PERSPECTIVES
ON LANGUAGE AND LITERACY

Driving Towards Success

Informed Structured Literacy Implementation

International DYSLEXIA Association®

Until Everyone Can Read!

Fall 2024 • Volume 50, No. 11

Fall 2024 • Volume 50, No. 11

PERSPECTIVES

ON LANGUAGE AND LITERACY

A Publication of the International Dyslexia Association

MISSION

The International Dyslexia Association (IDA) is committed to creating a future for all individuals who struggle with dyslexia and other related reading differences so that they may have richer, more robust lives and access to the tools and resources they need.

Driving Towards Success
Informed Structured Literacy Implementation

The International Dyslexia Association (IDA) is a 501(c)(3) non-profit, scientific and educational organization dedicated exclusively to the study and treatment of the specific language disability known as dyslexia. We have been serving individuals with dyslexia, their families, and professionals in the field for over 75 years. IDA was first established to continue the pioneering work of Samuel T. Orton, M.D., in the study and treatment of dyslexia.

IDA members include people with dyslexia and their families, educators, diagnosticians, physicians, and other professionals in the field. IDA's home office, 39 branches in the United States and Canada, and 12 Global Network organizations provide educator training, publications, information, and support to help struggling readers around the world. IDA's Annual Conference attracts thousands of outstanding researchers, clinicians, parents, teachers, psychologists, educational therapists, and people with dyslexia.

International DYSLEXIA Association®

Until Everyone Can Read!

1829 Reisterstown Road, Suite 350 • Pikesville, MD 21208
(410) 296-0232 • www.DyslexiaIDA.org

Perspectives on Language and Literacy is a benefit of membership in the International Dyslexia Association.
Visit www.DyslexiaIDA.org for more information on membership categories.
Contact member@DyslexiaIDA.org for membership information.

Advertising information is available by contacting ETICoordinator@DyslexiaIDA.org

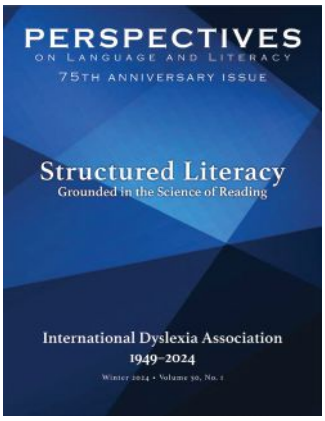
Written comments regarding material contained in *Perspectives on Language and Literacy* are invited.
Please direct comments and reprint or permission requests to info@DyslexiaIDA.org

ISSN 1935-1291

STRUCTURED LITERACY

The Science of Reading

The Science of Reading has provided an enormous amount of information concerning all things involved in reading, particularly how reading is acquired and what can be done to help struggling readers. One of the most exciting aspects of the Science of Reading involves what has been learned to prevent reading failure. In addition to the estimated 15 to 20% of people who have dyslexia, there is an equal number of students who struggle to learn to read due to reading curricula and practices that are not aligned with the Science of Reading. Structured Literacy is a method of teaching reading acquisition and development based on the Science of Reading. Alphabetically-based writing systems, like the English Writing Systems, are codes in which graphemes or letters represent the phonemes or sounds of a language. Structured Literacy not only refers to ***what*** needs to be taught so that people become competent readers (phoneme awareness, sound-symbol correspondences, orthography, morphology, syntax, and semantics) but also ***how*** to teach those components (i.e., explicit, systematic, cumulative, and diagnostic as well as engaging and multimodal). Structured Literacy curricula and interventions are vitally important to teach people with dyslexia to read, but these are the very same methods that should be used to teach all children to read. The 75th Anniversary of IDA issue of *Perspectives on Language and Literacy* was devoted to providing information about Structured Literacy and in particular the Infographic.



The editorial board of *Perspectives of Language and Literacy* has been and continues to be very interested in helping practitioners become more knowledgeable and fluent in Structured Literacy concepts and practices so that they can use their skills to help children learn to read. As a result, the current issue provides considerable detail regarding the ***how*** of Structured Literacy. The present issue covers quite a bit of ground including the instructional hierarchy and data-based decision-making, reducing the cognitive load involved in reading, implementing appropriate levels of scaffolding, and how to support multilingual learners. This issue will support teachers, families, and administrators in their shared goal of competent reading for their students and children.

David P. Hurford, Ph.D.
Editor-in-Chief

WHY IS IDA REVISITING ITS DYSLEXIA DEFINITION?

Since 2002

Beginning with a recent special issue of our flagship publication, ***Annals of Dyslexia,*** the International Dyslexia Association (IDA) has begun the process of revisiting its 2002 definition of dyslexia.

By any measure, this definition has had a profound impact. For over twenty years, countless articles in publications ranging from scientific journals to the popular press have cited IDA's dyslexia definition. It has guided both research (particularly in reading acquisition) and policy (most notably as a cornerstone in state dyslexia legislation). Finally, the definition has served as a vital steppingstone to diagnosis and intervention for generations of individuals and families with dyslexia and has helped dispel myths and promote understanding.

Google "dyslexia definition" from anywhere in the USA, and a top result will be IDA's definition.

Looking ahead

Ironically, our definition has helped advance the science and shape the educational landscape that, together, are generating interest in revisiting and, perhaps, updating the definition. Toward that end, starting this year—as we celebrate our 75th Anniversary—IDA is engaging in a thoughtful, inclusive, and methodical review process to (a) carefully weigh the current definition's impacts and (b) consider possible updates.

This review process—to be co-chaired by **Drs. Charles Haynes and Malt Joshi**—will include surveys, town halls, and summits of scientists, practitioners, and other experts and stakeholders spanning various disciplines and perspectives. (The infographic on the right depicts that process.)

Stewarding a vital asset

IDA's 2002 definition has served as a foundation for our mission and for our sharpened vision—**to make Structured Literacy available for every child in every classroom across the nation and around the world,** especially for those with risk factors, like dyslexia. Periodically assessing and strengthening that foundation is central to our work. Indeed, it's our responsibility.

As steward of such a vital legacy asset—one that has affected generations of lives—we take that responsibility seriously. We will keep the IDA community abreast of our progress and hope you will participate in the opportunities for input. Please stay tuned!

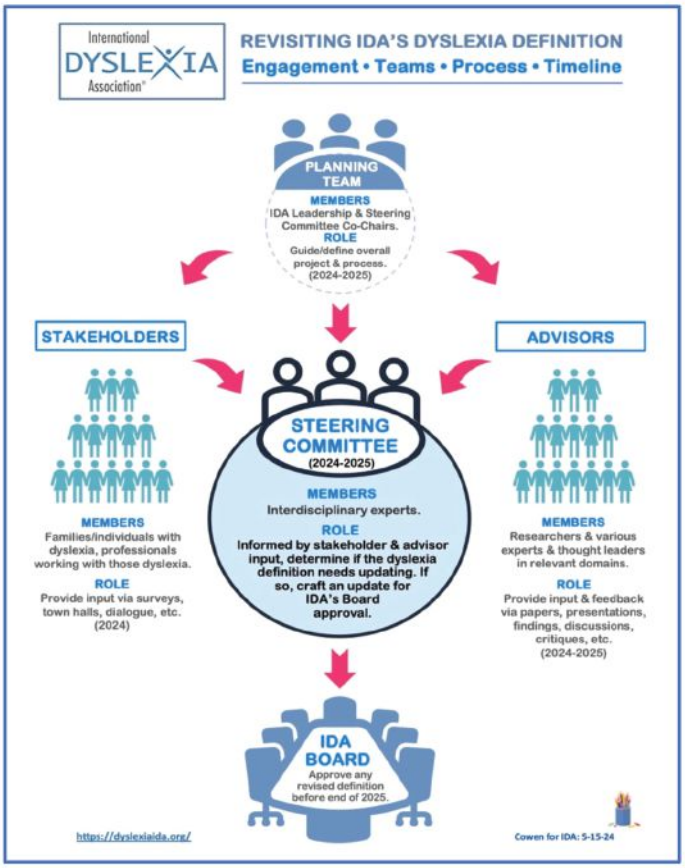
dyslexiaida.org

IDA's 2002 Dyslexia Definition

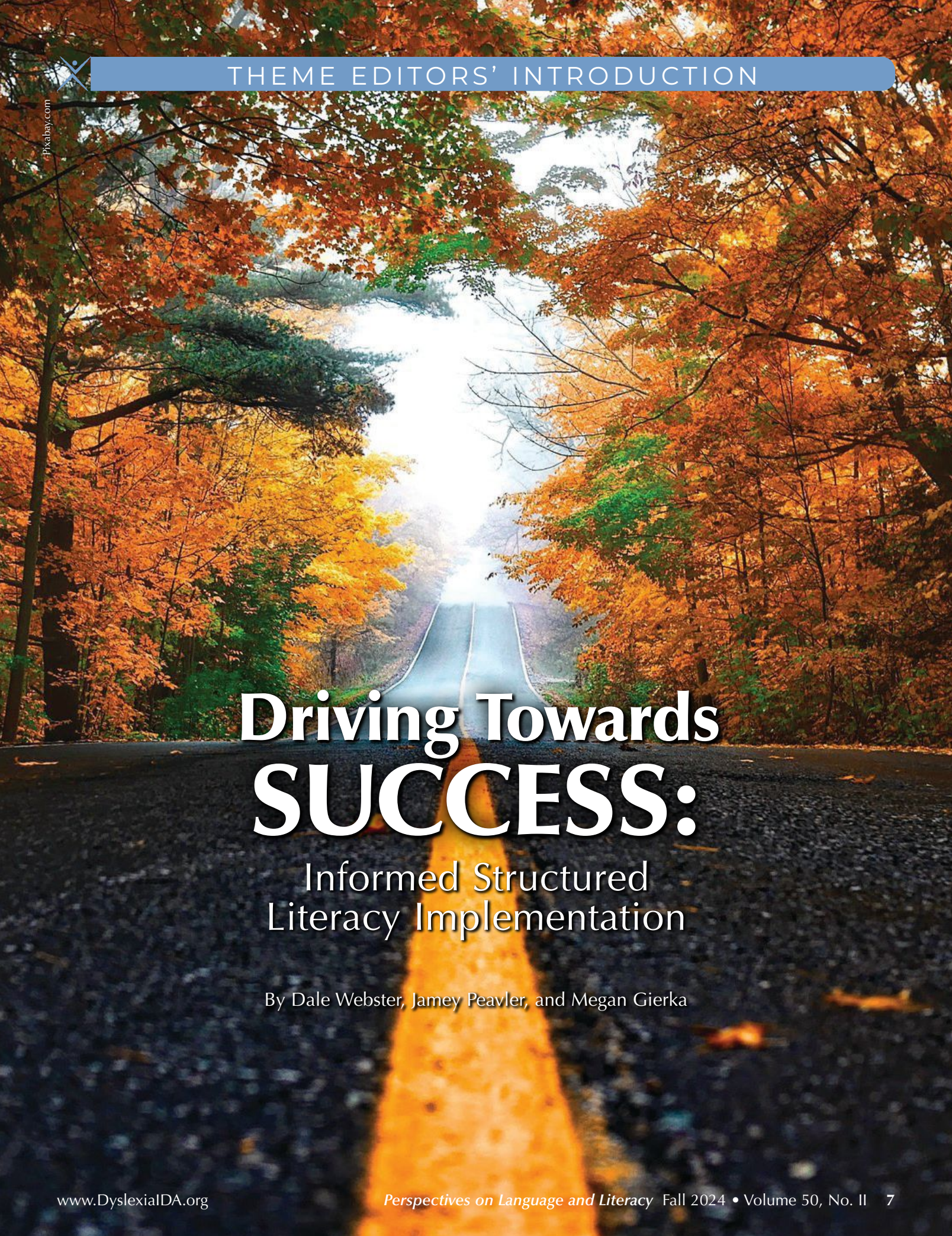
"Dyslexia is a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge.

* * *

Visit Definition Consensus Project for more about the history of IDA's dyslexia definition.



Cowen for IDA: 5-15-24



Pixabay.com

Driving Towards SUCCESS:

Informed Structured Literacy Implementation

By Dale Webster, Jamey Peavler, and Megan Gierka

Data-driven instruction guides the effective delivery of Structured Literacy.

Imagine setting off on a cross-country road trip without a clear map or GPS guidance. The journey might begin with confidence, but soon, the lack of direction would likely lead to confusion, frustration, and delays. In the realm of education, particularly in the implementation of Structured Literacy, this analogy holds true. High-quality instructional materials can serve as a roadmap for high quality, tiered instruction, providing educators with the WHAT to teach. However, the GPS — data-driven instruction — guides the effective delivery (the HOW) of Structured Literacy, enabling teachers to navigate the complexities of their students' diverse learning needs and adjust the course as necessary to ensure success.

The Roadmap: High-Quality, Evidence-Aligned Instructional Materials

Structured Literacy is a comprehensive, integrated approach to reading and writing instruction that directly and systematically builds on and develops oral language while explicitly teaching the structure of written language. Using this evidence-based approach, educators integrate the teaching of the foundational and higher-order skills and knowledge needed to develop proficient reading comprehension and written expression. The WHAT of Structured Literacy encompasses these elements, systematically teaching reading and writing through explicit, cumulative instruction.

The GPS: Effective, Data-Driven Instruction

While the curriculum provides the roadmap, effective, data-driven instruction acts as the GPS, allowing educators to make informed decisions based on student progress and needs. Just as a GPS recalculates the route when a turn is missed or traffic is encountered, teachers must adapt their instruction to meet students where they are. This involves continuous assessment, monitoring, and the use of diagnostic data to inform instructional strategies, decisions, and interventions.

Steering Towards Success: The HOW of Structured Literacy Implementation

The ultimate goal is to not only provide high-quality instruction but to ensure that it is delivered in a manner that meets each student's unique needs. Elaborating on the Winter 2024 edition of the Structured Literacy publication, this edition of the International Dyslexia Association's Perspectives focuses on the HOW of Structured Literacy implementation, offering practical guidance for educators to enhance their practice. The big ideas presented below conceptualize this edition.

1. ***Instructional Hierarchy:*** Effective instruction must match both the skill and the instructional needs of students. In this edition, **Sarah Brown** outlines how educators can more effectively support students' mastery of skills through the phases of learning — from acquisition to fluency, generalization, and adaptation. The instructional hierarchy enables educators to provide appropriate support at each stage, ensuring skill mastery and application across contexts. **Matthew K. Burns** explores the Skill-By-Treatment Interaction framework, providing guidance on intensifying interventions when students are not making adequate progress.
2. ***Cognitive Load Theory:*** Reducing cognitive load is critical for effective learning. By minimizing intrinsic and extraneous loads, educators can maximize germane load, allowing students to focus on meaningful learning. This involves breaking down complex tasks, providing clear and concise instructions, and offering ample practice opportunities. **Jamey Peavler** discusses how to maximize student learning by managing cognitive load through instructional design.
3. ***Scaffolded Instruction:*** Similar to scaffolding in construction, educational scaffolding provides temporary support to help students achieve new levels of understanding and skill. This support is gradually removed as students become more proficient, fostering independence and confidence in their abilities. In this edition, **Linnea Ehri, Nicole Ormandy,** and **Megan Gierka** discuss scaffolding early literacy instruction, emphasizing the use of phoneme isolation, blending, and segmentation tasks to build foundational skills. At the text level, **Christie L. Cavanaugh** and **Barbara Sheaffer** delve into the purposeful selection of tasks and texts, ensuring alignment with instructional goals and student needs.
4. ***Supporting Multilingual Learners:*** Structured literacy works for all … including our Multilingual Learners! This edition features two articles. **Julie Esparza Brown**'s team conceptualizes the PLUSS model, bridging structured literacy principles with evidence-based culturally and linguistically aligned practices for multilingual learners. **Antonio Fierro** considers the challenges of language variability when working with English learners and discusses the importance of oral language as the foundation for literacy success.
5. ***Data-Based Decision-Making:*** Utilizing data within a Multi-Tiered System of Supports (MTSS) framework helps educators identify which students need support, what to teach, and how to evaluate the effectiveness of instruction. **Laura Stewart** and **Stephanie Stollar** translate this systematic approach into actionable insights.

This issue also includes **Terri Hessler's** review of "Climbing the Ladder of Reading and Writing" by Nancy Young and Jan Hasbrouck, highlighting the importance of considering the continuum of learners and differentiating instruction to meet their diverse needs.

Conclusion

As educators embark on the journey of implementing Structured Literacy, having evidence-aligned materials and the knowledge and skills to make informed, data-driven instructional decisions are important. By integrating the WHAT and the HOW, teachers can steer their students towards literacy success, ensuring that all learners have the opportunity to develop the reading and writing skills necessary for lifelong learning.

Dale Webster *is the President of CORE Learning (CORE), which provides professional learning and implementation support to schools and districts across the country. Dale brings over 30 years of experience in teaching, professional learning, research, state-level policy and administration work, and curriculum development to schools and districts across the country. Dale earned his Ph.D. in Learning, Cognition, and Development at the University of California, Irvine in 2012 where his research focused on vocabulary development for English learners. He currently is a member of the Editorial Board for the IDA's* Perspectives in Language and Literacy *publication and is a newly appointed IDA Board Member functioning as the Senior Editor-in-Chief of IDA's publications.*

Dr. Jamey Peavler *is a Co-Director and Assistant Professor in the Reading Science Graduate Program at Mount St. Joseph University. Before joining The Mount, Jamey served as the Director of Training for the M.A. Rooney Foundation, providing Orton-Gillingham training for teachers across Indiana. She was an Instructional Coach and classroom teacher for Indianapolis Public Schools for 20 years. Jamey reviews higher-education textbooks and teacher licensure exams for the National Council for Teacher Quality. She is a Certified Fellow-in-Training with the Orton-Gillingham Academy and an International Dyslexia Association Structured Literacy Dyslexia Specialist. She serves on the board for The Reading League's Indiana Chapter.*

Megan Gierka, Ed.D.*, is the Head of Implementation Strategy at AIM Institute for Learning and Research. In this role, Megan provides implementation support using an evidence-aligned blueprint to foster sustainable literacy success. Translating research into practice and policy, Megan specializes in early literacy, second language acquisition, MTSS, and implementation science. With over a decade of experience in public education, she has served as a teacher, Title I reading specialist, and instructional coach.*

Beyond a Skill Match: Leveraging the Instructional Hierarchy in Reading Intervention

By Sarah Brown

KEY TAKEAWAYS

- Effective instruction requires a skill match and an instructional match.
- The instructional hierarchy supports educators to plan strategies to use for instruction and intervention.
- When teaching new skills, first build accuracy.
- To achieve skill mastery, provide intentional and repeated practice on skills once students are accurate.

As of May 2024, 38 states have passed literacy legislation, with 36 of them requiring professional learning on evidence-based reading instruction (Schwartz, 2024). There is a widespread focus on expanding educator expertise about the research on how students learn to read. Understanding the skills students need to learn is one important part of instruction and intervention. Interventions that target specific skills are more effective than generalized interventions (Hall & Burns, 2018). As educators gain more knowledge in the core components of literacy skills, they may better understand how to assess for specific skill deficits and match their instruction to those skills.

Targeting the right reading skills during lesson planning isn't sufficient. An instructional match must also be considered, meaning that educators need to align their instructional strategies to students' current level of skill mastery. For example, educators need to decide when to teach explicitly compared to when students can work independently. They must consider instructional strategies that are matched with students' current skill development to achieve success. When interventions are align to students' current instructional needs, students make greater progress (Burns, Young, McCollom, Stevens, & Izumi, 2022; Szadokierski, Burns, & McComas, 2017). The instructional hierarchy aids in that intervention planning, as it outlines the progression of skill acquisition to inform instruction.

The instructional hierarchy is a theoretical framework with research support (Burns, Codding, Boice, & Lukito, 2010; Haring & Eaton, 1978). It explains that when we learn new skills, we progress through a series of phases, from Acquisition through Generalization and Adaptation. When designing and implementing instruction, attending to the phase of learning that corresponds to students' current skills allows teachers to most efficiently and effectively match appropriate instructional strategies to student skill needs as they teach for long-term outcomes. This interaction between the focus on students' skill needs and the focus on their instructional needs is referred to as a Skill-by-Treatment Interaction.

The phases of the instructional hierarchy are outlined in Table 1. When students are first learning a skill, they are in the *Acquisition* phase, meaning the skill is too difficult for them to complete independently, so they need to be taught to complete a task requiring that skill without errors. This is effectively accomplished through explicit instruction including teacher

Continued on page 12

Table 1

The Instructional Hierarchy

Phase of Learning	Student Skill	Instructional Match
Acquisition	Student lacks the ability to complete the skill accurately.	Explicit instruction with modeling, guided practice, and immediate feedback.
Fluency	Student accurately performs the skill but lacks the ability to perform it automatically.	Intentional, repeated, and varied types of practice.
Generalization & Adaptation	Student accurately and fluently performs the skill during instruction but may be less fluent in novel situations or inflexible in their use of the skill.	Provide varied types of practice across settings. Focus on modifying skill use in novel settings.

Abbreviation

ORF: Oral Reading Fluency

 continued from page 11

modeling, guided practice, and high-quality feedback. During the *Fluency* phase of learning, students can accurately demonstrate a skill, but it still requires concentration, and they are not yet proficient. They need intentional and repeated practice to improve their ability to use the skill consistently and at an acceptable rate. (A note about fluency is provided in the callout.)

As students become fluent with use of a skill, they shift to the *Generalization and Adaptation* phase, where they perform the skill at a proficient level and learn to apply it across settings and adaptations. Often, this happens without direct instruction, as it occurs when students are presented with novel situations to generalize and adapt their use of the skill.

Educators sometimes assume fluency refers to reading a passage of text at an adequate rate, potentially because of the Passage Reading Fluency measures that are often used by schools for screening and progress monitoring. However, fluency applies not only to passage-level reading, but each independent skill students learn before they are able to read within a passage. It applies to individual phonics skills and their application in addition to connected text. All new skills need practice to achieve mastery.

When teachers understand the instructional hierarchy, they can adapt instruction to meet student learning needs and ensure that the time spent in instruction results in achieving targeted learning outcomes. This targeted teaching can be complex, though, because students are often learning more than one skill at a time. For example, a small group intervention may be focused on phonics skill gaps. Each day or two, educators are introducing new phonics skills, but students aren't gaining total proficiency in each skill within that initial instructional period. Table 2 outlines how the instructional hierarchy can be used during a reading lesson.

