written by Jodi Barrett
and Drawn by Ron Barrett



AT tool #4

Dictation

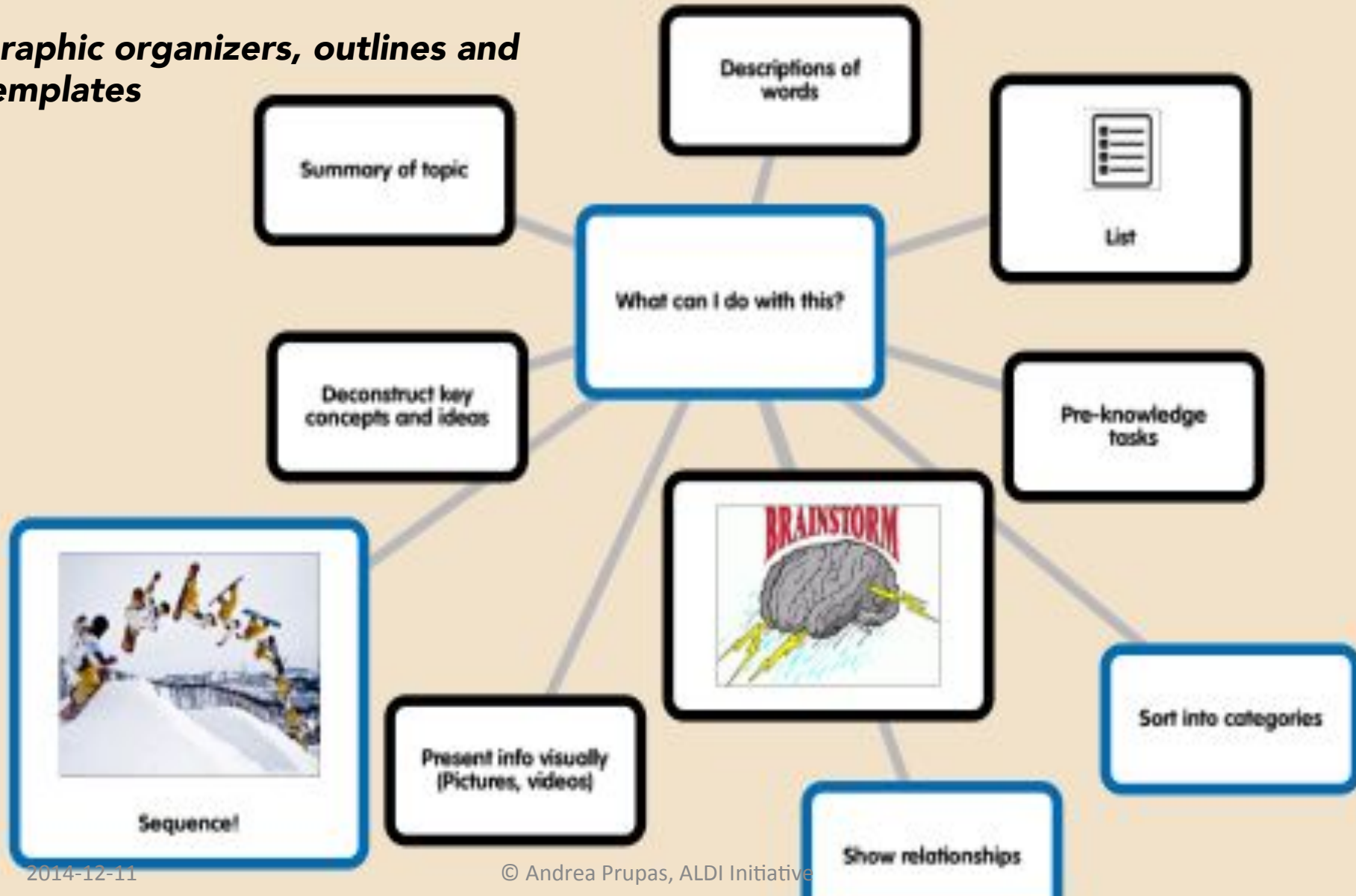
- A viable option for students who are better expressing themselves through oral language rather than writing.
- Can speed up the writing process
- Important: requires a process of implementation, and practice!





