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Minnesota and The Science of Reading

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Minnesota and the Science of Reading

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Question

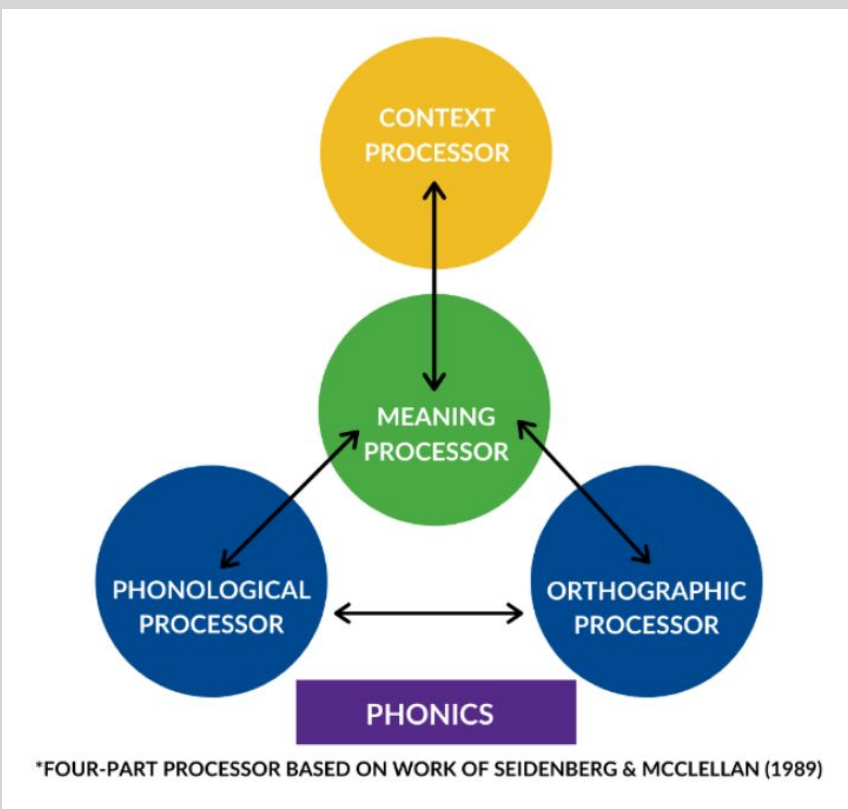
Theoretical Models of Reading Acquisition

Action

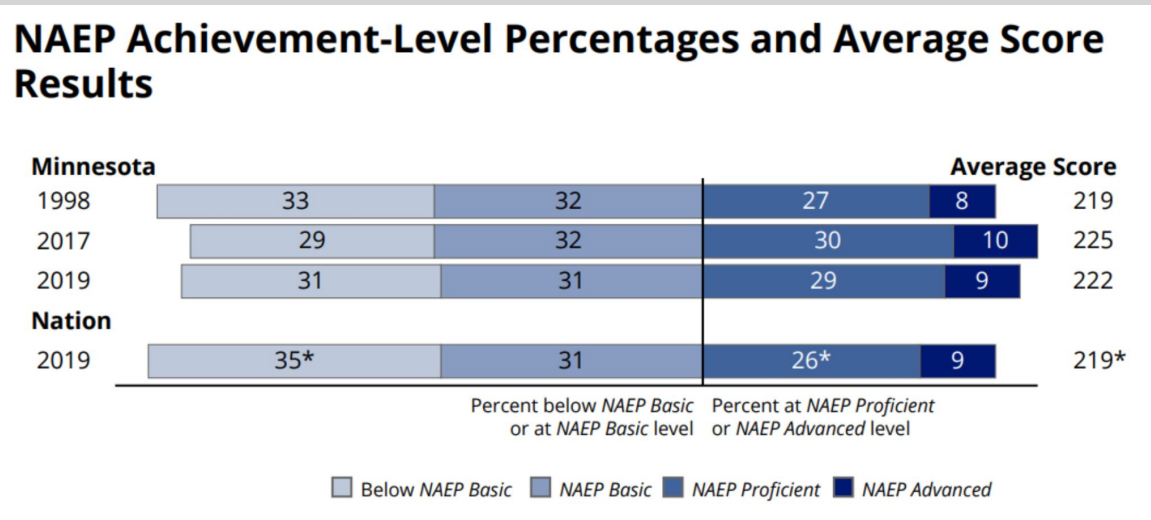
What are Minnesota’s Preservice Teachers Taught About How Reading Acquisition Occurs?