Consider the example posed in Table 2. Suppose a first grade teacher has recently taught vowel teams and is now shifting instruction to diphthongs. A sample lesson outline might include initial explicit instruction in the grapheme that spells */oi/*. Because students are being introduced to these diphthongs for the first time, the teacher follows an explicit instructional methodology using the *I do, we do, you do* format.

Within the same lesson, the teacher incorporates fluency practice for the skills that were the focus of instruction immediately before diphthongs. Vowel teams were the last phonics skills the first grade students learned, so they continue to need instruction focused on building their fluency with vowel team use. Therefore, this lesson includes a partner reading activity using decodable texts. This provides students with additional practice in reading vowel teams spelling */oo/* and */aw/*. They are accurate in reading those vowel teams but are not yet fluent in the skill.

The lesson also includes generalization and adaptation focus for vowel teams spelling long vowel sounds. The teacher uses a whole group dictation activity that requires students retrieve the vowel teams to spell words that are recited to them in sentences. For example, students may be asked to write, "She sails in a boat on the high sea." The writing task requires students to apply their knowledge of ways to spell long vowel sounds; skills they became accurate and fluent with during previous instruction. By matching both skill and instructional needs, this first grade teacher is able to effectively and efficiently support reading growth.

Instructional Implications of the Instructional Hierarchy

Ensure Accuracy is Acquired

Student Concern: Students are unengaged or off-task during independent work time.

Instructional Need: Students may be provided fluency-building activities before they have demonstrated accuracy. These students might need additional explicit instruction to be able to engage in independent work that will continue to build mastery.

Table 2

Example of a Lesson Applying the Instructional Hierarchy

Instructional Hierarchy Stage	Accuracy	Fluency	Generalization and Adaptation
Phonics Skill	Diphthongs spelling */oi/*	Vowel teams spelling */oo/, /aw/*	Vowel Teams spelling */ā/, /ē/, /ō/, /ī/, /ū/*
Instructional Strategies	Initial explicit instruction following *I do, we do, you do* lesson structure	Partner read with decodable texts	Whole group dictation retrieval practice

When students are provided independent work time, either through desk work or work within classroom centers, those activities typically provide fluency-building support. Educators might provide opportunities to practice using a skill, but without explicit instruction, including modeling and immediate feedback, students cannot acquire new skills or build their accuracy with a skill. Therefore, until students demonstrate accuracy with a skill, they should not be asked to practice it independently through fluency-building activities.

For Oral Reading Fluency (ORF), students are considered within the Acquisition phase until they're reading with at least 93% accuracy (VanDerHeyden & Burns, 2023). Practice at this phase should be in a guided format with immediate feedback. Because the Acquisition phase tasks are challenging, students will practice errors repeatedly and easily become off-task or overwhelmed. Educators should ensure that all independent work and classroom centers contain activities focused on practicing skills that students have already demonstrated accuracy in completing.

Instruction Beyond the Accuracy Stage

> ***Student Concern:*** Students are accurate with a skill by the end of a lesson. But a few days later, they no longer use the skill consistently or accurately.
>
> ***Instructional Need:*** Students need more practice to move through the fluency stage of learning and gain proficiency in the skill. They cannot be expected to use the skill in generalized reading and writing activities without first gaining fluency with it.

Dyslexia experts have deep knowledge not only in the specific reading skills students need to learn, but how to effectively teach students who struggle to learn to read. As outlined by Archer and Hughes (2011), explicit instruction is critical to learning new skills. This intentional, structured, and systematic instructional methodology is effective at teaching new skills for all students, and is necessary for most. A typical lesson following the explicit instructional approach includes an introduction, teacher modeling (*I do it*) and multiple opportunities for guided practice (*we do it*), unprompted practice (*you do it*), and closing (Archer & Hughes, 2011).

The explicit instruction lesson structure is essential when teaching during the Acquisition phase of learning. However, this represents only the portion of a reading lesson during which educators are teaching new skills. Educators must also attend to the skills at the Fluency stage of development. Fluency development occurs not during a single lesson, but through repeated and intentional practice. Because students must learn so many skills, it can become easy to focus solely on new skills without adequate practice on skills that need continued practice. As the previous example outlined, educators must plan to incorporate ongoing, intentional, and varied practice to ensure reading proficiency.

Teaching students who are significantly behind to read proficiently requires effective and efficient instruction. A focus not only on the skills students are learning, but also on their instructional need is critical to closing achievement gaps for learners with dyslexia. Matching instructional activities to students' current skills allows for more efficient and effective instruction and intervention.

References

Burns, M. K., Codding, R. S., Boice, C. H., & Lukito, G. (2010). Meta-analysis of acquisition and fluency math interventions with instructional and frustration level skills: Evidence for a skill-by-treatment interaction. *School Psychology Review*, *39*(1), 69–83. https://doi.org/10.1080/02796015.2010.12087791

Burns, M. K., Young, H., McCollom, E. M., Stevens, M. A., & Izumi, J. T. (2022). Predicting intervention effects with preintervention measures of decoding: Evidence for a skill-by-treatment interaction with kindergarten and first-grade students. *Learning Disability Quarterly*, *45*(4), 320–330. https://doi.org/10.1177/07319487221113026

Schwartz, S. (September 05, 2024). Which states have passed 'Science of Reading' laws? What's in them? *Education Week*. https://www.edweek.org/teaching-learning/which-states-have-passed-science-of-reading-laws-whats-in-them/2022/07

Ellis, C., Holston, S., Drake, G., Putman, H., Swisher, A., & Peske, H. (2023). *Teacher prep review: Strengthening elementary reading instruction*. Washington, DC: National Council on Teacher Quality.

Eunice Kennedy Shriver National Institute of Child Health and Human Development, NIH, DHHS. (2000). *Report of the National Reading Panel: Teaching children to read: Reports of the subgroups* (00-4754). Washington, DC: U.S. Government Printing Office.

Hall, M. S., & Burns, M. K. (2018). Meta-analysis of targeted small-group reading interventions. *Journal of School Psychology*, *66*, 54–66. https://doi.org/10.1016/j.jsp.2017.11.002

Haring, N. G., & Eaton, M. D. (1978). Systematic procedures: An instructional hierarchy. In N. G. Haring, T. C. Lovitt, M. D. Eaton, & C. L. Hansen (Eds.), *The fourth R: Research in the classroom*. Charles E. Merrill Publishing.

Joyce, B., & Showers, B. (1980). Improving inservice training: The message of research. *Educational Leadership, 37*(5), 379–385.

Joyce, B., & Showers, B. (1982). The coaching of teaching. *Educational Leadership, 40*, 4–10.

Juel, C. (1988). Learning to read and write: A longitudinal study of 54 children from first through fourth grades. *Journal of Educational Psychology, 80*(4), 437–447.

Torgesen, J. K., & Burgess, S. R. (1998). *Longitudinal studies of phonological processing and reading*. In J. Metsala & L. Ehri, *Word recognition in beginning reading* (pp. 161–188). Lawrence Erlbaum Associates. https://doi.org/10.1177/002221949402700503

Szadokierski, I., Burns, M. K., & McComas, J. J. (2017). Predicting intervention effectiveness from reading accuracy and rate measures through the instructional hierarchy: Evidence for a skill-by-treatment interaction. *School Psychology Review, 46*(2), 190–200. https://doi.org/10.17105/spr-2017-0013.v46-2

VanDerHeyden, A. M., & Burns, M. K. (2023). The instructional hierarchy: Connecting student learning and instruction. *Perspectives on Language and Literacy, 49*(1), 10–13.

***Sarah Brown, Ph.D.**, is the President of System Impact Consulting and co-author of the book* Effective Universal Instruction *about Tier 1 of an MTSS. She served in roles including the Bureau Chief leading Special Education and MTSS implementation for Iowa, Special Education Director, Professional Learning Administrator, and School Psychologist. She's also led customer education and MTSS within K–12 education technology companies. She's interested in the implementation of MTSS and improving systems to support high achievement for every student.*

Top 10 Tools™
by 95 Percent Group

Learn it today. Apply it tomorrow.

Top 10 Tools™ by 95 Percent Group is a comprehensive science of reading education in just 45 or 75 hours*, on your schedule.

Earn IDA credentials!

Key features include:

Evidence-based content and instruction that deepens reading science knowledge.

Flexible, asynchronous format to support immediate classroom application.

Shorter and more affordable than other popular courses to support school and district-wide implementation.

IDA accredited version earns 5 CEUs.
*This version of the course takes 75 hours.

Free 21-day immersive trial!

Explore the course platform and review actual content from three of the 10 tools.

Scan the code to enroll and start learning today.

95pg.info/ttt-demo

Trusted, proven literacy solutions

95percentgroup.com | sales@95percentgroup.com | 847.499.8200

95 Percent Group™

Working Memory: The Gatekeeper of Learning

Leveraging Instructional Design to Connect Mastery Stages and Cognitive Load

By Jamey Peavler

KEY TAKEAWAYS

- Effective instructional design integrates what and how to teach.
- Awareness of the characteristics of the stages of mastery can assist educators in improving assessment and instruction practices.
- Working memory is the gatekeeper of learning. When it is taxed, even the most well-designed lesson loses effectiveness.
- Reduce intrinsic load by identifying and assessing prerequisite skills. These skills should be the focus of practice and preventative instruction.
- Reduce extraneous load through explicit instruction through a part-to-whole design with scaffolded modeling and immediate feedback.

"Without knowledge of human cognitive processes, instructional design is blind" (Sweller et al., 2011, p. v). Instructional design must reflect research on WHAT and HOW to teach effectively to improve student outcomes (Figure 1). A Structured Literacy approach is built on a solid foundation of replicated research in both of these areas. When a Structured Literacy approach is implemented within a Multi-Tiered System of Support (MTSS) framework, we can reduce the number of students who may experience difficulty mastering basic literacy skills (Fien et al., 2021).

Yet, even within a strong Structured Literacy-aligned MTSS framework, some students will still need additional intervention to reach basic levels of reading proficiency. As many as 12% of general education (Deno, 2003), 30% of at-risk (Al Otaiba & Fuchs, 2002; Fien et al., 2015), and 50% of students with diagnosed disabilities (Fuchs et al., 2017) will require intensive intervention. For these students, maximizing the impact of instruction is essential, and it is possible when educators have knowledge of effective instructional design. By connecting research on stages of mastery and cognitive load, we can ensure that lesson design reflects the learning objective while considering the needs of the learner.

Cognitive Load Theory

The Cognitive Load Theory first outlined by Sweller (2011) is a guiding principle in effective instruction. It suggests that to maximize learning, educators must consider the limits of students' working memory. Sweller (2011) identified two forms of load — intrinsic and extraneous — that educators should strive to minimize in order to increase productive learning (germane load).

"Working memory is limited in capacity and duration if dealing with novel information but unlimited in capacity and duration if dealing with familiar information previously stored in a very large long-term memory" (Sweller et al., 2011, p. vii). Because working memory capacity is limited, a common analogy used to understand the implications of exceeding this capacity is an overflowing cup (Figure 2). When the learning demands (intrinsic and extraneous load) fill the cup, little space is available for learning (germane load). When students have reached their learning capacity, information may continue to be poured in during a lesson, but little remains, and much escapes the learner. The challenge with this analogy is that it implies educators are powerless to respond effectively to students with high intrinsic and extraneous loads. Instead, educators should consider working memory capacity as a funnel. The bottom of the funnel is instructional design. Through well-designed lessons that reduce these two forms of load, more space will be available for learning.

Oberauer et al. (2016) define working memory as "the system that holds mental representations available for processing" (p. 758). Working memory has a finite capacity capable of handling only three to seven new pieces of information (Sweller, 2019). This range is important to consider in the context of each stage of mastery. This constraint underscores the need for educators to carefully manage the cognitive load placed on students.

In the previous article, Brown (this issue) introduced the concept of skill progression, a framework derived from the work of Haring et al. (1978). As students advance in their skills and become more proficient (accurate and automatic), they can apply these skills to more complex tasks. However, in the early stages of skill development (acquisition), cognitive load is high, and instruction that requires students to apply these skills can be challenging. For instance, including a new phonics skill within a dictated sentence or a connected text passage within the same lesson this skill was introduced may be too taxing for

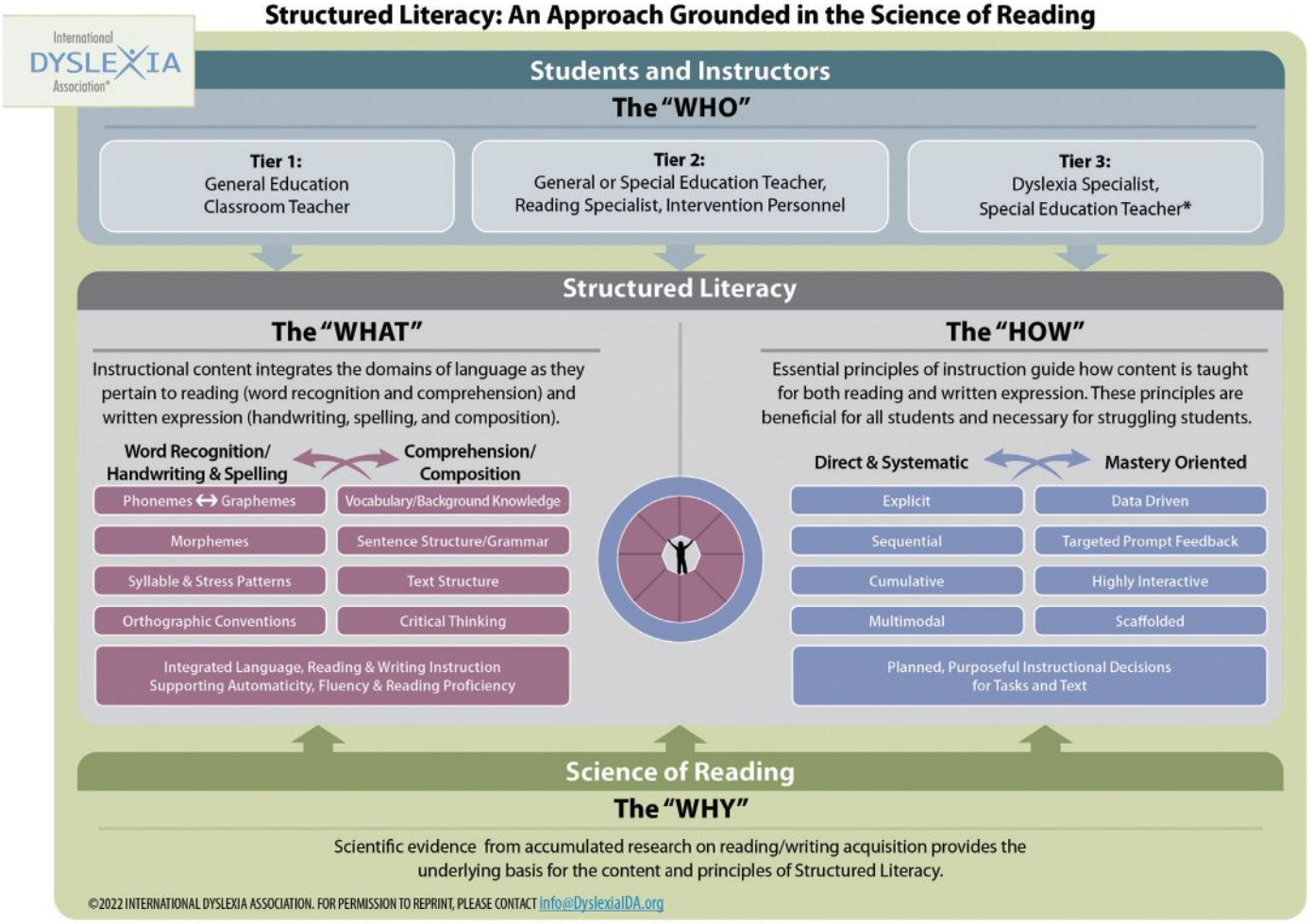
Continued on page 19

Abbreviation

MTSS: Multi-Tiered System of Support

Figure 1

Structured Literacy: An Approach Grounded in the Science of Reading



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)

Figure 2

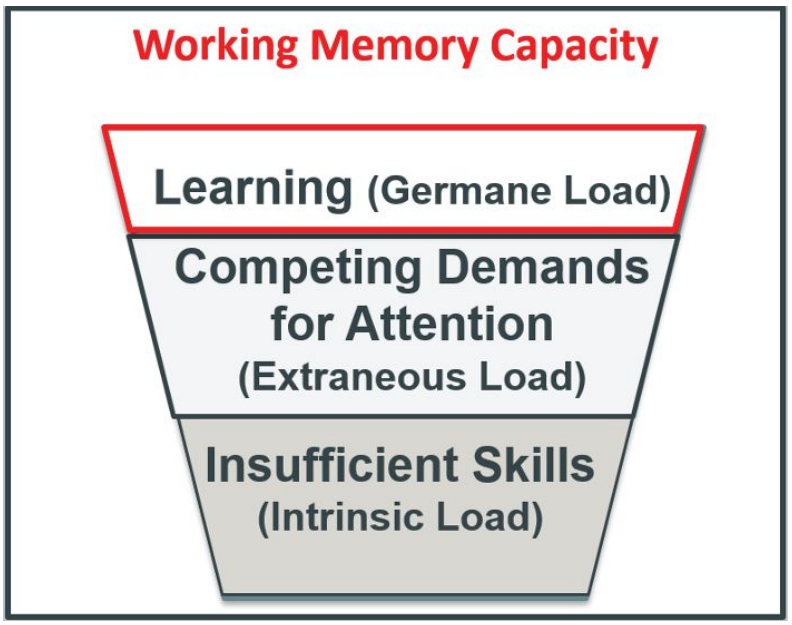


Table 1

Decoding Lesson Activities	Example	Mastery Stage
Visual Drill Quick review and retrieval practice of previously learned graphemes	*r*-controlled vowels, *ai/ay, oi/oy, c, g,* all single vowels	Fluency
Review Reading Mixed word list of recently learned skills	Mixed list of *r*-controlled, *ai/ay,* and *oi/oy* with and without soft *c/g*	Generalization
Passage Reading Connected text passage, sentences, or phrase reading based on skills 2-3 weeks behind the current lesson	Passage containing all previously learned skills excluding *ai/ay, oi/oy,* and soft *c/g*	Adaptation
Introduce A New Skill Explicit instruction of a new skill *(I do, We do, You do)*	Vowel teams *oa* (beginning or middle of a word) and *ow* (end of a word)	Acquisition
New Words to Read Blocked word list containing the new skill	Blocked list of *oa* and *ow* words	Acquisition
Encoding Lesson Activities		**Mastery Stage**
Auditory Drill Mixed list of recently learned sound spellings	Mixed list of phonemes and their graphemes	Fluency
Review Spelling Mixed word list of recently learned skills	Mixed list of *r*-controlled, *ai/ay,* and *oi/oy* with and without soft *c/g*	Generalization
New Spelling Blocked word list containing the new skill	Blocked list of *oa* and *ow* words	Acquisition
Irregular or Unfair Words *Explicit instruction of a new word* A quick review of previously taught words	New Word: both Review Deck	Acquisition & Fluency
Sentence Dictation Controlled sentence or phrase based on content 2-3 weeks behind the current lesson	*From my porch, I watch kids run in the park.*	Adaptation
Review New Skill		Acquisition

Figure 3

New Learning Objective: When adding a vowel suffix to a word ending in a silent *e*, drop the *e* before adding the suffix (E-Drop Rule).

Prerequisite Skills:

- Decodes and encodes the suffixes used in the lesson.
- Recognizes when a suffix is a vowel suffix or a consonant suffix.
- Decodes and encodes the base words used in the lesson.
- Recognizes when a base word ends in a silent *e*.

 continued from page 16

some students. Therefore, instructional design should strive to minimize the demands on working memory that might hinder the goal of increasing accuracy at the sound or word level. Across each stage of this progression, limits on working memory may be an important factor in considering why a student appears to be stuck in one stage and has difficulty progressing to the next.

In the acquisition and fluency stages, instructional materials that introduce many new skills or vary routines and procedures may strain working memory capacity and result in increased errors and decreased automaticity rates for new skills (Hultberg et al., 2018). Considering the number of new skills to introduce at one time is one way to leverage information on working memory in instructional design, but we must also consider the implications of this information on previously learned skills. Cowan (2010) explains that working memory capacity varies by task. In the generalization stage, the learner engages in more complex processes as they apply previously learned skills in the context of novel content. In the adaptation stage, they must integrate information from prior learning experiences. Tasks that require high levels of interactivity (integrating many processes, pieces of knowledge, or steps) also place high demands on working memory.

Expecting a learner to engage in these highly interactive processes with skills still in the acquisition and fluency stages would tax working memory and limit learning. Through understanding cognitive load, we can increase learning capacity through effective instructional design modeled after the limits to working memory capacity. The sample in Table 1 assumes that students have previously learned the phoneme-grapheme correspondences for *a-z*, consonant digraphs, consonant blends and clusters, magic *e* syllables, all *r*-controlled vowels, inflected endings, and soft *c/g (in that order)*. The most recently learned skills include *ai/ay, oi/oy*.

Types of Load

Intrinsic load is unique to the learner and depends upon their readiness to engage in the learning task. Intrinsic load consumes much of the available working memory capacity when a learner lacks essential prerequisite skills, has knowledge gaps, holds misconceptions related to the skill, or is not yet accurate and automatic in the subskills needed for the new learning.

Educators can reduce intrinsic load through targeted assessments and backward lesson design. Backward design begins with identifying the desired learning outcome and then sequencing the skills students must develop before engaging in new learning. If any of the prerequisite skills are in the acquisition or fluency stage, students working memory capacity will be taxed simply recalling these skills, preventing them from successfully integrating them into the new learning. Figure 3 shows the essential prerequisite skills for a new learning objective, the E-Drop Suffix Addition Rule.

Once the essential prerequisites are identified, a preassessment tool may be created to proactively identify whether a student or group of students needs targeted instruction *ahead* of the lesson to reduce intrinsic load. This model allows educators to design interventions that are proactive instead of reactive.

Extraneous load is affected by the lesson design and setting. It represents the cognitive demand the learner must dedicate to the learning task. Physical settings such as noisy and visually busy environments or poorly designed instruction or materials can increase the extraneous load. Lessons that overload students with new skills, require multiple steps, have confusing directions or explanations, lack important teacher modeling, or provide inadequate feedback and practice create high extraneous load.

Educators can reduce extraneous load through lessons that follow an explicit instruction sequence, utilize consistent routines and procedures, follow a part-to-whole sequence, use clear and concise language, and provide ample opportunities for cumulative review (Chen et al., 2018; Debue & van de Leemput, 2014; Hultberg et al.; 2018, Sweller, 2022).