AT tool #5

Graphic organizers, outlines and templates



popplet: Facts About Earth

go full

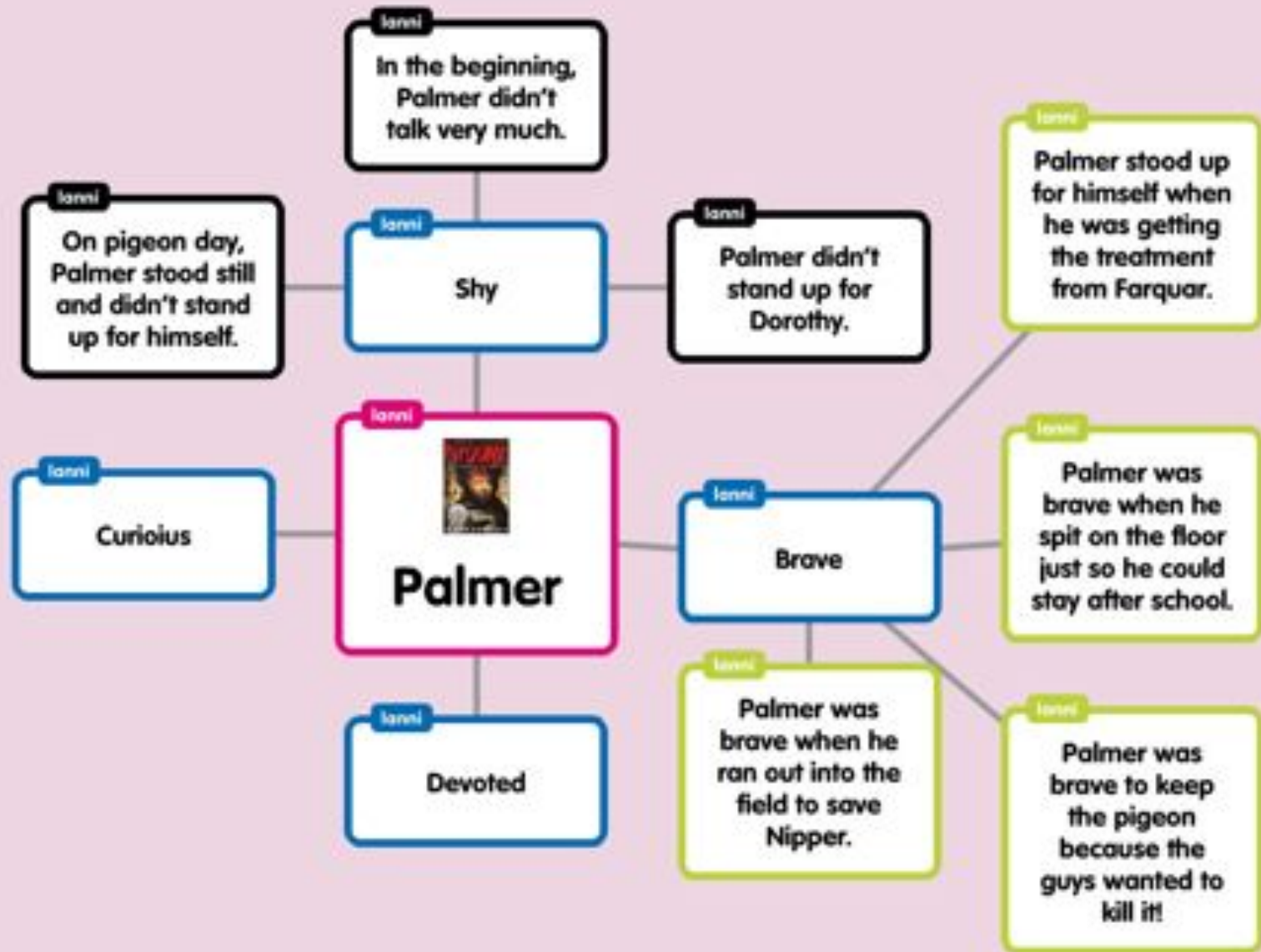
view all

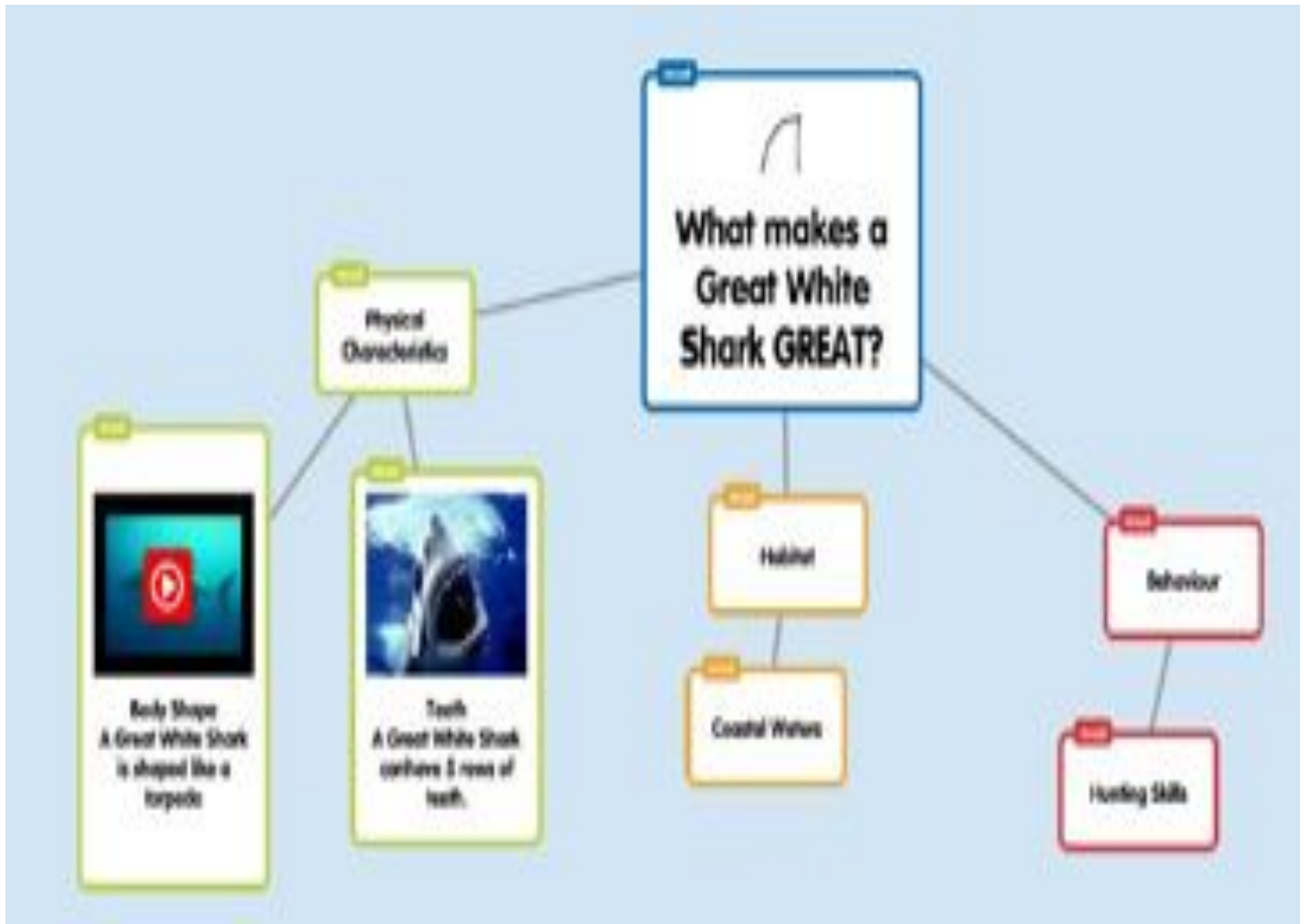
zoom

