Unlocking Reading Success: The Power of Structured Literacy

Drexel University School of Reading
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Structured Literacy: An Approach Grounded in the Science of Reading

International DYSLEXIA Association®

Students and Instructors

The "WHO"

Tier 1:
General Education
Classroom Teacher

Tier 2:
General or Special Education Teacher,
Reading Specialist, Intervention Personnel

Tier 3:
Dyslexia Specialist,
Special Education Teacher*

Structured Literacy

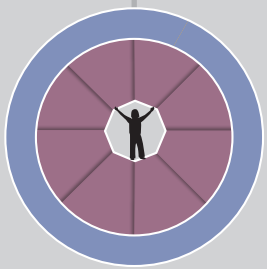
The "WHAT"

Instructional content integrates the domains of language as they pertain to reading (word recognition and comprehension) and written expression (handwriting, spelling, and composition).

Word Recognition/ Handwriting & Spelling ↔ **Comprehension/ Composition**

- Phonemes ↔ Graphemes
- Morphemes
- Syllable & Stress Patterns
- Orthographic Conventions
- Vocabulary/Background Knowledge
- Sentence Structure/Grammar
- Text Structure
- Critical Thinking

Integrated Language, Reading & Writing Instruction
Supporting Automaticity, Fluency & Reading Proficiency



The "HOW"

Essential principles of instruction guide how content is taught for both reading and written expression. These principles are beneficial for all students and necessary for struggling students.

Direct & Systematic ↔ **Mastery Oriented**

- Explicit
- Sequential
- Cumulative
- Multimodal
- Data Driven
- Targeted Prompt Feedback
- Highly Interactive
- Scaffolded

Planned, Purposeful Instructional Decisions
for Tasks and Text

Science of Reading

The "WHY"

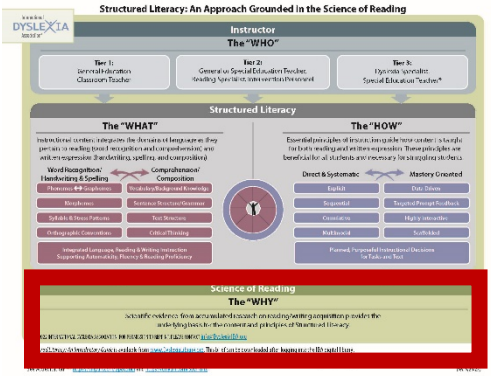
Scientific evidence from accumulated research on reading/writing acquisition provides the underlying basis for the content and principles of Structured Literacy.

Structured Literacy: An Introductory Guide is available from www.DyslexiaLibrary.org. This brief can be downloaded after logging into the IDA digital library.

*For individuals with dyslexia and other reading difficulties, Structured Literacy must be delivered with more individualization and intensity and by a highly qualified instructor. See Accreditation[Plus] https://tinyurl.com/2p8v3hcf and https://tinyurl.com/5bvrr8hz.

(rev. 10/25/23)

Structured Literacy | Science of Reading- The “Why”



Scientific evidence from accumulated research on reading / writing acquisition provides the underlying basis for the content and principles of Structured Literacy. (Sparks, S., 2020; IDA, 2022)

The National Reading Panel (NRP), formed in 1997, was a national panel with the stated aim of assessing the effectiveness of different approaches used to teach children how to read.

The panel, created by Dr, Reid Lyon, Director of the (NICHD) at the National Institutes of Health issued its report in April 2000: "Teaching Children to Read.”

“The science of reading refers to a body of research from the fields of education, cognitive psychology, developmental psychology, and neuroscience, that explains how individuals learn how to read and best practices for reading instruction.”
(2024, Dr. Reid Lyon)

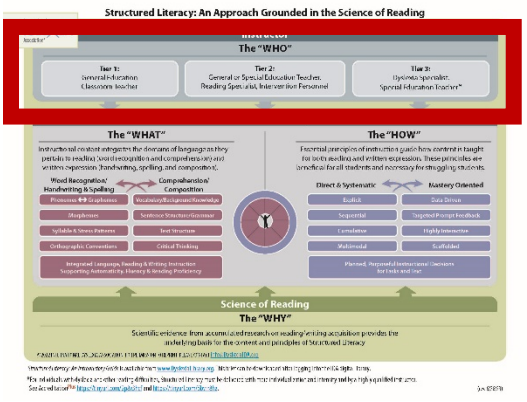
Compelling and promising evidence

from this research

informs

a Structured Literacy Approach

Structured Literacy | The “Who”



Instructor:

Tier 1: Whole Class Language Arts Instruction

Tier 2: Small Group Targeted Instruction / Additional Practice

Tier 3: Individual or Small Group Intensive, Expert Instruction*

Tier 1: Whole Class Language Arts Instruction

High quality instruction for the entire class prevents failure.

“Unless students read proficiently by the end of first grade, they are likely to remain poor readers and suffer academic difficulties across all subjects for the duration of their schooling.” (Fletcher et al., 2009, Olson et al., 2014)

Teaching children to decode using systematic and explicit phonics instruction is effective for mono-lingual English-speaking children and children whose home language is other than English (Baker, et el2014; Gersten et al.

Tier 2: Small Group Targeted Instruction / Additional Practice

Pre-teach and review skills for Tier 1 lessons

Provide multiple opportunities for practice and immediate feedback

3-5 times a week for a minimum of 30-minute sessions in a small group

Tier 3: Individual or Small Group Intensive, Expert Instruction*

* “For students with dyslexia and other reading difficulties, SL has to be delivered with more individualization and intensity and by a highly qualified instructor.”