Germane load is the working memory space available for learning. When lesson design aims to reduce intrinsic and extraneous load, more working memory capacity can be devoted to germane load (Figure 4). Germane load also taxes the learner in a way that results in productive learning. When students connect ideas and develop schemas for organizing information, their understanding and ability to retain new information are enhanced (Debue & van de Leemput, 2014). However, little space is left for the germane load if cognitive space is consumed by the intrinsic and extraneous load. For students in Tier 3 interventions, this is an essential consideration in overall instructional design.

Continued on page 20

Figure 4

Reduce Intrinsic Load	**Reduce Extraneous Load**
• Utilize a backward design model. • Identify essential prerequisite skills before instruction. • Pre-assess these skills to determine their stage of mastery. • Support students to reach the generalization stage of any prerequisite skills if they will be integrated into new learning.	• Utilize a part-to-whole lesson design. • Provide clear and consistent language. • Utilize consistent lesson routines. • Provide immediate feedback. • Introduce the new task or activity using explicit instruction. • Use the right form of practice for objective: – Blocked and massed practice for skills in the acquisition stage – Interleaved and massed practice in the fluency stage – Interleaved and spaced practice in the generalization and adaptation stage

Conclusion

Working memory is not a passive observer in the learning process — it is the gatekeeper, the active participant that determines the extent and quality of our learning (Sweller et al., 2011; Chen et al., 2018; Hultberg et al., 2018; Sepp et al., 2019; Sweller, 2022). It is a critical element that impacts why the learning process can be more labor-intensive for some students than others (Chen et al., 2018). By understanding the limitations of working memory, we can make sense of students' challenges when transitioning from acquisition to fluency, from fluency to generalization, and from generalization to adaptation. This is a critical consideration for educators and instructional designers for guiding the development of instructional strategies and materials that foster learning.

References

Al Otaiba, S., Wagner, R., & Miller, B. (2009). "Waiting to fail" redux: Understanding inadequate response to intervention. *Learning Disability Quarterly, 37*(3), 129–133.

Chen, O., Castro-Alonso, J. C., Paas, F., & Sweller, J. (2018). Extending cognitive load theory to incorporate working memory resource depletion: Evidence from spacing effect. *Educational Psychology Review, 30*, 483–501.

Cowan, N. (2010). The magical mystery four: How is working memory capacity limited, and why? *Current Directions in Psychological Science, 19*(1), 51–57. https://doi.org/10.1177/0963721409359277

Debue, N., & van de Leemput, C. (2014). What does germane load mean? An empirical contribution to the cognitive load theory. *Frontiers in Psychology, 5,* Article 1099. https://doi.org/10.3389/fpsyg.2014.01099

Deno, S. L. (2003). Developments in curriculum-based measurement. *Journal of Special Education*, *37*(3), 184–192.

Fien, H., Chard, D. J., & Baker, S. K. (2021). Can the evidence revolution and multitiered systems of support improve education equity and reading achievement? *Reading Research Quarterly, 56*(S1), S105–S118. https://doi.org/10.1002/rrq.391

Fien, H., Smith, J. L. M., Smolkowski, K., Baker, S. K., Nelson, N. J., & Chaparro, E. (2015). An examination of the efficacy of a multitiered intervention on early reading outcomes for first-grade students at risk for reading difficulties. *Journal of Learning Disabilities, 48*(6), 602–621. https://doi.org/10.1177/0022219414521664

Fuchs, L. S., Fuchs, D., & Malone, A. S. (2017). The taxonomy of intervention intensity. *TEACHING Exceptional Children, 50*(1), 35–43.

Haring, N. G., Lovitt, T. C., Eaton, M. D., & Hansen, C. L. (1978). *The fourth R: Research in the classroom*. Columbus, OH: Charles E. Merrill Publishing Co.

Hultberg, P., Calonge, D. S., & Lee, E. (2018). Promoting long-lasting learning through instructional design. *Journal of the Scholarship of Teaching & Learning, 18*(3), 26–43. https://doi.org/10.14434/josotl.v18i3.23179

Oberauer, K., Farrell, S., Jarrold, C. & Lewandowsky, S. (2016). What limits working memory capacity? *American Psychological Association, 142*(7), 758–799. https://doi.org/10.1037/bul0000046

Sepp, S., Howard, S., Tindall-Ford, S., Agostinho, S., Paas, F. (2019). Cognitive load theory and human movement: Towards an integrated model of working memory. *Educational Psychology Review 31,* 293–317.

Sweller, J. (2011). Cognitive load and theory. *Psychology of Learning and Motivation 55,* 37–76. https://doi.org/10.1016/B978-0-12-387691-1.00002-8

Sweller, J. (2022). The role of evolutionary psychology in our understanding of human cognition: Consequences for cognitive load theory and instructional procedures. *Educational Psychology Review 34,* 2229–2241.

Dr. Jamey Peavler *is a Co-Director and Assistant Professor in the Reading Science Graduate Program at Mount St. Joseph University. Before joining The Mount, Jamey served as the Director of Training for the M.A. Rooney Foundation, providing Orton-Gillingham training for teachers across Indiana. She was an Instructional Coach and classroom teacher for Indianapolis Public Schools for 20 years. Jamey reviews higher-education textbooks and teacher licensure exams for the National Council for Teacher Quality. She is a Certified Fellow-in-Training with the Orton-Gillingham Academy and an International Dyslexia Association Structured Literacy Dyslexia Specialist. She serves on the board for The Reading League's Indiana Chapter.*

Figure 5

Acquisition	• **Increase accuracy.** • Provide **massed** practice to increase repetition. • Use controlled **(blocked)** practice to reduce cognitive load. • **Support retrieval** through verbal and visual prompts.
Fluency	• Increase **automatic retrieval** without compromising accuracy through **massed** practice. • Support **discrimination** of skill among similar skills through **interleaved** practice.
Generalization	• Support **retention** of skill over time **(distributed practice).** • **Integrate skill** with previously mastered skills. • **Apply the skill across settings** without losing accuracy and automaticity.
Adaptation	• **Apply** the skill **in authentic contexts.** • **Engage in multistep processes** to apply the skill.

International DYSLEXIA Association®

IDA Members Matter

>Why Join?

By being a member of IDA, you will be equipped with the latest information to best position you to advocate for your child or yourself, teach students with reading difficulties, and support the people in your life with dyslexia. Your membership includes exclusive access to our extraordinary community of researchers, teachers, professionals, and parents, and will support the Structured Literacy teacher preparation and training which will help thousands of children in the years to come.

IDA MEMBERS GET MORE!

- NEW — Professional Liability Insurance
- NEW — AAA Roadside Assistance
- Networking Experiences
- NEW — IDA Publications & SWAG Box
- Free CEUs & Premium Content
- $100 Conference Discount

PROFESSIONAL • TEACHER • PARENT • ADVOCATE • SENIOR/RETIRED • STUDENT

JOIN OR RENEW TODAY!

Skill-By-Treatment Interaction
An Important Link in Instructional Design

By Matthew K. Burns

KEY TAKEAWAYS

- Effective instruction considers the prerequisite skills students will need to engage in the lesson.
- The level of accuracy and automaticity of each skill needed to engage in a learning task will impact the cognitive load students will have to manage in the learning task.
- When student outcomes do not reflect progress, practitioners should examine whether the lesson reflects the current level of mastery.

In 2010, I was faced with one of the biggest professional challenges of my career. His name was Lonnie (a pseudonym), and he was a five-year-old African-American boy who attended kindergarten at a city school with a high poverty rate. He did not pass any of the kindergarten reading screeners, and we implemented a small group intervention that focused on phonemic awareness using recommendations from the International Dyslexia Association (see https://dyslexiaida.org/building-phoneme-awareness-know-what-matters/). Fortunately, Lonnie became proficient at isolating, blending, and segmenting sounds, but he still struggled to learn grapheme-phoneme correspondences (GPCs). In fact, he did not know a single letter sound despite our consistent efforts to teach them.

What Doesn't Work

Any person who has worked with children has faced a similar challenge. Even the best instruction and proven effective interventions may not work for all students. When practitioners are not sure what to do, they should turn to science. First, science has shown us what not to do. Researchers have tried to address intense needs based on student aptitudes (e.g., auditory or visual processing, executive functioning, processing speed, working memory), which has not improved student outcomes in reading (Kassai et al., 2019; Melby-Lervåg et al., 2016; Nukari et al., 2020). Measuring or training working memory, executive functioning, processing speed and so on with students who are not learning well is not the answer.

What Does Work

Fortunately, science has shown us what to do. The International Dyslexia Association's infomap defined Structured Literacy and provided a map of *what* and *how* to teach. Brown (this issue) and Peavler (this issue) filled in two important holes by discussing the Instructional Hierarchy (IH) and cognitive load. Both constructs are important to instructional design, and each can also help determine *how* to teach.

Once progress monitoring data suggest that a student is not making sufficient progress, then the skill-by-treatment interaction framework (STI) can be used to more precisely identify *what* and *how* to teach (Burns, 2021). Interventionists should ask themselves the questions listed in Figure 1 (see Brown, this issue for more information about the phases) to help determine the phase of learning in which the student is functioning. The STI framework focuses on the first three phases of learning because it is in those phases that difficulties are most likely to occur.

Continued on page 24

Figure 1

Instructional Hierarchy Phases, Corresponding Questions, and Intervention Targets

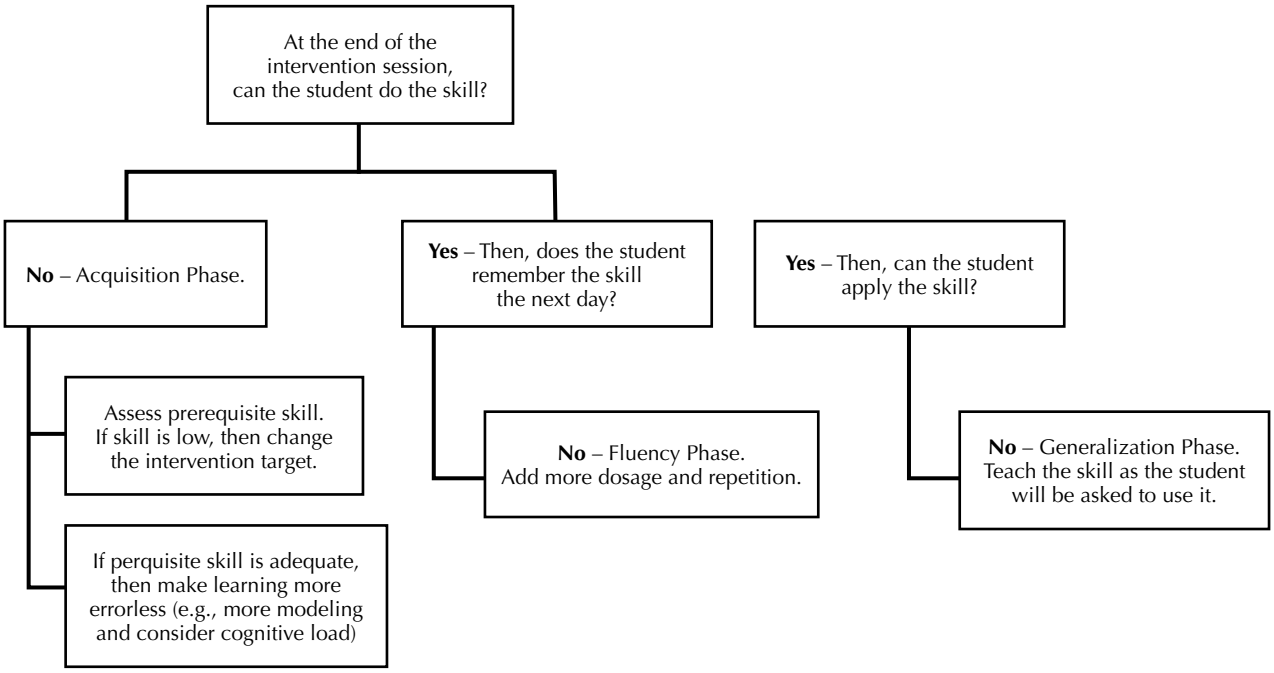
	Acquisition Phase	Fluency Phase	Generalization Phase
Diagnostic Question	At the end of the intervention session, can the student do the skill?	After initial learning, can the student do the skill the next day?	After initial learning and retention the next day, can the student apply it?
Intervention Target	Increase accuracy with more modeling or reduce errors.	Increase rate and retention with additional practice.	Increase application by practicing as the student must use the skill.

Abbreviations

AR: Acquisition rate
GPCs: Grapheme-phoneme correspondences
IH: Instructional hierarchy
STI: Skill-by-treatment

Figure 2

Flowchart for Intensification Decisions within a Skill-By-Treatment Interaction



Students in the acquisition phase need additional modeling or modifications to reduce student errors while learning. Students in the fluency phase need additional practice, and students in the generalization phase require additional support with application of the new skill. Increasing practice can be easily accomplished with more repetition or added dosage (e.g., increased minutes of intervention), and generalization can be accomplished by teaching skills within the context of how they need to be used (see Fuchs et al., 2017 for intervention strategies). However, there are more options for students who are not learning it initially that are especially relevant to instructional design.

As shown in Figure 2, if the answer to the first question (at the end of the session can the student perform the skill?) is no, then the student is not learning in the first place. All answers to that question other than "yes," (e.g., sometimes, inconsistently, it depends) are "no." When the student is not learning it in the first place, then there are two options. First, try considering *what* to teach and assess the prerequisite skills. Most of the time, when a student does not immediately learn a new skill, it is because that student has not learned the skill that precedes it (e.g., intervening for fluency when the student does not have adequate word recognition skill or intervening for reading comprehension when the student lacks fluency). If you assess the prerequisite skill, and there appears to be a deficit, interventionists should "back it up" and focus intervention efforts on that prerequisite skill.

If the data suggest that the student is adequately proficient in the prerequisite skill, the next step is to consider *how* to teach so that the student performs the skill with increased accuracy. One way to do that is to provide additional modeling and scaffolding during the initial instruction (Burns et al., 2022). The second way is to consider cognitive load (see Peavler, this issue, for a definition of cognitive load). Excessive cognitive load often leads to frequent errors. The mistakes may be in what they are learning, what they just learned, or even what they knew before they started. Three errors (an error is defined as anything other than the correct answer or the correct answer after 3 seconds elapses) while learning new information may indicate that the student has reached maximum cognitive load, which we call an acquisition rate (AR; Burns, 2001). An AR is a number that directly translates to instruction because it is the number of new items that a student can learn, rehearse, and recall before cognitive interference occurs and the student forgets what was just learned. For example, an AR of three suggests that instruction can be modified to teach three new items in each instructional set. Once instruction exceeds a student's cognitive load, as measured by AR, then not only is the student unlikely to remember what is taught next, but they are also likely to forget what they just learned. Research on AR showed that reducing the number of new items taught to match the student's cognitive load increased initial learning, retention, and time on task (Burns et al., 2021; Haegele & Burns, 2015), which makes cognitive load especially relevant for students who are in the acquisition phase of learning (not initial learning).

We determined that when it came to GPCs, Lonnie was not learning initially because he did not demonstrate the skill that had was just been taught. For example, if the lesson taught /t/, the sound for the letter t, and when shown the letter t after just being taught the sound, then he did not provide the correct sound for the letter t. Fortunately, he was proficient in the prerequisite skill (phonemic awareness), which indicated that the learning needed to be more errorless. We assessed his AR, which was one and indicated that he could only be taught one GPC in each intervention session. He started making frequent mistakes and his off-task behavior escalated at the very moment that we tried to teach more than one letter sound at a time. We also decided to further reduce cognitive load through scaffolding. We paired the letter being taught with a picture of a word that started with that sound (e.g., h was paired with a picture of a hammer). Lonnie could isolate initial sounds, which helped him because knowing that hammer started with /h/ helped him associate h and the /h/ sound.

While we were trying to solve the puzzle that was Lonnie, he received a special education evaluation to determine if he had a disability. The IQ testing scored in the intellectual disability range (IQ < 70), but his mother refused services because we had finally started seeing growth. Once we figured out how to help him, his rate of learning significantly escalated, and he learned the GPCs in just a few weeks. We kept working with him and by the end of second grade, no matter how it was assessed, Lonnie was a grade-level reader! Effective instructional design is the key to preventing reading problems and to addressing them once they occur, and the instruction for children with severe reading problems should consider the IH, cognitive load, and a STI.

References

Burns, M. K. (2001). Measuring sight-word acquisition and retention rates with curriculum-based assessment. *Journal of Psychoeducational Assessment, 19*(2), 148–157. https://doi.org/10.1177/073428290101900204

Burns, M. K. (2021). Intensifying reading interventions through a skill-by-treatment interaction: What to do when nothing else worked. *Communiqué, 50*(4), 30–32.

Burns, M. K., Aguilar, L. N., Warmbold-Brann, K., Preast, J. L., & Taylor, C. N. (2021). Effect of acquisition rates on off-task behavior of kindergarten students while learning sight words. *Psychology in the Schools, 58*(1), 5–17. https://doi.org/10.1002/pits.22429

Burns, M. K., Young, H., McCollom, E. M., Stevens, M. A., & Izumi, J. T. (2022). Predicting intervention effects with preintervention measures of decoding: Evidence for a skill-by-treatment interaction with kindergarten and first-grade students. *Learning Disability Quarterly, 45*(4), 320–330. https://doi.org/10.1177/07319487221113026

Fuchs, L. S., Fuchs, D., & Malone, A. S. (2017). The taxonomy of intervention intensity. *Teaching Exceptional Children, 50*(1), 35–43. https://doi.org/10.1177/0040059917703962

Haegele, K., & Burns, M. K. (2015). Effect of modifying intervention set size with acquisition rate data among students identified with a learning disability. *Journal of Behavioral Education, 24*, 33–50. https://doi.org/10.1007/s10864-014-9201-0

Kassai, R., Futo, J., Demetrovics, Z., & Takacs, Z. K. (2019). A meta-analysis of the experimental evidence on the near- and far-transfer effects among children's executive function skills. *Psychological Bulletin, 145*(2), 165. https://doi.org/10.1037/bul0000180

Melby-Lervåg, M., Redick, T. S., & Hulme, C. (2016). Working memory training does not improve performance on measures of intelligence or other measures of "far transfer" evidence from a meta-analytic review. *Perspectives on Psychological Science, 11*(4), 512–534. https://doi.org/10.1177/1745691616635612

Nukari, J. M., Poutiainen, E. T., Arkkila, E. P., Haapanen, M. L., Lipsanen, J. O., & Laasonen, M. R. (2020). Both individual and group-based neuropsychological interventions of dyslexia improve processing speed in young adults: A randomized controlled study. *Journal of Learning Disabilities, 53*(3), 213–227. https://doi.org/10.1177/0022219419895261

Dr. Matthew K. Burns *is the Rose & Irving Fien Endowed Professor of Special Education at the University of Florida and an Assistant Director of the University of Florida Literacy Institute. Dr. Burns has published over 200 articles and book chapters, and has co-authored or co-edited 15 books. He is a Past Editor of* School Psychology Review and Assessment for Effective Intervention. *Dr. Burns is one of the leading researchers regarding the use of assessment data to determine individual or small-group interventions, and has published extensively on response to intervention, academic interventions, and facilitating problem-solving teams. He received the 2020 Senior Scientist Award from Division 16 (School Psychology) of the American Psychological Association.*

Scaffolding Early Literacy Instruction

By Linnea Ehri, Nicole Ormandy, and Megan Gierka

KEY TAKEAWAYS

- Start with phoneme isolation tasks.
- Blend phonemes into words and segment words into phonemes.
- Connect letters to phonemes through embedded picture mnemonics.
- Begin decoding instruction with continuous blending.
- Use cross-linguistic scaffolds for English learners.

Much like the intricate scaffolds that adorn the New York City skyline, providing support and structure to buildings undergoing construction or renovation, scaffolds in reading serve as essential supports to emergent readers as they navigate the complexities of literacy acquisition. Just as scaffolds are removed from buildings when no longer needed, reading scaffolds also must be removed from instruction at an appropriate time. Over-scaffolding may hinder students' ability to move from acquiring foundational skills to generalization and fluency. Knowledgeable educators apply timely, cumulative scaffolds to optimize and accelerate early reading instruction, and remove the supports once proficiency is obtained.

Scaffold #1: Start with phoneme isolation tasks.

Emergent readers do not need to sit down for long stretches of time to practice these skills — rather, a few minutes of daily instruction are sufficient. Each task should follow an instructional routine using an *I do, we do, you do* gradual release of responsibility. There are three essential PA skills to teach: sound isolation, blending, and segmenting.

- Sound isolation: To isolate phonemes, a student needs to recognize an individual sound and note its position within the word. The progression begins at first sound > final sound > medial sound.
  - First sound — Say *keep*. What's the first sound in the word *keep*? /k/
  - Final sound — Say *frame*. What's the last sound in the word *frame*? /m/
  - Medial sound — Say *soap*. What's the middle sound in the word *soap*? /o/

Scaffold #2: Blend phonemes into words and segment words into phonemes.

To blend phonemes, a student needs to hear the individual sounds (phonemes) within a word, put the sounds together, and say the word that results. Students love to name the "magic word" that comes together from individual sounds! Begin with continuant sounds at the beginning of words, such as *m, s, f, l, n, r, v,* or *z*. Stretch and hold each sound without breaking the speech stream. Once mastered, move to words beginning with stop sounds such as *b, d, g, j, k, p,* or *t*. Begin with two-phoneme words, then progress to three-phoneme words.

- Continuant consonants blending task: What word do these sounds make: *ffffŏŏŏŏllll*? Fall.
- Stop consonants blending task: What word do these sounds make: /t/ /ŏ/ /k/? Tock.

To segment words into phonemes, a student needs to break a word into its individual sounds. Elkonin boxes are a great resource when teaching segmentation. One box represents one sound. Students can move tokens into boxes as they say each sound. Once they no longer need that scaffold, they can move graphemes (letters) into boxes to represent each sound as they say it.

- Say *shop*. What sounds are in the word shop? /sh/ /ŏ/ /p/

Teaching students to segment words into phonemes using letters teaches them to generate spellings of words by analyzing and writing the sounds they hear in words and feel in their mouths as they say the words. Also, it helps them learn correct spellings of words. Mirrors can help them detect the positions and movements in their mouths associated with each sound in the words.

Scaffold #3: Connect letters to phonemes through embedded picture mnemonics.

