

Language Comprehension

ASL Vocabulary

ASL Structures

Prior Knowledge

ASL Fluency

Meta Cognition

ASL

Increasingly Strategic

English Vocabulary

English Structures

Literacy Knowledge

English Experiences

Meta Linguistics

Increasingly Bilingual

English

Skilled Reading

Word Recognition

Phonological Awareness

Orthographical Awareness

Sight Words

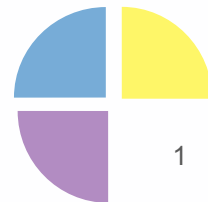
Fingerspelling

Visual Supports

Increasingly Automatic

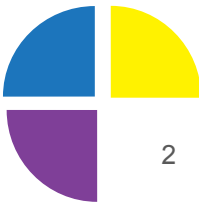
The Deaf Reading Rope

Dr. Nathan Harrison
CEASD Conference - Pittsburgh, PA
April 9-11, 2025





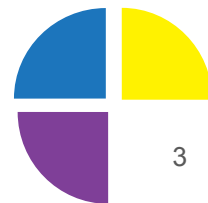
Question:
What's the purpose of Deaf schools?





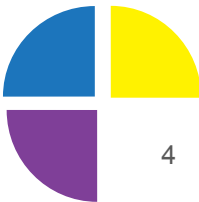
Discussion

1. Why is reading such a challenge to teach?
2. What are the roles of teachers/staff in teaching reading?
3. What curricular resources do you have? Do they work?
4. What is the relationship between ASL skill and reading skill?





The Science of Reading

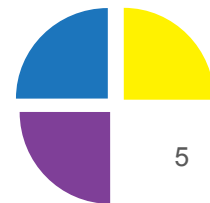
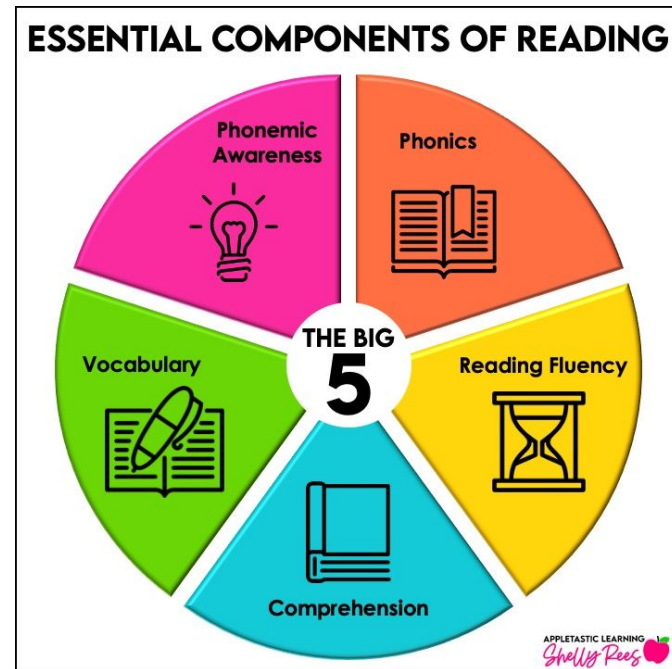


Science of Reading

The Science of Reading (SoR) is a meta-analysis of research on reading that has identified 5 “pillars” that are the strongest research base:

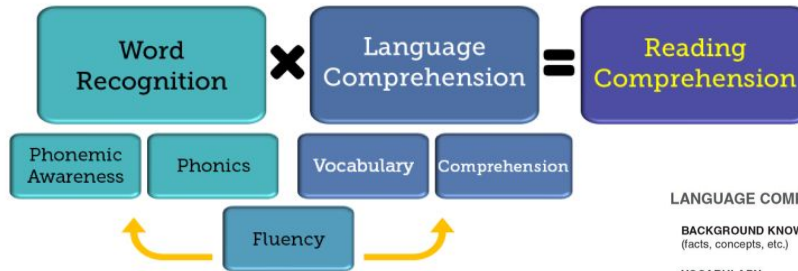
1. Comprehension
2. Vocabulary
3. Fluency
4. Phonemic Awareness
5. Phonics

It is becoming increasingly the policy of state education departments to use SoR practices in reading instruction.



Models of the Science of Reading

THE SIMPLE VIEW OF READING



LANGUAGE COMPREHENSION

BACKGROUND KNOWLEDGE
(facts, concepts, etc.)

