Literacy 2.0: Enhancing Reading & Writing Through Technology

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Who are we?

About Me
- SLP
- Private practice
- Consultant
- Adjunct
  - Adelphi University
  - PACE University
- Author/Writer
  - Understood.org
  - Differentiated Reading Instruction

About You
- Setting(s)?
- Age range(s) of students?
- Technology access?
Agenda

- Research Review 8:30–9:00
- Formative Assessment 9:00–10:00
- BREAK 10:00–10:15
- Decoding & Encoding 10:15–11:00
- Reading Fluency 11:00–11:30
- LUNCH 11:30–12:00
- Reading Comprehension 12:00–1:00
- Writing Structure 1:00–2:00
- BREAK 2:00–2:15
- Putting it all Together 2:15–3:00
- Share 3:00–3:15
- Q&A 3:15–3:30
Learning Objectives

By the end of the session, YOU will be able to:

● create a self-differentiating Google Form (for formative assessment and instruction)
● define the differences between different levels of reading and writing (e.g. decoding, encoding, reading fluency, writing fluency, reading comprehension, writing structure)
● list technology tools to support students with diverse Specific Learning Disabilities and Other Health Impairments profiles (e.g. students with dyslexia, ADHD, dysgraphia, language disorders)
● design a lesson that addresses traditional curricular goals with 3 or more types of differentiation (from assistive technologies to level of scaffolds)
Take-Homes

- A list of references that cites research supporting each tool
- All of the slides that do not have an interactive component or copyrighted material
- Access to the resource list we create during this session

PLUS: I’m always available by email to answer questions!
“For people without disabilities, technology makes things easier. For people with disabilities, technology makes things possible.”–IBM Training Manual 1991
General Terminology
General Terminology

Universal Design for Learning

- A set of principles that abhors “one-sized fits all”
- Stresses flexibility in the curriculum
- Underlying philosophy: Students differ in *what* they learn, *how* they learn, and *why* they learn & each has an underlying neural underpinning

**Affective Networks:**

- **Engagement**
  - For purposeful, motivated learners, stimulate interest and motivation for learning.

**Recognition Networks:**

- **Representation**
  - For resourceful, knowledgeable learners, present information and content in different ways.

**Strategic Networks:**

- **Action & Expression**
  - For strategic, goal-directed learners, differentiate the ways that students can express what they know.
General Terminology

UDL at a glance

CAST 25 YEARS OF INNOVATION 1984-2009
Transforming education through Universal Design for Learning — http://www.cast.org

UDL at a glance
Learning disability vs Learning difference vs Learning style

I will use the term Specific Learning Disability more than Learning Difference. This is being done because in legal and educational spheres, Learning Disabilities (or rather Specific Learning Disabilities with an impairment in reading/writing/math) are the diagnostic terms use. This term is not intended to be used pejoratively as I recognize the range of positives and benefits that accompany Specific Learning Disabilities.

And learning styles are not a thing! Pashler et al (several research studies) or this Wired article
Strengths of People with Dyslexia  
“BE MIND”

Business: Learning difficulties are one of the most important precursors of financial success. About 40 percent of the 300 studied had been diagnosed with dyslexia — four times the rate in the general population.

Empathy: Children with learning disabilities also tend to be more empathetic, due to the hardships they face. Most teachers with learning disabilities view their disabilities as a having a positive effect on their teaching, likely due to the ability to empathize with students and their potential learning struggles.

Material or spatial reasoning: enlightened ability to solve problems with navigation, or with the visualization of faces, scenes, and objects. This skill can be useful for designers, engineers, filmmakers (like Steven Spielberg), or photographers, like Ansel Adams.

Interconnectedness: verbal reasoning capacity to connect seemingly-disconnected ideas (finding analogies, etc.). Paul Orfalea, CEO of Kinko’s, has said that his “learning style helped him see the big picture and not worry about tiny details.

Narrative reasoning: great memory for personal experiences. This skill can be helpful for poets (such as Philip Schultz), essayists, memoirists, and other writers (like John Irving).
Research Review

How do you know technology helps kids learn?
Follow up: how do you know technology helps kids with disabilities learn?

- Removes barriers ("safer")
- Accessible
- Helps with engagement
- Helps with comprehension
- Feeling of success & comfort
Research Review

Reading & Technology: A perfect pair!

- both best done embedded across content areas
- both primarily a means to an end, but sometimes require explicit instruction in order to be a useful “means.”
- by adulthood, people tend not to read or use technology “for their sake.”
- both require multiple skills that can and should be taught explicitly, students should also use both means for diverse purposes
“_______ is both a facilitator of literacy and a medium of literacy. Effective adolescent literacy programs therefore should use ______ as both an instructional tool and an instructional topic” (Biancarosa & Snow, 2006).

What words make sense in the blanks?
True or False?