To help students learn associations between letters and sounds, we can recruit memory aids. Many popular phonics programs use keywords to connect letters to sounds, such as a frog image for the letter *f* or a zebra image for the letter *z*. While these methods are common for teaching grapheme-phoneme

Continued on page 28

Abbreviations

PA: Phonemic awareness
CV: Consonant-vowel
CVC: Consonant-vowel-consonant
VC: Vowel-consonant

connections, embedded picture mnemonics have proven to be more memorable for early readers (Ehri, Deffner, & Wilce, 1984; Shmidman & Ehri, 2010).

Embedded picture mnemonics refer to an instructional tool that uses a familiar picture that is shaped like the target letter and has a letter name that begins with the sound of the letter. For example, a flower drawn in the shape of *f* whose letter name begins with */f/*. Other examples are a lamp drawn as lowercase *l* with a shade on top saying */l/*, or wings drawn as *w* cueing the initial sound */w/*.

In a study, Ehri et al., (1984) found that children taught with embedded letters learned letter-sound associations better than children taught with pictures that did not look like the letters but began with the sound of the letters (e.g., *was* a *wagon*). More recently, Roberts and Sadler (2019) found that embedded letter character instruction produced superior learning of letter sounds compared to instruction that did not include letter shapes.

Figure 1

S Mnemonic

This is an example of the AIM Animated Alphabet developed by the three authors of this article. The embedded letter mnemonic is snake, whose initial sound is the most common sound of s and whose shape conforms to the shape of the letter. Note that the bare letter is paired directly with the mnemonic to support recall. Mnemonics such as these have been found to help beginning readers connect letters to their sounds. Once the letter-sound association has been mastered, the mnemonic is no longer needed as a scaffold, and only the bare letter is shown.

Scaffold #4: Begin decoding instruction with continuous blending before moving on to other blending techniques.

Decoding instruction can be introduced once students have mastered a few consonant and vowel grapheme-phoneme relations. It does not have to be delayed until all the letter-sounds are learned. Once students have learned *s, m, a,* and *t,* they can be taught to decode words containing these letter-sounds. Such instruction includes sounding out and blending words with two and three letters, for example, *am, sam, at, sat, mat*. As more grapheme-phoneme relations are taught, this expands the number of words students can practice decoding.

As mentioned above, the decoding procedure is easier for students to learn if they are taught to decode first with continuant consonants. Once they master decoding with these, then the transition to stop consonants is much easier (Gonzalez & Ehri, 2021). First, students are taught to decode by stretching and connecting continuant sounds without breaking between the sounds, for example, *fffffaaaaaannnnn, fan*. Once students can blend words with continuant consonants and short vowels, then they practice applying the same procedure to decode words with stop consonants. Results of the study showed that teaching students to stretch and connect sounds rather than break between sounds reduced errors in remembering the sounds when they were blended. Also, it reduced interference from schwa vowels attached to stop consonants when these sounds were blended.

- Continuant consonants: */f/, /h/, /l/, /m/, /n/, /r/, /s/, /v/, /w/, /y/, /z/*
- Stop consonants: */b/, /k/, /d/, /g/, /j/, /k/, /p/, /t/*

Students can practice decoding CV (consonant-vowel), VC, and CVC words. This expands the list of words available to practice. However, letters such as *h, w, y,* and *q* only occur in the initial positions of CVC words. The letter *x* only occurs in the final position. When *r* occurs in the final position of words, it often alters the short vowel sound (e.g., *bat* vs. *bar; sick* vs. *sir*).

Scaffold #5: Use cross-linguistic scaffolds for English learners.

When working with English learners, the Tier I vocabulary that accompanies the embedded mnemonic approach for teaching letter-sound relations is an added benefit for students' oral language development. Depending on students' home language, some sounds will be familiar because they exist in both languages, while some sounds will be new or nonexistent in the home language. Teachers should distinguish between these two types of sounds for learners, using the native language as a scaffold, and provide targeted instruction to clarify how unfamiliar sounds are pronounced with repeated practice in PA and decoding tasks.

References

Boyer, N. & Ehri, L. (2011). Contribution of phonemic segmentation instruction with letters and articulation pictures to word reading and spelling in beginners. *Scientific Studies of Reading, 15*(5), 440–470.

Ehri, L. C., Deffner, N. D., & Wilce, L. S. (1984). Pictorial mnemonics for phonics. *Journal of Educational Psychology, 76*(5), 880–893. https://doi.org/10.1037/0022-0663.76.5.880

Ehri, L., Gierka, M., & Kingsland-Ormandy, N. (2022). *AIM animated alphabet: Picture embedded mnemonic cards*. Academy in Manayunk.

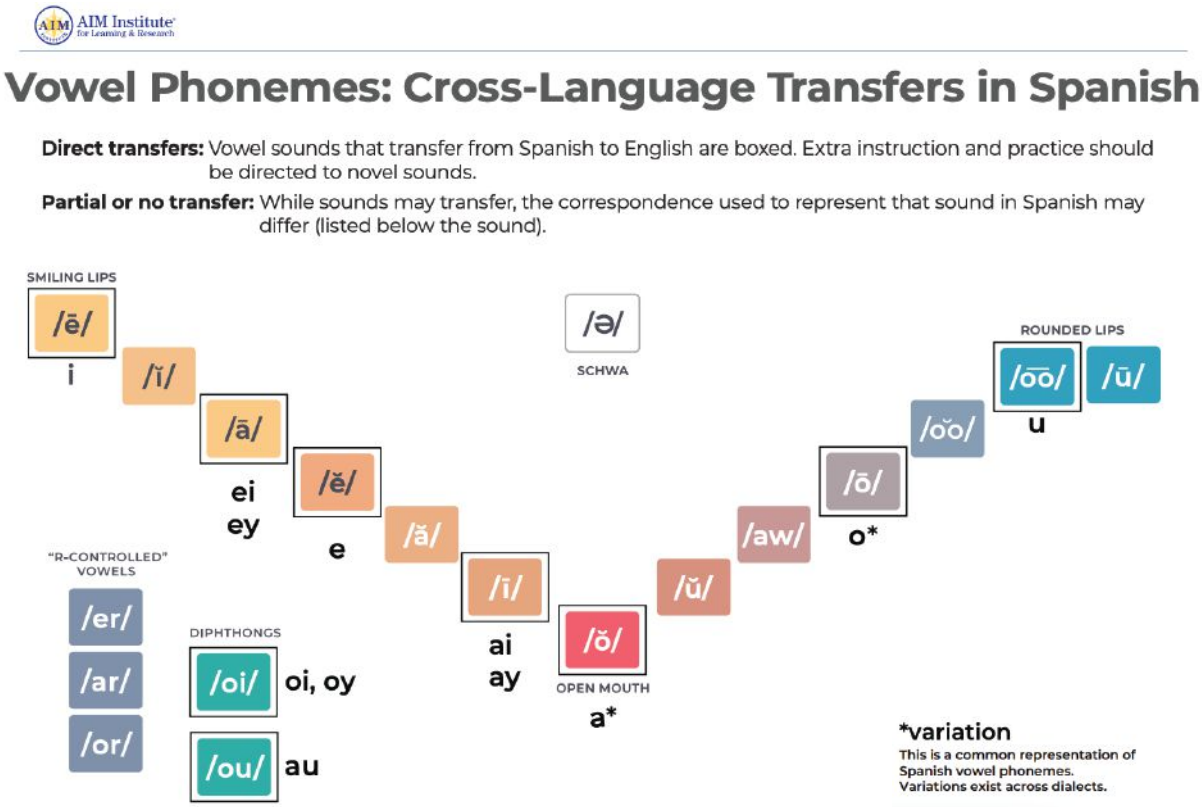
Gonzalez-Frey, S. M., & Ehri, L. C. (2021). Connected phonation is more effective than segmented phonation for teaching beginning readers to decode unfamiliar words. *Scientific Studies of Reading, 25*(3), 272–285.

Roberts, T., & Sadler, C. (2019). Letter sound characters and imaginary narratives: Can they enhance motivation and letter sound learning? *Early Childhood Research Quarterly, 46*, 97–111.

Shmidman, A. & Ehri, L. (2010). Embedded picture mnemonics to learn letters. *Scientific Studies of Reading, 14*, 159–182.

Figure 2

Vowel Valley With Cross-Linguistic Connections



This multilingual vowel valley, developed in tandem with Dr. Elsa Cárdenas-Hagan, depicts boxes around direct vowel transfers between Spanish and English with grapheme-representations in Spanish listed underneath the phoneme.

***Linnea Ehri, Ph.D.**, is Distinguished Professor Emerita at the Graduate Center of the City University of New York. She has published many studies on literacy acquisition and instruction that clarify how children learn to read and spell words, phases of development in acquiring reading and spelling skills, and how orthographic mapping explains the storage of sight words in memory by application of phonics skills. She has received several awards for her research.*

***Nicole Ormandy, M.S. Ed.**, is the Head of Research and Product Development at AIM Institute for Learning and Research. In this role, Nicole regularly consults with researchers and literacy experts across the nation to synthesize and disseminate practical information and evidence-based strategies through presentations and professional learning course content. Nicole was previously an Elementary and Special Education teacher.*

***Megan Gierka, Ed.D.**, is the Head of Implementation Strategy at AIM Institute for Learning and Research. In this role, Megan provides implementation support using an evidence-aligned blueprint to foster sustainable literacy success. Translating research into practice and policy, Megan specializes in early literacy, second language acquisition, MTSS, and implementation science. With over a decade of experience in public education, she has served as a teacher, Title I reading specialist, and instructional coach.*

Integrating Language and Literacy Instruction for the English Learner

By Antonio A. Fierro

KEY TAKEAWAYS

- **Oral language is an essential scaffold for English learners that can render input comprehensible.**
- **Oral language scaffolds allow for all language systems of English to be integrated throughout the instructional day.**
- **Language variability among English learners can be significant; teachers must understand and acknowledge the linguistic assets that students bring to the classroom.**
- **Teacher knowledge is imperative, as English learners possess diverse backgrounds, literacy needs, and language levels, including home language.**

English learners (ELs) are an essential, growing, and significant segment of our educational landscape, and educating them to become literate requires a dynamic approach that ensures all students gain the skills needed for a globalized world. The academic goal of society is to provide every student with the tools needed to become active, responsible, and contributing members. This goal emphasizes our educational system's dedication to nurturing skills, knowledge, and values, regardless of a student's background, academic ability, or language proficiency. This work involves considerable cognitive efforts that can only be facilitated by trained teachers (Short & Fitzsimmons, 2007; Council of Great City Schools, 2023).

Despite the challenges educators face with students of diverse linguistic backgrounds and the lack of resources and support to meet English learners' needs, the field is slowly moving in the right direction, with practitioners ensuring production of high-quality instructional material and paying close attention to language variability from the onset. In addition, a structured literacy approach — comprised of explicit and systematic instruction in phonology, orthography, syntax, semantics, pragmatics, discourse, and morphology — paired with strategic oral language development that includes structured practice opportunities for producing language offers a comprehensive approach to meet the needs of ELs more effectively (Baker et al., 2014; Adlof & Hogan, 2019).

The term "English learner" will be used to refer to any student whose primary language is not English, whose English skills are not sufficient to be successful in the classroom, and who has not yet tested proficient in English. This definition aligns with the current Every Student Succeeds Act and is not intended to diminish or disregard terms such as "multilingual learner" that are more inclusive of students' linguistic assets.

The education community has been seeking the magic formula or the silver bullet that answers the all-encompassing and extremely challenging question, "How best do we teach our English learners?" Like their English-speaking peers, English learners must also develop literacy skills that guarantee they comprehend what they are reading and, most importantly, have the skills to become critical thinkers of the content read (Muhammad, 2020).

The role of a well-trained teacher with a deep knowledge of both language acquisition and literacy development cannot be underestimated. The key to effectively teaching both constructs is recognizing that it is not one or the other; it is both. It is critical that the literacy development skills evident in Scarborough's Rope should also be part of the instruction for the English learner (Gough & Tunmer, 1986; Adlof & Hogan, 2019). Language acquisition, however, takes on an additional element: the development of oral language skills.

Continued on page 32

Abbreviation

EL: English learner

Oral language skills are fundamental to every child's development. For English learners, oral language must be embedded throughout the instructional day. Oral language skills include receptive skills that assist students in understanding speech and productive skills that help convey meaning through practice with the spoken word.

As students apply their developing listening and speaking skills to interact with others, they learn several critical aspects of language and communication:

- The sounds of the language.
- Sentence structure to include grammar, syntax, and sentence formation.
- General norms of discourse.

Generally, English-speaking peers are already proficient in these skills. For English learners, oral language skills must be the common thread that integrates all language components — the "WHAT" of structured literacy — throughout the instructional day. For ELs, navigating the nuances of a new language, the "HOW" or the explicitness and intentionality of the instruction, provides an integrated or interconnected approach that can guarantee that essential principles of instruction guide how content is being taught. This is true for both reading and written expression.

Where to Begin: A Look at Translanguaging

First, it is essential to identify and support the cultural, social, emotional, experiential, and linguistic assets that students bring when entering school. While these assets can significantly affect the learning process, a primary focus should be placed on identifying a student's collection of linguistic assets. These assets can substantially contribute to oral language development and foundational literacy skills acquisition, especially if students are able to and encouraged to think in multiple languages simultaneously. This is the essence of translanguaging.

A translanguaging pedagogy framed around oral language development encourages students to fluidly draw from their entire linguistic repertoire, using multiple languages interchangeably to communicate, comprehend, and express themselves. In literacy settings, the more a teacher knows about the student's home language, the more beneficial it can be. This understanding of a student's home language can assist teachers in determining 1) which elements of language (e.g., phonemes) might transfer from the home language to English, 2) which elements do not fully transfer, and 3) which elements do not exist in the home language, making a transfer of the skill an impossibility. When teachers have a basic understanding of the student's home language and the structure of English, students will benefit from the language insights the teacher provides.

If the skills can be transferred from one language to another, a brief explanation supported by spoken language practice may be enough. The teacher can then proceed to extended practice opportunities. If the skills are nonexistent or may cause confusion upon transfer, explicit instruction of that skill with extended spoken language practice will be needed. Regardless of whether the skill is easily transferable or not, the common denominator across all learning situations is intentional, extended oral language practice.

The Deciding Factor

The variability of linguistic assets among English learners is so wide that a new mindset must be in place to ensure all language systems of English (phonology, semantics, morphology, syntax, pragmatics, oral and written discourse, and orthography) are integrated within the instruction. Oral language development must be the essential component that guarantees all systems are integrated and that both code-based and language-based skills are targeted throughout the instructional day.

A common concern in many EL classrooms across the EL community is the need to teach foundational English literacy skills (e.g., phonemic awareness, phonics, and fluency) via "meaningful context." Unfortunately, the field has done a poor job of defining what is meant by "meaningful context" and leaves it to the classroom teacher to define. On the surface, this implicit teaching approach might be supported if not for the fact that foundational skills need to be taught explicitly and systematically. This means the instruction follows a planned sequence that ensures prerequisite skills are taught before progressing to the most advanced skills. This planned instruction is counter to the haphazard approach that requires teachers to identify what "meaningful context" means. The challenge is ensuring that the foundational skills are taught explicitly and sequentially, adding extensions of spoken language practice while maintaining the integrity of the lesson.

Re-Envisioning Instruction

Consider the challenges of language variability when working with English learners. In a typical phonemic awareness lesson, the teacher can break down the directions for the activity into smaller, manageable chunks depending on students' language capacity. While one student may have the vocabulary level to properly manage the input received at both the word and sentence level, others may need more repetition and scaffolds such as illustrations, pictures, or even slower teacher talk to help them understand word boundaries. After the directions have been given, students should be asked to paraphrase them back to the teacher. Teachers should listen carefully, and depending on the level of language acquisition, additional teacher scaffolds such as longer wait times may be needed.

The intentionality of the added oral discourse promotes the "HOW" of structured literacy, while pictures, illustrations, or realia can enhance vocabulary growth. It is essential to remember that oral language is the common fabric among all scaffolds.

The following phonemic awareness lesson is modified below by adding one to two minutes of oral discussion while maintaining lesson integrity:

Listen	**Teacher:** Say the word "duck." **Students:** Duck.
Repeat	**Teacher:** Turn to a shoulder partner and say the word "duck." **Students:** Duck. **Restating content words further enhances phonological processing (Moats, 2003)*
Define	**Teacher:** "Duck" is a multiple meaning word. You may have seen ducks swimming at the pond [show visual]. **This is a multiple meaning word. Realia strategies, such as visuals, and total physical responses (body movements) support internalizing the meaning of words.*
Transfer	**Teacher:** How do you say "duck" in your home language? **Student:** Pato. (Spanish)
Discuss	**Teacher:** Let's listen to a sentence with the word "duck." Repeat after me: The duck is swimming in the pond. **Students:** The duck is swimming in the pond. **Teacher:** Try to make your own sentence. **Students:** The duck is yellow. **Additional scaffolds to support oral sentence formation include sentence stems, such as The duck is ____.*
Segment	**Teacher:** Listen as I segment the word "duck": /d/ /u/ /k/. You try. **Students:** /d/ /u/ /k/

Ultimately, the phoneme skill being taught should be combined with teaching the grapheme that represents the speech sound. Explicit phonics instruction should support the phoneme lesson to ensure that English learners can learn that it may be a group of letters representing any English phoneme. The connection between the phoneme and grapheme is vital for ELs, especially if their home language has a more transparent orthographic system, a consistent connection between one letter and one speech sound. The teacher can take the prompt and use it in another sentence. The sentence can be written down and read together with the students.

When working on phonology with English learners, it is essential to consider that phonetics (the articulatory properties of any phoneme) and phoneme position of occurrence (where the phoneme is found within a word) may differ between English and the students' home languages (Nash, 1977). For example, the stop consonant phonemes are similar in English and Spanish. The similarity stops there. Although all the English consonant stops can be found in the initial and final positions in words, these same stops are never found in the final position in words in Spanish (Nash, 1977; Muñoz-Basols et al., 2017).

In the case above, instruction should consist of modeling and describing how phonemes are pronounced, especially when the phoneme does not exist in the home language, or there is a phoneme positionality difference between the languages. Through strategic use of oral discourse as exemplified above, a teacher can guarantee that students receive comprehensible instruction.

Final Thoughts

For decades, educators, researchers, and policymakers have focused on identifying the best instructional approaches for working with English learners. Providing students with effective and equitable education is paramount, as it impacts their academic success and integration into the broader society. However, the challenge teachers face is formidable. Many variables, such as age, language development in the home language, cultural backgrounds and life experiences, and teachers' understanding and experience with the linguistic underpinnings of literacy must be considered in the instructional equation.

Although there may not be a one-size-fits-all curriculum for teaching English learners, the power of oral language can be the determining factor that binds language acquisition to literacy development. By intentionally using oral language to scaffold, describe, explain, and make meaning, teachers can create a supportive and rich learning environment. This approach ensures ELs develop the foundational literacy skills necessary for academic success while acquiring and mastering the English language.

References

Adolf, S. M., & Hogan, T. P. (2019). If we don't look, we won't see: Measuring language development to inform literacy instruction. *Policy Insights from the Behavioral and Brain Sciences*, *6*(2), 210–217.

August, D., & Shanahan, T. (Eds.). (2006). *Developing literacy in second-language learners: Report of the National Literacy Panel on language-minority children and youth*. Hillsdale, NJ: Lawrence Erlbaum Associates Publishers.

Baker, S., Lesaux, N., Jayanthi, M., Dimino, J., Proctor, C. P., Morris, J., Gersten, R., Haymond, K., Kieffer, M. J., Linan-Thompson, S., & Newman-Gonchar, R. (2014). *Teaching academic content and literacy to English learners in elementary and middle school* (NCEE 2014-4012). Washington, DC: National Center for Education Evaluation and Regional Assistance (NCEE), Institute of Education Sciences, U.S. Department of Education. Retrieved from the NCEE website: http://ies.ed.gov/ncee/wwc/publications_reviews.aspx

Cárdenas-Hagan, E. (2020). *Literacy foundations for English learners: A comprehensive guide to evidence-based instruction*. Brooks Publishing Co.

Council of the Great City Schools. (2023, Spring). *A framework for foundational literacy skills instruction for English learners: Instructional practice and materials considerations*. https://www.cgcs.org/cms/lib/DC00001581/Centricity/Domain/35/CGCS_Foundational%20Literacy%20Skills_Pub_v14.pdf

Ellis, C., Holston, S., Drake, G., Putman, H., Swisher, A., & Peske, H. (2023). *Teacher prep review: Strengthening elementary reading instruction.* Washington, DC: National Council on Teacher Quality.

Gersten, R., Dimino, J., & Jayanthi, M. (2008). *Reading comprehension and vocabulary instruction: Results of an observation study of first-grade classrooms*. Paper presented at the annual meeting of the Society for the Scientific Study of Reading, Asheville, NC, July 10-12, 2008.

Gough, P. B., & Tunmer, W. E. (1986). Decoding, reading, and reading disability. *Remedial and Special Education, 7,* 6–10.

Kamil, M. L., Borman, G. D., Dole, J., Kral, C. C., Salinger, T., & Torgesen, J. (2008). *Improving adolescent literacy: Effective classroom and intervention practices: A practice guide* (NCEE #2008-4027). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc

Krashen, S. (2003). *Explorations in language acquisition and use*. Portsmouth, NH: Heinemann.

Continued on page 34

 continued from page 33

Moats, L. C., & Foorman, B. R. (2003). Measuring teachers' content knowledge of language and reading. *Annals of Dyslexia, 53,* 23–45.

Muhammad, G. (2020). *Cultivating genius: An equity framework for culturally and historically responsive literacy*. Scholastic.

Muñoz-Basols, J., Moreno, N., Taboada, I., & Lacorte, M. (2017). *Introducción a la lingüística hispánica actual: Teoría y práctica*. Routledge.

Nash, R. (1977). *Comparing English and Spanish: Patterns in phonology and orthography*. Regents Publishing Company, Inc.

National Center for Education Statistics. (2023a). English Learners in Public Schools. *Condition of Education*. U.S. Department of Education, Institute of Education Sciences. Retrieved August 2023, from https://nces.ed.gov/programs/coe/indicator/cgf

National Center for Education Statistics. (2023b). Public School Enrollment. *Condition of Education*. U.S. Department of Education, Institute of Education Sciences. Retrieved August 2023 from https://nces.ed.gov/programs/coe/indicator/cga

Short, D. J., & Fitzsimmons, S. (2007). *Double the work: Challenges and solutions to acquiring language and academic literacy for adolescent English language learners – A report to Carnegie Corporation of New York*. Washington, DC: Alliance for Excellent Education.