KEY: Coordinated effort between Tiers 1, 2, and 3 teachers.

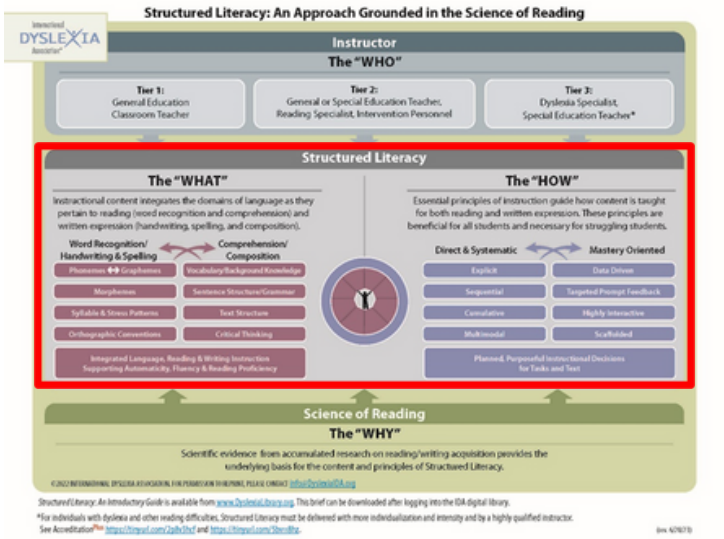
Ensures that students are not caught between conflicting approaches that make it more difficult to learn.

Students in aligned conditions outperform students in the nonaligned conditions in reading comprehension, content and vocabulary knowledge. (Vaughn et al., 2020)

***Dyslexia Specialists: see IDA Accreditation Plus:** https://dyslexiaida.org/accredited-teaching-training-programs/

Programs awarded **IDA Accreditation**[Plus] have received IDA accreditation and also produce educators who have engaged in **intensive supervised practicum experiences** that were sufficiently designed and staffed to promote applied mastery of the principles and practices of structured literacy in the service of preventing reading failure and remediating off-track readers with profiles characteristic of dyslexia.

The “What” and the “How”



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Equally Important

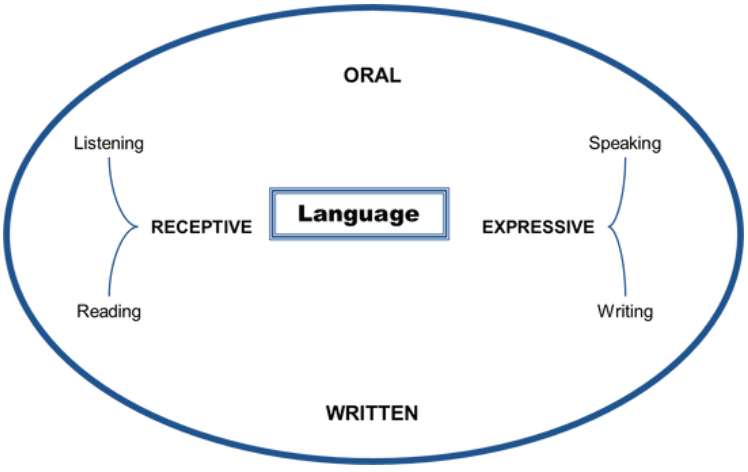
The **“WHAT”**

Instructional content integrates the domains of language as they pertain to reading (word recognition and comprehension) and written expression (handwriting, spelling, and composition).

The **“HOW”**

Essential principles of instruction guide how content is taught for both reading and written expression. These principles are beneficial for all students and necessary for struggling students.

The “What”: Domains of Language



Language in Brief
https://www.asha.org/practice-portal/clinical-topics/spoken-language-disorders/language-in-brief/

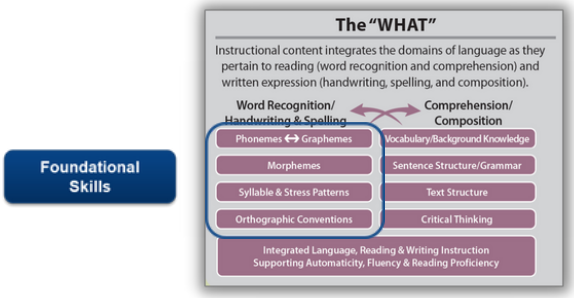
Structured Literacy - The "What"

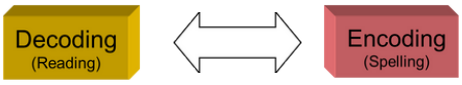
Structured Literacy encompasses foundational skills such as word recognition, handwriting, and spelling, while also integrating composition and comprehension skills from the outset in a comprehensive and deliberate manner.

The "What": Word Recognition, Handwriting and Spelling

"An extensive body of research shows that direct and explicit spelling and handwriting instruction is required if all students are to master the mechanics of reading and writing." (Gentry & Graham, 2010)

"Spelling is intimately related to reading and to the relation of letters to sounds. **Effective spelling instruction is more than rote memorization of word lists.** Spelling (going from sound to letter) strongly reinforces reading (going from letter to sound), and its instruction should be linked to a child's reading lesson." (Shaywitz, 2003)





Letter-Sound (Decoding)

Students see the letter(s) and say the corresponding sound

Sound-Letter (Encoding)

Students hear the sound and say the corresponding letter(s)

