History of Technology in Education
KEEP CALM.
THERE'S AN APP FOR THAT
Despite the potential of technological advancements, the traditional INCLUSION classroom hasn’t changed much over time.
Universal Design for Learning

- *Multiple means of representation* to give learners various ways of acquiring information and knowledge *(WHAT)*
- *Multiple means of expression* to provide learners alternatives for demonstrating what they know *(HOW)*
- *Multiple means of engagement* to tap into learners' interests, challenge them appropriately, and motivate them to learn *(WHY)*

**IT'S ALL ABOUT ACCESS!**
Universal Design for Learning

- The power of any tool lies in the hands of its user.

- To get the best end result from assistive technology, we must harness its power for reducing learning barriers.
uPAR universal

Protocol for Accommodations in Reading

Developed by Denise DaCoste Ph.D. and Linda Bastiani Wilson, MA, Ed.

DON JOHNSTON
78% Benefit from Accommodation

- 4 Got to Grade Level
- 1 Above independent Reading Level
- 2 No Benefit
- 2 Exceed Grade Level
Self-select a reading passage

Independent Reading

Universal Protocol for Accommodations in Reading

Please select a story that interests you.

- A Hurricane Plan
- Speak Up
- Eureka!
- The Mouse, the Frog, and the Hawk
- Very Frightening
- No Room on the Team
- Cruising in a Convertible
- Practice, Practice, Practice
At independent reading level (teacher sets reading level)
Comprehension Quiz

1) This passage is about _________________.

- our learning skills
- practice and learning
- natural learning
- memory connections

Next
Repeat the process with a Human Reader

Passages start at grade level
Repeat the process with a built-in Text Reader

Text Reader

Passages start at grade level

Born in 1842, Cathay Williams worked as a house slave for a Missouri planter. Union soldiers freed her after the Civil War broke out. Cathay Williams went to work for the Army as a "paid" servant. She traveled with Colonel Benton and General Sheridan experiencing military life during wartime.

In September, 1866, the U.S. Army formed an all-Black unit. The men came from the 10th Cavalry Regiment at Fort Leavenworth, Kansas. They were nicknamed "Buffalo Soldiers." In those days, women could not serve in the military, Cathay Williams posed as a man, and used the name "William Cathay" to enlist in the army. She joined the 38th Infantry, Company A in St. Louis, MO. Only a cousin and close friend knew her true identity. They faithfully kept her secret.

William Cathay’s military service record shows that his unit was sent to Jefferson, Missouri and Fort Riley, Kansas. After a few months, the unit marched to Fort Union, New Mexico, a distance of more than 500 miles. Then, they marched to Fort Cummings to protect miners and traveling immigrants. Military service took its toll. Records show that William Cathay was hospitalized several times. Still, the soldier’s true identity as a woman remained a secret.
Additional Reading Passages

Readings become easier or more difficult depending on how the student did at grade level.
Immediate Data Feedback

**Ryan Stanton**
Completed Date: 2014-08-29

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Silent Read</th>
<th>Adult Read</th>
<th>Text Reader</th>
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<td>12</td>
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</tbody>
</table>

**Notes:**
- [Image] Educator Dashboard
- [Link] EducatorDashboard.com
Immediate Data Feedback

Actionable Data

- 85% of students exceed grade level
- 60% of students benefit from accommodation
- 30% of students are above independent reading level

Average Grade Level Increases

- Human Reader: +2.0
- Text Reader: +1.7
A next-generation reading tool for Google Chrome
Features

- Reads accessible and inaccessible text aloud
- Works across Google Drive, email, websites, Kindle Cloud reader and PDF’s
- Works offline
- Dynamic text leveling
- Study Tools: Outlining, Note-taking
Co:Writer Universal
CO-WRITER

- A word prediction tool

- Can be used with any other electronic writing program (i.e. Word Processor, Notepad, PowerPoint, or even E-mail).

- As letters are typed, suggestions are given until a word is chosen or students can continue to type.

- You can use Flexible spelling to incorporate phonetic attempts at words.
CO-WRITER

Who Needs Co:Writer?

Students with:

- Illegible handwriting
- Very poor phonetic or inventive spelling
- A physical disability that makes typing difficult
- Difficulty translating thoughts into writing
Co:Writer helps students turn this:

I have a dog. It's name is Rosie. It's brown. It plays with me. It eats a lot. I like it and my family likes it too.

...into this:

Spelling errors reduced from 13 to 0
Punctualization errors reduced from 5 to 1
Capitalization errors reduced from 6 to 0
Note incorrect use of apostrophe.
CO-WRITER
Extensions and Apps that provide Multiple Means of Representation
**Reading**

**Readability**: allows the user to read web pages without clutter. It removes ads and other page clutter. It also allows the user to change the width of the margins, the size of the text, and text color. It is possible to print, share and read pages later.

**TLDR (Too Long, Didn’t Read)**: Shortens long articles and provides a summary of reading material without leaving the original page. Can select short, medium, or long summary length.
 Powerful toolbar that works with Google Docs and provides an array of supports for reading including:

Word Prediction

Text Reader

Speech Input Tool

Teachers can get a FREE premium subscription to Read&Write for Google Chrome.
Virtual Manipulatives: virtual mathematical manipulatives such as base-ten blocks, color tiles, algebra tiles, and fraction circles. can set by grade level, select background mats (Grids, etc.) and manipulatives desired.
Apps and Websites that provide Multiple Means of Expression
Note Taking and Writing with Voice Recognition

**Voice Recognition:** use Google Chrome as a voice recognition app and type notes, long documents, or essays without touching the keyboard.
Read, Think, Write: web-based resource provides students with interactive organizational tools for various types of writing, including biographies, compare and contrast and even poetry. Using these interactives before writing can help students to organize their thoughts.

Storybird: app that allows students to choose from a variety of art sets and use the images to create online storybooks
Fluency Tutor for Google: teacher tool Chrome extension for fluency work. Teachers can pick reading passages based on content, lexile level or reading age, and share with individual students or groups via Google Drive. Students practice and record their assigned passages. Premium features such as useful analytics and progress tracking are also available for $99 per teacher, per year.
Splash Math: web-based math program (also available via iTunes) for grades K-6 to practice addition, multiplication, subtraction, division, place value, algebra, money, time, etc. Common Core aligned content.
Apps and Websites that provide **Multiple Means of Engagement**
**Socrative:** Students share their understanding by answering formative assessment questions in a variety of formats: quizzes, quick question polls, exit tickets.
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