Morphology Instruction for the Student with Dyslexia: When, Why, and What

by Jane Ashby, EdM, PhD, FIT/OGA; Lynn Lamping, ATFC/OGA; Colleen Chow ATF/OGA

There is a lot of talk about morphology in today's literacy world. Conversations about word origins and compositional meanings shed a fascinating light on our present-day vocabulary. For example, those who know that the word text comes from the Latin textere, meaning to weave, have their understanding of text processing elevated by this insight. Inspired classroom teachers are experimenting with how morphology fits into literacy instruction for dyslexic readers, so that the joy of morphological discovery is accessible to all students. Fueled by this excitement, this article considers how research informs where morphology fits within OG instruction.

OG educators carry a fundamental responsibility to follow an appropriate instructional sequence that will result in each student with dyslexia becoming a skilled reader. It is essential that we provide morphology instruction to our students so that they understand the many different meanings that words carry within them. Careful consideration of when, why, and what to teach can ensure that we are providing effective instruction for our dyslexic students.

This article discusses issues related to the impact of morphology instruction and how it should be taught. It also includes highlights from our talk at the 2025 Academy Conference. We discuss the roles of morphology and phonology in dyslexia, examine the research evidence of the effectiveness of morphology instruction with struggling readers and beginning readers, then describe effective morphology instruction in the three key phases of learning to read.

Before starting on this journey, let’s take a moment to define some terms as they are used in this article. The OGA Glossary defines morphology as the study of meaningful units of language, and how they are combined in word formation. A morpheme is the smallest unit of language that carries meaning. Morphological awareness refers to the ability to recognize the meaningful parts of spoken words. Morphology instruction involves teaching meaningful parts of letter strings as chunks and teaching how multisyllabic words can be decomposed into meaningful parts to decode them. Decomposition refers to the process of reading or writing a word by segmenting and blending its meaningful parts, such as base word and suffix.

There is a hierarchy of morphological complexity that lends itself to teaching morphology in a sequence from simple to complex. We use the term basic morphology to describe teaching simple written suffixes like -s and then common suffixes that are more complex (-es, -ing, -less, -ed). Intermediate morphology instruction provides further practice decomposing words into base words and affixes, teaching common prefixes (un-, re-, di-) and suffixes (- er, - en, -ous). In advanced morphology instruction, students learn Latin roots (-rupt-, -scrib-, -script-, -tend-) and Greek combining forms (phon-, -graph-, -logy).

Morphology, Phonology, and Dyslexia

Understanding the relationship between morphology and dyslexia can inform how morphology is taught in the OG sequence. The gap between morphological awareness in dyslexic readers and typical readers that appears early in reading development and widens each year (Deacon et al., 2006; Georgiou et al., 2023; Parrila et al., 2020; Siegel, 2008). However, this does not necessarily mean that poor morphological awareness causes their reading difficulty. In a review of 40 studies with dyslexic readers, Georgiou et al. (2023) found that the morphological awareness of dyslexic students differed from their same-age peers but did not differ from younger students with similar reading levels. This pattern indicates students with dyslexia exhibit poor morphological awareness because they've had less reading experience and reduced exposure to complex words than typical readers. Georgiou and colleagues concluded that poor morphological awareness is not a cause of dyslexia.

Although further research is needed to understand the role of morphological awareness in dyslexia, the role of core phonological processing deficits in dyslexia is settled science (Rack et al., 1992; Share, 1995; Share, 2021). In a review of 235 studies, Melby-Lervag et al. (2012) found that struggling readers lagged far behind similar-age peers in phonemic awareness from the earliest points in reading instruction. In addition, struggling readers had larger phonological processing deficits than younger students with similar reading skills, which indicates that these deficits were not simply a result of less reading experience. This review converges with previous and subsequent studies indicating that a core phonological deficit usually underlies the dyslexic reader's struggle to read and spell words (Petersen & Pennington, 2015; Share, 2021; Snowling, 1998; Stanovich, 1998). The presence of a core phonological deficit in dyslexia underscores the importance of ensuring that our inaccurate decoders build a strong phonological processing foundation.