U.S. Census Bureau. (2010). *2013 American Community Survey*. Accessed from S. Ruggles, J. T. Alexander, K. Genadek, R. Goeken, M. B. Schroeder, and M. Sobek. Integrated public use microdata series: Version 5.0 [Machine-readable database]. Minneapolis, MN: University of Minnesota.

Vaughn, S., Mathes, P., Linan-Thompson, S., Cirino, P., Carlson, C., Pollard-Durodola, S., Cárdenas-Hagan, E., & Francis, D. (2006). Effectiveness of an English intervention for first-grade English language learners at risk for reading problems. *Elementary School Journal, 107*(2), 153–180.

Wilson, B. (2024). Structured literacy: An integrated approach to the science of reading. *Perspectives on Language and Literacy*, *50*(1), 32–47.

Antonio A. Fierro *is the Vice President of Professional Learning and Academics with the 95 Percent Group and co-author of Kid Lips, a phonetics curriculum for young children. For almost 20 years, he was a member of the national LETRS cohort of literacy consultants led by Dr. Louisa Moats. Dr. Fierro currently sits on the national board of The Reading League and the advisory board of LETRS 3rd edition.*

Structured Literacy Defined

STRUCTURED LITERACY'S ORIGIN STORY

In 2014, The International Dyslexia Association (IDA) coined the term ***Structured Literacy*** to differentiate the evidence-based reading instruction outlined in IDA's Knowledge and Practice Standards (KPS) from instruction lacking scientific support (e.g., whole language and balanced literacy).

The term was quickly embraced, resonating with educators, parents, and reading scientists. For the next decade, IDA conducted webinars and presentations and published fact sheets, infographics, briefs, and articles to advance and deepen knowledge about Structured Literacy's instructional content and practices. Nevertheless, concerns emerged that the term might become another educational buzzword—a Rorschach ink blot into which anyone could project any interpretation, idea, or practice. This has led IDA to **(a)** refine its Structured Literacy Wheel, **(b)** create the Structured Literacy InfoMap, and **(c)** develop a definition of Structured Literacy. We are pleased to unveil this definition here!

IDA'S STRUCTURED LITERACY WORKING DEFINTION

Structured Literacy is a comprehensive, integrated approach to reading and writing instruction that directly and systematically builds on and develops oral language while explicitly teaching the structure of written language. Using this evidence-based approach, educators integrate the teaching of the foundational and higher-order skills and knowledge needed to develop proficient reading comprehension and written expression.

* * *

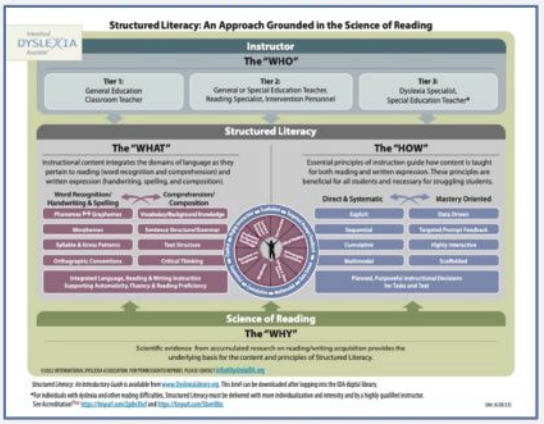
Going Deeper - Structured Literacy is an instructional approach, not a program. However, to deliver this comprehensive instruction, educators often systematically integrate one or more programs. Using this approach, educators teach and develop the domains of oral language (i.e., phonology, morphology, semantics, syntax, and pragmatics) and their representation in written language (i.e., orthography). With explicit, diagnostic, and data-driven teaching and practice, students develop the knowledge, skills, and fluency needed for proficient reading and writing.

The dynamic interplay between Structured Literacy's integrated content (WHAT is taught) and its powerful teaching principles (HOW content is taught) benefits all students, including advanced and linguistically diverse learners. Structured Literacy instruction is, however, essential for those who need extra support as they learn to read and write.

Learn more, visit: dyslexiaIDA.org & dyslexialibrary.org

IDA'S STRUCTURED LITERACY WHEEL

IDA'S STRUCTURED LITERACY INFOMAP



For free downloads of IDA's Structured Literacy Wheel and InfoMap, visit → **shopida.org**

WHY "WORKING?"

*Upon completing a final polish of the **Structured Literacy Wheel & InfoMap** (currently being beta tested), IDA will revisit the **Structured Literacy Working Definition** to ensure alignment across these materials. We anticipate completing this work in 2025. Given this and because IDA responds to ongoing advances in reading science, we suggest that entities establishing policies based on IDA's Structured Literacy Definition adopt language stating such policies are founded on this definition "as updated by the International Dyslexia Association from time to time."*

dyslexiaida.org

Structured Literacy Instruction for Multilingual Learners: Improving Language and Literacy Outcomes with the PLUSS Framework

By Julie Esparza Brown, Amanda K. Sanford, and Christopher J. Pinkney, Portland State University; and Megan Gierka and Nicole Ormandy, AIM Institute

KEY TAKEAWAYS

- The WHO: The multilingual (ML) population is rapidly growing and faces a demanding dual cognitive load when learning new content in a new language.
- The WHAT: The PLUSS framework is designed to help teachers with **lesson preparation and instruction** to improve both language and literacy.
- The HOW: PLUSS can be **applied to existing structured literacy instruction** utilizing a small number of lesson enhancements.
- The WHY: The PLUSS framework bridges structured literacy principles with **evidence-based culturally and linguistically aligned practices** for MLs.
- The WHERE: Collaboration between literacy specialists, classroom teachers, and English language development specialists is needed to make purposeful decisions **across tiers of instruction.**

Instructional Needs of Multilingual Learners

Multilingual learners (MLs) are a rapidly growing population of students (NCES, 2023) who face a dual cognitive load: needing to learn content in a new language (Goldenberg, 2008). This means that their teachers need to be equipped with the dual teaching skills of teaching both content and the language needed to support content acquisition. Structured literacy (i.e. explicit and systematic instruction) has been shown to be effective for multilingual learners as well as monolingual English speakers (e.g. Ludwig et al., 2019; Richards-Tutor et al., 2016; Solari et al., 2022).

However, the National Literacy Panel for Language Minority Children and Youth (August & Shanahan, 2006) identified key adjustments that are necessary to accelerate learning among MLs with respect to oral language proficiency and cross-language transfer. Implementing these linguistic supports requires specialized teacher knowledge, yet only 3% of teachers have the necessary qualifications to teach MLs (Karim et al., 2017). This places a demand for general and special education teachers to understand second language and literacy development (Artzi et al., 2022; Wei et al., 2023) and to possess strategies that advance literacy outcomes within a Multi-Tiered System of Supports (MTSS [Project ELITE et al., 2018; Project LEE et al., 2021]).

The PLUSS Framework

One way to approach supporting teachers to address the needs of MLs is to use a common framework. To that end, the PLUSS framework (Brown et al., 2023; Sanford et al., 2012) is usable and accessible for teachers across all tiers of instructional support, from general education (tier 1), to intervention (tiers 2 and 3), to specially designed instruction in special education (Artzi, 2022). The PLUSS framework merges both the science of reading (e.g. Foorman et al., 2016; National Reading Panel Report, 2000) alongside what we know is effective instruction for supporting the learning of MLs (e.g. August & Shanahan, 2006; Baker et al., 2014; Gersten et al., 2007).

PLUSS stands for: **P**reteach critical vocabulary, prime background knowledge, and make cultural connections; **L**anguage modeling, instruction, and opportunities for practice, **U**se visuals and graphic organizers, **S**ystematic and explicit instruction; and **S**trategic use of home/native language, culture, and teaching for transfer (Brown et al., 2023). It is an evidence-based overlay for instruction and intervention that capitalizes on and aligns with the linguistic, cultural, and experiential resources of MLs. It is not a replacement for instruction or intervention programs, but rather an enhancement meant to address the needs of MLs (hence the acronym PLUSS).

Continued on page 38

Abbreviations

ELs: English learners
MLs: Multilingual learners
MTSS: Multi-Tiered System of Supports
RTI: Response to Intervention

 continued from page 37

To use the PLUSS framework, we suggest that teachers select a small number of adjustments that will have the strongest impact and be most time-efficient to support ML student learning and maintain the focus of the lesson on teaching key content and language. While it is critical to maintain overall fidelity to evidence-based instructional programs, to ensure student's linguistic and cultural needs are addressed it may be necessary to make small and systematic adjustments (Kearns et al., 2014). Ideally, for most educators, PLUSS enhancements are designed to be just-in-time supports that do not require an extensive amount of pre-planning. District teams or curriculum developers may choose to invest more intensive time in planning enhancements that are shared with teachers when more comprehensive adjustments are required.

Table 1 defines each component of the PLUSS framework, provides questions for consideration to address each component of PLUSS, and provides examples of how the components could be applied in practice. We hope that this resource will help the framework be accessible and usable to a wide range of teachers.

Conclusion

The PLUSS framework was designed to create a user-friendly framework to address the instructional needs and linguistic and cultural contexts of MLs. It is most effective when used with evidence-based instructional practices within the context of MTSS. Teachers and school teams can use the following resources to plan instruction (lesson plan format; Artzi et al., 2023), deliver instruction, and reflect to improve teaching in support of multilingual learners (video self-reflection). PLUSS lesson planning documents can be used as a guide for teachers to think through key elements to improve instruction for MLs. The video self-reflection process can be used to collaborate, implement, and reflect on the current effectiveness of instruction for MLs (Project ELLIPSES et al., 2020). MTSS for MLs resources can be used to improve the entire system of support for MLs (Project ELITE² et al., 2021; Project LEE et al., 2021). Together, these resources can build upon teachers' knowledge and their effectiveness at improving the language and literacy outcomes for MLs.

References

Archer, A. L., & Hughes, C. A. (2011). *Explicit instruction: Effective and efficient teaching*. Guilford Press.

Artzi, L., Hsin, L. B., Sanford, A. K., Brown, J. E., & Guin, S. (2022). Meeting the language needs of emergent multilingual students at risk for learning disabilities through multitiered systems of support. *Learning Disabilities Research & Practice, 37*(3), 189–203. https://doi.org/10.1111/ldrp.12288

August, D., & Shanahan, T. (2006). *Developing literacy in second-language learners: Report of the National Literacy Panel on language minority children and youth*. Erlbaum.

August, D., Uccelli, P., Artzi, L., Barr, C., & Francis, D. J. (2021). English learners' acquisition of academic vocabulary: Instruction matters, but so do word characteristics. *Reading Research Quarterly, 56*(3), 559–582. https://doi.org/10.1002/rrq.323

Continued on page 49

CLICKABLE LINKS

PLUSS Lesson Planning

1. **PLUSS Lesson Plan** (Blank and Example, Google Doc)
   - Blank PLUSS Lesson Plan (PDF)
   - Completed PLUSS Lesson Plan (Compare and Contrast PDF)
   - Link to Video Example of Teaching
2. PLUSS Lesson Plan Booklets

Video Self Reflection Process

1. Video Self Reflection Form
2. Video Self Reflection Process
   - Part 1 Slides (Plan and Prepare)
   - Part 2 Slides (Reflect and Debrief)

MTSS for MLs

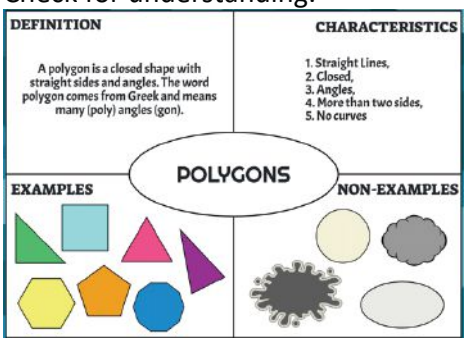
1. Multitiered System of Supports for English Learners: Literacy Implementation Rubric
   - MTSS Scoring Worksheet
   - MTSS Action Plan
2. Link to Brief: Multi-Tiered System of Supports for Multilingual Learners Using Culturally and Linguistically Aligned Practices
3. Link to MTSS for MLs/ELs: Model Demonstration Briefs

Table 1
PLUSS: Definitions, Questions to Consider, and Examples*

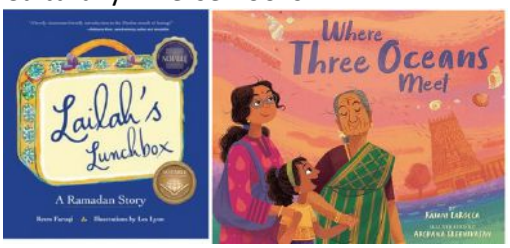
Lesson Content and Language Objectives	
Questions instructors should consider for identifying content objectives	● **What will students know or be able to do as a result of the lesson?** ○ How will I know if they've done it?
Questions to consider for identifying language objectives	● **What language do students need to communicate their content knowledge?** ○ What are students' current levels of language proficiency?

Pre-teach critical vocabulary, prime background knowledge, and make cultural connections	
Definition	Identify and pre-teach vocabulary and build background knowledge critical to understanding content, and make connections to prior learning, experiences, and culture. Teach word-learning strategies to support understanding and word usage in context.
Questions to consider for pre-teaching vocabulary	● **Which words are critical to understanding text?** ○ Which words can be taught with a simple synonym, visual, or fast mapping? ○ Are there words that need to be taught deeply? ○ What strategy will we teach students to identify unknown words and clarify meaning?
Examples of pre-teaching vocabulary	1. **Fast mapping:** Provide a fast map/visual for vocabulary words needing to be quickly defined. 2. **Teach students to identify unknown words:** Students pre-read and highlight words they don't know so the teacher can quickly define them. 3. **Word learning strategies:** Teach morphemic, syntactic, and contextual analysis.

Key:	• **Questions all instructors can answer (All)**	• Taking a level deeper to apply the concept (Most)	• *More in-depth knowledge required (Extend)*

Examples of pre-teaching vocabulary, *continued*	4. **Deep vocabulary instruction:** A. Teach students to pronounce the word. B. Provide student-friendly definition part of speech. C. Use examples and non-examples. D. Check for understanding. 
Questions to consider for priming background knowledge	● **What background knowledge is needed to understand/learn the content and language objectives?** ○ Can students' existing knowledge be extended by identifying larger themes that correlate with their experiences? ○ *Whose knowledge is being privileged?*
Examples of priming background knowledge	1. Review prior taught information and make connections to prior relevant learning. 2. Pre-read an informational text that provides information about the topic being discussed. 3. Show a brief video providing background knowledge relevant to text. 4. Use video, informational text, and experiential learning to expand background knowledge and expand curriculum.
Questions to consider for making cultural connections	● **Are there concepts that have different/same meanings across students' cultures?** ● How can we engage with students and families to learn about their backgrounds and experiences?
Examples of making cultural connections	1. Read aloud a culturally relevant text that includes the concept taught, either as a part of lesson or at another time. Make connections from the lesson to the text. 2. Create culture maps to get to know your students. ○ Use the cultural maps as living documents. Have students add to the maps to make connections from lessons learned over time.

Key:	• **Questions all instructors can answer (All)**	• Taking a level deeper to apply the concept (Most)	• *More in-depth knowledge required (Extend)*

Examples of making cultural connections, *continued*	Culturally Diverse Books  Cultural Maps 
Research	August et al., 2021; Beck et al., 2002; Carey & Bartlett, 1978, Cho et al., 2019; Echevarria, Vogt, & Short, 2008; Gerstin et al., 2007; Gersten et al., 2014; Lesaux et al., 2012; Linan-Thompson & Vaughn, 2007; Nagy & Hiebert, 2010; Silverman et al., 2020; Swingley, 2010
Language modeling, instruction, and opportunities for practice	
Definition	Provide language instruction (phonology, morphology, syntax, semantics, and pragmatics) at the word and sentence level to understand content. Teacher models appropriate use of academic language, then provides structured opportunities for students to practice using the language in meaningful contexts.
Questions to consider	• **How can I model and support students' responses to facilitate the use of academic language?** • What structured opportunities to practice using language in meaningful contexts do I provide? • *How do I develop all five language systems at the word- and sentence-level (Phonology, Morphology, Syntax, Semantics, and Pragmatics)?*

Key:	• **Questions all instructors can answer (All)**	• Taking a level deeper to apply the concept (Most)	• *More in-depth knowledge required (Extend)*

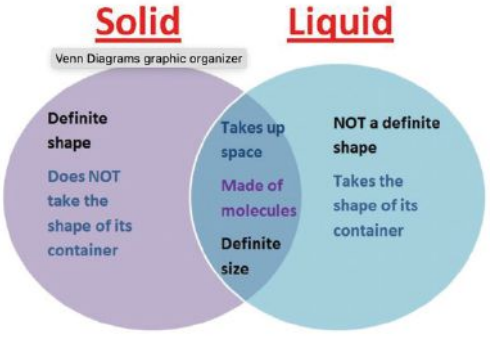
Examples	1. Make brief and regular connections to language systems (pronunciation, function, parts of speech, morpheme's impact on word meaning). 2. Use language frames as models to support students in expressive language. 3. Practice listening, speaking, reading, and writing with models and gradually releasing as appropriate. 4. Chunk the steps of a complex process and use a corresponding template for students to complete to reduce cognitive and linguistic loads.
Research	Battle & Pastrana, 2007; Dutro & Moran, 2003; Gersten et al., 2007; Baker, et al., 2014; Gibbons, 2009; Morales & Saenz, 2007; Scarcella, 2003
Use visuals and graphic organizers	
Definition	Use pictures, graphic organizers, gestures, real objects, and other visual prompts to make critical language, concepts, and strategies more comprehensible to learners.
Questions to consider for using visuals	● **Do the visuals capture the target concept adequately?** ○ Do the visuals represent the diversity of cultures when possible? (https://www.freepik.com/free-photos-vectors/cultural-diversity) ○ Do I use visuals as a model for a completed product?
Examples of using visuals	1. Pictures/realia/gestures for vocabulary words. 2. Posting content and language objectives, sentence frames, and vocabulary words for students to reference.

Key:	• **Questions all instructors can answer (All)**	• Taking a level deeper to apply the concept (Most)	• *More in-depth knowledge required (Extend)*

<table>
<tr>
<td>Examples of using visuals, continued</td>
<td>3. Showing definitions and visuals in a slide show.
<table>
<tr><th>Visual</th><th>English Word</th><th>Definition</th></tr>
<tr><td>  </td><td>distract</td><td>If someone or something distracts you, they take your attention away from what you are doing.</td></tr>
<tr><td> 
</td><td>admit</td><td>If you admit that something embarrassing is true, you agree, often unwillingly, that it is true.</td></tr>
<tr><td>  </td><td>distraught</td><td>If you are distraught, you are so upset and worried that you cannot think clearly.</td></tr>
</table>
* Thank you to DICE PLUSS Masters Project 2023-2024</td>
</tr>
<tr>
<td>Questions to consider for graphic organizers</td>
<td>

Is there a graphic organizer to illustrate concepts or relationships being taught?
Do I plan to explicitly teach and consistently use a limited set of graphic organizers?

</td>
</tr>
<tr>
<td>Examples of graphic organizers</td>
<td>Concept Maps
https://creately.com/guides/types-of-graphic-organizers/

Venn diagram
 
</td>
</tr>
<tr>
<td>Research</td>
<td>Baker et al., 2014; Brechtal, 2001; Eshet-Alkalai & Chajut, 2007; Gersten et al., 2007; Goldenberg, 2008; Haager & Klingner, 2005; Linan-Thompson & Vaughn, 2007; Yang & Kim, 2016</td>
</tr>
</table>

Key:	• **Questions all instructors can answer (All)**	• Taking a level deeper to apply the concept (Most)	• *More in-depth knowledge required (Extend)*

Systematic and explicit instruction	
Definition	**Systematic Instruction:** Involves teaching in sequential, manageable steps that progress from simple to more complex concepts and skills over time, teaching pre-skills before introducing more advanced concepts and fading support as skills are developed and generalized. **Explicit Instruction:** Overtly teach each step through teacher modeling and examples including the following steps: Explain, model, provide guided practice with monitoring and feedback and opportunities for independent practice in content and concepts (I do, we do, you do).
Questions to consider for explicit instruction	Modeling ● Do I explicitly state the purpose of strategies and techniques? ● Do I use direct, discrete steps in my modeling? ● Do I read the room to measure students' understanding and encourage questions? Guided Practice ● Can students anticipate the next step in the routine? ● Is a gradual release of responsibility present? Independent Practice ● Are practice opportunities frequent and distributed? ● Are resources paired to students' specific language needs? Corrective Feedback ● Is my feedback supportive and targeted? ● Do I use questioning to facilitate the acquisition of the concept I'm teaching?
Examples of explicit instruction	**I do:** Teacher models a think-aloud on how to compare and contrast characters in a story. **We do:** Teacher asks questions of students and provides sentence frames to help them compare and contrast. **You do:** Teacher asks students to compare and contrast in partners and then in writing using a graphic organizer.

Key:	• **Questions all instructors can answer (All)**	• Taking a level deeper to apply the concept (Most)	• *More in-depth knowledge required (Extend)*

Question to consider for systematic instruction	• **Have I identified pre-skills that need to be taught before introducing a new concept?** • Have I sequenced instruction in manageable steps? • *Have we worked as a team to evaluate our curriculum to determine whether it systematically introduces, teaches, and fades concepts over time?*
Research	Archer & Hughes, 2011; Calderón, 2007; Chiappe et al., 2002; Fien et al, 2011; Baker et al., 2014; Kamps et al., 2008; Klingner & Vaughn, 2000; Richards-Tutor et al., 2016; Roberts et al, 2022; Weingarten et al., 2018
Strategic use of home/native language, culture, and teaching for transfer	
Definition	Identify concepts and content students already know in their native language and culture to explicitly explain, define, and bridge to new language and concepts in English. Use translanguaging strategies.