VOCABULARY
(breadth, precision, links, etc.)

LANGUAGE STRUCTURE
(syntax, semantics, etc.)

VERBAL REASONING
(inference, metaphor, etc.)

LITERACY KNOWLEDGE
(print concepts, genres, etc.)

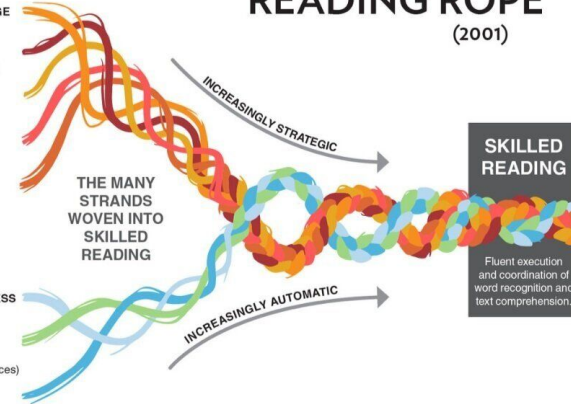
WORD RECOGNITION

PHONOLOGICAL AWARENESS
(syllables, phonemes, etc.)

DECODING
(alphabetic principle,
spelling-sound correspondences)

SIGHT RECOGNITION

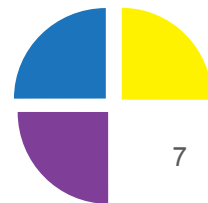
SCARBOROUGH'S READING ROPE (2001)





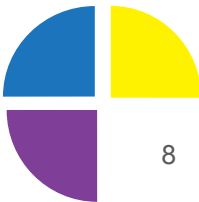
So... what's the issue?

Why are so many Deaf schools and ASL/English supportive-groups **AGAINST** the Science of Reading?





What about a *Deaf* Science of Reading?





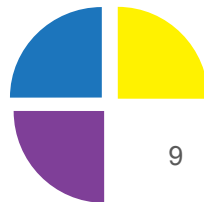
Integrating SoR & Deaf Research

Where is the model of *Deaf* reading that we can use in ASL/English?

I performed a meta-analysis of deaf reading with an emphasis on *skilled* Deaf reading.

I used Scarborough's Reading Rope as a lens of model analysis and formation.

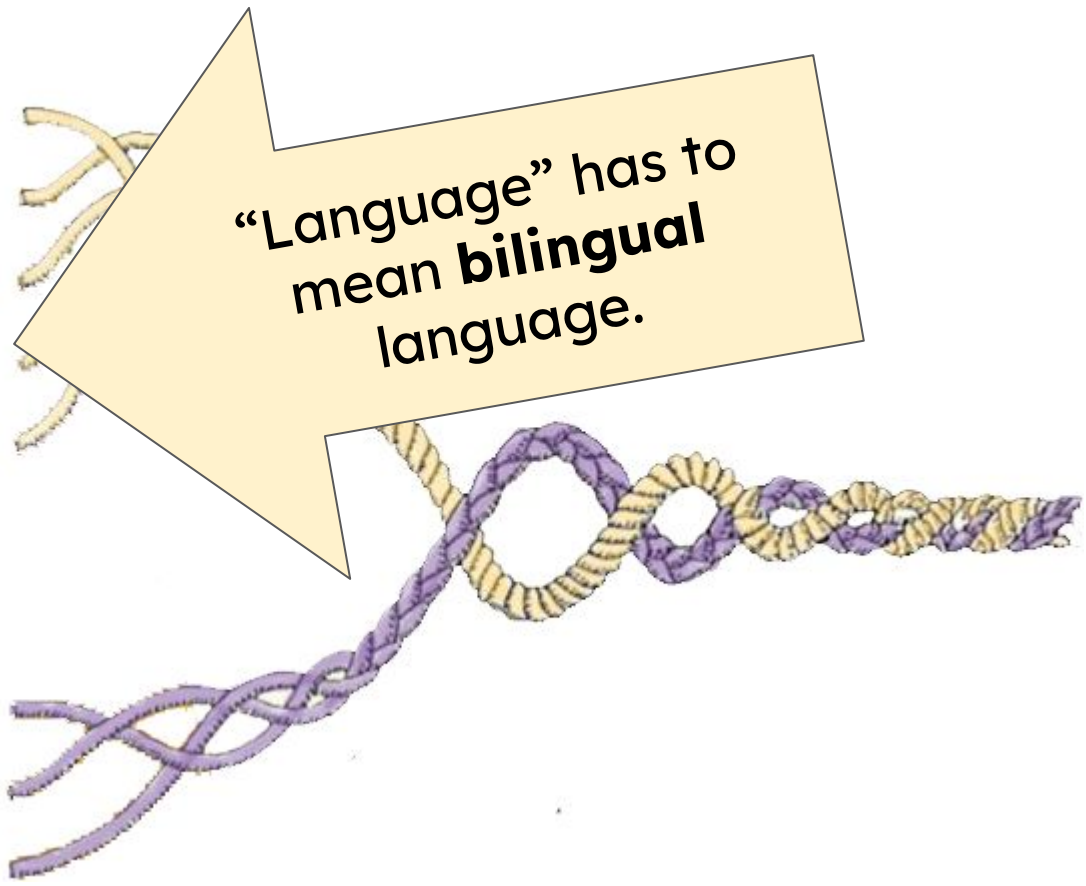
The resulting model was titled the “Deaf Reading Rope”. A handout was created and visuals by a Deaf artist.