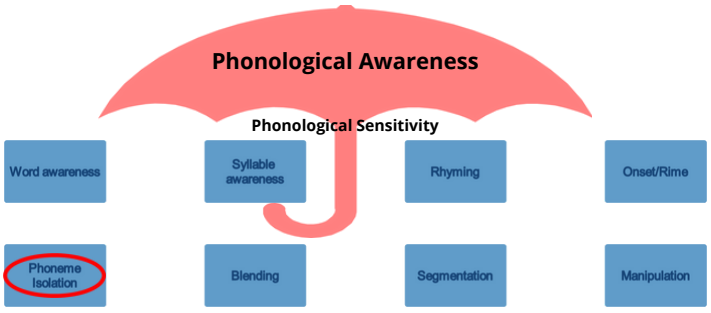
The "What": Phonemes ↔Graphemes

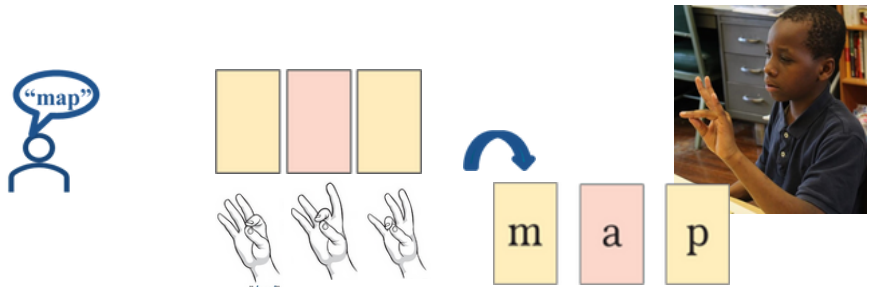
"Alphabet knowledge refers to children's familiarity with **letter forms**, **names**, and **corresponding sounds**, as measured by recognition, production, and writing tasks. Together, such knowledge represents an important component of emergent literacy." (Whitehurst & Lonigan, 1998)

The ability to decode words requires both **phonemic awareness** and mastery of the **alphabetic principle** - the linking of sounds to letters (phonemes to graphemes)

(Ehri, Nunes, Stahl & Willows, 2001; Lonigan, Purpura, Wilson, Walker & Clancy-Mechnetti, 2013; NICHD, 2000).

Phoneme Awareness is the ability to be aware of and consciously think about the individual phoneme segments in spoken words.





"Phonemic awareness instruction makes a stronger contribution to the improvement of reading and spelling when children are taught to use letters as they manipulate phonemes than when instruction is limited to phonemes alone." (National Reading Panel, 2000)

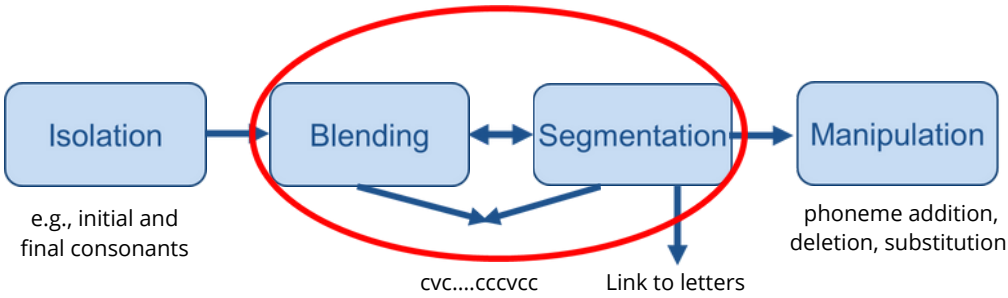
The "What": Phonemes ↔ Graphemes

Meta-analysis of 52 studies (Ehri, et al., 2001): Phonemic awareness instruction has significant moderate effect sizes on spelling and almost twice as great when the instruction included linking phonemes to letters instruction.

"This approach is an example of an important concept of Structured Literacy:

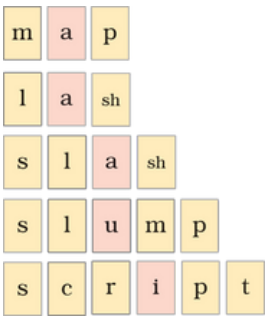
student learning of foundational reading skills is facilitated by instruction that is ***integrated***—that coordinates the development of phoneme awareness with the learning of letter and grapheme names and sounds and that includes instruction in handwriting along with practice writing the targeted letters."

Building Phoneme Awareness: Know What Matters
https://dyslexialibrary.org/



Although there are many different skills within phonemic awareness that require explicit teaching, ***blending and segmenting at the phoneme level*** are the most important skills as **they lead directly to decoding** (e.g., sounding out simple words) **and encoding** (e.g., spelling simple words). (Al Otaiba et al., 2019)

Mapping Phonemic Awareness to the Alphabetic Principle



The "What": Syllable and Stress Patterns

"Grapheme-phoneme knowledge (the alphabetic principle) and phonemic segmentation are key foundational skills that launch development followed subsequently by knowledge of syllabic and morphemic spelling-sound units" (Ehri, 2020, p. 45)

Syllabication training improves poor readers' ability to decode novel words, to build a sight word vocabulary, and to remember the spellings of words. (Bhattacharya & Ehri, 2004)

In a computer-assisted **analysis of 24,000 English words**, information about syllable type was the most reliable key to vowel pronunciation **(64.9%)**. Aronoff & Koch, 1996

Closed Syllable	drĭp c
Vowel-Consonant-e Syllable	cāke v-e
Open Syllable	shē o
Final Stable Syllable	tāble o fs
R-controlled Syllable	bark r
Vowel Digraph/Diphthong Syllable or Double Vowel "D" Syllable	bait d

In an analysis of 17,602 words most likely to be encountered by beginning readers, closed syllables make up almost half of all written syllables – with vowel sound correctly predicted in **95%** of words. (Stanback, 1992)