Background

- Functional Magnetic Resonance Imaging (fMRI) technology has advanced knowledge of what the brain does when we read (Seidenberg & McClelland, 1986).



- Empirical research shows that 95% of students can learn to read (Foorman et al., 1998; Mathes & Denton, 2002; Mathes et al., 2005); yet, national and state test scores show only 40% are proficient (NAEP, 2019).

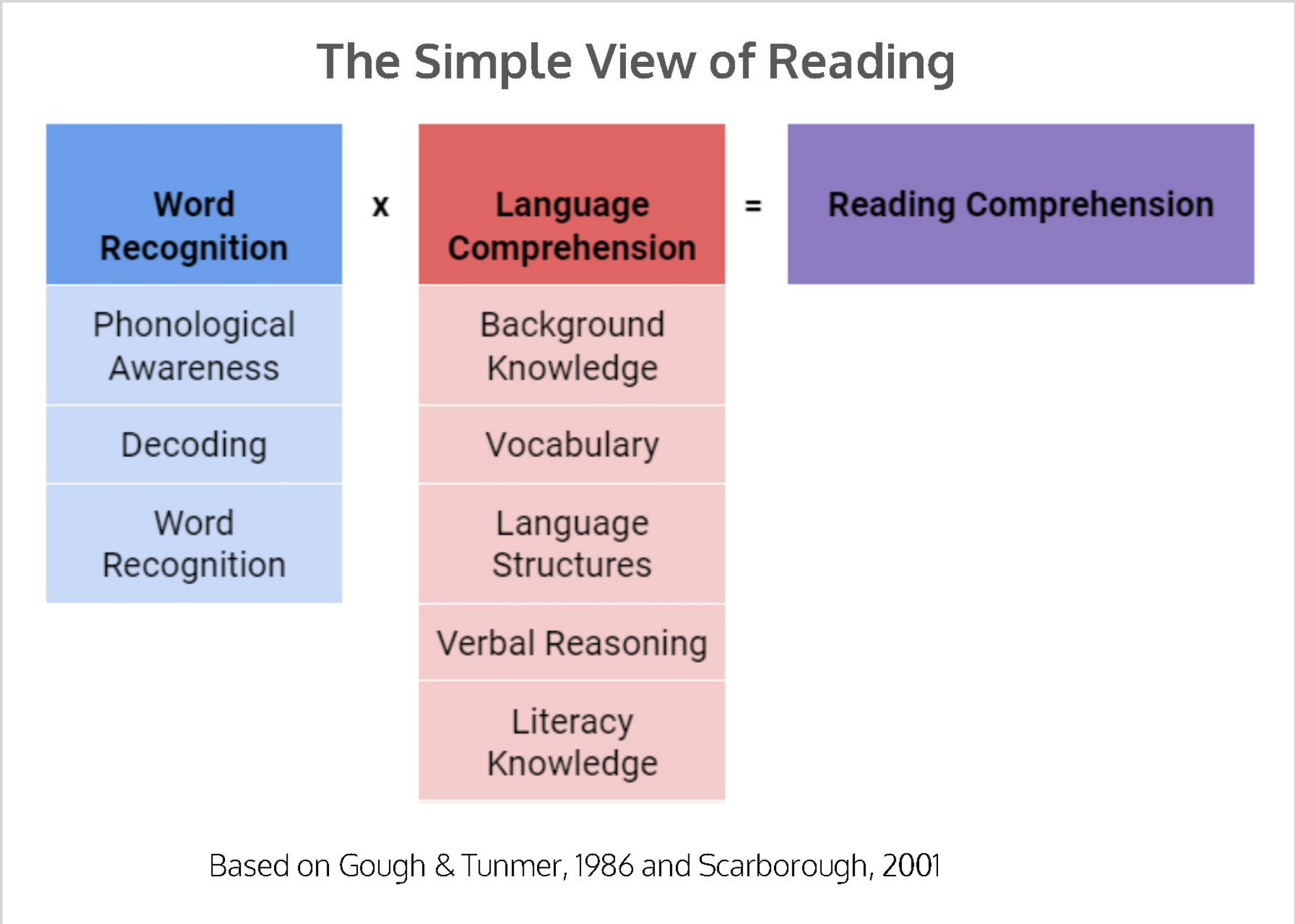


- Decades long “Reading Wars” contribute to these scores.A convergence of evidence from Education, Educational Psychology, and Neurology coverage upon using structured literacy to teach foundational reading skills.