Language
Comprehension

Word
Recognition



“Language” has to
mean **bilingual**
language.

**Skilled
Reading**



Language
Comprehension

ASL

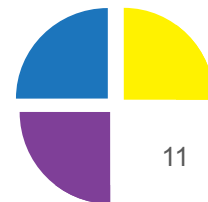
English

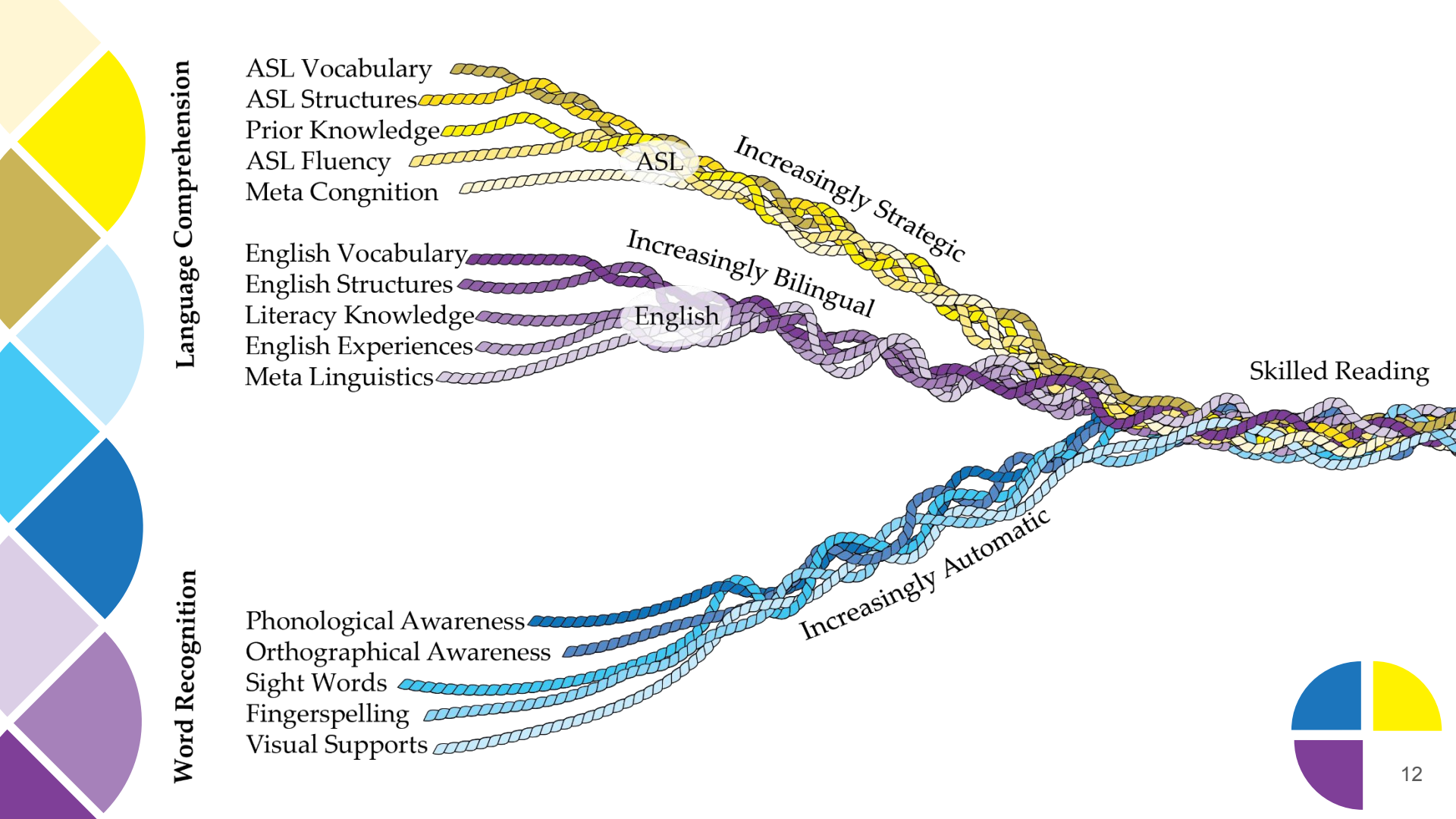
What separate but
interconnected skills does
each language need?