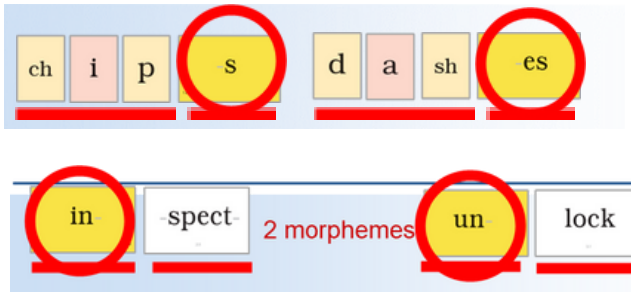
Instruction that emphasizes these syllable types strengthens students' word-analysis and spelling skills. (Bhattacharya & Ehri, 2004; Curtis & Longo, 1999)

The "What": Morphemes

phoneme ⟷ grapheme

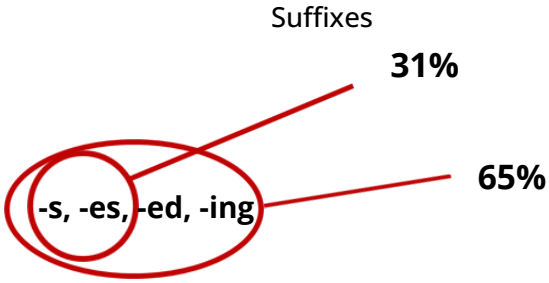
morpheme ⟷ word element

Information about morphological prefixes and suffixes accounted for an additional **32.3%**.
(Aronoff & Koch, 1996)



Smallest meaningful unit with both sound & meaning…
Includes base elements (roots) and affixes (prefixes and suffixes) (Moats, 2000)

- The suffixes **-s,** and **-es** – comprise **31%** of all suffixed words in English
- When you add in the suffixes **-ed, -ing,** these four suffixes comprise **65%** of all suffixed words in English



prefix

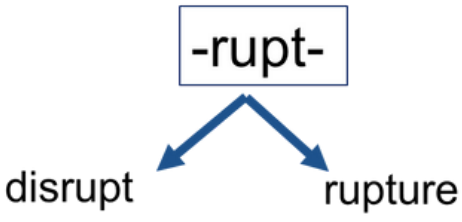
dis-

added to stand-alone word

part of complex word combined with a base element

distrust

disrupt



See www.neilramsen.co.uk

Complex words (containing more than one word element) account for approximately 60% of the vocabulary students above a fourth-grade level encounter while reading.
(Egan & Pring, 2004; Nagy, et al.,1989)

The "What": Orthographic Conventions

Knowledge regarding specific spelling constraints and patterns

Instruction on "rules" of spelling and correct letter sequences beyond the 1:1 phoneme-grapheme correspondence

- Considers "legal" spelling combinations/patterns

/j/ = dge

wĕdge lŏdge

fŭdge bădge

Ortho***gra***phic instruction improves spelling (and reading) of children with literacy deficits

(Apel & Masterson, 2001;Berninger et al, 2008; Graham, et al., 2005)

Orthography: The study of rules that govern written language (spelling).

give not giv

bugs, bugging

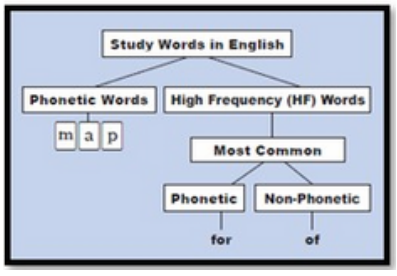
crushes, crushing, crushed

requirement, requiring

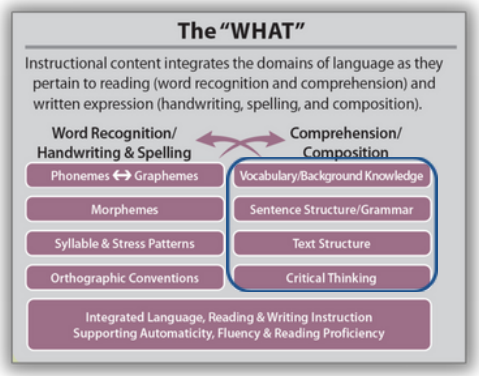
Approximately **80%** of English monosyllables can be pronounced using a relatively small set of rules relating graphemes to phonemes.

In the remaining **20%** of cases, typically only one grapheme deviates from its most frequent pronunciation (e.g., what)

(Coltheart et al., 2001; Perry et al., 2010)



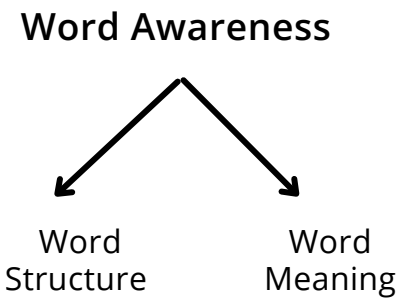
The "What": Comprehension/Composition



The "What": Vocabulary/Background Knowledge

"Emerging evidence supports the view that vocabulary knowledge may be best approached as one component of language, which includes various linguistic skills and knowledge.
In a recent synthesis of the Reading for Understanding initiative, Cervetti et al. (2020) reported that language skills that predict concurrent and longitudinal reading comprehension include orthography, phonology, and morphosyntax among young readers and academic language skills for adolescent readers." (Cervetti, et al 2023)