Questions to consider for use of home/native language and culture and teaching for transfer	• **How can I support students' continued development of their home language?**
	• **How can I learn about the life and cultural experiences of my students?**
	• Did I review the home language survey to determine proficiency and use of languages?
	• *Do I plan to teach students to transfer skills and concepts across languages/culture?*
	  ○ *Which sounds and orthographic patterns are likely to transfer?*
	  ○ *Can I link words to cognates in the student's native language to support pronunciation and meaning?*
	  ○ *Are students allowed to use their linguistic assets and resources by translanguaging?*

Key:	• **Questions all instructors can answer (All)**	• Taking a level deeper to apply the concept (Most)	• *More in-depth knowledge required (Extend)*

<table>
<tr><td>Examples of use of home/native language and culture and teaching for transfer</td><td>Dual language glossary
<table><tr><th>Visual</th><th>Spanish word</th><th>Definition</th><th>English word</th><th>English Definition</th></tr><tr><td>  </td><td>lluvia</td><td>La lluvia es el agua que cae del cielo cuando las nubes son muy densas.</td><td>rain</td><td>Rain is water that falls from the sky when the clouds get really heavy.</td></tr><tr><td>  </td><td>salpicar</td><td>Cuando el agua o algún otro líquido golpea algo y lo ensucia</td><td>splashed</td><td>When water or some other liquid hits something and makes a mess</td></tr></table>* Thank you to DICE PLUSS Masters Project 2023-2024

http://mylanguages.org/</td></tr>
<tr><td>Research</td><td>August & Shanahan, 2006; Baker et al., 2014; Carlo et al., 2004; Cheung, 2005; Durán, 2016; Durgunoğlu, 2002; Genesee et al., 2006; Linan-Thompson et al., 2007</td></tr>
</table>

Key:

- **Questions all instructors can answer (All)**
- Taking a level deeper to apply the concept (Most)
- *More in-depth knowledge required (Extend)*

*Thank you to the DICE PLUSS Research Team 2023-2024:

DICE PLUSS Masters Project (2023-2024): Diana Abazi, Dodjivi Amekoudji, Heather Hunt, Sean Larson-Nguyen, Holly Ramstead, Revi Shohet, Julie Esparza Brown, Amanda Sanford, Sheldon Loman, & Chris Pinkney

AIM Institute for Learning & Research

Grammar Lesson within the PLUSS Framework

Content Objective: Students will understand the contributions and actions of revolutionaries and why they fought for their causes.

Language Objective: Students will state a causal relationship of what makes a person a revolutionary in a complex sentence (**noun** + **verb** + **because**).

Lesson Opening:

P: Pre-teach vocabulary

S²: cognate - revolución/ revolucionaria/ revolucionario

1. **Remember, we learned**
   a. ***Revolution* is "a movement toward change."**
   b. **If we add the suffix *ary* to revolution, it changes to *revolutionary*.**
   c. **The suffix ary means "person connected to" -**
   d. **So a *revolutionary* is "a person who is connected to or creates change or revolution."**
2. "Today we are going to review **noun** + **verb** sentences. After, we will expand our sentences to include 'because' to explain why."
3. Tell students that we will play a short sentence monitoring game where they give a thumbs up if the stated sentence follows the **noun** + **verb**. pattern, and thumbs down if it does not.
   a. Benjamin Banneker persevered. (thumbs up)
   b. Accept challenges. (thumbs down)
   c. Revolutionaries impact history. (thumbs up)

Body of Lesson:

S¹: mastering simple to complex sentences

Direct Instruction (I do): L - teacher modeling

U: Display visual of sentence pattern; provide sentence frame scaffold if needed

S²: cognate - translation

1. Set the stage for new learning: "You've done a great job mastering the **noun** + **verb** sentence structure. It's time we expand these ideas into lengthier, more precise thoughts, by adding a component to our sentence that answers *why?*" To do this, we will use a connecting word '**because**'. When we use '**because**,' we give a reason or explain *why.*
   a. Display the pattern **noun** + **verb** + **because** [*why*]
   b. Look at this sentence "**Benjamin Banneker persevered.**" *Why did he persevere?* "**Benjamin Banneker persevered because** he did not have formal education, yet he learned complex math and science.
      i. Use the coding system to demonstrate that the target sentence follows the pattern.
   c. Provide a non-example "**RBG fought for women's rights**" *Does this follow the pattern? Let's see, Who? (Ruth Bader Ginsburg), Did what? (fought for women's rights). Because? There is no reason listed, so no this does not yet follow the pattern since I am missing the why.*
      i. Expand the sentence: **RBG fought for women's rights because** she wanted legal protections for women in the Constitution.

PLUSS: Grammar Exemplar

AIM Institute for Learning & Research

Guided practice (We do):

1. Let's do one together. Remember we want to follow the pattern **noun** + **verb** + **because** [why]. I'll get us started:
    a. **Thurgood Marshall fought segregation**. *Why?*
    b. **Thurgood Marshall fought segregation because**...
    c. Students respond. Demonstrate that there can be a variety of ways to complete the sentence to answer 'why'.
        i. **Thurgood Marshall fought segregation because** he believed in equal justice for all.
        ii. **Thurgood Marshall fought segregation because** he wanted to make life better for the most vulnerable in our country.

Independent practice (You do): **L - structured, meaningful practice**

1. To close, display images of the revolutionaries the students have studied thus far throughout this unit. (Options include Cesar Chavez, Katherine Johnson, Grace Hopper, and Albert Einstein)
2. Students must turn to a partner and orally complete a sentence that follows the pattern: **noun** + **verb** + **because** [why]

PLUSS: Grammar Exemplar

 continued from page 38

Baker, S. K., Geva, E., Kieffer, M. J., Lesaux, N., Linan-Thompson, S., Morris, J., Proctor, C. P., Russell, R., Gersten, R., Dimino, J., Jayanthi, M., Haymond, K., & Newman-Gonchar, R. (2014). *Teaching academic content and literacy to English learners in elementary and middle school* (NCEE 2014-4012). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance. https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/english_learners_pg_040114.pdf

Battle, J., & Pastrana, A. (2007). The relative importance of race and socioeconomic status among Hispanic and White students. *Hispanic Journal of Behavioral Sciences, 29*(1), 35–48. https://doi.org/10.1177/0739986306294783

Beck, I. L., McKeown, M. G., & Kucan, L. (2002). *Bringing words to life: Robust vocabulary instruction* (2nd ed.). Guilford Press.

Brechtal, M. (2001). *Bringing it all together: Language and literacy in the multilingual classroom*. Dominie Press.

Brown, J. E., Sanford, A. K., & Sacco, D. (2023). *Multi-tiered system of supports for multilingual learners using culturally and linguistically aligned practices*. National Center on Intensive Intervention at the American Institutes for Research. https://intensiveintervention.org/sites/default/files/2024-01/mtss-culturally-responsive.pdf

Calderón, M. (2007). *Teaching reading to English language learners: Grades 6–12*. Corwin Press.

Carey, S. & Bartlett, E. (1978). Acquiring a single new word. *Proceedings of the Stanford Child Language Conference*, *15*, 17–29.

Carlo, M. S., August, D., McLaughlin, B., Snow, C. D., Dressler, C., Lippman, D. N., Lively, T. J., & White, C. E. (2004). Closing the gap: Addressing the vocabulary needs of English-language learners in bilingual and mainstream classrooms. *Reading Research Quarterly, 39*(2), 188–215. https://doi.org/10.1598/RRQ.39.2.3

Cheung, S. L. (2005). A classroom entry and exit game of supply with price-taking firms. *The Journal of Economic Education, 36*(4), 358–368. https://doi.org/10.3200/JECE.36.4.358-368

Chiappe, P., Siegel, L. S., & Wade-Woolley, L. (2002). Linguistic diversity and the development of reading skills: A longitudinal study. *Scientific Studies of Reading, 6*(4) 369–400. https://doi.org/10.1207/S1532799XSSR0604_04

Cho, E., Capin, P., Roberts, G., Roberts, G. J., & Vaughn, S. (2019). Examining sources and mechanisms of reading comprehension difficulties: Comparing English learners and non-English learners within the simple view of reading. *Journal of Educational Psychology, 111*(6), 982–1000. https://doi.org/10.1037/edu0000332

Duran, M. O. (2016). *Crosslinguistic influence in L2 English oral production: The effects of cognitive language learning abilities and input* [Doctoral dissertation, University of Barcelona]. https://www.tdx.cat/bitstream/handle/10803/401091/MOD_PhD_THESIS.pdf?sequence=1&isAllow ed=y

Durgunoğlu, A. Y. (2002). Cross-linguistic transfer in literacy development and implications for language learners. *Annals of Dyslexia, 52*(1), 189–204. https://eric.ed.gov/?id=EJ657413

Dutro, S., & Moran, C. (2002), Rethinking English language instruction: An architectural approach. In G. Garcia (Ed.), *English learners reading at the highest level of English literacy*. International Reading Association.

Echevarria, J., Vogt, M., & Short, D. (2008). *Making content comprehensible for English learners: The SIOP model*. Pearson.

Eshet-Alkalai, Y., & Chajut, E. (2007). Living books: The incidental bonus of playing with multimedia. *Journal of Educational Multimedia and Hypermedia, 16*(4), 377–388.

Every Student Succeeds Act (ESSA). (2015). ESSA of 2015, Pub.L. 114–95. https://www.congress.gov/bill/114th-congress/senate-bill/1177

Fien, H., Smith, J. L. M., Baker, S. K., Chaparro, E., Baker, D. L., & Preciado, J. A. (2011). Including English learners in a multitiered approach to early reading instruction and intervention. *Assessment for Effective Intervention, 36*(3), 143–157. https://doi.org/10.1177/1534508410392207

Foorman, B., Beyler, N., Borradaile, K., Coyne, M., Denton, C. A., Dimino, J., Furgeson, J., Hayes, L., Henke, J., Justice, L., Keating, B., Lewis, W., Sattar, S., Streke, A., Wagner, R., & Wissel, S. (2016). *Foundational skills to support reading for understanding in kindergarten through 3rd grade* (NCEE 2016-4008). Washington, DC: National Center for Education Evaluation and Regional Assistance (NCEE), Institute of Education Sciences, U.S. Department of Education. https://ies.ed.gov/ncee/WWC/Docs/PracticeGuide/wwc_foundationalreading_040717.pdf

Genesee, F., Geva, E., Dressler, C., & Kamil, M. L. (2006). Synthesis: Cross-linguistic relationships. In D. August & T. Shanahan (Eds.), *Developing literacy in second-language learners: Report of the National Literacy Panel on language-minority children and youth* (pp. 153–174). Routledge.

Gersten, R., Baker, S. K., Shanahan, T., Linan-Thompson, S., Collins, P., & Scarcella, R. (2007). *Effective literacy and English language instruction for English learners in the elementary grades: A practice guide* (NCEE 2007-4011). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/20074011.pdf

Gibbons, P. (2009). *English learners, academic literacy, and thinking: Learning in the challenge zone*. Heinemann.

Goldenberg, C. (2008). Teaching English language learners: What the research does—and does not—say. *American Educator*. https://www.aft.org/ae/summer2008/goldenberg

Haager, D., & Klingner, J. K. (2005). *Differentiating instruction in inclusive classrooms: The special educator's guide*. Pearson.

Kamps, D. M., Abbott, M., Greenwood, C., Willis, H., Veerkamp, M., & Kaufman, J. (2008). Effects of small-group instruction and curriculum differences for students most at risk in kindergarten: Two-year results for secondary- and tertiary-level interventions. *Journal of Learning Disabilities, 41*(2), 101–114. https://doi.org/10.1177/0022219407313412

Kearns, D. M., Lemons, C. J., Fuchs, D., & Fuchs, L. S. (2014). Essential of a tiered intervention system to support unique learners: Recommendations from research and practice. In J. Mascolo, D. Flanagan, & V. Alfonso (Eds.), *Essentials of planning, selecting, and tailoring interventions for the unique learner* (pp. 56–91). Wiley.

Klingner, J. K., & Vaughn, S. (2000). The helping behaviors of fifth graders while using collaborative strategic reading during ESL content classes. *TESOL Quarterly, 34*(1), 69–98. https://doi.org/10.2307/3588097

Lesaux, N. K., Harris, J. R., & Sloane, P. (2012). Adolescents' motivation in the context of an academic vocabulary intervention in urban middle school classrooms. *Journal of Adolescent & Adult Literacy, 56*(3), 231–240. https://doi.org/10.1002/JAAL.00132

Linan-Thompson, S., Cirino P. T., & Vaughn, S. (2007). Determining English language learners' response to intervention: Questions and some answers. *Learning Disability Quarterly, 30*(3), 185–195. https://doi.org/10.2307/30035563

Linan-Thompson, S., & Vaughn, S. (2007). *Research-based methods of reading instruction for English language learners: Grades K–4*. Association for Supervision and Curriculum Development.

Ludwig, C., Guo, K., & Georgiou, G. K. (2019). Are reading interventions for English language learners effective? A meta-analysis. *Journal of Learning Disabilities, 52*(3), 220–231. https://doi.org/10.1177/0022219419825855

Karim, A. Mohamed, A. & Rahman, M. (2017). Delving the in-service teachers' beliefs about English, language learning and teaching in EFL Context. *International Journal of Academic Research in Progressive Education and Development. 6*(2), 50–71.

Morales, M. C., & Saenz, R. (2007). Correlates of Mexican American students' standardized test scores: An integrated model approach. *Hispanic Journal of Behavioral Sciences, 29*(3), 349–365. https://doi.org/10.1177/0739986307302176

Nagy, W. E., & Hiebert, E. H. (2010). Toward a theory of word selection. In M. L. Kamil, P. D. Pearson, E. Birr Moje, & P. P. Afflerbach (Eds.), *Handbook of reading research* (Vol. IV; pp. 388–404). Routledge.

National Center for Education Statistics. (2023). English learners in public schools. *Condition of Education*. U.S. Department of Education, Institute of Education Sciences. https://nces.ed.gov/programs/coe/indicator/cgf

National Reading Panel (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (NIH Publication No. 00-4769). National Institute of Child Health and Human Development.

Project ELITE², Project ELLIPSES, & Project LEE. (2018). *Meeting the needs of English learners with and without disabilities: Brief 1, Multitiered instructional systems for ELs*. U.S. Office of Special Education Programs.

Project ELITE², Project LEE, & Project ELLIPSES. (2021). *Meeting the needs of English learners with and without disabilities: Brief 5, Promoting leadership and collaboration for an effective multitiered system of supports for English learners*. U.S. Office of Special Education Programs.

Continued on page 50

Project ELLIPSES, Project LEE, & Project ELITE². (2020). *Meeting the needs of English learners with and without disabilities: Brief 2, Evidence-based Tier 2 intervention practices for English learners.* U.S. Office of Special Education Programs.

Project LEE, Project ELLIPSES, & Project ELITE² (2021). *Multi-tiered system of supports for English learners: Literacy implementation rubric* adapted from the Center on Multi-Tiered System of Supports (2021). *Multi-tiered system of supports (MTSS) fidelity of implementation rubric*. American Institutes for Research. U.S. Office of Special Education Programs. Retrieved from: https://mtss4els.org/files/resource-files/Lit-Imp-Rubric_2021.pdf

Richards-Tutor, C., Baker, D. L., Gersten, R., Baker, S. K., & Smith, J. M. (2016). The effectiveness of reading interventions for English learners. *Exceptional Children*, *82*(2), 144–169. https://doi.org/10.1177/0014402915585483

Roberts, G. J., Hall, C., Cho, E., Coté, B., Lee, J., Qi, B. & Van Ooyik, J. (2022). The state of current reading intervention research for English learners in grades K–2: A best evidence synthesis. *Educational Psychology Review. 34*(1), 335–361. https://doi.org/10.1007/s10648-021-09629-2

Sanford, A., Brown, J. E., & Turner, M. (2012). Enhancing instruction for English learners in RTI systems: The PLUSS model. *Multiple Voices for Ethnically Diverse Exceptional Learners, 13*(1), 56–79. https://eric.ed.gov/?id=EJ1001496

Scarcella, R. (2003). *Academic English: A conceptual framework*. University of California Linguistic Minority Institute.

Shanahan, T., & Beck, I. L. (2006). Effective literacy teaching for English-language learners. In D. August & T. Shanahan (Eds.), *Developing literacy in second-language learners: Report of the national literacy panel on language-minority children and youth* (pp. 415–488). Lawrence Erlbaum Associates Publishers.

Silverman, R. D., Johnson, E., Keane, K., & Khanna, S. (2020). Beyond decoding: A meta-analysis of the effects of language comprehension interventions on K–5 students' language and literacy outcomes. *Reading Research Quarterly, 55*(S1), S207–S233. https://doi.org/10.1002/rrq.346

Solari, E. J., Kehoe, K. F., Cho, E., Hall, C., Vargas, I., Dahl-Leonard, K., Richmond, C. L., Henry, A. R., Cook, L., Hayes, L., & Conner, C. (2022). Effectiveness of interventions for English learners with word reading difficulties: A research synthesis. *Learning Disabilities Research & Practice, 37*(3), 158–174. https://doi.org/10.1111/ldrp.12286

Swingley, D. (2010). Fast mapping and slow mapping in children's word learning. *Language Learning and Development, 6*(3), 179–183. https://doi.org/10.1080/15475441.2010.484412

U.S. Department of Education. (n.d.) *Our nation's English learners*.

Wei, Y., Hovey, K. A., Gerzel-Short, L., Hsiao, Y., Miller, R. D., & Kelly, J. H. (2023). Culturally responsive and high-leverage practices: Facilitating effective instruction for English learners with learning disabilities. *TESOL Journal*, *14*(2), 1–15. https://doi.org/10.1002/tesj.697

Weingarten, Z., Bailey, T. R., & Peterson, A. (2018). *User guide for sample reading lessons*. National Center on Intensive Intervention at American Institutes for Research. https://intensiveintervention.org/sites/default/files/User_Guide_Sample_Reading_Lessons-508v2.pdf

Yang, S., & Kim, M. C. (2016). Supporting oral narrative development of kindergarten English language learners using multimedia stories. *Journal of Interactive Learning Research, 27*(4), 381–397.

***Dr. Julie Esparza Brown**, a professor at Portland State University, champions educational equity for diverse learners. Her work intersects language, disability, race, and culture in special education. Drawing from her experience as an educator and school psychologist, she conducts research, publishes extensively, and secures funding to support underrepresented students in education careers. Dr. Brown's contributions, including her book on distinguishing language acquisition from learning disabilities, have significantly impacted inclusive educational practices.*

***Amanda K. Sanford, Ph.D.**, is Professor of Special Education at Portland State University (PSU). She codeveloped the PLUSS Framework (Sanford et al., 2012; Brown et al., 2024) that focuses on utilizing evidence based culturally and linguistically aligned instructional practices. She is currently co-investigator on a five-year Office of English Language Acquisition Personnel Preparation Grant (Project DICE PLUSS; Award Number T365Z210158) that promotes use of evidence-based practices for improving literacy outcomes for MLs.*

***Christopher J. Pinkney, Ph.D.**, is an Associate Professor of Special Education at Portland State University (PSU). His research focuses on the implementation of multi-tiered systems of support with an emphasis on reading, explicit instruction, and student behavior.*

***Megan Gierka, Ed.D.**, is the Head of Implementation Strategy at AIM Institute for Learning and Research. In this role, Megan provides implementation support using an evidence-aligned blueprint to foster sustainable literacy success. Translating research into practice and policy, Megan specializes in early literacy, second language acquisition, MTSS, and implementation science. With over a decade of experience in public education, she has served as a teacher, Title I reading specialist, and instructional coach.*

***Nicole Ormandy, M.S. Ed.**, is the Head of Research and Product Development at AIM Institute for Learning and Research. In this role, Nicole regularly consults with researchers and literacy experts across the nation to synthesize and disseminate practical information and evidence-based strategies through presentations and professional learning course content. Nicole was previously an Elementary and Special Education teacher.*

***Author's Note:** This research was supported by a grant (T365Z210158) from the Department of Education, Office of English Language Acquisition. The content is solely the responsibility of the authors and does not represent the official position or policies of the Department.*

Correspondence should be addressed to jebrown@pdx.edu, Julie Esparza Brown, Portland State University.

Data-Based Decision-Making within the MTSS Model
Connecting WHAT Students Need with HOW to Teach

By Stephanie A. Stollar and Laura Stewart

KEY TAKEAWAYS

- **Collaborative problem-solving within the MTSS framework provides teachers with a way to structure the use of assessments to inform instruction.**
- **Assessments can assist teachers in placing students on a skill sequence so instruction can be matched to student needs.**
- **Taking time to analyze why a student is having difficulty can lead to more effective instruction and intervention.**

The ultimate goal of Structured Literacy is to ensure positive reading outcomes for all students. A Multi-Tiered System of Support (MTSS) provides a framework for using data in a structured decision-making model to build a system of increasingly intensive instructional supports that give all students access to literacy. But what decisions need to be made when implementing MTSS for reading improvement? What are the right sources of data to use? How can teachers link knowledge of WHAT students need to HOW they teach and intervene?

Good assessment data helps teachers connect WHAT and HOW to teach. A data-based decision-making process, such as collaborative problem-solving, provides a framework for asking questions about students, analyzing their learning, planning appropriate instruction, and evaluating the effectiveness of that instruction. Engaging in data-based decision-making means making decisions based on aspects of the learning environment that can be measured, observed and quantified, rather than making decisions based on beliefs, hunches, preferences, or ideology. By accurately identifying what students need, teachers are more likely to find the right instructional match.

Collaborative problem-solving is the key to data-based decision-making, and it is at the heart of the MTSS service delivery model. In the MTSS model, the steps and key decisions are guided by the following questions (Harlacher, Potter & Collins, 2024; Losoff & Broxterman, 2017):

1. Which students need support? In which skill area(s) do they need support?
2. What does each student need to learn?
3. Is the instruction working?
4. Did the instruction work?

The questions about the student determine the category or type of assessment tool to use: screening, diagnostic, progress monitoring, or outcome evaluation.

Step 1: Problem Definition

During problem definition, teams address two important questions. They identify the students who are at risk of not meeting future reading goals unless they receive instructional support, and they identify the general skill area(s) in which each student needs support.

Which students need support?
Tool: Universal Screener

The universal screener is a brief assessment that identifies which students are on track using indicators that predict later reading achievement; the indicators estimate the overall level of reading achievement without measuring all skills (January & Klingbeil, 2020). It is important to note that what a universal screener measures will change based on which skills are most predictive at a particular point in time. For example, phoneme segmentation fluency (PSF) is a strong predictor of reading and spelling at the end of kindergarten but is not as predictive once a child is reading words (Schatschneider et al., 2004). Screening all students three times a year allows schools to check on students even as the skills necessary to become a skilled reader shift within and across grades and to identify potential reading difficulties early enough to change the outcome.