**Skilled
Reading**

Word
Recognition

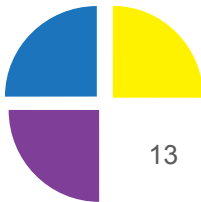
How do words get recognized
in both ASL and English?



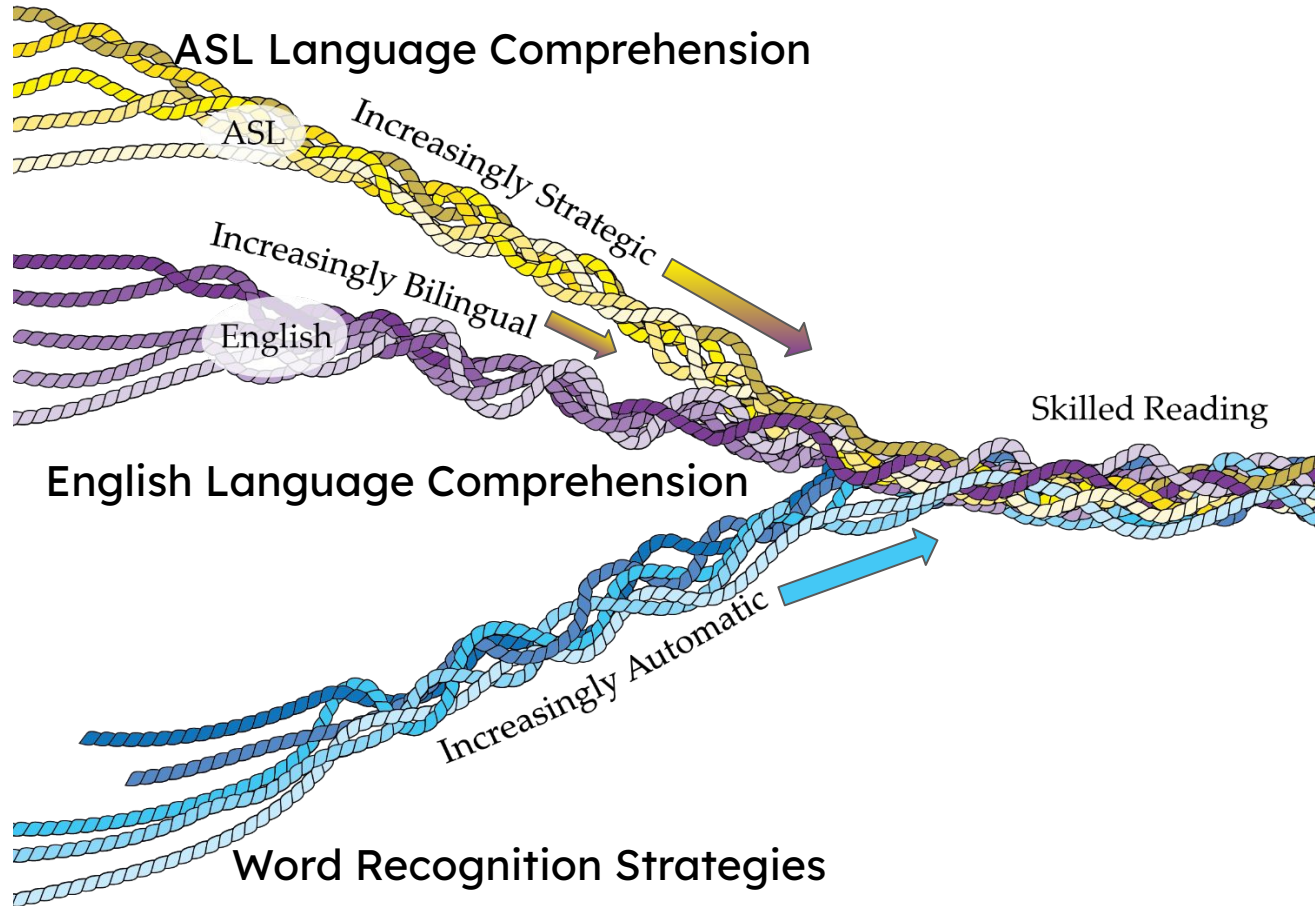




The Deaf Reading Rope



The Deaf Reading Rope Braids





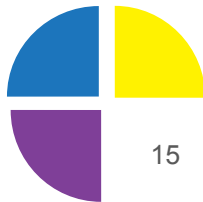
ASL Strands: ASL Vocabulary

Students need a breadth and depth of ASL vocabulary to understand and discuss reading.

- Academic, social, and home vocabulary
- Multi-meaning signs
- Classifiers & other ASL features

How it could look in the classroom:

- Social Studies teachers using grade level ASL with all students
- ELA teachers giving “spelling” and “signing” quizzes
- ECE teachers labeling and expanding on expressions



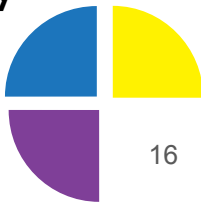
ASL Strands: ASL Structures

Students need to understand how ASL is created, structured, and communicated in order to apply translanguaging and to have richer ASL.

- Discuss the 5 parameters of ASL in all classes
- Correct misarticulation of signs
- Model and reflect grammatically correct ASL

What it could look like in the classroom:

- STEM teachers expecting concepts to be signed accurately
- ELA teachers including comparative grammar lessons
- PE teachers expecting full sentences from students



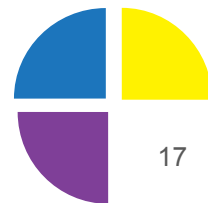
ASL Strands: Prior Knowledge

Help students connect, apply, and generalize their prior knowledge to reading and how to use reading to enhance their schema.

- Using anticipatory sets in lessons to engage world knowledge