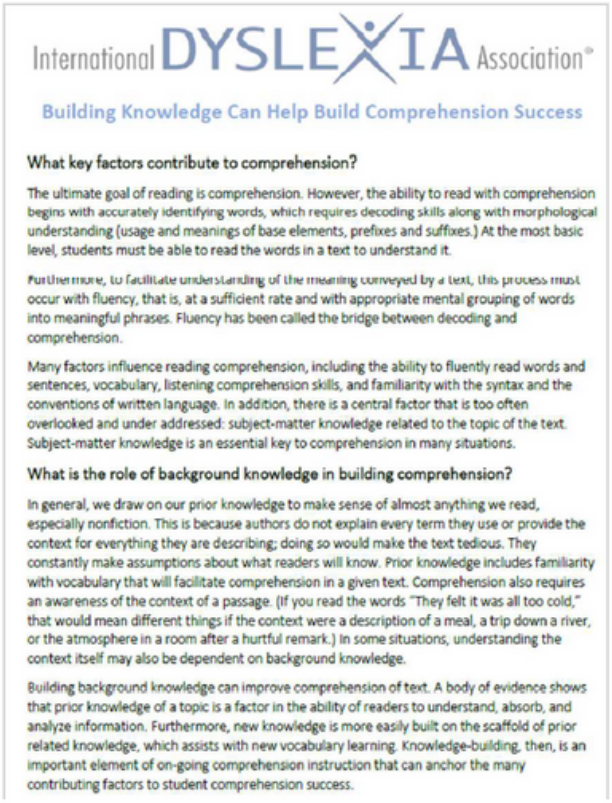
Integrated: When students successfully decode or spell a word, link it to meaning.



Background Knowledge...

Topic-focused wide reading develops vocabulary and background information.

https://dyslexialibrary.org



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Building Knowledge Can Help Build Comprehension Success

What key factors contribute to comprehension?

The ultimate goal of reading is comprehension. However, the ability to read with comprehension begins with accurately identifying words, which requires decoding skills along with morphological understanding (usage and meanings of base elements, prefixes and suffixes.) At the most basic level, students must be able to read the words in a text to understand it.

Furthermore, to facilitate understanding of the meaning conveyed by a text, this process must occur with fluency, that is, at a sufficient rate and with appropriate mental grouping of words into meaningful phrases. Fluency has been called the bridge between decoding and comprehension.

Many factors influence reading comprehension, including the ability to fluently read words and sentences, vocabulary, listening comprehension skills, and familiarity with the syntax and the conventions of written language. In addition, there is a central factor that is too often overlooked and under addressed: subject-matter knowledge related to the topic of the text. Subject-matter knowledge is an essential key to comprehension in many situations.

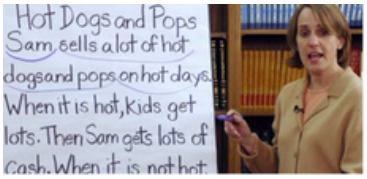
What is the role of background knowledge in building comprehension?

In general, we draw on our prior knowledge to make sense of almost anything we read, especially nonfiction. This is because authors do not explain every term they use or provide the context for everything they are describing; doing so would make the text tedious. They constantly make assumptions about what readers will know. Prior knowledge includes familiarity with vocabulary that will facilitate comprehension in a given text. Comprehension also requires an awareness of the context of a passage. (If you read the words "They felt it was all too cold," that would mean different things if the context were a description of a meal, a trip down a river, or the atmosphere in a room after a hurtful remark.) In some situations, understanding the context itself may also be dependent on background knowledge.

Building background knowledge can improve comprehension of text. A body of evidence shows that prior knowledge of a topic is a factor in the ability of readers to understand, absorb, and analyze information. Furthermore, new knowledge is more easily built on the scaffold of prior related knowledge, which assists with new vocabulary learning. Knowledge-building, then, is an important element of on-going comprehension instruction that can anchor the many contributing factors to student comprehension success.

The "What": Sentence Structure/Grammar

"We need to work at the level of words, sentences, and longer discourse, such as paragraphs or longer text." Spear-Swerling (2022)



Syntax: the rule system that governs how words can be combined and ordered to make coherent, meaningful sentences, (either spoken or written).

Developing syntax can involve examining how sentences are built, learning to expand sentences, and learning to combine short, choppy sentences into longer, grammatically correct sentences.

I find inspiration in cooking my family and my pets.

I find inspiration in cooking, my family, and my pets.

"We need to work at the level of words, sentences, and longer discourse, such as paragraphs or longer text." Spear-Swerling (2022)

Combining intonation with appropriate phrasing helps readers to comprehend what is being read. Kuhn, Schwanenflugel, & Meisinger, 2010

The giant squid has finally been caught on tape. The rare species

was filmed in its natural habitat deep in the ocean off the coast of Japan

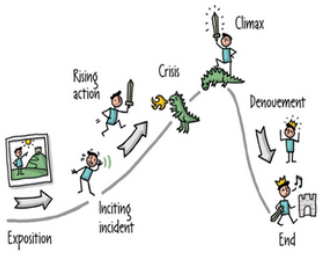
By scooping connected text into phrases, you provide a graphical representation of phrasing for meaning that offers fluency and comprehension support.

The rare species swims effortlessly in its natural habitat.

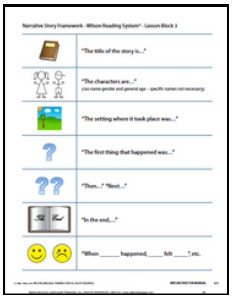
The rare species swims effortlessly in its natural habitat.