Students who have a core phonological deficit demonstrate poor phonemic awareness performance. Poor oral phonological processing in dyslexic students has wide-ranging implications for reading development. Evidence suggests that phonological processing affects the development of reading networks in the brain (Kovelman et al., 2012; Pugh et al., 2001; Wang et al., 2021). In terms of learning outcomes, inaccurate or slow phonological processing interferes with the acquisition of decoding skills (NRP, 2000). Decoding allows students to accurately pronounce new words encountered during reading. Independent, accurate decoding of unfamiliar words supports self-teaching (Share, 1999), which is a key strategy for learning to recognize words instantly. When decoding is automatic, this allows the orthographic mapping process to store memories of words to recognize them faster at the next encounter (Ehri, 2014; see Kilpatrick, 2020 for a review). When students can recognize many words instantly, this frees up cognitive resources for comprehension (Perfetti, 1985)

Even when accurate decoding is established, struggling readers may not be automatic enough to orthographically map words for instant word recognition (Kilpatrick, 2020). In this case, a student may decode the same word repeatedly without storing its form for instant recognition. Because of phonology's crucial role in reading development, OG educators prioritize lesson activities that strengthen phonological processing by focusing on phonemic awareness and

phonics instruction while our students are learning how to read 4-to-5 sound words efficiently and automatically.

Given the morpho-phonemic nature of the English writing system, there are good reasons to believe teaching morphology will help dyslexic readers grow their reading and writing skills. Morphological decomposition could support spelling, facilitate decoding of longer words, and enhance the lexical quality of words stored in memory. Learning morphemes for reading and spelling could help students recognize common letter strings as chunks and, thus, transition into the consolidated phase. During this phase, knowledge of meaningful word parts could support intentional, semantically organized vocabulary expansion as well as independent vocabulary growth during reading.

In this next section, we discuss four meta-analyses that examined the effect of morphology instruction on literacy outcomes for struggling readers and beginning readers. Together, these studies reflect a developing literature that is problematic in several ways. Careful analyses (e.g., Colenbrander et al., 2024) suggest that claims about the effectiveness of morphology instruction for beginning and struggling readers may have been overstated.

How clear is the evidence that morphology impacts literacy growth for struggling readers more than typical readers?

Two reviews of the morphology research included studies with struggling readers (Bowers et al., 2010; Goodwin & Ahn, 2010). Both reviews found larger literacy gains when the treatment contained some morphology in the context of a broad literacy lesson than when the treatment focused solely on morphology instruction. Bowers et al. (2010) analyzed 22 studies with typical and struggling readers. Providing some morphology instruction in the context of a larger literacy lesson improved reading, spelling, and comprehension in comparison to neutral, business-as-usual conditions. However, the positive effects vanished when morphology instruction was compared to treatment conditions that taught phonology or comprehension (Colenbrander et al., 2024). In addition, Bowers and colleagues (2010) reported larger effects for morphology instruction with struggling readers than with typical readers. However, they noted that the struggling readers received morphology instruction in small groups or individualized settings, which makes it impossible to know whether the observed effects were due to the size of instructional groups or differences in reading skill. Therefore, Bowers et al. (2010) does not provide clear evidence for morphology instruction being especially effective with struggling readers.

Goodwin and Ahn (2010) analyzed 17 studies that focused on the impact of morphology instruction with students who have literacy difficulties. This review included studies with students who have reading disabilities, students with speech delays, and multi-lingual English learners. Morphology instruction did not significantly improve decoding for these learners but it did improve their spelling and reading comprehension. Interestingly, these effects were smallest for students with reading disabilities (Colenbrander et al., 2024). In summary, meta-analyses of the morphology research do not offer clear evidence about the impact of morphology instruction on literacy outcomes for struggling readers.

How clear is the evidence that morphology impacts literacy growth more for beginning readers than advanced readers?

In the absence of ideal studies with dyslexic readers, it is logical to seek evidence from a group of readers who are similar in reading skill. It is often claimed that morphology instruction has a larger impact on literacy outcomes for beginning readers. Perhaps these findings can be extrapolated to support teaching morphology "from the start" to students who enter OG instruction as beginning readers.