- Using real life pictures, home examples, and community examples to connect to students' live experiences
- Assume students have something to share

What it could look like in the classroom:

- Art teachers discussing culturally important aspects of home as a muse for art.
- ELA teachers doing pre-reading discussions.
- Elementary teachers using fieldtrips to prep for lessons



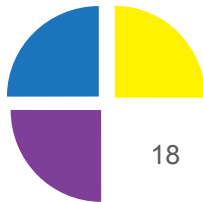
ASL Strands: ASL Fluency

The ability to comfortably and confidently express and understand in ASL is vital to doing the same in English.

- Being able to discuss stories, information, reasoning, perspective.
- Building more than 1 word answers and expecting “why” to be answered.
- Having dialogue about reading and being able to understand instruction.

What it could look like in the classroom:

- EVERY teacher using dialogue EVERY day
- Showing students videos of fluent signers beyond the teachers they already know





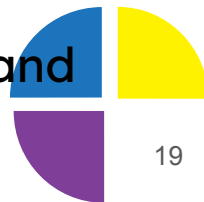
ASL Strands: Meta Cognition

Being able to think about your thinking - what make sense, what doesn't, what's missing, or what should be added to this is vital to reading comprehension.

- Make invisible thinking visible and discussed.
- Move as high as you can on Bloom's taxonomy.
- Depth of Knowledge tasks of higher level complexity.

What it could look like in the classroom:

- Math teachers modeling their thinking about a story problem.
- ELA teachers asking reading comprehension questions that can't be answered in 1 word.
- ECE teachers asking students what a character is feeling and WHY.