Teaching students to create good sentences on their own by combining or separating sentences helps students develop sentence level competence. (Andrews et al., 2004; Graham et al., 2012; Graham et al., 2011)

The "What": Text Structure

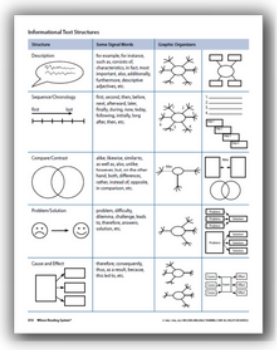


Narrative Text



Informational texts follow a range of structures, such as **description, sequence, compare and contrast, problem-solution, and cause-effect,** and often a text will combine two or more of these structures. (Meyer and Freedle, 1984)

Informational Text



Awareness of informational text structure supports comprehension and writing.

The "What": Critical Skills

- Visualization
- Comprehension Monitoring
- Prediction
- Inferencing Skills

Students need to develop a coherent mental representation of the subject matter content that the text is describing.

Narrative Text:
characters, objects, spatial settings, actions events, processes, plans, thoughts and emotions of characters, and other details about the story.

Informational Text:
the substantial subject matter being described
(Graesser, 2013)

"Integration and inference, comprehension monitoring, and knowledge and use of story structure can be taught through both written and spoken language activities and fostered before reading instruction begins." Cain, 2009

"Proficiency in oral language provides individuals with a tool for thought. Without fluent and structured oral language, children will find it very difficult to think." Jerome Bruner, 1983

The "What": Integrated Language, Reading and Writing Instruction

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Decoding (Reading) ⟷ Foundational/ Skills ⟷ **Encoding** (Spelling)

Reading supports spelling

Spelling supports "sight reading"

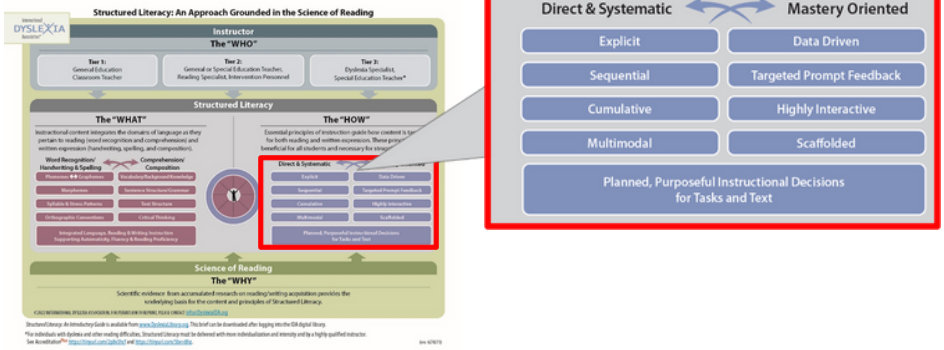
Read from a Variety of Texts ⟷ Comprehension/ Compositional ⟷ **Write about Variety of Topics**

Students need to read and comprehend text to become automatic, fluent readers.

Writing about material read improved students' comprehension, reading fluency, and word reading. (Graham & Herbert, 2011)

Vocabulary instruction integrated throughout all of instruction: listening, speaking, reading, and writing.

Structured Literacy - The "How"



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Direct & Systematic ⟷ **Mastery Oriented**

The "How": Explicit and Sequential, Cumulative

Explicit and Sequential

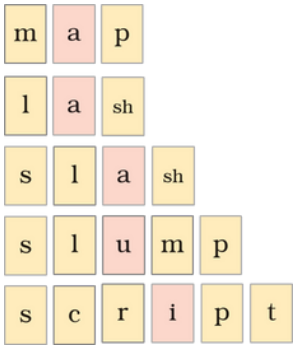
Establishing the alphabetic principle

"The alphabetic principle: child starts treating graphemes as corresponding to phonemes… This gradual learning process is **accelerated by explicit instruction**. (Seidenberg, 2017)

A meta-analysis demonstrated strong support for the **direct and explicit instruction** of spelling as it improved both spelling performance and also improved phonological awareness and reading skills. (Graham & Santangelo, 2014)

Cumulative

Instruction follows a planned logical sequence, from simple to complex, and builds upon previously taught skills.



The "How": Multimodal

Foster automatic integration of auditory, visual, and kinesthetic-motor modalities

"It's probably better to think about multisensory as representing multiple modalities so the child sees a word, says a word, writes a word, uses multiple modalities, not sense modalities, but just different modalities to reinforce learning. That's a much better definition and it's characteristic of many good instructional programs." (Dr. Jack Fletcher)

"While all students can benefit from multimodal instruction, there are some students, including those with dyslexia, for whom multimodal instruction is especially valuable." Jan Hasbrouk

For students with a language learning difficulty and ELLs, provide instruction which includes demonstration and practice with **manipulatives helps to clarify verbal explanations.** (Janney & Snell, 2004)

The "How": Data Driven and Targeted Prompt Feedback

Data Matters!

Data driven instruction is when teachers use data from assessments and observations to guide their instruction and meet the needs of every student.

Targeted Prompt Feedback

Feedback should be:

- prompt
- specific (not simply "well done") recognizing the strengths of a student's responses, as well as gives clear, targeted feedback to errors
- concise.... excessively wordy feedback can be confusing and cause the student to miss key points
- helpful for a student to understand how to improve.

