Google Driving:
Increasing boys' engagement in literacy with Google Read & Write

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Google Driving: Increasing boys' engagement in literacy with Google Read & Write

Learning Goals:

1. How can innovations in technology be leveraged to support boys' literacy development?
2. How can peer-learning be applied to engage students in accessing available supports?
3. How can teachers reduce cognitive overload and motivate students to explore different approaches to learning?

Engaging Boys with Literacy

How can innovations in technology be leveraged to support boys' literacy development?

UNESCO's definition of literacy:
     "The ability to identify, understand, interpret, create, communicate and compute, using printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society".

Dr. Todd Cunningham:
"When some people think of assistive technology, they see a program that lets students **disengage** while it does their work for them. We see a tool that helps a student **reengage** in the learning process."

The challenge - is that there are hundreds of different assistive technologies on the market? So how do we pick the right one? and how do we get students to actually use it?

Cognitive Overload & SETT

How can teachers reduce cognitive overload and motivate students to explore different approaches to learning?

Dr. Todd Cunningham's work from the University of Toronto (https://learndifferent.org) was the inspiration behind this project. He explains that the reason the integration of assistive technologies into a student's daily work habits often fails, is that the student is already at their cognitive max and the idea of learning something new puts them in cognitive overload. It is easier for them to continue with their system, even if inefficient or not working well for them, then to learn and adopt something new.

He suggests using Dr. Joy Zabala's (http://www.joyzabala.com/) tool/task framework entitled SETT (student, environment, task, tool).

According to Dr. Zabala
" The SETT Framework is a tool that helps teams gather and organize information that can be used to guide collaborative decisions about services that foster the educational success of students with disabilities"

SETT (Student, Environment, Task, Tool)

Student:
- What are the students areas of strength and need?
- What interventions have worked in the past?
- What are the student's interests?

Environment:
- What material and equipment are available

Task:
- What are the curriculum objectives?
- What are the skills being taught?
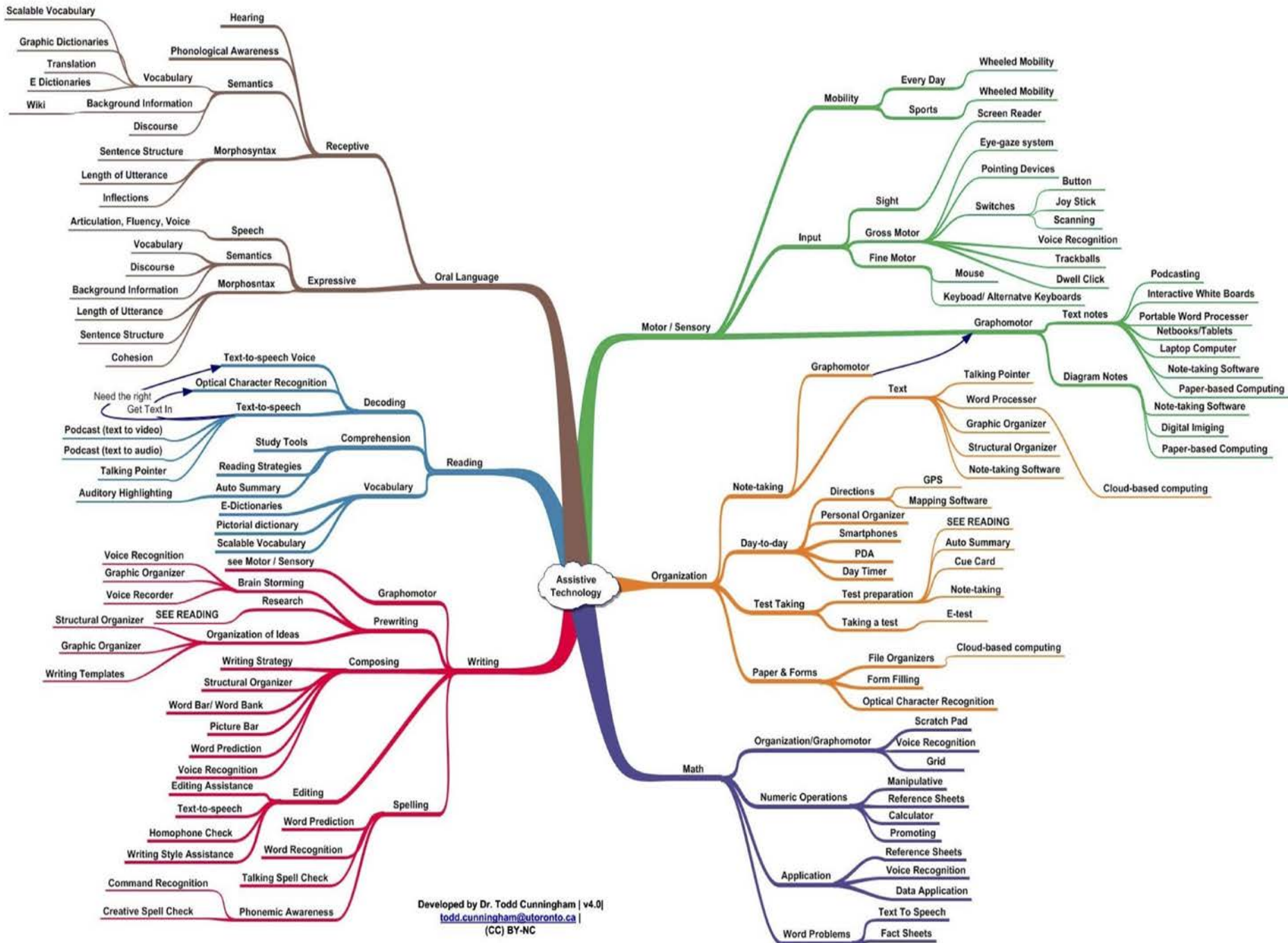- What skills are needed? and what skills need to be supported?