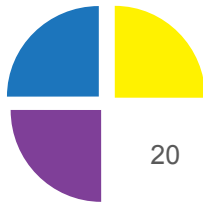
English Strands: English Vocabulary

Just like for ASL, if students don't have the English vocabulary then they don't have the English reading!

- Connect ASL vocabulary to English and vice-versa.
- Emphasis on multi-meaning words and phrases.
- Understand “bridge” phrases.

What it could look like in a classroom:

- PE teachers teaching sports by their sign and English name.
- Chaining! Sandwiching!
- Just having English print or just signing does not mean you are teaching vocabulary.





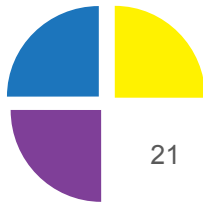
English Strands: English Structures

Students need to understand the grammar of English and the reasoning behind it, as well as how to compare/contrast with ASL grammar.

- Talk about word order and what would happen if it reversed.
- Practice English grammar and identify errors in text.

How it could look in the classroom:

- Science teachers talking about word order in lab directions before students do the actions.
- ELA teachers having mini-lessons about grammar using practice that students care about.





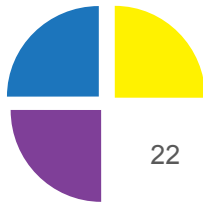
English Strands: Literacy Knowledge

Students need to understand genre, the reading process, and how to navigate text to be able to read for understanding.

- Expose students to as many book types, genres, and text purposes as possible.
- Teach students how to use and navigate texts.
- Read to learn, read to enjoy, read to pose questions/prompt ideas.

What it could look like in the classroom:

- Social studies teachers using historical fiction to supplement learning.
- ECE teachers using different types of text as the main theme text.





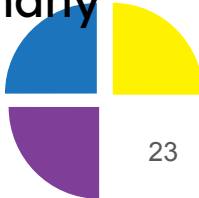
English Strands: English Experiences

Students need to experience a wide variety of reading types, purposes, lengths, formats, and

- Reading should occur in EVERY subject EVERY day.
- Read for learning *and* read for pleasure.
- Read every possible thing you can read.

What it could look like in the classroom:

- Vocational teachers bringing in manuals or guidebooks from real life places.
- ELA teachers not just focusing on 1 fiction book, bring in many different kinds of texts.
- Magazines, newspapers, pamphlets, online, wikipedia, etc.



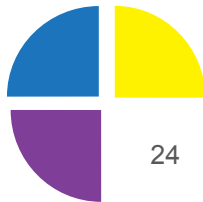
English Strands: Meta Linguistics

Students should be able to be aware of what they are signing or writing, actively apply translation and translanguaging strategies, and look for and resolve breakdowns in understanding.

- Complete ASL thoughts to complete English thoughts and vice-versa.
- Model how to translate, apply language, and compare/contrast.

What it could look like in the classroom:

- STEM teachers helping students sign story problems.
- ELA teachers doing the essay first in ASL then supporting the translation to English.
- ECE teachers modeling and expecting students to repair communication breakdowns.





Word Recognition Strands: Phonological Awareness

There are many D/HH students that benefit from phonics and/or understanding the phonetic nature of English words.

- Phonetic understanding will look different for each student.
- This is a great place to collaborate outside of the classroom.

What it could look like in the classroom:

- When showing media, make sure the sound is on.
- Collaborate with SLPs (and other providers) on what you're doing in the classroom.
- ELA teachers reminding students about the phonological nature of English as a language and how it impacts its written form.



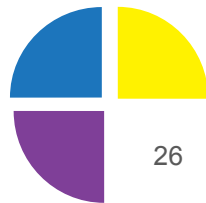
Word Recognition Strands: Orthographical Awareness

English is filled with patterns in how words are spelled, combined, and created. Knowing those patterns unlocks wider vocabulary access.

- Word families, prefixes and suffixes, typical word types for a subjects
- Spelling patterns

What it could look like in the classroom:

- STEM teachers showing Greek roots of words.
- Social studies teachers talking about a historic use of word and a modern adaptation of that word based on history.
- ELA teachers helping students understand the “why” of spelling rather than just the “what”.





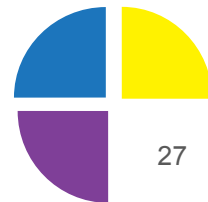
Word Recognition Strands: Sight Words

For many D/HH students, sight words provide the quickest access to word decoding when reading.