(Archer & Hughes, 2011)

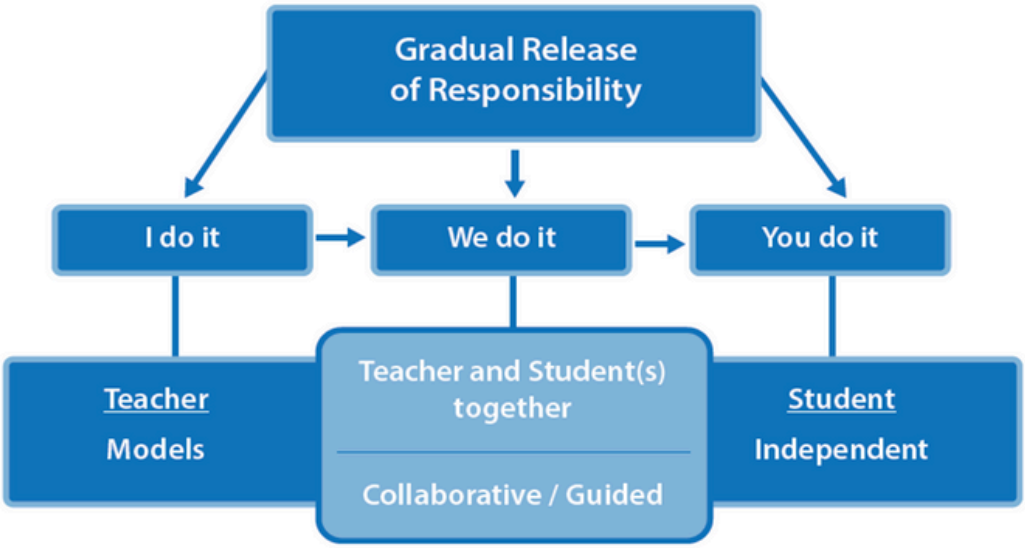
The "How": Highly Interactive

- Teacher-led activities
- Motivation and engagement are important

Research consistently finds that interactive methods correlate with positive student outcomes, such as higher rates of attention, interest in subject matter, and satisfaction

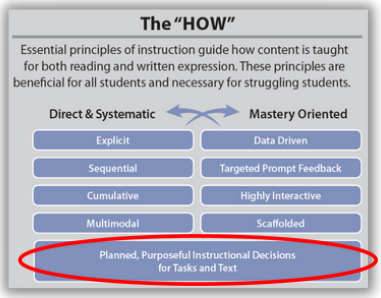
(Bligh, 2000; Burrowes, 2003; Sivan et al., 2000)

The "How": Scaffolded



Illustrating Pearson and Gallagher's Gradual Release of Responsibility Model, 1983.

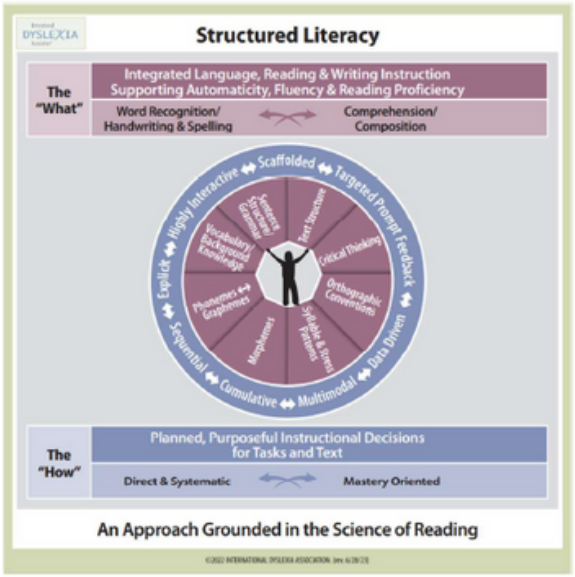
The "How": Planned, Purposeful Instructional Decisions for Tasks & Text



Diagnostically differentiate instruction for students based on need and mastery of concepts

The Structured Literacy Lesson Plan (Birsh, 2018)

- Ordered daily activities
- All new concepts and previously taught concepts are mastered and continually reviewed
- Precise steps and procedures
- Rapid rotation of activities
- Periodic measurement of progress
- Presentation through visual, auditory, and tactile-kinesthetic modalities



Key Takeaways

- Structured Literacy is a comprehensive and integrated approach, grounded in science, which should be understood and implemented within a multi-tiered system of support.
- The "What" of SL includes instruction in the domains of language, particularly as they pertain to written language (reading and writing).
    - Foundational instruction includes teaching students **letter knowledge (letter shapes, how to write letters efficiently, and grapheme–phoneme relations) and phonemic awareness**. It also includes teaching students **syllable structure, word parts, and the conventions of the English language**. All of these, along with **text reading**, comprise the essential components for word recognition, spelling skill and handwriting taught with a Structured Literacy approach.
    - Comprehension and Composition instruction in a Structured Literacy approach includes developing students' **background and vocabulary knowledge, teaching sentence structure and narrative and informational text structure, and critical thinking skills** such as comprehension monitoring, visualization, prediction, and inferencing skills.
- The "How" of SL are the principles of instruction. These are beneficial for all students, but especially essential for those who are struggling.
- Planned, purposeful choice of instructional tasks and text, based on critical data, will result in the best achievement for all students.
- This takes time for teachers to master but is so worthwhile for ALL students to achieve literacy.

Six Syllable Types in English

Closed Syllable

1 This syllable can only have **one vowel**.
2 The vowel is followed by **one** or **more consonants** (closed in).
3 The vowel sound is **short**, marked with a breve (˘).
4 This syllable can be combined with other syllables to make **multisyllabic** words.

EXAMPLES	MARK-UP SAMPLE
up hat ship last	lăst (c)

Final Stable Syllable

1 The last syllable in a multisyllabic word ending in a consonant-le. The final **e** is silent.
2 The last syllable in a multisyllabic word that includes a suffix as part of that syllable.