Tool:
- Which assistive technology tool would best support the student and meet the needs of the task?

References:

http://www.joyzabala.com/uploads/Zabala_SETT_Leveling_the_Learning_Field.pdf

https://sites.google.com/site/assistivetechnologyprotocol/

Assistive Technology

Oral Language

Receptive

- Hearing
- Phonological Awareness
- Semantics
  - Vocabulary
    - Scalable Vocabulary
    - Graphic Dictionaries
    - Translation
    - E Dictionaries
    - Wiki
  - Background Information
  - Discourse
- Morphosyntax
  - Sentence Structure
  - Length of Utterance
  - Inflections

Expressive

- Speech
  - Articulation, Fluency, Voice
- Semantics
  - Vocabulary
  - Discourse
  - Background Information
- Morphosyntax
  - Length of Utterance
  - Sentence Structure
  - Cohesion

Reading

Decoding

- Text-to-speech Voice
- Optical Character Recognition
- Text-to-speech
  - Need the right
  - Get Text In
  - Podcast (text to video)
  - Podcast (text to audio)
  - Talking Pointer
  - Auditory Highlighting

Comprehension

- Study Tools
- Reading Strategies
- Auto Summary

Vocabulary

- E-Dictionaries
- Pictorial dictionary
- Scalable Vocabulary

Writing

Prewriting

- Graphomotor
  - see Motor / Sensory
- Brain Storming
  - Voice Recognition
  - Graphic Organizer
  - Voice Recorder
- Research
- Organization of Ideas
  - Structural Organizer
  - SEE READING
  - Graphic Organizer
  - Writing Templates

Composing

- Writing Strategy
  - Structural Organizer
  - Word Bar/ Word Bank
  - Picture Bar
  - Word Prediction
  - Voice Recognition
- Editing
  - Editing Assistance
  - Text-to-speech
  - Homophone Check
  - Writing Style Assistance
  - Command Recognition
  - Creative Spell Check
- Spelling
  - Word Prediction
  - Word Recognition
  - Talking Spell Check
  - Phonemic Awareness

Motor / Sensory

Input

- Mobility
  - Every Day
    - Wheeled Mobility
  - Sports
    - Wheeled Mobility
- Sight
  - Screen Reader
  - Eye-gaze system
  - Pointing Devices
  - Switches
    - Button
    - Joy Stick
    - Scanning
- Gross Motor
  - Voice Recognition
  - Trackballs
  - Dwell Click
- Fine Motor
  - Mouse
  - Keyboard/ Alternatve Keyboards

Graphomotor

- Text notes
  - Podcasting
  - Interactive White Boards
  - Portable Word Processer
  - Netbooks/Tablets
  - Laptop Computer
  - Note-taking Software
  - Paper-based Computing
- Diagram Notes
  - Note-taking Software
  - Digital Imiging
  - Paper-based Computing

Organization

Note-taking

- Graphomotor
- Text
  - Talking Pointer
  - Word Processor
  - Graphic Organizer
  - Structural Organizer
  - Note-taking Software
  - Cloud-based computing

Day-to-day

- Directions
  - GPS
  - Mapping Software
- Personal Organizer
  - Smartphones
  - PDA
  - Day Timer

Test Taking

- Test preparation
  - SEE READING
  - Auto Summary
  - Cue Card
  - Note-taking
- Taking a test
  - E-test

Paper & Forms

- File Organizers
  - Cloud-based computing
- Form Filling
- Optical Character Recognition

Math

Organization/Graphomotor

- Scratch Pad
- Voice Recognition
- Grid

Numeric Operations

- Manipulative
- Reference Sheets
- Calculator
- Promoting

Application

- Reference Sheets
- Voice Recognition
- Data Application

Word Problems

- Text To Speech
- Fact Sheets

Our Method - Peer-Learning

Recap - Our 3 Key Questions:

   1.How can peer-learning be applied to engage students in accessing available supports?

   2.How can teachers reduce cognitive overload and motivate students to explore different approaches to learning?