Due to the importance of universal screening for preventing and intervening on reading difficulties, schools should carefully

Abbreviations

CVCe: Consonant-Vowel-Consonant-e
MTSS: Multi-Tiered System of Supports
PSF: Phoneme segmentation fluency

select screening assessments based on the following criteria (Vaughn & Fletcher, 2020):

- Brief
- Standardized
- Reliable and valid
- Indicators of essential early literacy components
- Predictive of future reading health

Tools such as the National Center on Intensive Intervention Tool Charts (NCII, 2014) offer a way for districts to evaluate and select a universal screening assessment.

In which skill area(s) do they need support?
Tool: Universal Screener

The Simple View of Reading (Gough & Tunmer, 1986) and the five essential components of reading (National Reading Panel, 2000) provide a useful schema for picturing the general progression of skills on the path to reading comprehension. The Simple View helps us understand that reading comprehension can be explained almost entirely by language comprehension and word recognition. Within those necessary, but not sufficient, capacities are the essential components — vocabulary, phonemic awareness, phonics, and reading fluency — that make up the skill areas on which to conduct universal screening (National Reading Panel, 2000).

Figure 1 depicts the relationship between the competencies of the Simple View of Reading and the five essential components of reading. As shown from left to right on the graphic, young children entering kindergarten need instruction in both language comprehension and word recognition. Universal screening on those skills helps define the problem. Viewing the graphic from right to left for older students who have difficulty understanding grade-level text on universal screening helps define the problem in terms of the lowest skill not yet mastered.

Screening assessment defines the problem in Step 1 of collaborative problem-solving.

In Step 2, the problem is explored with additional diagnostic assessment. A useful starting place is to survey back to the lowest skill area in which the student is struggling. Diagnostic assessment is conducted in that lowest skill area.

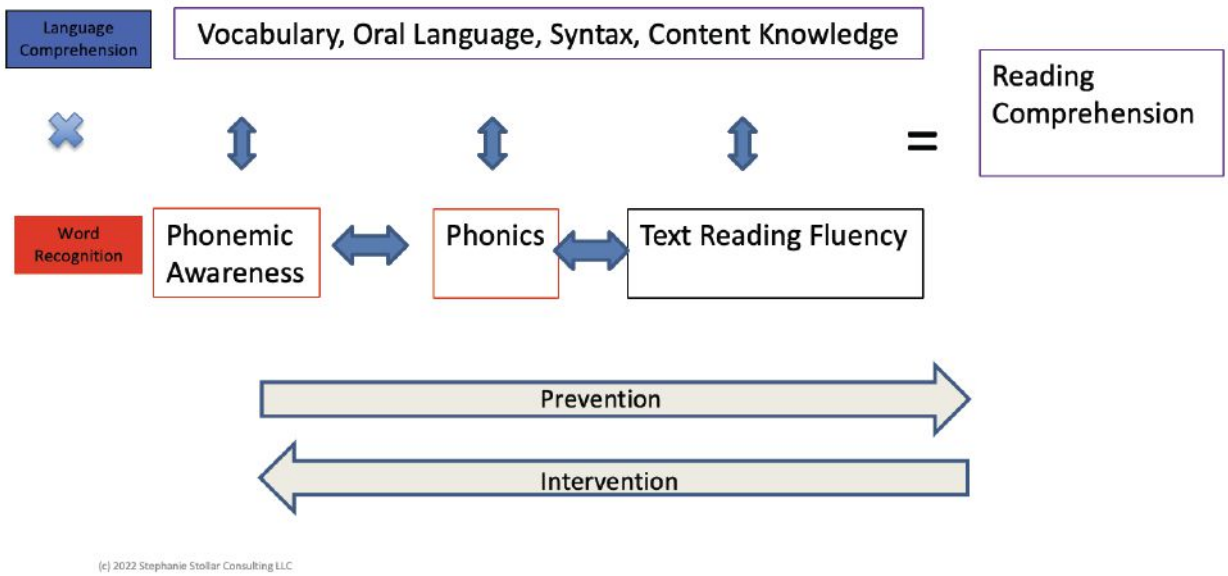
Step 2: Problem Analysis

What should be taught and how?
Tool: Diagnostic Assessment

Screening identifies the general skill area to target, and diagnostic assessment tells you specifically which skill within that area to teach next (Weingarten & Steinle, 2023). For example, screening might tell you the student is having difficulty in the area of decoding, while diagnostic assessments will tell you the student knows how to read Consonant-Vowel-Consonant-e (CVCe) words and is ready to learn open syllables. Two students whose screening scores indicate difficulty in the area of phonics and decoding may have very different instructional needs. For example, one may need to learn to read multisyllabic words, while the other may need to learn individual letter-sounds. Therefore, because they serve a different purpose and provide different levels of data, universal screeners and diagnostic assessments need to be different instruments.

Continued on page 54

Figure 1



Most reading problems can be prevented by equipping students with these capacities starting on the first day of kindergarten, putting students on the path to reading for meaning (Torgesen, 2002). When older students struggle to understand grade-level text, it is helpful to ask if the problem lies with word recognition, language comprehension, or both, and to track backwards through the skill sequence to find the problem definition (Hoover, 2023).

 continued from page 53

In the area of Decoding/Word Recognition, an effective diagnostic tool will provide assessment along a precise continuum of skills. This continuum follows the evidence-aligned predictable progression of skill development from least complex to most complex skills. A sample continuum is shown in Figure 2.

Finding the right diagnostic assessment is critical, as it provides data on students' discrete skill acquisition. Diagnostic assessments are only given to students who score below expectation on universal screening; typically, those who are at benchmark and making adequate progress do not need to be assessed with diagnostic assessments. However, it is important to note that diagnostic assessments should be administered anytime there is a question about what to teach next.

Figure 3 illustrates a diagnostic sequence for identifying sources of reading difficulty as well as instructional recommendations.. The flow of assessment starts from the bottom and progresses to the top for young students and starts at the top and flows down for grade 3 and older students.

Good screening and diagnostic data inform the plan for instruction. Students who score below grade-level expectations on screening and diagnostic assessment need explicit, systematic, and evidence-aligned instruction to accelerate their progress and catch them up to grade level. This is best implemented in skill-alike groups (Hall & Burns, 2018) in core reading instruction and in reading intervention. Using the example above of the two students who scored low on screening, one student would be in a group with other students who need to learn letter-sound correspondences, and the other student would be in a different group learning to read multisyllabic words. The farther behind grade-level expectations a student scores, the more intensive support they are likely to need (Wanzek, Williams, Scammacca, Vaughn, & Sargent, 2018). The more students who score below grade-level expectations, the more changes are necessary in classroom instruction as well as in intervention.

Step 3: Plan Development

Is the instruction working?

Assessment Tool: Progress Monitoring

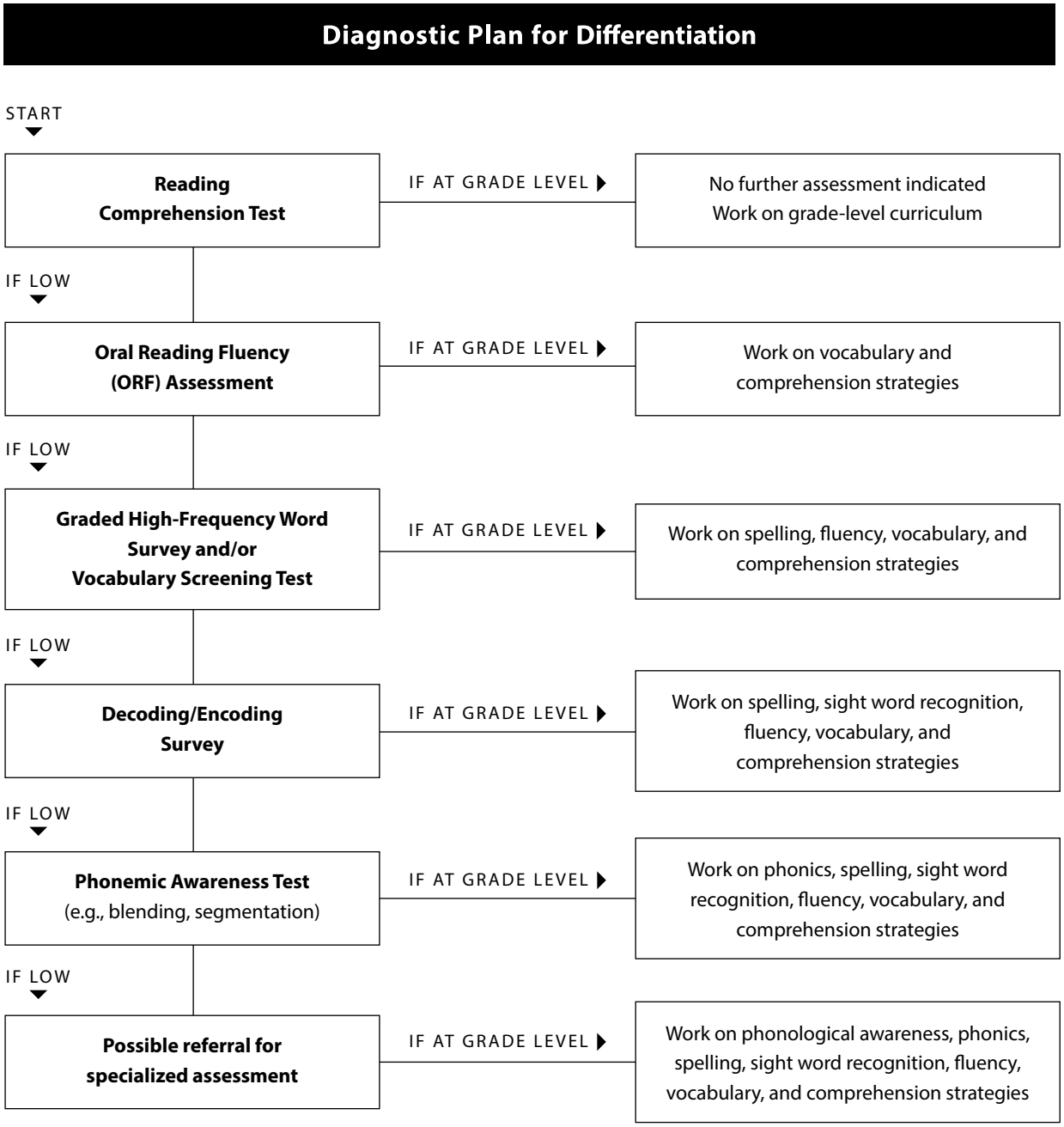
Once the groups are determined and the instructional plan is in place, it is critically important to utilize progress monitoring assessments to determine if the instructional plan is working (Stecker, Lembke, & Foegen, 2008). At Step 3 of the problem-solving process, the progress monitoring material and goal are selected. Students who are learning below grade-level skills will be measured in below grade-level progress monitoring measures. For example, third-grade students who are learning to read CVC words will be monitored frequently with a measure of non-word reading, not with the grade-level oral reading fluency measure used for universal screening (Fuchs & Fuchs, 2011).

Step 4 involves ongoing monitoring of progress, with changes to intervention when progress is not sufficient. Progress monitoring assessments must closely measure what is being taught and therefore often are an alternative form of the screening assessment. Progress monitoring assessments need to be administered frequently to measure the effectiveness of intervention. Consider weekly measurement to ensure a sufficient number of data points to support real-time instructional modifications. Because it takes roughly 5–7 data points to see a trend on a progress monitoring graph, schools should consider monitoring the students who are receiving the most intensive intervention on the most frequent schedule (St. Martin, Vaughn, Troia, Fien, & Coyne, 2020).

Continued on page 57

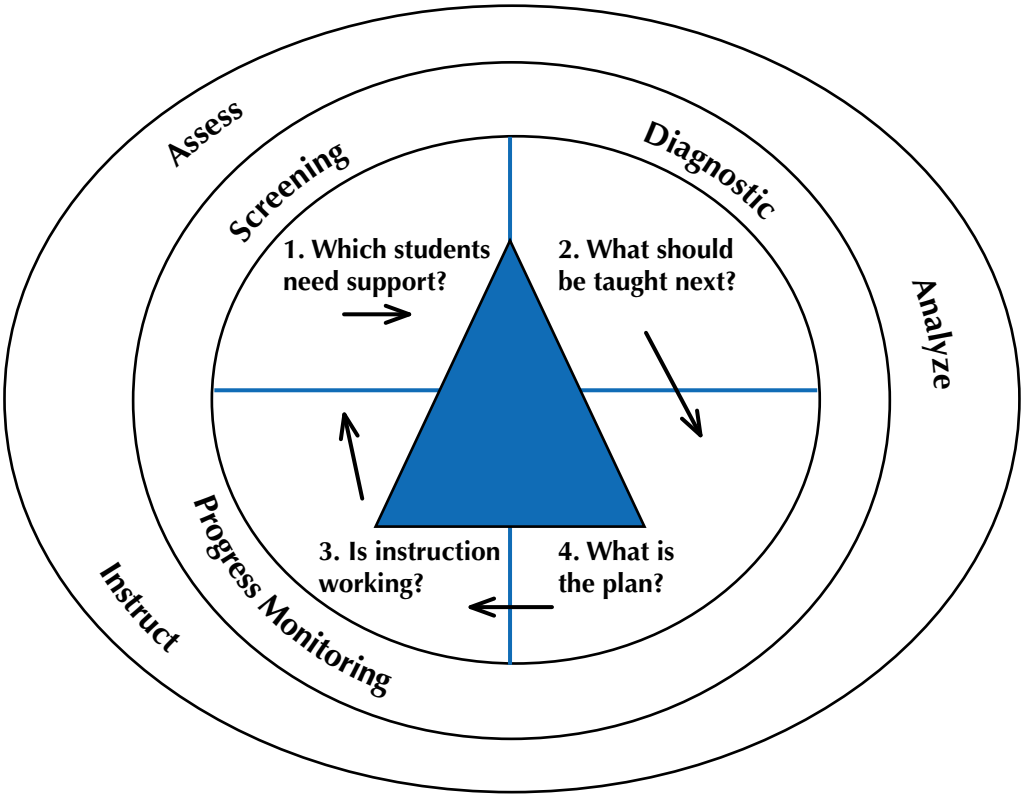
Figure 2

Figure 3



Adapted from CORE, *Assessing Reading: Multiple Measures*, revised 2nd Edition, 2018

Figure 4



To summarize decisions to be made within the collaborative problem-solving process and the types of assessments that drive instruction in an MTSS model:

Problem-solving Step	Decision	Assessment	Who	When	Characteristics	Examples
1. Problem Definition	Which students need support?	Universal Screener	All students	BOY MOY EOY	brief standardized reliable and valid predictive of future reading health	Acadience DIBELS 8th Edition FastBridge
2. Problem Analysis	What should be taught and how?	Diagnostic Assessment	Students below benchmark	Whenever indicated for intervention	in-depth linked to instruction	PSI CFOL Beginning Decoding Survey
3. Plan Development	Is instruction working?	Progress Monitoring Assessment	Students receiving intervention	Typically every 1-2 weeks	brief standardized reliable and valid sensitive to growth	Acadience DIBELS 8th Edition FastBridge
4. Plan Evaluation	Did instruction work?	Outcome Evaluation	All students	At the end of units	comprehensive measures of grade-level standards	Curriculum-embedded unit assessments
				EOY		state tests

When schools feel their resources are being strained by the need to intervene and monitor progress with large numbers of students, they should revisit the effectiveness of their classroom reading instruction.

Step 4: Plan Evaluation

Did the instruction work?

Assessment Tool: Outcome Evaluation

Outcome evaluation involves looking back and reflecting on the effectiveness of instruction at the point when students should have mastery of the skills. These assessments often take the form of end-of-unit or end-of-grade achievement tests. Although outcome evaluation has less impact on daily instruction, it can help teams make changes to curriculum and instruction for the next school year.

In Summary

In a collaborative problem-solving model, teachers

ASSESS by using

- Universal screening and diagnostic assessments to pinpoint instruction.
- Progress monitoring to determine if instruction is working and for determining next steps.

ANALYZE the data in order to

- Create the instructional plan for each student.
- Group students with similar needs.

INSTRUCT effectively:

- Teach with precision.
- Utilize effective, evidence-aligned resources.

Figure 4 is a useful graphic to understand the use of data to drive instruction.

References

Fuchs, L. S., & Fuchs, D. (2011). *Using CBM for progress monitoring in reading.* National Center on Student Progress Monitoring.

Hall, M. S., & Burns, M. K. (2018). Meta-analysis of targeted small-group reading interventions. *Journal of School Psychology, 66*, 54–66.

Harlacher, J. E., Potter, J., & Collins, A. (2024). *Untangling data-based decision making: A problem-model to enhance MTSS.* Solution Tree.

Hoover, W. A. (18 August 2023). The simple view of reading and its broad types of reading difficulties. *Reading and Writing* (2023). https://doi.org/10.1007/s11145-023-10471-x

January, S. A., & Klingbeil, D. A. (2020). Universal screening in grades K–2: A systematic review and meta-analysis of early reading curriculum-based measures. *Journal of School Psychology, 82*,103–122. https://doi.org/10.1016/j.jsp.2020.08.007

Losoff, R. C., & Broxterman, K. (2017). *Transforming schools: A problem-solving approach to school change*. United Kingdom: Guilford Publications.

Schatschneider, C., Fletcher, J. M., Francis, D. J., Carlson, C. D., & Foorman, B. R. (2004). Kindergarten prediction of reading skills: A longitudinal comparative analysis. *Journal of Educational Psychology, 96*(2), 265–282. https://doi.org/10.1037/0022-0663.96.2.265

St. Martin, K., Vaughn, S., Troia, G., Fien, H., & Coyne, M. (2020). *Intensifying literacy instruction: Essential practices.* Lansing, MI: MiMTSS Technical Assistance Center, Michigan Department of Education.

Stecker, P. M., Lembke, E. S., & Foegen, A. (2008). Using progress-monitoring data to improve instructional decision making. *Preventing School Failure: Alternative Education for Children and Youth*, *52*(2), 48–58. https://doi.org/10.3200/PSFL.52.2.48-58

Torgesen, J. K. (2002). The prevention of reading difficulties. *Journal of School Psychology, 40*(1), 7–26. https://doi.org/10.1016/S0022-4405(01)00092-9

Vaughn, S., & Fletcher, J. M. (2020). Identifying and teaching students with significant reading problems. *American Educator, 44*(4), 4–11. https://www.aft.org/ae/winter2020-2021/vaughn_fletcher

Wanzek, J., Stevens, E. A., Williams, K. J., Scammacca, N., Vaughn, S., & Sargent, K. (2018). Current evidence on the effects of intensive early reading interventions. *Journal of Learning Disabilities*, *51*(6), 612–624. https://doi.org/10.1177/0022219418775110

Weingarten, Z., & Steinle, P. (2023). *Using diagnostic data to inform intervention planning.* American Institutes for Research.

Stephanie Stollar *is passionate about using MTSS as the framework for helping all students become skilled readers. She is the founder of the Reading Science Academy, an online community where over a thousand educators support each other to improve results in their schools. Dr. Stollar also advises the next generaCon of education policy leaders in her role as an assistant professor at Mount St. Joseph University. She served as a Vice President at Acadience Learning, provided training and consultation to hundreds of school districts, worked as an Assistant Professor of School Psychology, and as a School Psychologist. Dr. Stollar believes that by supporting all educators, high achievement is possible for every student.*

Laura Stewart *is an educator and organizational leader. She has served as a classroom teacher, building and district administrator, adjunct professor, and director of numerous professional development initiatives around the country. Before joining 95 Percent Group, Laura was the Chief Innovation Officer with The Reading League and the Chief Academic Officer for Professional Development at Highlights for Children. Laura presents widely and has written for numerous organizations and publications, including co-authoring* The Everything Guide to Informational Text K–2; Best Texts, Best Practices. *She is a contributing author to* Climbing the Ladder of Reading and Writing: Meeting the Needs of ALL Learners. *Laura hosted the podcast "Teaching, Reading, and Learning: The TRL Podcast." She serves on several advisory boards and was formerly a certified LETRS facilitator. Laura's position as the Chief Academic Officer at 95 Percent Group suits her perfectly, as her passion is empowering educators to positively impact ALL students and ultimately change the course of literacy achievement in this country.*

Planned and Purposeful Instructional Decision-Making for Selecting Tasks and Texts

By Christie L. Cavanaugh and Barbara Sheaffer

KEY TAKEAWAYS

- Many factors influence the selection of tasks and texts to support developing readers.
- Data about student progress inform planned and purposeful instructional decisions about tasks and texts.
- Careful and strategic selection of texts support the development of word recognition skills and language comprehension to build vocabulary and background knowledge.
- All students should have access to high-quality authentic texts that target vocabulary and build background knowledge. Students need access to decodable texts to target decoding skill development until they have achieved accurate and automatic word recognition.

Ms. Takisha, a fourth-grade teacher, uses small groups to differentiate reading instruction to meet the diverse needs of her 26 students in addition to the instruction and practice opportunities she provides during whole-class instruction. Using a Structured Literacy approach, Ms. Takisha knows that all of her students benefit from this approach in classroom instruction and intervention. While she has several students who need extra support, two students receive intensive intervention. Ms. Takisha knows firsthand the importance of making informed decisions about the tasks and texts she uses to support all students. She collaborates with a dyslexia interventionist to make planned, purposeful instructional decisions to select tasks and texts that align with the instructional goals and target skills. This collaboration ensures that the same decision-making applies to all tasks and texts selected for all students. Yessi and Michael, the two students receiving intervention, have similar needs in word reading and spelling; however, Yessi, a multilingual learner, has vocabulary needs, and Michael needs support making inferences but has strong language skills in other areas that help him comprehend. Their teachers and interventionists teach using a Structured Literacy approach that guides what and how to teach.

Understanding how to teach the content reflected in a Structured Literacy approach is essential for accelerating student literacy achievement. Knowing how to teach depends on direct and systematic instruction that is mastery-oriented and data-driven. This brief article addresses only the lower section of the HOW portion of the InfoMap (IDA, 2023) and provides guidance for making planned, purposeful instructional decisions for selecting texts and tasks.

Purposes for Reading

As teachers prepare a lesson, the types of reading tasks and the types of text chosen for those tasks are linked closely with the primary purpose of the reading activity: building word recognition, strengthening language comprehension skills, or both. Planning instruction for both purposes will help develop fluent, independent, proficient readers.

Types of Text

The two broad categories of texts include decodable and authentic text. Students need to read texts of varied complexity from controlled, decodable text to high-quality authentic text. Purposeful text selection helps students develop word recognition and language comprehension skills. Using texts to support both areas ensures that students learn to decode, understand what they can read in the early stages of reading, and continue to develop and apply their skills as the text becomes increasingly complex. We will also describe a continuum of bridge texts that support students as they move from reading highly decodable text to authentic text that is at or beyond grade level.