EXAMPLES	MARK-UP SAMPLE
cradle location	nuzzle picture (fs)

Vowel-Consonant-e Syllable

1 This syllable has a **vowel**, then a **consonant**, then an **e**.
2 The first vowel has a **long** sound, marked with a macron (¯).
3 The **e** is silent.
4 This syllable can be combined with other syllables to make **multisyllabic** words.

EXAMPLES	MARK-UP SAMPLE
bike ape cake	cāke (v-e)

R-Controlled Syllable

1 This syllable contains a single vowel followed by an **r** (**ar**, **er**, **ir**, **or**, **ur**).
2 The vowel is neither **long** nor **short**; it is controlled by the **r**.
3 This syllable can be combined with other syllables to make **multisyllabic** words.

EXAMPLES	MARK-UP SAMPLE
start fir hurt art	art (r)

Open Syllable

1 This syllable has only **one vowel** which is the last letter in the syllable.
2 The vowel sound is **long**, marked with a macron (¯).
3 This syllable can be combined with other syllables to make **multisyllabic** words.

EXAMPLES	MARK-UP SAMPLE
I be shy hi	hī (o)

Double Vowel "D" Syllable

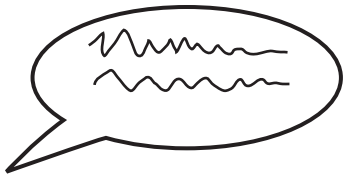
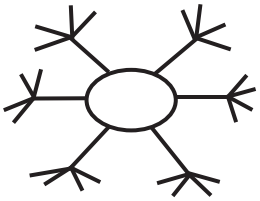
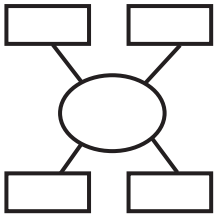
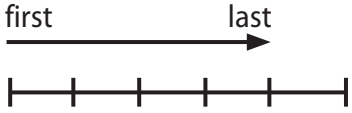
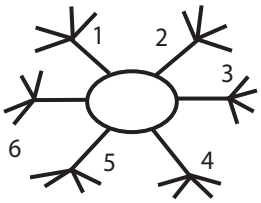
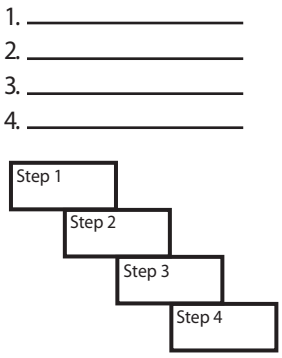
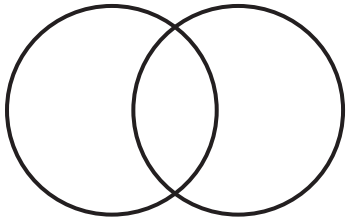
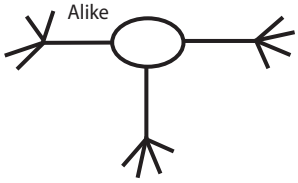
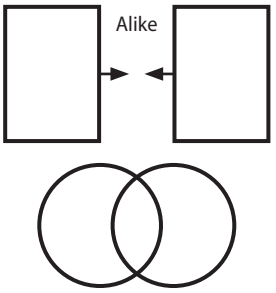
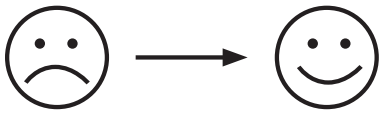
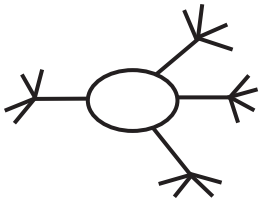
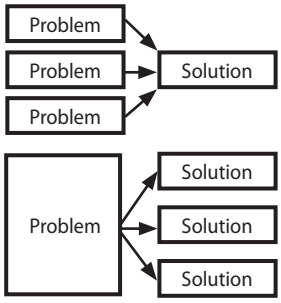
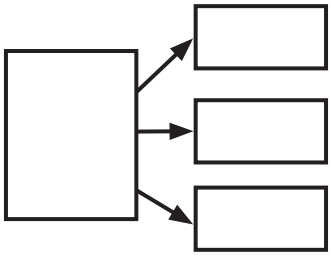
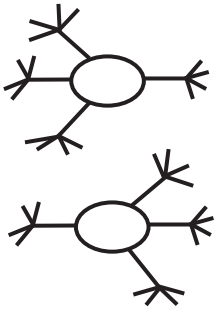
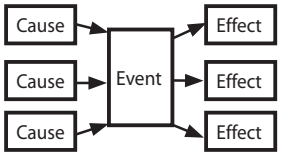
1 This syllable contains a **vowel digraph** or a **diphthong**. These are vowel teams.
2 This syllable can be combined with other syllables to make **multisyllabic** words.

Vowel Digraph: Two vowels together that represent one sound (**ee**).

Diphthong: A sound that begins with one vowel sound and glides into another (**oi**).

EXAMPLES	MARK-UP SAMPLE
bait feel beat toy	toy (d)

Informational Text Structures

Structure	Some Signal Words	Graphic Organizers	
Description 	for example, for instance, such as, consists of, characteristics, in fact, most important, also, additionally, furthermore, descriptive adjectives, etc.		
Sequence/Chronology 	first, second, then, before, next, afterward, later, finally, during, now, today, following, initially, long after, then, etc.		
Compare/Contrast 	alike, likewise, similar to, as well as, also, unlike, however, but, on the other hand, both, differences, rather, instead of, opposite, in comparison, etc.		
Problem/Solution 	problem, difficulty, dilemma, challenge, leads to, therefore, answers, solution, etc.		
Cause and Effect 	therefore, consequently, thus, as a result, because, this led to, etc.		

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