- Sight words is basically the recognition side of ASL & English vocabulary building.
- The more words are used in context (and a variety is better) the easier it is for the word to become a sight word.

What it could look like in the classroom:

- PE teachers helping students master key game vocabulary
- STEM or social studies teachers building word walls, dictionaries, or other word building tools.
- ELA teachers collaborating across content areas for vocabulary.





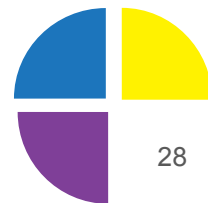
Word Recognition Strands: Fingerspelling

Fingerspelling is the bridge of ASL and English and the only part of both languages that is 1-to-1. Research shows that fluent fingerspellers use it in compensatory ways to phonetic information.

- Expect and use fluent, accurate fingerspelling in classrooms.
- Chaining! Sandwiching!
- “Chunk” your spelling to students in syllabic, orthographic, or phonetic ways.

What it could look like in the classroom:

- Chaining and sandwiching beyond the initial introduction.
- Train students to wait for chunks while spelling.
- Expect fingerspelling back from students.





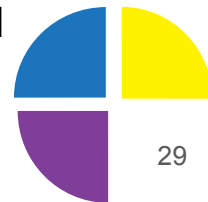
Word Recognition Strands: Visual Supports

Beyond the words themselves, text is filled with so much subtle information to support understanding. In addition, students need to learn how to use tools to identify meanings of words.

- Model how a text page can help you understand context and key words.
- Practice how to use a dictionary, Google, or other word-meaning tools.
- Build classroom vocabulary tools.

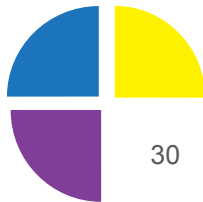
What it could look like in the classroom:

- STEM teachers using a variety of texts for learning and discussing the “style” of each one.
- Vocational teachers discussing how to use Google effectively to find information.
- ELA teachers having mini-lessons on different types of text.





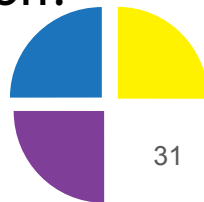
Workshop Time





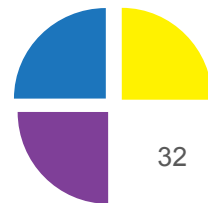
Discuss with Your Neighbors

1. What strands do you feel your school does well? Not as well? Missing?
2. What does your data say about reading?
3. Does your curriculum appropriately address all strands?
4. Does your schedule/structure/logistics address *both* ASL and English sufficiently?
5. What efforts have you been making to improve reading and literacy instruction? How has that been going?
6. What is one thing you can direct your school to start working on/implementing on *Monday* to improve reading instruction?



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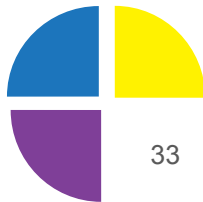
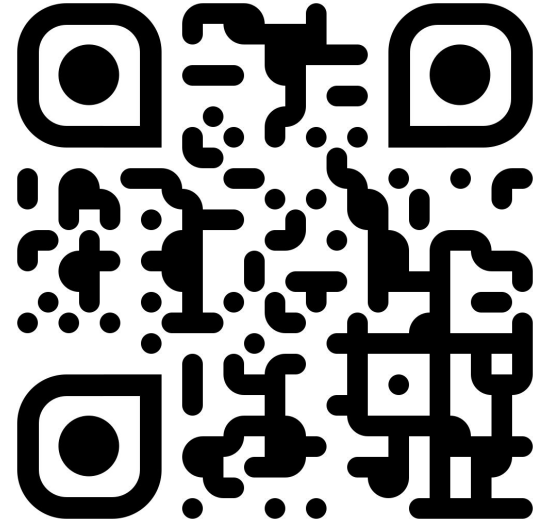
More Info



Where to access?

<https://osf.io/d96jx>

- Reading Rope diagram
- Reading Rope handout
- Explanations



Nathan E. Harrison, EdD

Dr. Harrison is faculty in the Deaf Education department at NTID/RIT. He has been a teacher, principal, and curriculum director in UT & NM. His passions include bilingual education, deaf school leadership, STEM, and digital teaching & learning.

Lecturer, Department of Deaf Education
NTID/RIT

nehnmp@rit.edu

www.nathanharrison.education