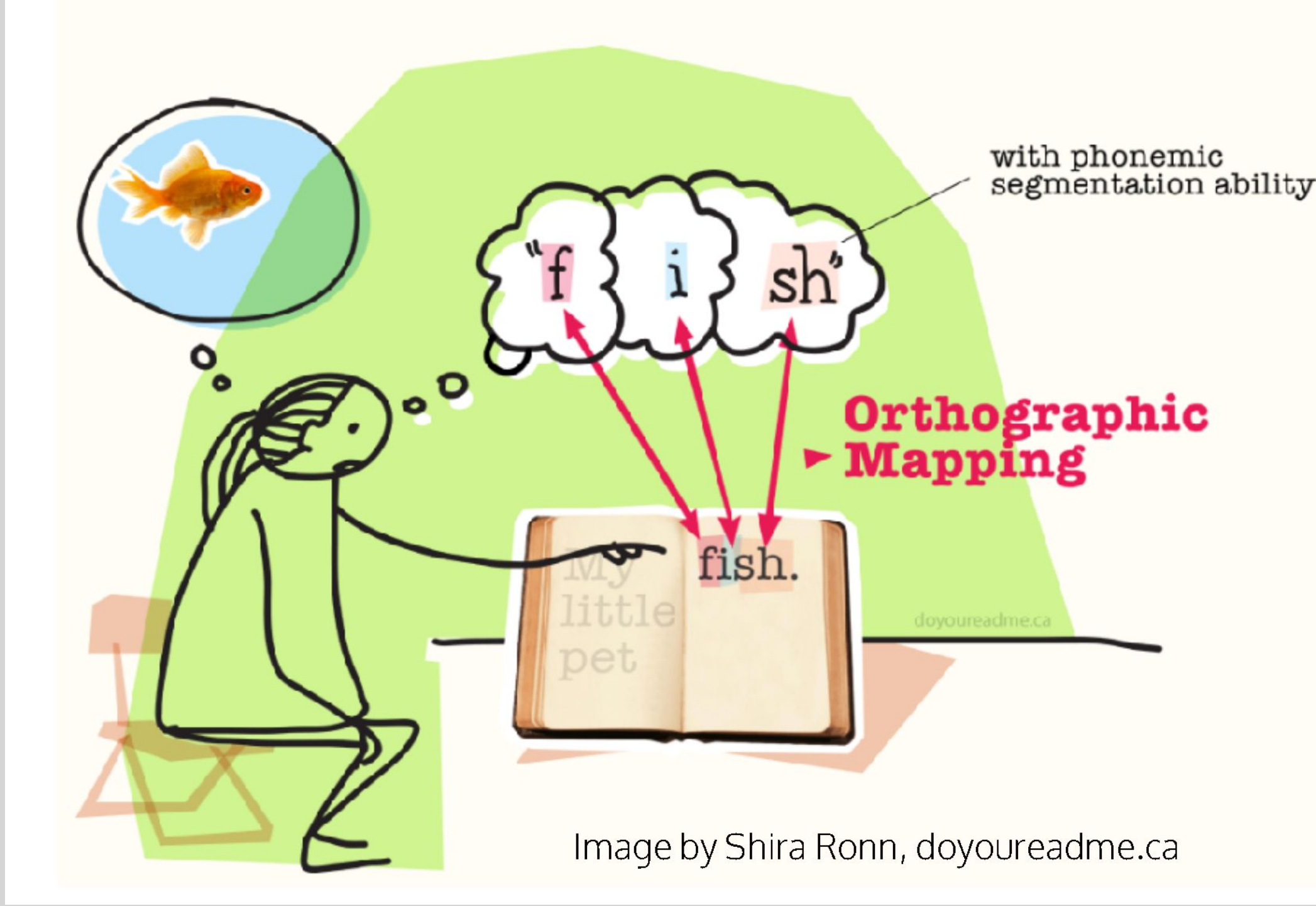
Method

- Content Analysis** (Krippendorff, 2013; Patton, 2002):
- Syllabi, obtained from licensing board
- Reviewed textbooks for evidence of reading acquisition models
- Lecture topics, assignments, assessments, etc. were reviewed using a rubric of key literacy components

- Thematic Analysis** (Braun & Clarke, 2006):
- Looked to capture aspects that were outside of the rubric



Predictors of Reading Comprehension



Alignment of the 3 Theoretical Models of Reading Acquisition								
4 Part Processor Model	Meaning and Context Processors					Phonological and Orthographic Processors		
Simple View of Reading	Language Comprehension					Word Recognition (Decoding)		
Scarborough’s Reading Rope	Background Knowledge	Vocabulary	Language Structures	Verbal Reasoning	Literacy Knowledge	Phonological Awareness	Decoding	Sight Recognition

Key Findings

Content Analysis Findings

Summary Data of the Innovation Configuration Rubric Criteria				
Component	M	SD	RNG	MO
Scientifically Based Reading Research	2.3	0.828	0-3	3
Phonemic Awareness	2.6	1.04	0-4	2
Phonics	2.8	0.761	1-4	3
Fluency	2.5	0.819	0-4	2
Vocabulary	2.7	0.837	0-4	3
Comprehension	3.1	0.845	2-4	4
Integration	1.1	1.015	0-3	0
Systematic Instruction	1.9	1.337	0-4	1, 3
Explicit Instruction	2.1	1.337	0-4	1
Dyslexia & Screening	3.1	0.86	1-4	4
Progress Monitoring	1.6	1.47	0-4	0
Reading Acquisition Models	0.6	1.04	0-3	0

Thematic Analysis Findings

- Diversity, equity and inclusion
- Meeting the needs of ALL learners
- Supporting English Learners
- Reading to/with the class
