The Challenges of Comprehension:
Research to Practice Connections

Literacy Research Conference
MTSU
Nancy Hennessy
My Hopes for Today

Connect, Reflect and Act
all students, including those that struggle, will have opportunity to acquire and be capable of using essential language and cognitive skills necessary for making meaning of text.

“The country is a chronic underachiever”  
Seidenberg, 2016
Lily, an incoming ninth grader, had a summer reading assignment that included *Animal Farm* and related informational articles on the Russian Revolution.

Matt, a fifth grader, is wrestling with *Tuck Everlasting*.

In third grade, Jermaine is reading about Rosa Parks.

Maria, a kindergarten student, listens to her teacher read *Frog Goes to Dinner*.

*Each of these students come to the text with different abilities, experiences and interests*

*They will be asked to demonstrate ability to respond to tasks requiring varied levels of understanding. The everyday demands of all classrooms present multiple challenges dependent on the proficiency of each reader, the text, the task assigned and of course, the context as well as the expertise of the educators.*

*Hennessy, in press*
Connecting Research to Practice - A Purposeful Approach

1. The Research to Practice Relationship
2. Informed Educators
3. Evidenced Informed Instructional Framework
4. Informed Educational Environments
5. What Now?
There is a profound disconnection between the science of reading and educational practice.

Seidenberg, 2016

The evidence suggests that teachers may cling to unproductive philosophies of teaching not only because science-based instruction is neglected in many teacher training programs, but also because the requisite insights are elusive and the content is difficult for many to grasp, even with some exposure.

Moats, 2014
Increasing the use of research-based evidence begins with developing positive attitudes among educators toward the utility of research, enhancing their expertise to use it wisely and effortlessly, prompting their awareness of research, and creating an organization structure that supports evidence-based practice.

Lysenko et al, 2014

*Educational Research in Educational Practice: Predictors of Use*
Research is the only defensible foundation for educational practice. If not research, then what?

Reyna, 2004
Research to practice means research that is put into effect in practice according to a definite plan....
SKILLED READING: fluent execution & coordination of text comprehension and word recognition.

The Simple View
Gough & Tunmer, 1986
Decoding x Linguistic Comprehension = Reading Comprehension

Scarborough, 2001 Used with Permission
The many strands that are woven into skilled reading:

**Skilled Reading:** fluent execution & coordination of text comprehension and word recognition.

**Language Comprehension**
- Background Knowledge
- Vocabulary
- Language Structures
- Verbal Reasoning
- Literacy/Print Knowledge

**Printed Word Recognition**
- Phonological Awareness
- Decoding
- Sight Recognition

Scarborough, 2001 Used with Permission
Comprehension is a complex task that involves a range of language and cognitive processes and skills that students must master in order to make sense of written text.

Fletcher, Lyon, Fuchs, & Barnes, 2007; Oakhill & Cain, 2007; Swanson, Howard, & S´aez, 2006

The products of comprehension are indicators of what the reader knows and understands after reading is completed, whereas the processes of comprehension are those cognitive activities by which the reader arrives at those products.
Comprehension of written text involves processing language at many different levels.

At the **word level**, the reader must **decode** individual word... **access meaning** of the words they hear or read.

At the **sentence level**, the comprehender needs to **work out** the **syntactic structure and sense of each sentence**.
Simply deriving the meanings of individual words and sentences is insufficient.

In order to construct a mental model of the text, the comprehender needs to integrate information from different sentences to establish local coherence and to incorporate background knowledge and ideas (retrieved from long term memory) to make sense of details that are only implicitly mentioned.

Cain & Oakhill, 2007
Levels of language processing...

*Cain & Oakhill, 2007*

**Words & Phrases**
- Academic vocabulary (breadth, depth, precision)

**Sentences**
- Density
- Length
- Structure
- Cohesive ties & connectives

**Background Knowledge**
- Diverse world & specific...
- Inference
  - Local
  - Global
- Text structure

**Coherent Representation of Text**

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Constructing Levels of Understanding

Surface code → Text base → Situation/mental model

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Levels of language processing...

Cain & Oakhill, 2007

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Constructing Levels of Understanding

Surface code       Text base       Situation/mental model

Micro processes

Macro processes

Integrative

Elaborative

Meta cognitive

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Dynamic interaction between the reader, the text, the task and the instructional context...

