The 21st Century Study Skills: Activating the Inactive Learner
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The Mindset Research Project: Method

The following slides provide links to the videos used in our project, as well as prompts used for classroom discussion.

How the Brain Works:
https://www.youtube.com/watch?v=XSzsI5aGcK4

Discussion prompt(s):
- Can someone tell me another fact that they know about the brain, (not in video); any interesting facts you know about the brain?
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Areas of the Brain:
https://www.youtube.com/watch?v=5_vT_mnKomY

Discussion prompt(s):
- Do you feel like one of the areas of the brain has more influence on your behaviors than the others?
- When you’re feeling upset, are you able to use the thinking part of your brain to override this emotion side of your brain’s response? Why or why not?
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Neuroplasticity:
https://www.youtube.com/watch?v=ELpfYCZa87g

Discussion prompt(s):
• Do you believe you can re-wire your brain if you work hard and are persistent?
• Can you think of an example of a way in which you may recently have ‘re-wired’ your brain?
• Can you think of a situation, or example, where you would like to ‘use’ neuroplasticity to re-wire your brain?
• override this emotion side of your brain’s response? Why or why not?
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Discussion prompt(s):
- Do you ever hesitate before asking a question, because you think it’s a stupid question?
  - Does watching this video change your mind?
- Follow-up: research suggests the more you believe you can learn (and learn by asking question), the more you can actually learn. What would you do to get over the fear of asking ‘stupid’ questions?
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The Evidence: How a growth mindset lead to higher achievement: https://www.mindsetkit.org/growth-mindset/about-growth-mindset/evidence-how-growth-mindset-leads-to-higher-achievement

Discussion prompt(s):

- It’s important to remember that you can have a fixed mindset in one area (e.g., math), but a growth mindset about another area (e.g., music). What would it take you, as a student/learner, to go from a fixed to a growth mindset on a topic?
  - Follow-up What could an instructor/teacher do to facilitate a growth mindset?
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Mindsets can change: https://www.mindsetkit.org/growth-mindset/about-growth-mindset/mindsets-can-change

Discussion prompt(s):

- What advice do you have for teacher to create a growth mindset environment in the classroom?
- e, what about the learning environment might support a growth mindset, especially for a topic you find difficult?
Selected Tech Tools for:

Reading

Memory and Recall

Note Taking
Digitalization of Learning

- Digital Literacy is an essential 21st century skill

- Online; flipped classes; personalized learning

- Computer and Internet-based high stakes tests

- Reading online is becoming the norm

- Technology offers many benefits, but also certain challenges
“Reality is that we can’t go back to pre-digital times. We need to understand what we will lose and preserve what is best.”

Marianne Wolf, 2016
Skimming is the new normal; as is distraction

Increased multi-tasking; decreased sustained attention

Decrease in sustained in-depth reading

Wolf, 2016
Digitalization of Learning

What does this mean for Learning?

- Tech-based Accommodation
- Access
- Design
- Task Efficiency

LCIRT 2017
Tech Tools and Task Efficiency

• **Accessibility**: is the degree to which the technology makes course content obtainable to diverse learners.

• **Usability**: is the degree to which the technology can be easily navigated and operated.

• **Effectiveness**: is the degree to which the features of the technology can support a skill and produce a selected outcome.

Source: [http://www.udi.uconn.edu](http://www.udi.uconn.edu)
Technology tools can make a significant difference for college students with dyslexia, and these technologies and tools do not have to be restricted to an “assistive” capacity (Rose & Meyers, 2000)
Digitalization of Learning

- Makes information malleable
- Allows information to be accessed anyplace, anytime
- “Content” can be separated from “display”
- Information can be scaffolded
# Common Areas of Difficulty and Impact

1. **Access to Text/Reading**
   - Decoding text
   - Automaticity (speed of processing)

2. **Engagement**
   - Comprehension
   - Managing distraction; Attention

3. **Application**
   - Analysis; Synthesis
   - Generalizing
   - Problem solving

4. **Performance**
   (Output)
   - Expression (oral/written)
   - Communication
   - Test taking

5. **Self-regulation**
   (metacognitive awareness)
   - Time management
   - Organization
   - Self-monitoring
21st Century Digital Backpack

- **Core set of hardware and software for broad accessibility**
  - Laptop and/or tablet *(Mac or PC)*
  - Flash drive *(with security lock)*
  - Smart phone *(iPhone; Droid)*
  - PDF editor *(Adobe Acrobat Standard; Foxit Reader)*
  - Audacity *(audio editor/ recorder); Plagiarism check; Citation; Bibliography software*
  - Screen Capture/Video editing *(Jing; Captivate; Camtasia Studio)*

- **Personalized Assistive Technology** *(Text-to-Speech and Speech-to-Text (depending on need))*

- **Awareness of Institutional LMS Platform** *(Canvas; Black Board; Moodle)*
“– the clearest differentiator in reading between students who are college ready and those who are not is the ability to comprehend complex text” (ACT, 2005, p. 2) 

- **Low reading ability** students are more focused on word reading and surface comprehension (Linderholm & van den Broek, 2002, Schellings et al., 2006).

- **High reading ability** students divide attention between self-monitoring and evaluating what they are reading.

- **Low reading ability** students make less effective use of strategies such as paraphrasing, repetition, and re-reading (Langer, 1993), and demonstrate less effective metacognitive adaptation to task.
The Many Strands that are Woven into Skilled Reading
(Scarborough, 2001)

LANGUAGE COMPREHENSION

BACKGROUND KNOWLEDGE
(facts, concepts, etc.)