Abbreviation

ORF: Oral Reading Fluency

Decodable Text

The primary purpose of decodable text is to develop accurate and automatic word recognition skills. Decodable texts are written intentionally to have a high percentage of words containing directly taught phonic elements aligned with a scope and sequence. Decodable texts are controlled and should be aligned with the scope and sequence at 95% or higher. This means that of the total number of words in the text, 95% or more of the words contain phonic elements and high-frequency and/or irregular words that have been taught previously or represent those that are part of the current lesson. Students who are still establishing word-level skills benefit from reading decodable texts with a high percentage of decodable and taught high-frequency and/or irregular words, allowing them to apply taught skills (Compton et al., 2004; Hiebert, 2002).

In addition to supporting word recognition, some decodable texts can be used to build language comprehension skills. With text that has a high level of decodability for the student, there is available cognitive load for the teacher to provide vocabulary support, build background knowledge, and support comprehension. Teachers can also teach self-monitoring skills, so students learn how to check their understanding of vocabulary and text as they read.

Decodability can vary depending on each student's mastery of specific skills within the scope and sequence. The student's ability to read the text depends on what they have been taught along with what they have mastered. Ultimately, the student is the one who determines whether the text is truly decodable based on the student's skill at applying knowledge of phonic elements to reading connected text.

If teachers are using programs that do not include decodable text appropriately aligned to the program's phonics scope and sequence, they need to use that scope and sequence to identify, analyze, and select decodable texts that will provide students sufficient practice reading words with explicitly taught phonic elements in connected text.

Decodable texts are temporary scaffolds. Their purpose is to build word reading accuracy and automaticity. Their use is most valuable as students are developing word recognition skills. Decodable text should include both narrative and informational text to develop comprehension. The need for decodable text will decrease as students accurately and automatically read words with taught skills.

Example of Decodable Text

Passing a Bill

Passing a bill in Congress is very complex. There are a number of steps, and every aspect of a bill is inspected. Hundreds of people work to help with the passing of just one bill.

Congress starts by collecting all the facts and then editing the text. They spend a lot of time checking the cost and discussing what is intended with each new bill. Often, the talk can go on throughout many months. Then, it is put into a transcript, publishing it for the press and the public to see. At long last, a bill can be called up for a vote. Everyone in Congress can now cast their ballot. If most of them think it is great and say yes, then the bill will pass through.

This passage aligns with a specific scope and sequence and is 96.95% decodable when a student has learned closed syllables, including complex multisyllabic words, and inflectional suffixes *-s, -es, -ed, -ing*. The teacher will provide vocabulary support for words like *bill*, *complex*, *transcript*, and *ballot*. The teacher guides the students to visualize the text and retell the general process of passing a bill.

Reprinted with Permission from Wilson Language Training (Wilson, 2019)

Authentic Text

Authentic texts are written for a variety of purposes without controlling decodability. The goal of instruction is to have students independently read and comprehend authentic texts. These texts however, can and should be read to students when they still lack the word recognition skills to read them independently. Decodable texts are selected based on alignment with taught word structures, whereas authentic texts are selected based on the value of the passage to support language comprehension development. It is essential for all students to have access to rich, high-quality, authentic text. The primary purpose of working with rich authentic text is to develop language comprehension skills. This text contains rich vocabulary and more complex sentence structures to help students acquire knowledge and build schema. Teachers must include daily read-alouds of high-quality authentic text to develop children's listening comprehension. This is important because the gap between some students' word recognition skills and their listening comprehension is significant — especially in the early grades. Utilizing only decodable text will neglect the essential language comprehension skills that cannot be adequately developed when text is controlled for taught phonics skills. Using only decodable texts is insufficient to fully develop proficient readers. Additionally, teachers can use read-alouds to model and develop important reading strategies for all students.

It is important to note that authentic texts need to be of high quality to match the purpose and complexity of developing language comprehension and building content knowledge. Authentic text may be at or above grade level and is considered complex for the purpose of developing reading stamina, vocabulary, and comprehension. For read-alouds, best practice recommends reading grade-level curriculum texts to those who cannot yet read them independently, along with read-alouds that are at least one or two grade levels above for all students. Authentic texts provide opportunities for reading enjoyment in addition to knowledge building. These texts help students learn how to read and learn from varied text structures. Teachers should consider vocabulary, syntactic complexity, text organization and cohesion, and knowledge building when selecting high-quality, authentic texts to ensure text fairness for their students.

Continued on page 60

 continued from page 59

Before students can read authentic or grade-level texts independently, it is necessary to provide opportunities for students to access the content through listening to text read aloud (by the teacher or audiobooks) or interactive oral reading. Narrative and informational texts allow students to interact with more complex sentence structures and higher-level vocabulary. Teachers can provide scaffolds to help students understand the increasingly complex sentence structure.

Bridge Text

For emerging readers, a large gap often exists between the ability to read decodable text and being able to read authentic text. Students need interaction with text that helps with the transition from reading highly controlled text to reading authentic text. Teachers are faced with an important question: How do we bridge that gap? We will discuss the use of text sets as a way to transition students from decodable to authentic texts.

For the purpose of this article, we will use the term "bridge text" to describe text that is less controlled but is at least 85% decodable. This bridge text should still have a high level of alignment with taught phonic elements but at a lower level of alignment than a controlled, decodable text that is aligned to a specific scope and sequence at 95% or higher. To ensure that students can meaningfully interact with these less decodable texts, teachers will need to provide targeted guidance and support. Teachers will be shoulder to shoulder or working with students in small groups to supply words that are unfamiliar and support reading and understanding complex syntactic structures.

Text Sets

Text sets can help students successfully read a bridge text, as they can combine decoding skills with knowledge of words related to a topic while reading them. Text sets are collections of texts focused on a specific topic (Garrison, 2016). This collection can include text types that are narrative and informational at appropriate levels to support students. The texts provide students opportunities to practice applying word recognition skills and build knowledge and vocabulary.

As part of the text set, teachers can include readings that bridge decodable and authentic text. Studies using grade-level text suggest that using complex text with scaffolding can support the reading growth of older struggling readers (Brown et al., 2018). The teacher scaffolds by guiding students to read words that align with taught skills or, if necessary, telling students unknown words. Because of the extensive reading on a topic within a text set, students may be able to read words that are not as tightly controlled. Wide reading on a specific topic may help students to build background knowledge and vocabulary. In addition, wide reading provides repeated interactions with words containing phonic elements that may not yet have been directly taught but may have become familiar to students through content instruction and multiple exposures.

Matching Tasks and Texts

It is necessary to consider the types of tasks when planning lessons. It is important for all students to experience a wide range of texts to support the development of word recognition and language comprehension. Students should not be limited to decodable text only.

In addition to the tasks in Table 2 (see page 62), silent reading is a task that is often assigned to students in class. While there isn't research to support the benefits of sustained silent reading, the silent reading of a specifically targeted passage, carefully selected to match a student's ability, can help a student apply taught skills independently with scaffolded support, close monitoring, and accountability. For example, if a student is learning specific phonic skills and there is a decodable passage with 95% of words aligned to those skills, the teacher might have the student read it silently (with teacher observing), and then retell it, followed by the student orally reading it. In this way, the student has practice applying skills to read and comprehend independently. Since silent reading is the skill most tested and used throughout life, this provides an opportunity for silent reading with appropriately matched text and scaffolded support.

Thus far, we've provided background on matching tasks and texts and identifying text sets that match the purpose of the reading activity. Next, we'll discuss making informed decisions to select the tasks and texts.

Instructional Decision-Making

Data collection is necessary to make sound instructional decisions. Formal and informal measures help teachers determine if students are meeting grade-level expectations and making sufficient progress in classroom instruction or intervention. Data also help teachers identify the instructional focus for lessons, select the appropriate tasks and texts, and create text sets to meet the varying needs of students.

Once teachers select text based on data, they continue to listen to students read to ensure the text is still appropriate for the task and matches the students' instructional needs. Teachers analyze errors students make while reading to determine patterns and the need to provide more targeted instruction and practice taught skills that align with the scope and sequence.

For students in intervention, the interventionist monitors progress using decodable text to determine accurate, automatic word reading and fluency, while also noting phrasing and expression. Progress monitoring results are reviewed to determine if the intervention students are making sufficient progress. Errors are also analyzed to determine if there are patterns in the words presenting difficulty.

Putting It Into Practice

Error analysis revealed that Yessi's errors pertained to words containing phonic elements taught previously as well as untaught elements based on a Structured Literacy-based

Continued on page 63

Table 1

Text Set

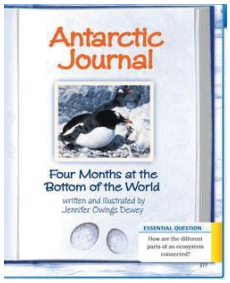
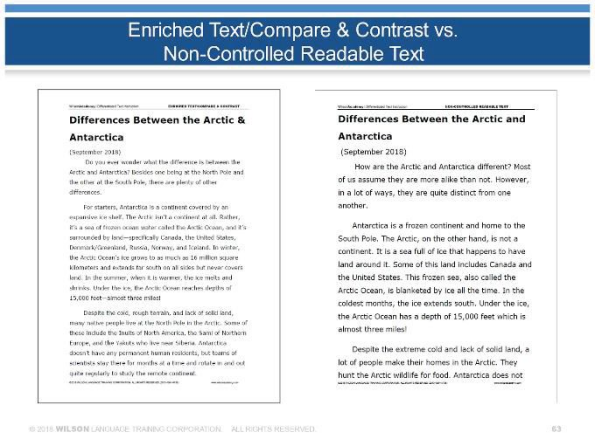
Resource	Task
Podcast, videos, audiobooks, etc. Example: Resources - Share the Endurance22 Expedition to Antarctica with your classroom (reachtheworld.org)	Students view or listen to multimedia resources to build knowledge and vocabulary with authentic text.
True narrative story of Antarctica  	Classroom teacher reads authentic text aloud to the class to build knowledge and vocabulary.
Use "bridge" and authentic text. (Example of paired text passages from Wilson Academy®.)  Reprinted with Permission from Wilson Language Training (Wilson, 2018). ReadWorks is a resource to locate multiple passages on a topic that are appropriate for providing students with various practice opportunities. Find Reading Passages (readworks.org)	Teachers assign different texts, based on individual reading skills, for interactive oral reading or independent reading as appropriate. Students can also be paired to read the passage having higher readers paired with readers who need more support. Students can revisit the passages for repeated readings or echo reading. Classroom teachers and interventionists can work with different groups of students using texts on the same topic, but at varying levels of decodability and text difficulty.

Table 2

Types of Tasks

Task	Brief Description	Types of Texts to Support the Tasks
Read Alouds	• Teacher reads rich authentic text to the student to build background knowledge, develop vocabulary, experience complex sentence structures, and practice visualization skills, and other comprehension strategies necessary for building mental models. • Provides opportunities to listen to text that may be beyond the student's current word recognition levels and current grade level for developing language comprehension.	High-quality, rich **authentic text**
Interactive Oral Reading	• Student and teacher take turns reading parts of the text or the student reads with teacher support. • Teacher guides the student to use taught word structure, supplying pronunciations of untaught words. • Teachers shows how to self-monitor decoding and comprehension of the text. • Teacher can supply words with concepts that have not yet been taught.	Continuum depending on student skill level • starting with **decodable text** (as needed) • progressing to **"bridge text"** • working toward the goal of **authentic text**.
Repeated Reading and Other Fluency-Building Strategies	• Repeated reading, echo reading of text that is familiar. • Students can focus on their phrasing, expression, and attention to punctuation. Automatic application of skills becomes paired with prosody in reading.	• **Decodable text** • **"Bridge text"** when students have demonstrated that they are able to accurately read the text. They will read multiple times during repeated reading.

curriculum. The interventionist recognized the need to target these skills and identified related tasks to provide more practice. Dictation practice for spelling words is included to cement sound/spelling correspondences. The interventionist provided the instruction and selected decodable texts for sufficient repetition and practice opportunities. They also recommended text for Ms. Takisha to provide additional practice in the classroom. Scaffolded support for untaught skills may be needed when Yessi encounters unfamiliar words in selected texts. A similar error analysis, with instruction and decodable text selection, was conducted for Michael.

While preparing to teach about Antarctica, Ms. Takisha created a text set that includes texts to match purposes and to support all students, including those who are still developing word recognition skills. To build vocabulary and background knowledge and bridge text for interactive oral reading, she selected authentic texts to read aloud to the whole class and, as appropriate with able readers, for independent reading.

During small-group instruction and when she is teaching social studies content, Ms. Takisha pairs Yessi with a couple of other students for additional support while they read and discuss authentic text together using questions Ms. Takisha provided. Michael has access to audio recordings paired with authentic text for independent reading. Michael may need less comprehension support because of his vocabulary strengths, whereas Yessi may need more monitoring and support to understand vocabulary. Ms. Takisha is able to provide reading practice opportunities for all her students because she has created a text set on the topic with selections that support both purposes in a variety of reading activities.

Summary

Aligning reading tasks with the purpose and instructional goals and selecting appropriate texts to support the goals is fundamental to implementing a Structured Literacy approach. Planned and purposeful instructional decisions based on student data increase the likelihood that students will benefit optimally from the explicit and systematic instruction that characterizes effective instruction. Following the principles of instruction as delineated on the Structured Literacy InfoMap (IDA, 2023) contributes to planned, purposeful instructional decision-making for selecting appropriate tasks and texts to support the development of word recognition and language comprehension, both essential for proficient reading.

References

Brown, L. T., Mohr, K. A., Wilcox, B. R., & Barrett, T. S. (2018). The effects of dyad reading and text difficulty on third-graders' reading achievement. *Journal of Educational Research, 111*(5), 541–553.

Compton, D. L., Appleton, A. C., & Hosp, M. K. (2004). Exploring the relationship between text-leveling systems and reading accuracy and fluency in second-grade students who are average and poor decoders. *Learning Disabilities Research and Practice, 19*(3), 176–184. https://doi.org/10.1111/j.1540-5826.2004.00102.x

Garrison, S. (2016, September 23). What are "text sets" and why use them in the classroom? *Thomas B. Fordham Institute: Advancing Educational Excellence.* https://fordhaminstitute.org/national/commentary/what-are-text-sets-and-why-use-them-classroom

Hiebert, E. H. (2002). Standards, assessment, and text difficulty. In A. E. Farstrup & S. J. Samuels (Eds.), *What research has to say about reading instruction* (3rd ed., pp. 337–369). International Reading Association.

International Dyslexia Association. (2023). *Structured literacy: An approach grounded in the science of reading* [InfoMap]. https://shopida.org/products/ida-structured-literacy-infomap

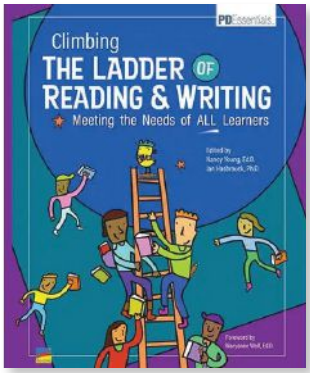
Wilson, B. A. (2018, September). *Differences between the Arctic and Antarctica*. Wilson Academy, Wilson Language Training. https://community.wilsonacademy.com/wilson-reading-system/viewer/61094d49ff6e595bcc6c0ad4

Wilson, B. A. (2019). Passing a bill. *Wilson Reading System: Student reader three* (4th ed., p. 162). Wilson Language Training.

Christie Cavanaugh *is the Director of Literacy Research and Practice at Wilson Language Training. Following her career as a special education teacher at the early childhood and elementary levels and faculty member at the University of Florida and UNCG, she helps translate research to practice to inform programs and professional learning. Her decades of teaching experience and graduate degrees in special education (Vanderbilt University and The University of Texas at Austin), have prepared her to incorporate evidence-based knowledge into teacher preparation and professional development. She has presented nationally and internationally and has served as a literacy consultant in several capacities.*

Barbara Sheaffer *serves as the Director of Administrator Relations at Wilson Language Training. She supports school leaders in their implementation of structured literacy programs. Barbara assists districts in the development of comprehensive literacy plans, provides school leader coaching and facilitates school leader learning and collaboration through courses focusing on implementation science and structured literacy. Previously she worked in public education for 30 years as a teacher and then as a director of special education. She became a Wilson® Credentialed Trainer in 2002. She continued her contributions to Wilson Language Training by joining as an On-Call Trainer in 2010 and in 2022 as a Literacy Advisor. Barbara has a B.S. in Special Education and a M.S. in Early Childhood Education. She holds certificates as a Reading Specialist and Administrative I – Principal K–12.*

Book Review by Terri Hessler



Climbing the Ladder of Reading and Writing

Nancy Young and Jan Hasbrouck, Editors

Benchmark Education)

320 pages. 2024. Paperback.

In 2012, Dr. Nancy Young created The Ladder of Reading and Writing infographic, which depicts the range of ease with which children learn to read and write and the instructional applications relative to that wide range. In *Climbing The Ladder of Reading and Writing* (2024), Young collaborates with Dr. Jan Hasbrouck to fully explain the infographic, and they call upon experts in the field to detail how to provide effective instruction to *all* students represented by four subranges on the ladder, from those who learn to read with ease to those who find it difficult, with two middle areas representing less ease and difficulty. Well-known authors including Margie Gillis, Tiffany Hogan, Sharon Vaughn, Steven Dykstra, and Stephanie Al Otaiba contribute chapters. Reading through the entire list of contributors, a veritable list of Who's Who in reading and writing scholarship, indicates that this book will be an oft-reached-for reference on anyone's bookshelf of reading and writing instruction classics. Click here for a list of chapter titles and authors.

The book is a master class in organization with 20 chapters divided across three parts: I. Understanding the Big Picture, II. Addressing Exceptional Needs, and III. Exploring Additional Considerations. Only four chapters are 18 pages or longer, with the longest being 22 pages; the rest range from eight to 16 pages. Before the reader gets to Chapter 1, the extensive front matter (14 pages!) provides everything anyone new to the ladder needs to know to begin. From the foreword by Maryanne Wolf to the two-page full-color spread of the updated infographic, the reader is given all the background information needed to start Chapter 1 fully prepared and excited to learn more about meeting the instructional needs of all students in reading and writing.

Because the editor-authors' intended audience is broad (e.g., parents, classroom teachers, administrators, etc.), they not only provide an explanatory page of the book's organization, but they also provide a table suggesting the best way to use the book depending on the reader's role: teacher, administrator/professional leader, and parent-caregiver. What's more, they provide a QR code for readers to scan for supplemental materials including a glossary, a pdf of the infographic, and a spotlight on the infographic illustrator.

A great term to describe this book is *user-friendly*. Although written in a scholarly voice, the text language is attainable; it could be easily used as a textbook for undergraduate education students. Yet, all authors perform due diligence with frequent and necessary in-text citations of the research supporting the information provided. Each of the three book parts is color-coded, and the page edge margins of each chapter page are colored to match the respective book part. Each chapter title is also printed on the right-side page of each spread, so that when the reader flips the pages, it is easy to find the searched-for page, section, or chapter. Each chapter in Parts II and III starts with a vignette that centers that chapter's topic.

A key theme of the Ladder and this book is that all students deserve to improve in reading and writing outcomes, and that teachers need to apply a needs-based approach to instruction. Young and Hasbrouck and the contributing authors are wildly successful at providing the reader with information about how to differentiate instruction across the four subranges. Even more useful is a chapter about *managing* differentiation, a topic that is lacking in too many teacher-education programs.

Picking a chapter to highlight is impossible, as each is important. What is more important to highlight and underscore is that the entire book addresses not just reading but also writing. As the Science of Reading has blossomed over the last few decades, writing instruction arguably has received short shrift. This book will help fill that gap, especially because it provides further resources in this important skill.

Climbing The Ladder of Reading and Writing is a collection of some of the brightest contributors to the Science of Reading, and it does not ignore the needs of the students who do not struggle with these two skills. It should be a go-to for college coursework, in-service professional development, and families and caregivers who want to do better in addition to knowing more.

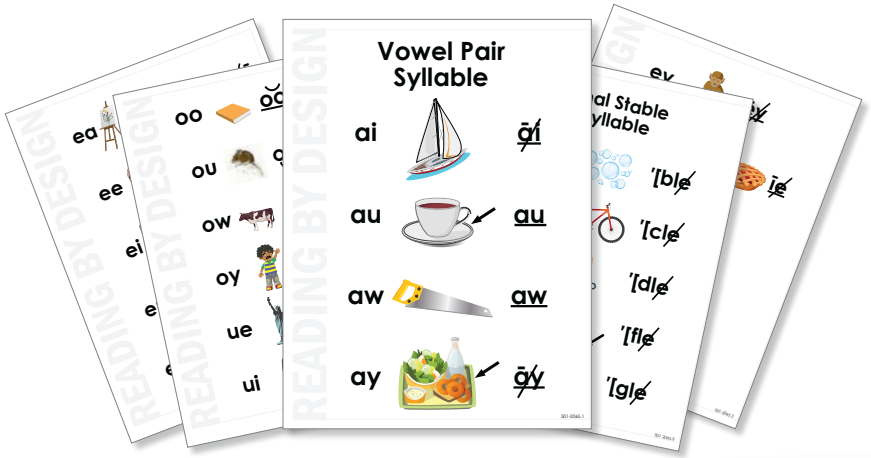
Dr. Terri Hessler *(SL-DI), has a Ph.D. in applied behavior analysis from special education program at The Ohio State University, which has been operating from a paradigm of reading based on the science of reading since 1970. She is a certified structured literacy dyslexia interventionist (SL-DI) and OGI Master Trainer-Institutional Level. She has been teaching effective instruction, behavior, and classroom management strategies to pre-service teachers for 20 years and conducts research related to dyslexia interventions and screenings.*

The opinions of this reviewer are not necessarily the opinions of the International Dyslexia Association.

READING BY DESIGN®

A Systematic, Explicit, and Intensive Dyslexia Intervention Program

- Introductory Training and Post-Certification Support
- IDA Certification Opportunities
- Dedicated App to Track Student Progress



Learn more at **esc4.net/Dyslexia**

REGION 4 EDUCATION SERVICE CENTER | Dyslexia

International DYSLEXIA Association®

1829 Reisterstown Road Suite 350
Pikesville, MD 21208
Phone: (410) 296-0232
Fax: (410) 321-5069
E-Mail: info@DyslexiaIDA.org
Website: www.DyslexiaIDA.org