Construction occurs moment by moment as the reader proceeds through the text within the conditions set by the text & context.
Research to practice means research that is put into effect in practice according to a definite plan....
The Blueprint

Designed to guide and support the educator as he/she identifies learning goals, sets purpose, organizes instruction, selects instructional strategies and activities, and monitors students' progress.
A Blueprint for Instruction

• An evidence based master plan that addresses both process and product demands.
• Organizes and scaffolds the teacher’s preparation of a text for varied purposes.
• Calls for the use of evidence based strategies and activities.
• Allows for flexibility based on text, the student, task and context.
• Acknowledges the metacognitive nature of teaching.
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Preparing for Using the Blueprint...

• Identify the deep knowledge base, the critical understandings necessary to work with complex texts across disciplines.

• Identify readings necessary to support the development of this knowledge base and academic language.
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<td>How will you introduce the text or reading initially and each day? What will you tell students the purpose of the lesson is (each day, overall)?</td>
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<td>Which words will your students need to know, are worth knowing? Which ones will you intentionally target and directly teach? Which will you incidentally, on purpose teach? How when? Which words will you purposefully discuss, incorporate into expressive language activities? How and when will you teach and foster the use of independent word learning strategies? Is there figurative language that requires explanation?</td>
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<td>Language structures (phrases, clauses, sentence comprehension)</td>
<td>Are there phrases, clauses, sentence structures that may be difficult for your students? How and when will you directly teach sentence comprehension? How and when will you teach students to work with these? How will you facilitate the integration of ideas e.g. the use of cohesive ideas and connectives? How and when will you teach students to work with these?</td>
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<td>Schema &amp; text structure</td>
<td>What background knowledge/schema is critical to understanding the text? How and when will you teach students to access, build and integrate knowledge with the text? How is the text organized? How and when will you directly teach students the purpose, features and signal words of different genre? How will you teach students to use the structure to understand purpose, organize and express understanding?</td>
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<td>Levels of understanding (surface, text, mental model)</td>
<td>How will you teach students the strategies and activities (questions) that facilitate student construction of different levels of understanding, to respond to literal and inferential questions before, during and after reading? How will you support the construction of a mental model of the text?</td>
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<td>What strategies and activities will you use to have students demonstrate understanding at different levels of understanding during and after reading? How will you support their expression of understanding?</td>
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Critical Understandings

A synthesis of what individuals should understand—not just know or do—as a result of reading/studying a particular content area.

What is the essential knowledge base we want to develop within and across grades and disciplines?

Are there critical concepts and understandings that we want our students to have?
Revolutionaries are individuals who challenge accepted notions and come up with a new way of thinking about something. Revolutionary leaders often face resistance and struggle to make a change in the world. Revolutionary leaders use their talents and gifts to change the world. Not only do revolutionary figures impact the past and present, but they can have an impact on the future, as well.

We can learn a variety of life lessons from revolutionaries.
Choosing the Right Readings

1. What readings reflect this knowledge base, the critical understandings identified?

2. Will the reading provide opportunities to develop language processes and skills, academic language?

Related to Purpose!

3. Do the readings represent different genre, disciplines, an integrated approach?
Ask yourself

• Will these readings develop the identified enduring understandings?
• Will these readings provide opportunities to develop necessary language processes and skills?
• Do these texts provide opportunities to develop academic language?
• Do these readings represent different genre, disciplines, an integrated approach to learning?
• Have you considered access issues for struggling readers?
Choosing Readings...

- *Elizabeth Cady Stanton and Susan B. Anthony*, by Peter and Connie Roop
- "Dolores Huerta," by Peter and Connie Roop
- *Georgia O'Keeffe*, by Sandra McLeod Humphrey
- *I, Too, Am America* by Bryan Collier
- *Giant Steps to Change the World*, by Spike Lee and Tonya Lewis Lee
- *Of Thee I Sing: A Letter to My Daughters*, by Barack Obama
- *Albert Einstein*, by Sandra McLeod Humphrey
- *Dear Benjamin Banneker: Surveyor of the Sky*, by Andrea Davis Pinkney
Identifying evidence based approaches...