VOCABULARY
(breadth, precision, links, etc.)

LANGUAGE STRUCTURES
(syntax, semantics, etc.)

VERBAL REASONING
(inference, metaphor, etc.)

LITERACY KNOWLEDGE
(print concepts, genres, etc.)

WORD RECOGNITION

PHONOLOGICAL AWARENESS
(syllables, phonemes, etc.)

DECODING (alphabetic principle,
spelling-sound correspondences)

SIGHT RECOGNITION
(of familiar words)

SKILLED READING:
Fluent execution and coordination of word recognition and text comprehension.

increasingly strategic

increasingly automatic
TEXT TO SPEECH/SPEECH-TO-TEXT SOFTWARE
- Kurzweil (text-to-speech literacy software)
- Dragon Naturally Speaking
- Dream Voice Reader (App)
- WordTalk (free text-to-speech plug in for Microsoft Word)
- Balabolka (free)
- Read & Write Gold (Literacy software)
Access to Text - Audio Books

- **Reading Ally** (formerly RFB&D)
  [www.learningally.org](http://www.learningally.org)

- **Book Share** - is an online accessible digital library for print disabilities

- **eText from publisher**
  [www.etext.com](http://www.etext.com)

- **Project Gutenberg** - offers free e-books to download to your PC, Kindle, Nook, Android, iPad, iPhone or other portable device.

- **AccessText** - is a membership exchange network that facilitates and supports the nationwide delivery of alternative textbooks to Higher Education students.
Active Listening Strategy with Audio Books

- **Pre-listening** – Preview format; layout; length of reading

- **Gist listening** – Listen to several sections or all sections to get an overview/gist of the content

- **Strategic listening** – Re-listen to sentences or paragraphs/sections focusing on details this time

- **Review listening** – Go back and listen to sections that were dense or complex.
Engagement – Active Reading Strategy

Reading Comprehension Strategy using Adobe Acrobat Standard/Pro - DEMO
Making PowerPoint Slides into a Multimedia Study Guide - DEMO
What have we learned:

1. Academic tests are not the only measures of learning; we can now observe changes in the architecture of the brain as indicators of learning.

2. Repetition is a key component in developing stronger neural pathways and more effective learning.

3. The learning environment is critical in fostering engagement and neural development.

4. Teenage years are particularly primed for learning, but the brain is not yet fully developed (Teenage Paradox).
Digital Flash Cards

- **Study Blue** (online flash card) - [https://www.studyblue.com/](https://www.studyblue.com/)
- **Anki** (program for memorizing) - [http://ankisrs.net/](http://ankisrs.net/)
- **iStudy** (college specific, e.g., [http://istudy.psu.edu/](http://istudy.psu.edu/))
- **Quizlet** (mobile studying) - [http://quizlet.com/](http://quizlet.com/)
- **Content Specific Flash Cards** – Medical and Law
Memory and Recall Aids

Medical Flash Card
https://www.youtube.com/watch?v=EiKg08WoKPM&sns=em

All Subject Areas
https://www.brainscape.com/subjects

Law
http://www.flashcardmachine.com/law.html
Other Digital Study Tools

- **Wolfram Alpha** - App (helpful for math/algebra/calculus)

- **Khan Academy** (free instructional YouTube Videos)

  (National Council of Teachers of Mathematics)
Digital Writing Tools and Strategy

Summarizing tool

- SMMRY - http://smmry.com/


Writing Strategy using Summarizing Tool
Note-taking questionnaire

Inspiration – outline; mind maps
WRITING TOOLS

• Inspiration
• Cowriter (http://www.donjohnston.com/products/cowriter/index.html)
• WritetoLearn (http://www.writetolearn.net/)
• Ginger It!, http://www.gingersoftware.com/?cpn=1&adg=1&ad=1&cnt=1&ln=1
• Grammarly (available as an App as well) http://www.grammarly.com/?q=grammar&gclid=CLj6yqmTkKoCFYpd5QodlHA-xg
• Abiword http://www.abisource.com/
• Spellchecker.net Language Tool http://www.languagetool.org/
• Whitesmoke http://www.whitesmoke.com/
• Autocrit http://www.autocrit.com/
CITATION TOOLS

• Easy Bib http://www.easybib.com/
• Knightcite http://www.calvin.edu/library/knightcite/
• NoodleTools http://www.noodletools.com/
• Citation Creation http://www.citationcreation.com/
• Endnotes - Software tool for publishing and managing bibliographies; reference assistant - http://endnote.com/

PLAGARISM CHECK - https://elearningindustry.com/top-10-free-plagiarism-detection-tools-for-teachers

• www.duplichecker.com
• www.scanmyessay.com
Digitizing Course Syllabus

- Highlighting – key words, phrases, due dates
- Icons as reminders
- Hyperlinks - linking to readings – *(example)*
- Graphic syllabus *(Inspiration)*
- Google Calendar *(interface calendar feature with multiple devices)*
Take Away Points for Digital Study Tools

- Tech solutions for academic tasks have their limitations – individual student profiles must be considered; assess entry level tech competencies.

- Help students develop competencies with mainstream technologies such as Microsoft suite, Blackboard/Moodle, smart phones.

- Focus on a core set of technologies rather than every new innovation; mix and match approach.

- Teach strategies and skills that are enhanced by technology rather than the technology itself.