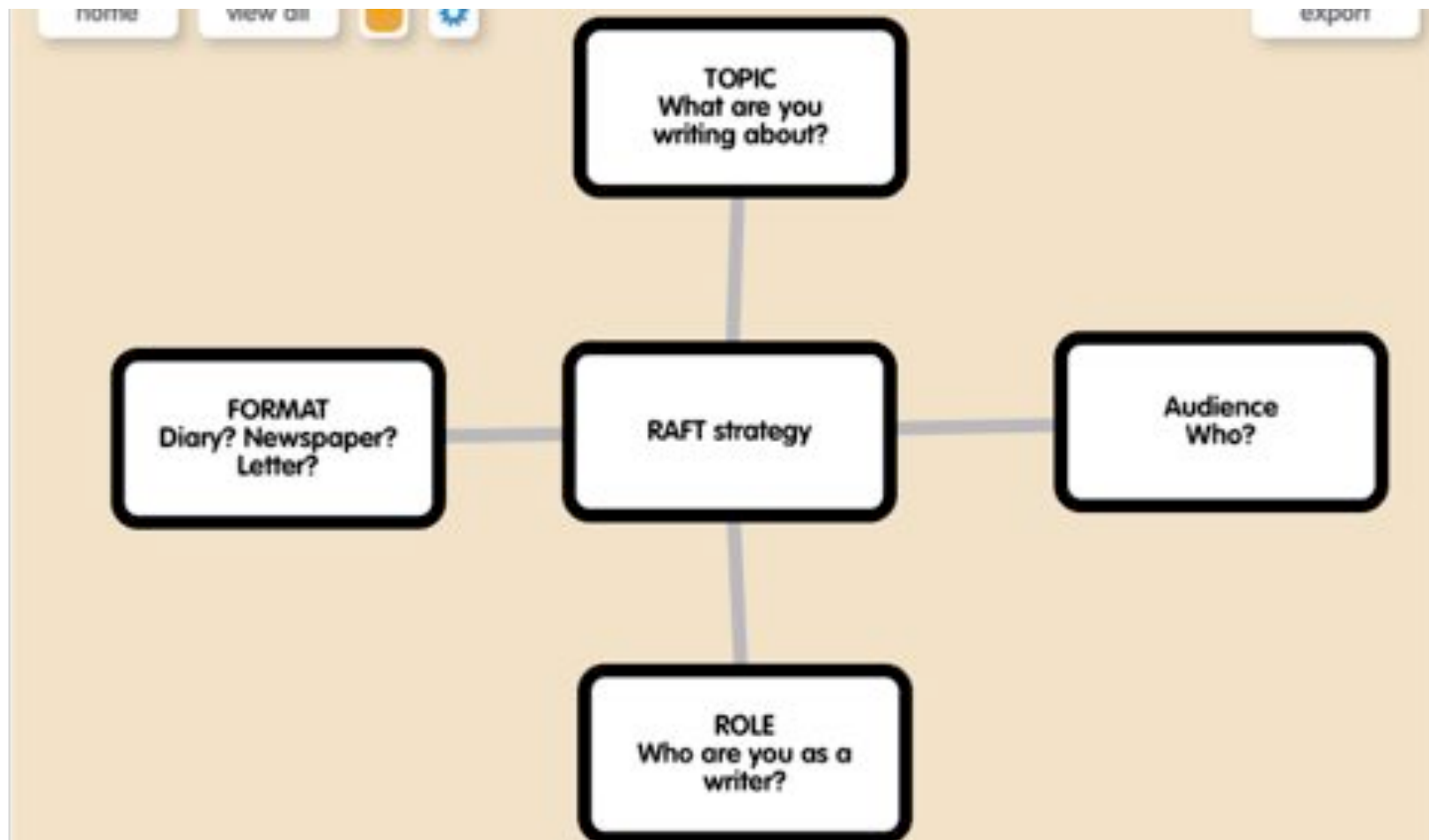


what's popplet?











AT tool #6

Visual literacy tools

- Visual literacy tools can support struggling writers in these areas:
- Ideas
- Organization
- Word choice
- Fluency
- Voice
- Conventions



This is a zebra. It has black and white stripy skin. A zebra is a herbivore. It only eats plants. The zebra we saw was eating grass. A zebra is a |