Two reviews of morphology research (Bowers et al., 2010; Goodwin & Ahn, 2013) reported that effects of morphology on decoding, spelling, and vocabulary were stronger with younger learners than older learners. This finding is intriguing, but it may be questionable. According to Colenbrander et al. (2024), both reviews counted studies as testing "morphology instruction" even when morphology was only a small component of the literacy instruction (e.g., Lovett & Steinbach, 1997). Therefore, the stronger effect claimed for "morphology" could be explained by impacts of the literacy instruction overall, rather than the morphological portion per se. In that case, what is presented as larger effects of morphology instruction on beginning readers may actually be the-often-replicated finding that explicit literacy instruction is more effective with beginning readers than older readers. Goodwin and Ahn (2013) analyzed 30 studies in their review. The claim that morphology instruction improves literacy outcomes for younger readers was based on only two studies with typical beginning readers in Grade 2 and below. This is initial evidence, but far from conclusive.

Colenbrander et al. (2024) reports a more recent review of 28 studies in which at least 50% of the instruction included morphology. This meta-analysis did not find evidence that morphology instruction is more effective with students who are beginning readers compared to older students. The authors note that there was an insufficient number of studies that examined the impact of morphology-focused instruction on reading outcomes in the first two years of schooling; "Empirical evidence for this population [beginning readers] is currently lacking" (p.28). Therefore, there is no converging evidence that morphology instruction is more effective when provided earlier in reading development. Further studies are needed to address questions about the impact of K-1 morphology instruction on literacy outcomes.

> In other words, current research seems to indicate that morphology instruction works, but provides very little clear information regarding for whom it works, under what circumstances, or what features make it effective (Colenbrander et al., 2024, p.30).

At this time, the research literature presumed to affirm the value of morphology instruction for dyslexic readers is the value of morphology instruction for dyslexic readers is problematic in several ways which we describe above. Yet, the morpho-phonological nature of English makes it likely that morphology instruction will be helpful for students with dyslexia when it is timed appropriately. Considering Ehri's phases of reading can help guide our understanding of when which aspects of morphology instruction will allow dyslexic readers to develop into proficient readers. Hopefully, the information provided next will be useful to OG educators considering the

timing and proportion of morphology instruction for students who are still developing their single syllable decoding skills.

Teaching Dyslexic Readers in the Partial Alphabetic Phase

Difficulty reading and spelling words is the signature identifier of dyslexia (Siegel et al., 2025). Students with dyslexia often begin their OG instruction in the partial alphabetic phase. In this phase, students know some letter-sound patterns but apply them inconsistently. Rather than decoding left to right, students guess at words based on the first letter and, later, the last letter as well. For example, a student in the partial alphabetic phase may read “ran” for rip and “head” for had. How does phonological processing contribute to such decoding difficulties?

In the partial alphabetic phase, phonological processing challenges interfere with dyslexic readers’ ability to orally sequence and manipulate the sounds in words, resulting in poor performance on phonemic awareness tasks. In turn, these challenges interfere with decoding, recognizing words instantly, and spelling (Ehri & McCormick, 1998; Kilpatrick, 2020; Share et al., 1984). Letter knowledge, phonemic awareness, and knowledge of the alphabetic principle all support the acquisition of the strong decoding skills necessary to eventually become a skilled reader (Coyne et al., 2001). For dyslexic students, the first instructional priority is to build the initial foundation skills needed to become a confident decoder. Oral morphological awareness instruction can begin once students have developed adequate phonemic awareness (i.e., when they have mastered the ability to delete parts of initial and final blends orally).

If our students with dyslexia are reading single words and nonwords inaccurately, then OG lessons focus first on improving phonological processing skills to support accurate decoding. These phonological processing skills develop throughout the OG lesson, particularly during the word list, blending board, sentence reading, and phonemic awareness tasks (Juel et al., 1986; Share et al., 1984). When OG instruction initially focuses on developing phonemic awareness and accurate decoding for 4-to-5 sound words, dyslexic readers can transition into the early, full alphabetic phase with a solid foundation of skills that they integrate to achieve accurate decoding.