- Readers/writers workshop
- Motivation and engagement
- Comprehending different genres
- History and philosophy of reading
- Building community in literacy

Most Frequently Required Textbooks

1

Words Their Way

Specialized, Acceptable

2

Teaching Reading and Writing

Comprehensive, Acceptable

3

The Next Step Forward in Guided Reading

Specialized, Unacceptable

4

Reading Strategies Book

Specialized, Unacceptable

5

Creating Literacy Instruction for All Students

Comprehensive, Acceptable

6

Phonics and Word Study

Specialized, Acceptable

- Professional Development for Professors**
- Abbey Payeur received an \$80,000 grant from the Sauer Family and JAB Foundations grant to train professors in the Science of Reading
- 58 professors from 23 Minnesota institutions of higher education are meeting bi-monthly for a year
- Reading *The Science of Reading: A Handbook* (Snowling, Hulme & Nation, 2022).
- Working to select exemplary textbooks
- Revising syllabi to align with the science of reading

Action

- Bethel University and Monroe Elementary School Partnership**
- Block 1 Education students are trained in the science of reading, and Monroe’s teachers recently completed LETRS to learn about the science of reading
- Bethel students spend 40 hours seeing the science of reading in action at Monroe
- Bethel students teach 3+ lessons and learn how diagnostic data can drive differentiated instruction
- This improves teacher training and gives Monroe students more small group instruction



References

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