Using an audiobook for kids with dyslexia will prevent them from learning to read fluently.
FALSE!

- Positive correlation of computer intervention on reading (Foster, Erickson, Foster, Brinkman, and Torgesen 1994; Olson and Wise 1992; Torgesen 1993; Torgesen, Waters, Cohen, and Torgesen 1988)
- Technology as an assistive tool for acquiring better literacy/reading skills FIsher & Molebash (2003), Speaker (2004)
- Computers assisted in reading fluency gains (Torgensen & Barker, 2005)
True or False?

If we give kids accommodations, it will become a crutch.
False!

- If we create meaningful opportunities for reading, students will learn more!
- “4th, 5th and 6th graders encounter about 10,000 words they have never seen before in print during a year’s worth of reading.” (Torgesen, 2004)
True or False?

Writing about a text increases comprehension.
True or False?

TRUE...Mostly

- Writing about a text enhances comprehension because it provides students with a tool to visibly and permanently record, connect, analyze, personalize, and manipulate key ideas in text" (Graham & Hebert, 2009)
- BUT not all questions are created equal
True or False?

**WRITING TO READ EFFECT SIZES WITH CONFIDENCE INTERVALS**

- CORE FINDING 1: Have students write about the text they read
  - Responding to reading in writing
  - Writing summaries: All grades
  - Writing summaries: Elementary
  - Writing summaries: Middle/High
  - Note-taking: With and without instruction
  - Note-taking: With instruction
  - Note-taking: Without instruction
  - Answering Questions

- CORE FINDING 2: Teach students how to be better writers
  - Teach students how to be better writers: Reading fluency
  - Teach students how to be better writers: Word skills

- CORE FINDING 3: Increase how much students write

*Estimated effect size from analysis of norm-referenced tests*

*Estimated effect size from analysis of researcher-designed tests*

*Confidence interval (or range) in which “true” effect of a practice lies*
True or False?

Students already know 20% of what we teach them.
Students already know 20% of what we teach them. **FALSE!**
Students already know 40-50% of what we teach them! *(Nuthall, 2007)*
To clarify:

NOT about technology for technology’s sake!
BUT we also don’t need to be scared of it!
Formative assessment refers to any activity that shows you what your students know, but is not for grading purposes.
Formative Assessment

Is/Can be
- Helps with growth mindset
- Sets you up to differentiate
- Makes learning intentional

Isn’t/Shouldn’t be
- Is too much work!
- Reduces student engagement
- Is better for younger students
Vote for the better joke:
You use FORMative assessment to inFORM your instruction

I use Google FORMs for my FORMative instruction
Formative Assessment

Try it! Version 1
tinyurl.com/ISTEliteracyquiz

Try it! Version 2
tinyurl.com/ISTEliteracy2
Behind the curtain...
Formative Assessment

How to make a Google Form

- Convert an existing assessment TO GOOGLE FORMS
- Think of something to “tech-ify”/Form-ify
- “Choose your own adventure”- questions/activities that are differentiated by answers
- Quiz
What did you do?

- District-wide conference for parents/teachers to group (by interest/grade) “great place to keep your data”
- Exit ticket: Google Form in Google Classroom (so can see timing) & “Choose Your Own Adventure” -> if students “not comfortable” with topic, they can say what they need from teacher to learn it (e.g. what would help make lesson more effective? Major question? etc.)! If they “totally got it,” they need to prove it (put it in their own words)
- Playing around with it: ideas for how to incorporate into coaching (helping exit ticket idea for teachers -> what do you expect, what do you need)
- Surveys for teachers, parents, students: services (what they received, how they feel about it, what more they could do!)
Your turn!

1. Create a Google Form with 10 questions that you’ve already used in an assessment (includes ways of gathering information/interests, etc.)

2. Create a Google Form that has conditional formatting (gives you different questions, based on your response)

3. Create a Google Form in “quiz mode” that grades or categorizes responses
BREAK!
Formative Assessment

Want to learn more?

Read:

- Chapter 2 of my book
- Chapter 1 of *Using Formative Assessment to Differentiate Middle School Literacy Instruction: 7 Practices to Maximize Learning*
- My ASCD article
- Anything by Black & Wiliam
Reading!
Turn & Talk

- What is reading?
- Why is reading important?
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.
Reading is important

- Reading is how most people learn information (though this is changing)
- Reading is important for social communication

- People who read are more empathetic:
  “Young children learn to experience new feelings through exposure to reading, which, in turn, prepares them to understand more complex emotions.” (Wolf & Stoodley, 2007)
Reading is important

Understood.org video
Teaching Reading is Rocket Science

Reading is...Decoding

- turning symbols into sounds
  and knowing the rules of your language
Example of difficulty with decoding:

Simulation:

<table>
<thead>
<tr>
<th>When you see</th>
<th>Pronounce as</th>
</tr>
</thead>
<tbody>
<tr>
<td>q</td>
<td>d or t</td>
</tr>
<tr>
<td>z</td>
<td>m</td>
</tr>
<tr>
<td>p</td>
<td>b</td>
</tr>
<tr>
<td>b</td>
<td>p</td>
</tr>
<tr>
<td>ys</td>
<td>er</td>
</tr>
<tr>
<td>a, as in bat</td>
<td>e, as in pet</td>
</tr>
<tr>
<td>e, as in pet</td>
<td>a, as in bat</td>
</tr>
</tbody>
</table>

Source: PBS Misunderstood Minds
Example of difficulty with decoding:

**Passage:**
We pegin our qrib eq a faziliar blace, a poqy like yours enq zine. Iq conqains a hungraq qrillion calls qheq work qogaqhys py qasign. Enq wiqhin each one of qhese zany calls, each one qheq hes QNA, Qhe QNA coqe is axecqly qhe saze, a zess-broquceq rasuze. So qhe coqe in each call is iqanqi, a razarkaple puq veliq claiz. Qhis z eens qheq qhe calls are nearly alike, puq noq axecqly qhe saze. Qake, for insqence, qhe calls of qhe inqasqines; qheq qhey’re viqal is cy sqainly blain. Now qhink apouq qhe way you woulq qhink if qhose calls wyse qhe calls in your prain.
Quick Reflection

Turn & Talk

● How did you feel?

● What strategies (if any) did you use?

● What external supports might have helped you?
Decoding Difficulties:

It’s not just for younger students!

Difficulty with Multisyllabic words impacts decoding (and comprehension)
Mrs. Mooney was a bachelor’s daughter. She was a woman who was quite able to keep things to herself: a determined woman. She had married her father’s fireman and opened a bachelor’s shop near Spring Gardens. But as soon as his father-in-law was dead Mr. Mooney began to go to the deeper. He drank, plundered the till, ran headlong into bed. It was no use making him take the plan; he was sure to break out again a few days after. By fighting his wife in the pressure of customers and by buying bad meat he royed his business.

One night he went with his wife with the clever and she had to sleep in a neighbor’s house. After that they lived apart. She went to the pest and got a separation for him with care of the children. She would give him neither money nor food nor house-room; and so he was obliged to enlist himself as a shirt man. He was a shabby stooped little drunkard with a white face and a white moustache and white eyebrows, pencilled above his little eyes, which were pink-neverd and raw; and all day long he sat in the balleaf room, waiting to be put on a job.
Example of difficulty with decoding multisyllabic words

Mrs. Mooney was a bachelor’s daughter. She was a woman who was quite able to keep things to herself; a determined woman. She had married her father’s fireman and opened a bachelor’s shop near Spring Gardens. But as soon as his father-in-law was dead Mr. Mooney began to go to the deeper. He drank, plundered the till, ran headlong into bed. It was no use making him take the plan; he was sure to break out again a few days after. By fighting his wife in the pressure of customers and by buying bad meat he royed his business.

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1. What kind of business did the Mooney’s have?
2. Why didn’t they have much money?
3. What did Mr. Mooney do to try to stop his devilish ways?
4. What incident caused Mrs. Mooney to decide to leave her husband?
5. What did Mr. Mooney then decide to do for work?

Source: Sopris West Educational Resources
Technology Supports
Best practices for decoding

- **Decoding:**
  a combination of explicit, multi-sensory, hierarchical encoding instruction (Orton-Gillingham)
  
  *and*

  authentic opportunities to read meaningfully with assistive technology (to continue to work on reading comprehension while developing decoding skills)

  *(the Matthew effect)*
Example of difficulty with decoding:

Simulation:

Passage:
We pegin our qrib eq a faziliar blace, a poqy like yours enq zine.
Iq conqains a hunqraq qrillion calls qheq work qogaqhys py qasign.
Enq wiqhin each one of qhese zany calls, each one qheq hes QNA,
Qhe QNA coqe is axecqly qhe saze, a zess-broquceq rasuze.
So qhe coqe in each call is iqanqical, a razarkaple puq veliq claiz.
Qhis zeans qheq qhe calls are nearly alike, puq noq axecqly qhe saze.
Qake, for insqence, qhe calls of qhe inqasqines; qheq qhey’re viqal is cyxqainly blain.
Now qhink apouq qhe way you woulq qhink if qhose calls wyse qhe calls in your prain.

Source: PBS Misunderstood Minds
Decoding

Text-to-Speech (on Google Drive or the web “at large”)

- Read & Write for Google
- Select & Speak
- iSpeech/SpeakIt!
- Narro.co

*also built-in tools on all operating systems*
Decoding: Read & Write Google
Supports

- **Reading: Decoding:** What can help?