Teaching Dyslexic Readers in the Full Alphabetic Phase

Ehri and McCormick (1998) describes the full alphabetic phase as “an essential beginning point that enables beginners to acquire the foundation for attaining mature reading skill” (p.150). Early in this phase, readers are accurate but slow decoders. Slow decoding temporarily limits a reader’s ability to comprehend text, build a store of instantly recognized words, and acquire new vocabulary from reading. Painstaking attention to letter sequences provides decoding practice that speeds the process up eventually, but this part of reading development can take an extended period of time. Dyslexic readers continue to build their phonemic awareness for words with initial and final blends as well as further strengthening their decoding skills. As students learn more letter-sound patterns and syllable types, they expand their toolkit for reading unfamiliar

words accurately. When students can apply letter-sound correspondences accurately, they can begin to use a crucial process for growing their reading network: self-teaching (Share, 1995). The self-teaching process is engaged when accurate decoders interact independently with new words that they decode and identify. To store the word, readers also orthographically map the phonological word form back onto the letter string to bind together the phonological and orthographic information into a durable memory that eventually allows the word to be recognized as familiar (Ehri, 2014; 2017).

When a dyslexic reader has mastered decoding words with initial and final blends, reading becomes smoother as they confidently sound out new words with four and five sounds. This level of decoding skill ensures that students can accurately read a base word (bend) as well as the new suffix they will attach to it (-ing). At this point, OG educators may teach basic morphology to students with dyslexia. Teaching common suffixes (-es, -ing, -ed) supports decoding and spelling. Each suffix should be introduced on a card with its sound. Oral examples of sentences with words that have this suffix can illustrate the meaning. Word lists provide opportunities for students to independently analyze words, identify suffixes, then read the full word as it is spoken. Encouraging students to analyze and mark words before reading them is one powerful way to build accurate decoding. To the extent that these strategies overlap with automatic self-teaching processes, the word list can be seen as an opportunity to explicitly practice aspects of the self-teaching process that most typical readers engage automatically.

Having a larger toolkit matters, yet each student also needs to become proficient at using these tools to read and spell words. This requires time, practice, and an emphasis on sounding out words accurately. In the OG lesson, students can automatize accurate decoding habits by reading 4-to-5 sounds words in lists, in the blending drill, and in passages. Reading single words provides an opportunity for students to identify words based on letter information alone. Marking the vowel and other salient letters helps build deliberateness into the decoding process. The blending drill provides more practice with reading unknown words efficiently. Reading sentences and passages aloud provides practice decoding efficiently on the fly, which is a skill needed to comprehend stories and non-fiction texts. As with any procedural skill, the key to developing automaticity with decoding is deliberate focus, repetition, and practice.

Independent practice with word analysis is key to storing words in memory to be instantly recognized later (Li & Wang, 2023). As students practice identifying base words and suffixes in a word list, the process of affix stripping becomes more automatic, and students may begin to recognize common suffixes automatically as they read passages. They also begin storing new words in memory for faster recognition the next time they are encountered. As decoding becomes more automatic, readers expand their word recognition stores to develop text reading fluency (Ehri & McCormick,1998; Ehr 2014; Jorm & Share, 1983; Share, 2008).

In reality, it can take a long time for a dyslexic student to develop proficient decoding with 4-5 sound words, anywhere from a period of a year to several years in some cases. During this time, it is tempting to find a “faster” way to support fluent reading. Some educators wonder if reading fluency could be achieved more quickly by teaching more morphology to slow decoders. Teaching intermediate morphology to a student who decodes accurately but slowly may appear to be a worthy use of lesson time for several reasons. Often, dyslexic readers seem to learn

morphemic units more easily than graphemes. Dyslexic readers need to process larger units of text eventually, so perhaps beginning to teach intermediate and advanced morphology to accurate but slow decoders will speed their acquisition of fluent reading. Teaching larger units, such as word families, syllables, and morphemes can appear to speed text reading. Despite appearances, the effectiveness of teaching larger units before smaller units is not supported in the research literature (e.g., Ehri, 2022; Sargiani et al., 2022). For example, teaching form does not lead students to master the or grapheme for reading storm, dork, orb, original, orchestra. For this reason, neglecting to teach smaller grapheme units can undermine decoding development (Bruck & Treiman, 1992).

Paradoxically, the more time a student needs to develop proficient decoding, the more tempting it is to "unstick" them by teaching morphemic units. In practice, intensively teaching decomposition to dyslexic students who do not yet have automatic decoding skills will result in cognitive overload more often than not. That overload can prolong the period of dysfluent reading indefinitely. In seeking to propel our students ahead, we cannot neglect the necessary, foundational decoding skills.