   3.How can innovations in technology be leveraged to support boys' literacy development?

Project Method:

1.   Launch of the video tutorial project with Fast Tracker students (Q1).
2.   Creation of Google Read & Write tutorial rubric to frame parameters of video production (Q1, Q3).
3.   Administer Pre-Assistive Technology survey to Learning Strategies students (Q1).
4.   Check-in, review and revise tutorial videos produced by the Fast Tracker group (Q1, Q2).
5.   Launch of Google Read & Write artifacts project with GLS Section 1 and 2 classes (Q1, Q2, Q3).
6.   Conduct GLS class lessons based upon Fast Tracker video content (Q2, Q3).
7.   Guide the development of and collect Artifact #1 & Reflection Question set #1 (Q1, Q2, Q3).
8.   Guide the development of and collect Artifact #2 & Audio Reflection Question set #2 (Q1, Q2, Q3).
9.   Administer Post-Assistive Technology Survey (Q1).

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Fast Tracker Student Videos

The production of GR&W tutorial videos by GLS Fast Tracker students for full-time GLS students was designed in order to leverage a peer-to-peer learning model and to promote boys' engagement with their own literacy skills development using assistive technology.

GR&W features studied:

1. Text-to-Speech	2. Speech-to-Text	3. Fact finder	4. Collecting Highlights
5. Dictionary	6. Pictionary	7. Word Prediction	8. Vocabulary Lists

On display today:
Spliced footage from eight tutorial videos that showcases the work of fast tracker students conducting tutorial demonstrations for consumption and personalized application by full-time GLS students.

Full-time GLS students apply Fast Tracker tutorial videos to their current homework demands, implementing a tool-to-task framework that aims to reduce cognitive overload to the greatest degree possible while implementing new assistive technology in a manner that puts the student into action.

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Exemplars & Artifacts

Exemplars:

Screen-capture videos of full-time GLS students performing tool-to-task demonstrations of ongoing coursework from other classes.
Most common exemplars: Text-to-Speech & Speech-to-Text

Artifacts:

Presentation of finished tasks from full-time GLS students that were completed using GR&W tools and submitted to their other teachers.
Presentation of organized resources by full-time GLS students for the purpose of knowledge acquisition involving course content from other classes.
Presentation of original source material with tool-to-task generated artifact.
Most common artifacts: Collected Highlights & Vocabulary Lists

Student Reflections - Quotes from Boys

"The fact that this tool is easy to use would **encourage me to make it part of my regular writing process**. This tool gave me a new perspective on writing as **I could throw out my ideas which were recorded and transcribed**. I would then go back through my writing and edit sentences accordingly". SO

"This tool **changed the way I usually interact** with my schoolwork, especially when I need notes on a topic from a source or an article. With this tool, I don't need to take my own notes as this tool collects all of the important information I need, **which makes my life easier**. I found this tool beneficial as it saved me time and I believe I will get a better mark on my History essay". CG

"**This tool got my attention** because in my writing I usually make grammar mistakes and I knew that it would be great to have a tool to help me correct this issue. **I feel this tool is made for me** because sometimes I skip words, use the wrong word, or construct my sentences improperly. My essays can be a lot better by having this tool vocally read my work and let me know if it does not sound right." SC

"I really liked this tool because it could make study lists with definitions and diagrams **with the click of a button**. It interested me because **I could understand challenging words** throughout all of my History sources. I picked this tool for my text readings because I had to understand the context from a **large number of sources**. I found this tool useful for sorting through many pieces of work". TW

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Student Reflections - Quotes from Boys

Audio Recordings (Reflection #2):

"I was first inspired to use Speech-to-Text because it had the ability to **make my work more enjoyable** for the type of learner that I am. When I do homework I tend to type very quickly which causes errors in my work and sentences. Using a speech-to-text accommodation has led me to an editing process that **enhances creativity and writing quality**". JB

"When I was writing my essay, **I did not want to interrupt my creative flow** by having to stop in the middle and create a footnote. I used highlights to record where I need to footnote and then commented with what book and page to include. **This tool helped me gain a new perspective** on the way I should do my work." SC

"Speech-to-Text allows me to **put all of my thoughts and ideas to paper instantly**. This tool allows you to re-read what you wrote for editing purposes meaning you're studying content two times over. **Speaking your mind can increase creativity** and if I did not use GR&W I would resort to my typical method". JC

Most common themes reported by students in artifact reflections:

1. More time saved doing work
2. Efficiency of homework process
3. Greater organization
4. Enhanced creativity while writing
5. Improved editing skills
6. Improved test preparation

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Questions

Does anyone have any questions related to our project or the outcomes we observed?

References and Contact Information

References:

Cunningham, T (2017). Learn Different. Retrieved Friday May 26 from
https://learndifferent.org/

Zabala, J. (2017). *Sharing the SETT Framework.* Retrieved Friday May 26, 2017 from
http://www.joyzabala.com/

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