mammal

reptile

carnivore

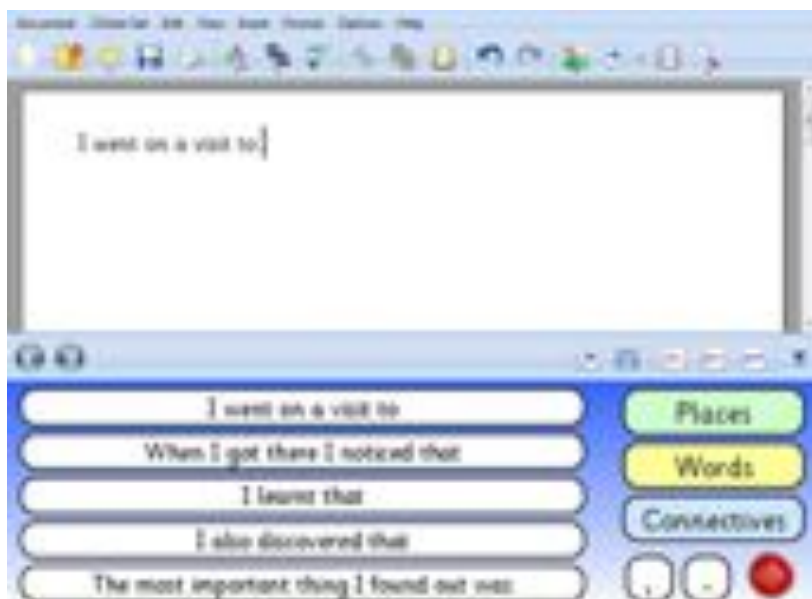
vertebrate

insect

amphibian

herbivore

invertebrate





John A MacDonald



Wilfred Laurier



Upper Canada



Lower Canada



Rockies



laurentians



tundra



prairies



Yukon



Goalie



Butter churn



Arc-en-ciel



Québec



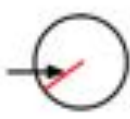
Nouveau-Brunswick



aiguiseur



pique-nique



rayon



cellules



fer



or



invertébré



octogone

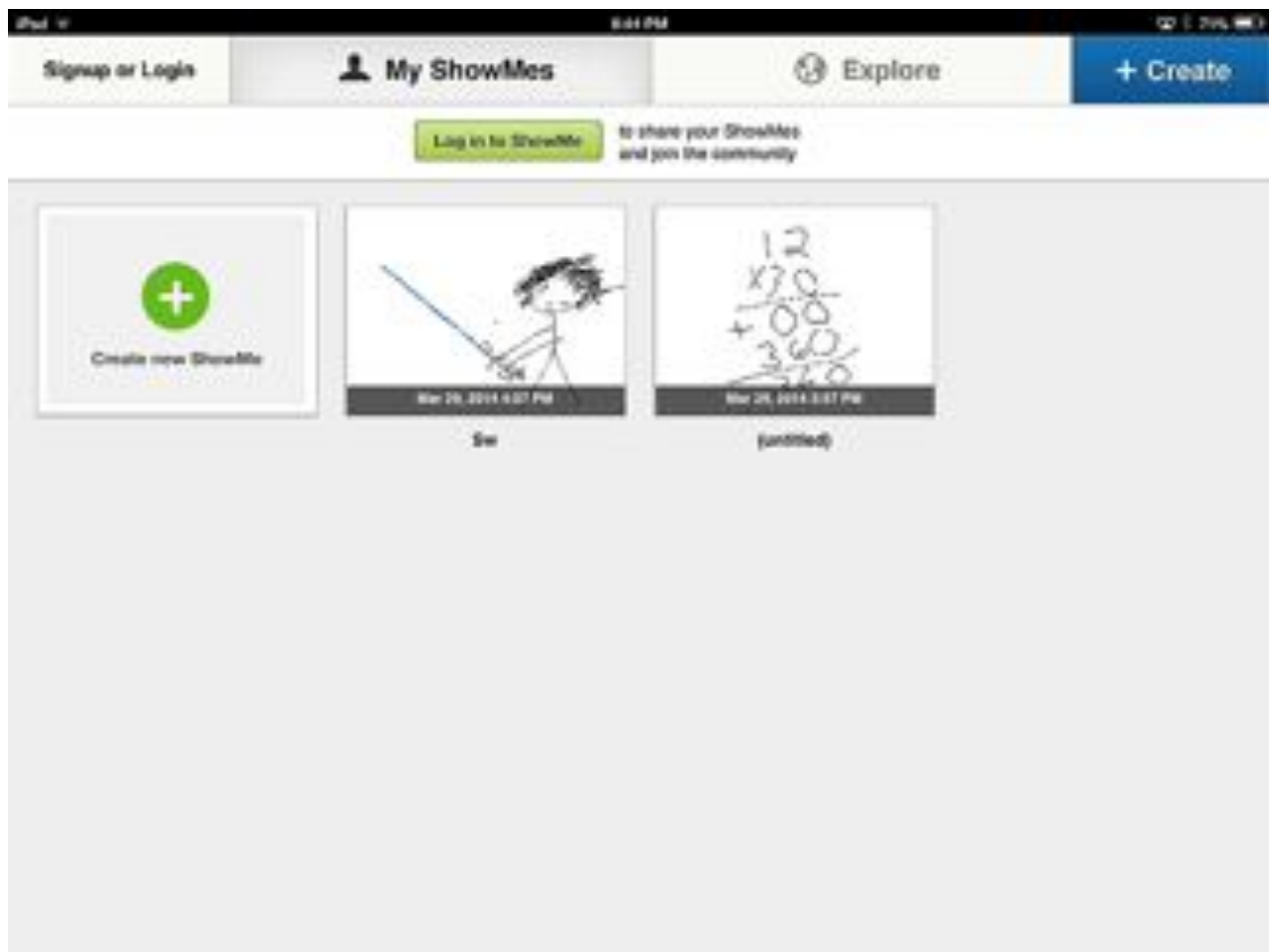


pluie

AT tool #7