Because dyslexic readers struggle with decoding and have weaker phonological processing than typical readers, they need more word exposures than typical readers to reach similar levels of performance (Ehri & Saltmarsh, 1995; Manis, 1985). Therefore, it is likely that they will need as much OG lesson time as possible to develop a decoding foundation that will support their continued reading development. Teaching intermediate morphology to slow decoders doesn't provide focused practice applying grapheme/phoneme correspondences that will build proficient decoding. Until decoding 4-to-5 sound words is efficient and automatic, it is best to remain focused on developing proficient decoding.

Later in the full alphabetic phase, students can read unfamiliar words confidently and efficiently. Once basic decoding processes are automatized, most dyslexic readers are ready to handle multiple layers of phonological, orthographic, and semantic information that arise during intermediate morphology instruction. At this point, OG educators may begin teaching intermediate morphological concepts. Teaching common prefixes and suffixes that follow known syllable types (open, closed, vce) provides further practice decomposing words into base words and affixes in spelling and writing. In the word list, students practice identifying each new affix to read intact words. Word attack strategies are expanded as students identify and isolate known morphemes alongside syllable division patterns to consider multiple pieces of information in reading multisyllabic words. Marking the pronunciations of intact words enhances phonological processing and the orthographic learning that occurs during self-teaching. Because the effectiveness of self-teaching hinges on independent encounters with words that are decoded accurately, the value of providing many opportunities in the OG lesson for independent word reading (i.e., without scaffolds or prompting) cannot be overstated.

Some OG educators present lists of word sums, which separate the base word from the suffix, rather than using intact words as in the traditional OG word list. Word sums can be useful for explaining how meaningful parts combine to make a word in the lesson introduction, but the present research does not yet confirm the utility of using word sums to build word recognition

stores. Li and Wang (2023), which reviewed 62 self-teaching studies, indicates that orthographic learning depends on students' independent encounters with unfamiliar words. Using word sums as the main practice for decoding multi-morphemic words effectively eliminates the opportunity for students to practice analyzing words independently from the start. Words are read more easily initially but are less likely to be stored to help grow word recognition. Therefore, OG educators will find that presenting traditional word lists with intact words provides the independent word analysis practice that is most effective for orthographic learning.

To summarize, there are two reading milestones that occur in the full alphabetic phase. First, students become accurate decoders of 4-to-5 sound words who can master basic morphology instruction that introduces simple suffixes. When a student demonstrates consistently accurate decoding skills, it is important to keep our focus on decoding practice until the student reaches the second milestone, which is automatically decoding 4-to-5 sound words. By providing the necessary instruction for each student to develop automatic decoding skills, we create the ideal conditions for students to engage orthographic mapping processes. In this way, dyslexic readers can store the words they decode and instantly recognize them later. Recognizing many words instantly boosts reading fluency and supports reading comprehension.

Teaching Dyslexic Readers in the Consolidated Alphabetic Phase

The consolidated alphabetic phase begins amidst the full alphabetic phase and can last up to six years for typical readers (Ehri & McCormick, 1998). In this phase, students consolidate grapheme-phoneme units into larger syllabic and morphemic chunks. As the student begins to recognize multi-letter chunks, they use these to read multisyllabic words. The student recognizes syllable patterns and develops a sense of where to divide multi-syllable words when decoding through repeated practice. They also recognize meaningful syllables (morphemes) because they have the knowledge that enables them to break words into syllables and morphemic units to decode. Their spelling of known letter patterns is accurate and their choice of the correct multiple spelling option (e.g., i spelled as i, ie, or y) becomes more accurate as they see examples of these words in their reading.

The consolidated alphabetic phase is fueled by extensive reading that provides encounters with many unfamiliar words and also allows readers to see common words repeatedly. Extensive reading is possible when the student is reading fluently. Reading fluency results when a reader can employ automatic decoding skills to orthographically map new words and build their instant word recognition stores (Kilpatrick, 2015). Through extensive reading, students further grow their bank of instant words (sight words) and acquire more extensive knowledge of the syllables and morphemes in our writing system. (Ehri & McCormick, 1998).

Accurate and automatic decoding frees up the reader's cognitive resources to process larger units of meaning. Beginning to recognize multi-letter chunks also reduces cognitive load, supporting more proficient decoding and fluent reading. Consequently, most dyslexic students have more cognitive desk space available for applying advanced morphological knowledge. Beginning to teach advanced morphology allows proficient readers to add meaningful, common syllables

(roots and combining forms) into their word recognition lexicon. Further practice with decomposition provides practice with a hierarchical approach to decoding multisyllabic words.