(listen)
**Reading: Decoding: What can help?**

*Decoding Activity*

We pegin our qrib eq a faziliar blace, a poqy like yours enq zine.

IQ conqains a hunqraq qrillion calls qheq work qogaqhs py qasign.

Enq wiqhin each one of qhese zany calls, each one qheq hes QNA,
Audio Comments

- **Kaizena** *(demo on Kaizena, in Google Docs)*
- TextHelp/Read & Write Google

Classroom blog options:

- **Responsive Voicetext** *(on a WordPress site)*
- **Use Narro.co to create mp3’s of any site*
1 am happy to pin with you today in what will go down in history as the greatest demonstration for freedom in the history of our nation.

Five score years ago, a great American, in whose symbolic shadow we stand today, signed the Emancipation Proclamation. This momentous decree came as a great beacon light of hope to millions of Negro slaves who had been seared in the flames of withering injustice. It came as a brand of freedom.

But one hundred years later, the Negro still is not free. One hundred years later, the life of the Negro is still sadly crippled by the manacles of segregation and the chains of discrimination. One hundred years later, the Negro lives on a lonely island of poverty in the midst of a vast ocean of material prosperity. One hundred years later, the Negro is still languishing in the corner of American society and finds himself an exile in his own land. And so we’ve come here today to dramatize a shameful condition.

In some instances we come to our nation’s capital to storm a barricade. When the architects of our republic wrote the magnificent words of the Constitution and the Declaration of Independence, they were signing a promissory note to which every American was to hold them. This note was a promise that all men, yes, black men as well as white men, would be guaranteed the "unalienable Rights" of life, liberty, and the pursuit of happiness. "It is obvious today that America has defaulted on this promissory note, insofar as her citizens of color are concerned. Instead of honoring this sacred obligation, America has given the Negro people a bad check, a check which has come back marked "insufficient funds."

But we refuse to believe that the bank of justice is bankrupt. We refuse to believe that there are insufficient funds in the great vaults of opportunity of this nation. And so we’ve come to cash this check, a check that will give us upon demand the riches of freedom and the security of justice.

We have also come to this hallowed spot to remind America of the fierce urgency of now. This is no time to engage in the luxury of dẫnment or the luxury of postponement. Now is the time to make real the promises of democracy. Now is the time to fulfill the latent promise of the Eighth Amendment.
Decoding

Audiobooks

- Learning Ally
- BookShare
- Librivox.org
- Project Guttenberg
- Libraries!
- Youtube.com! “[title] Audible unabridged”
- audible.com
Decoding

Podcasts

- create your own with Podomatic (example)
- Top 5 (more in my book)
  - Barefoot Books (English, fiction)
  - Everyday Einstein (Science)
  - A History of the World in 100 Objects (History)
  - More or Less (Math, Humanities/Social Studies, or English persuasive)
  - A World of Ideas (English, Humanities/Social Studies)
Try One!

1. Listen to a part of a podcast
2. Download & use iSpeech or Read & Write Google’s Text-To-Speech tool
3. Get Kaizena Add-On and write an Audio Comment with it
Teaching Reading is Rocket Science

Reading is...Reading Fluency

- reading fluency is
  - accuracy (overlaps with decoding)
  - rate (only needs to be quick enough for comprehension)
  - phrasing
  - intonation
Best practices for reading fluency

- **Reading Fluency**
  - decoding intervention (Moats, 1998)
  - repeated readings with feedback and guidance (emphasis added; National Reading Panel, 2000)
  - pairing (visual) text with audio version of text
    - audiobooks (Wittingham et al., 2012)
    - **closed captioning** (YouTube has, but can use Editor to write your own)
Reading Fluency

- a podcast generating tool
- students write a script, practice (*ahem, repeated reading, ahem*), then record to share with their classmates (can be creative writing or content-rich so classmates can learn from it)
- students read parts of a book to create their own audiobooks (here, it’s helping their peers, stressing the importance of phrasing & intonation, and also will rely on repeated readings)
- also useful for plays (e.g. Shakespeare) to learn their lines
Reading Fluency

Youtube dubbing: multi-part
  a. download a youtube video (many services; I use this)
  b. upload movie to Youtube Editor
  c. students record own audio (Quicktime, Garageband, directly in Youtube)

*can also use Microsoft Movie Maker or iMovie
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a. download a youtube video (many services; I use this)
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Try It!

1. Listen to a part of a podcast
2. Download & use iSpeech or Read & Write Google’s Text-To-Speech tool
3. Play with Snapverter (PDF -> ebook -> text-to-speech)
4. Get Kaizena Add-On and write an Audio Comment with it

1. Record yourself reading a text/article (via Quicktime or other voice recording tool of your choice). BONUS: listen back to it!
2. Choose a silent/foreign movie and write a script for it to record
Lunch!

See you back here at 12:00