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 #8

Social and multimedia tools

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

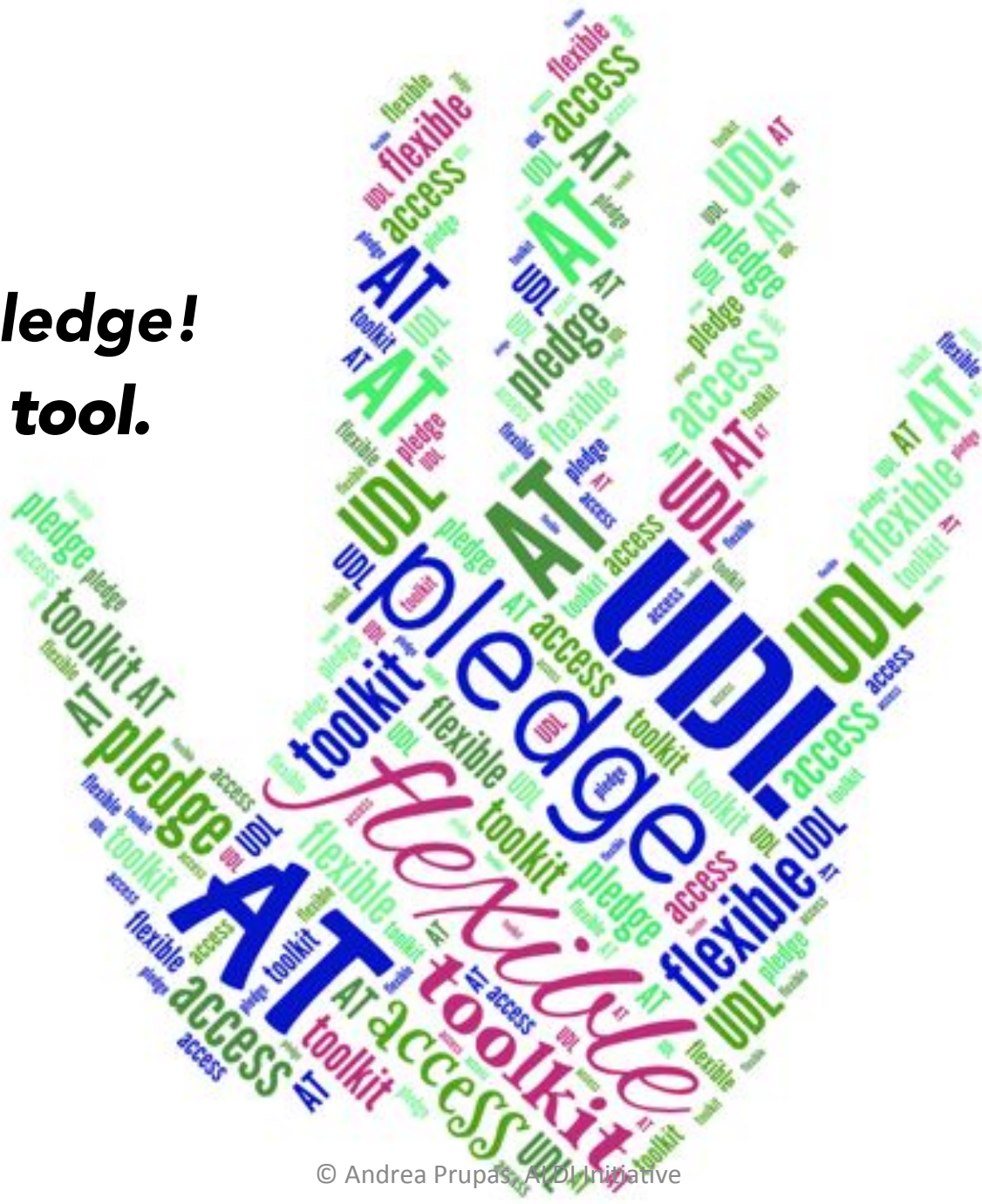
- <https://voicethread4education.wikispaces.com/K-2>
- <http://ed.voicethread.com/myvoice/#thread/1088706/5821639/7425447>
- <http://voicethread.com/myvoice/#thread/5761319/29531249/31360330>



What's in your AT toolbox?
Use UDL as a framework!



Take the pledge!
To try one tool.



Thank you!



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