Learning advanced morphology holds implications for how students read, remember, and understand multisyllabic words. When students have mastered intermediate morphological concepts, teaching advanced morphology makes word work more engaging by bringing an additional layer of meaning. Each morpheme includes a rich mixture of phonological, orthographic, and meaning information. Once instantly recognized, morphemes become multipliers that enhance the self-teaching process as it continues to feed new words into the reading lexicon.

In summary, we need more research regarding the effects of morphology instruction on the literacy development of struggling readers, including students with dyslexia. As we continue to teach literacy to our students with dyslexia, we should be mindful of the decades of research which clearly demonstrate that phonological processing is a core deficit for nearly all students with reading disabilities. Therefore, focusing on developing phonemic awareness and proficient decoding with our struggling readers is essential. Having a better understanding of Ehri's phases of reading development, orthographic mapping, and self-teaching will help OG educators remember that proficient decoding is essential to the rest of reading development. Building a strong foundation of phonemic awareness skills and accurate decoding provides the ideal conditions for our dyslexic students to become fluent readers who can apply their morphological knowledge to support spelling, vocabulary-building, and comprehension.

Authors' Note
The authors thank Dr. Melissa Farrall and Dr. Dandan Wei for their insightful comments on earlier versions of this article.

References

Bruck, M., & Treiman, R. (1992). Learning to pronounce words: The limitations of analogies. *Reading Research Quarterly*, 375-388.

Bowers, P. N., Kirby, J. R., & Deacon, S. H. (2010). The effects of morphological instruction on literacy skills: A systematic review of the literature. *Review of Educational Research*, *80*(2), 144-179.

Colenbrander, D., von Hagen, A., Kohnen, S., Wegener, S., Ko, K., Beyersmann, E., ... & Castles, A. (2024). The effects of morphological instruction on literacy outcomes for children in English-speaking countries: A systematic review and meta-analysis. *Educational Psychology Review*, *36*(4), 119.

Coyne, M. D., Kame'enui, E. J., & Simmons, D. C. (2001). Prevention and intervention in beginning reading: Two complex systems. *Learning Disabilities Research & Practice*, *16*(2), 62-73.

Deacon, S. H., Parrila, R., & Kirby, J. R. (2006). Processing of derived forms in high-functioning dyslexics. *Annals of Dyslexia, 56*, 103-128.

Ehri, L. C. (2014). Orthographic mapping in the acquisition of sight word reading, spelling memory, and vocabulary learning. *Scientific Studies of Reading, 18*(1), 5-21.

Ehri, L. C. (2017). Orthographic mapping and literacy development revisited. In *Theories of reading development* (pp. 127-146). John Benjamins Publishing Company.

Ehri, L. C., & McCormick, S. (1998). Phases of word learning: Implications for instruction with delayed and disabled readers. *Reading & Writing Quarterly: Overcoming Learning Difficulties*, *14*(2), 135-163.

Ehri, L. C., & Saltmarsh, J. (1995). Beginning readers outperform older disabled readers in learning to read words by sight. *Reading and Writing: An Interdisciplinary Journal*, *7*(3), 295–326.

Georgiou, G. K., Vieira, A. P. A., Rothou, K. M., Kirby, J. R., Antoniuk, A., Martinez, D., & Guo, K. (2023). A meta-analysis of morphological awareness deficits in developmental dyslexia. *Scientific Studies of Reading, 27*(3), 253-271.

Goodwin, A. P., & Ahn, S. (2010). A meta-analysis of morphological interventions: Effects on literacy achievement of children with literacy difficulties. *Annals of Dyslexia, 60*(2), 183-208.

Goodwin, A. P., & Ahn, S. (2013). A meta-analysis of morphological interventions in English: Effects on literacy outcomes for school-age children. *Scientific Studies of reading*, *17*(4), 257-285.

Jorm, A. F., & Share, D. L. (1983). An invited article: Phonological recoding and reading acquisition. *Applied Psycholinguistics*, *4*(2), 103-147.

Juel, C., Griffith, P. L., & Gough, P. B. (1986). Acquisition of literacy: A longitudinal study of children in first and second grade. *Journal of Educational Psychology*, *78*(4), 243 - 255.