*Instructional routines, strategies and activities necessary to develop processes and skills for extracting and constructing meaning.*
The underlying assumption is that the **processes or skills** induced by the strategies **become more automatic** with practice. Strategies provide the means to tackle complex problems in more efficient ways and, with practice, the **strategies lead to skills that become automatic** and quick over time.

McNamara, 2009

**Will these strategies provide opportunities to develop necessary language processes and skills?**
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<td>Are there phrases, clauses, sentence structures that may be important for students to access, build and integrate knowledge with the text? How and when will you directly teach sentence comprehension? How will you work with these? How will you facilitate the integration of important language structures and connectives? How and when will you teach students to work with these structures?</td>
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...successful comprehension depends on accessible well-specified and flexible knowledge of word forms and meaning.

_Perfetti & Adlof, 2012_

Children with better vocabulary knowledge have higher reading comprehension scores concurrently and longitudinally.

_Cain, 2016_

“My teacher said the school has tough new standards and I need to improve my vocabulary. What’s ‘vocabulary’?”

_Breadth, depth, precision_
The vocabulary attuned teacher...
✓ use of definitional and contextual information.
✓ multiple exposures to targeted words (e.g., use orally and in written expression).
✓ engagement in deep processing of each word generating information that ties the word to known information (e.g., relationships to other words, big ideas/themes).
✓ includes multiple varied activities for before, during and after reading.
Listen (teacher says the target word, discusses structure).

Repeat (student echoes the word).

Define (teacher explains in everyday language).

Use (teacher provides an example, students provide an example).

See, say, write... (Teacher writes the word, students say and write, discuss structure/parts of speech).
Word Choice | Definition | Semantic Relationships/Connections | Visuals | Speaking/Writing
---|---|---|---|---
Guidelines | Usefulness | Growth | Understanding |
Lists | Academic Vocabulary Lists, Coxhead, 2004 | Words Worth Teaching, Biemiller 2010 | Middle School Vocabulary Lists, Coxhead & Green, 2015 |
Four Squares | | | |
Facets | Sight, sound, smells, places. | | |
Tiers 1-3 | | | |
Beck et al, |

**Guidelines**
- Usefulness
- Growth
- Understanding

**Lists**
- Academic Vocabulary Lists, Coxhead, 2004
- Words Worth Teaching, Biemiller 2010
- Middle School Vocabulary Lists, Coxhead & Green, 2015

**Four Squares**
- In your words...
- Paint a picture...

**Facets**
- Sight, sound, smells, places.

**Speaking/Writing**
- Sentence Stems/Generation
- Purposeful Paragraphs
- Academic Vocabulary Logs

**Writing**
- Your Words
- Examples, Questions, Connections
- Why would...
- When have you...
- Would you want to be...

**Visuals**
- Word Maps
- Semantic Maps
- Pictures-Drawings

**Semantic Relationships/Connections**
- Incremental,
- Interrelated, and
- Multidimensional in nature

Nagy & Scott, 2000

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Research to practice means research that is put into effect in practice according to a definite plan....
"When faced with too many challenges or discord between new knowledge and existing knowledge, it is sometimes easier to revert back to known and familiar patterns."

Klinger et al., 2003
A meaningful professional learning culture that provides access to researchers and practitioners in the field a continuum of real and virtual learning opportunities that allow educators to acquire, integrate and apply research based knowledge, skills and attitudes necessary for effective practice.

Opportunities to engage teachers in thoughtful conversations about their practice, encouraging them to implement new approaches, coaching and mentoring instruction, providing opportunities for research, curriculum and lesson development and creating conditions for reflection are but a few important ways of supporting learning.
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“Increasing the use of research-based evidence begins with developing positive attitudes among educators toward the utility of research, enhancing their expertise to use it wisely and effortlessly, prompting their awareness of research, and creating an organization structure that supports evidence-based practice.”

Lysenko et al, 2014

Educational Research in Educational Practice: Predictors of Use
Research to practice means research that is put into effect in practice according to a definite plan....
We need the courage to start and continue what we should do, and the courage to stop what we shouldn’t do.

Richard Evans
Thank you!
nhennessy@charter.net