Kilpatrick, D. A. (2015). *Essentials of assessing, preventing, and overcoming reading difficulties*. John Wiley & Sons.

Kilpatrick, D. A. (2020). How the phonology of speech is foundational for instant word recognition. *Perspectives on Language and Literacy*, *46*(3), 11-15.

Kovelman, I., Norton, E. S., Christodoulou, J. A., Gaab, N., Lieberman, D. A., Triantafyllou, C., ... & Gabrieli, J. D. (2012). Brain basis of phonological awareness for spoken language in children and its disruption in dyslexia. *Cerebral Cortex*, *22*(4), 754-764.

Li, Y., & Wang, M. (2023). A systematic review of orthographic learning via self-teaching. *Educational Psychologist, 58*(1), 35-56.

Lovett, M. W., & Steinbach, K. A. (1997). The effectiveness of remedial programs for reading disabled children of different ages: Does the benefit decrease for older children?. *Learning Disability Quarterly*, *20*(3), 189-210.

Manis, F. R. (1985). Acquisition of word identification skills in normal and disabled readers. *Journal of Educational Psychology*, *77*(1), 78 - 90.

Melby-Lervåg, M., Lyster, S. A. H., & Hulme, C. (2012). Phonological skills and their role in learning to read: a meta-analytic review. *Psychological Bulletin*, *138*(2), 322 - 352.

Parrila, R., Dudley, D., Song, S., & Georgiou, G. (2020). A meta-analysis of reading-level match dyslexia studies in consistent alphabetic orthographies. *Annals of Dyslexia, 70*(1), 1–26.

Perfetti, C. A. (1985). *Reading Ability*. Oxford University Press, New York.

Peterson, R. L., & Pennington, B. F. (2015). Developmental dyslexia. *Annual Review of Clinical Psychology*, *11*(1), 283-307.
Pugh, K. R., Mencl, W. E., Jenner, A. R., Katz, L., Frost, S. J., Lee, J. R., ... & Shaywitz, B. A. (2001). Neurobiological studies of reading and reading disability. *Journal of Communication Disorders*, *34*(6), 479-492.
Rack, J. P., Snowling, M. J., & Olson, R. K. (1992). The nonword reading deficit in developmental dyslexia: A review. *Reading Research Quarterly*, 29-53.
Sargiani, R. D. A., Ehri, L. C., & Maluf, M. R. (2022). Teaching beginners to decode consonant–vowel syllables using grapheme–phoneme subunits facilitates reading and spelling as compared with teaching whole-syllable decoding. *Reading Research Quarterly*, *57*(2), 629-648.
Share, D. L. (1995). Phonological recoding and self-teaching: Sine qua non of reading acquisition. *Cognition*, *55*(2), 151-218.
Share, D. L. (1999). Phonological recoding and orthographic learning: A direct test of the self-teaching hypothesis. *Journal of Experimental Child Psychology*, *72*(2), 95-129.
Share, D. L. (2008). Orthographic learning, phonological recoding, and self-teaching. In *Advances in Child Development and Behavior, 36*, 31-82.
Share, D. L. (2021). Common misconceptions about the phonological deficit theory of dyslexia. *Brain Sciences*, *11*(11), 1510.
Share, D. L., Jorm, A. F., Maclean, R., & Matthews, R. (1984). Sources of individual differences in reading acquisition. *Journal of educational Psychology*, *76*(6), 1309.
Siegel, L. S. (2008). Morphological awareness skills of English language learners and children with dyslexia. *Topics in Language Disorders*, *28*(1), 15-27.
Siegel, L. S., Hurford, D. P., Metsala, J. L., Ozier, M. R., & Fender, A. C. (2025). Thoughts on the Definition of Dyslexia. *Annals of Dyslexia*, 1-15.
Snowling, M. (1998). Dyslexia as a phonological deficit: Evidence and implications. *Child Psychology and Psychiatry Review*, *3*(1), 4-11.
Stanovich, K. E. (1998). Refining the phonological core deficit model. *Child Psychology and Psychiatry Review*, *3*(1), 17-21.
Wang, J., Pines, J., Joanisse, M., & Booth, J. R. (2021). Reciprocal relations between reading skill and the neural basis of phonological awareness in 7-to 9-year-old children. *NeuroImage*, *236*, 118083.