

Are Scientific Reading Instruction and Dyslexia Interventions the Same? Distinctions for Elementary Education Preparation Programs

LaToshia Woods, Ph.D.
Karen Kleppe Graham, Ph.D.

Arkansas State University

Determining what elementary teacher candidates need to know to effectively teach reading will aid in how preparation programs prepare future teachers. To understand state legislation targeting early reading instruction, this study compared the tenets of structured literacy, the reading method used in dyslexia programs, to scientific reading instruction. Directed content analysis of documents relevant to the research topic revealed three themes which accounted for concepts from the National Reading Panel report, Scientific Reading Instruction, and the International Dyslexia Association. Recommendations for a comprehensive scope of the content to include in reading coursework for elementary teacher candidates are provided.

Results from the National Assessment of Educational Progress (NAEP), consistently raise concerns with fourth grade reading scores (Durrance, 2018b; Foorman et al., 2016; McCombes-Tolis & Moates, 2018) because NAEP scores are “a key measure of academic achievement” (Durrance, 2018b) and reading levels correlate to the likelihood of future academic success in school and in careers (Durrance, 2018a). More than two decades of stagnant NAEP results suggest a need to investigate reading instruction prior to fourth grade (Rowland, 2015). Reports such as the Southern Regional Education Board’s (SREB) *Ready to Read Ready to Succeed* (Durrance, 2018b) insist children be taught using evidence-based methods, participate in formative assessments of early reading, and receive appropriate early interventions as needed.

Recommendations from the National Center for Teacher Quality [NCTQ] (2016) urge Elementary Education Preparation Programs (EEPPs) to teach Scientific Reading Instruction (SRI) methods to their candidates. Elementary teacher candidates in several states are required to pass licensure exams assessing their SRI knowledge

(Durrance, 2018b) prior to beginning their careers. Consequently, these programs are target-rich for state legislative mandates aimed at early reading instruction (Durrance, 2018b). Policies directed toward EEPPs stem from the belief that poor reading instructional practices can be prevented with intensive teacher preparation. NCTQ (2016) and Rowland (2015) both suggested the greatest advancements in the quality of reading instruction in schools will come from EEPPs making changes in their program curricula.

Brief Review of the Literature

The National Reading Panel [NRP] (2000) established “effective reading instruction in the early grades must include explicit instruction in the five components of reading: phonemic awareness, phonics, vocabulary, fluency, and comprehension” (Durrance, 2018b, p.15). Lubell (2017) used these findings to argue “teachers need to know and practice how to provide explicit, systematic instruction in all five essential components of early reading instruction” (para.7; see also Foorman et al., 2016).

Thus, the NRP has become *the* report cited for determining what SRI should consist of. However, the NRP report does not clearly define instructional methods for teaching the five components of reading, nor does it claim to do so.

Scientific Reading Instruction

There is a trend in teacher certification legislation and policies targeting the use of instructional approaches following “the science of reading” (Rowland, 2015, p.2). In other words, the methods for teaching reading should be ones that have been deemed effective by evidence-based research studies. According to Durrance (2018b), evidence-based reading instruction must consist of the five components of reading. Foorman et al. (2016) and Shanahan et al. (2010) practice guides have additionally been recommended for evidence-based reading instruction because they contain instructional practices and reading instructional components (Durrance, 2018b). The practice guides are considered the best available “evidence-based recommendations for teaching foundational reading skills,” (“About this Practice Guide,” 2016, para.1; see also Shanahan et al., 2010). Recommendations in the practice guides are intended to be “implemented in conjunction with existing standards or curricula,” and the authors of the guides... [do] not recommend a particular curriculum,” (Foorman, 2016, p.3).

Dyslexia

Great discussion in literacy communities about struggling readers is ongoing. Due to legislative mandates, the focus of reading difficulties has shifted to probable causes for students’ reading struggles. Durrance (2018a) argued that the vast number of struggling readers in upper elementary school, high school, and beyond is due to the lack of a true diagnosis for reading

difficulties in the early grades. It is recommended teachers learn what dyslexia is and how to diagnose it as they are responsible for assisting struggling readers (Durrance, 2018a).

According to the International Dyslexia Association [IDA] (2015), dyslexia is a “language-based learning disability... characterized by a cluster of symptoms, which result in people having difficulties with specific language skills, particularly reading” (para.1). IDA insisted 15%-20% of the world’s population has dyslexia, to some degree. Dyslexia is considered a lifelong condition that can be helped by a “teacher, tutor, or therapist specially trained in using a multisensory, structured language approach,” (para.3).

Structured Literacy

The IDA (2015) purported structured literacy approaches, synonymous with multisensory approaches, are most effective for reading instruction. Structured literacy programs “prepare students to decode words in an explicit and systematic manner” (p.1). Elements of structured literacy include: phonology, sound-symbol association, syllable instruction, morphology, syntax, and semantics. Structured literacy approaches are described as “systematic and cumulative,” requiring both “explicit instruction” and the use of “diagnostic teaching” strategies (p.2).

SREB has strongly pushed for the use of structured literacy programs recommended by IDA based on the premise that students with characteristics of dyslexia *likely* “make up a significant portion of students who perform below the Basic level on NAEP reading in fourth grade” (Durrance, 2018a, p.1). According to Banks, Topple, and Huppertz (2019), “All children, especially those with dyslexia, respond best to reading instruction that includes the components of structured literacy.... The instruction or

instructional targets [do] not change for children with dyslexia. What changes is the duration and intensity of the instruction” (para.6-7).

Methodology

The purpose of this content analysis was to compare tenets of structured literacy programs – types of dyslexia programs promoted to address legislation – to SRI. Content analysis can be characterized as a “systematic, rigorous approach to analyzing documents obtained or generated in the course of research” to make “applicable and valid inferences from texts” (White & Marsh, 2006, p.22-23). The authors focused on types of dyslexia programs being promoted in their state through legislation. Research for this qualitative content analysis was guided by the following research question: As Elementary Education Preparation Programs prepare to best support teacher candidates’ acquisition of knowledge and skills in scientific reading instruction, in what ways are the components of SRI comparable to the structured literacy interventions recommended by the International Dyslexia Association?

The SREB informs policy for 16 states in our region. They provide resources and professional development recommendations to educators seeking strategies for best practices (SREB, n.d.). As EEPs strive to meet state mandates, it is critical they know and fully understand what those mandates mean for preparing future teachers. The SREB recommended the IDA for its “resources for training teachers” (Durrance, 2018a, p.5), and it was towards this end that the authors began the research journey of intense, comparative inquiry of key publications in the field of elementary reading instruction.

Due to numerous publications in SRI – over 15,000 according to an electronic key word search focused on “scientific research instruction” in isolation and in concert with “elementary reading strategies” – since the report of the NRP (2000), combined with recommendations from the SREB informing legislative policy, it was necessary to sift through the documents and selectively focus on publications. For the purposes of this article, primary source publications and recommendations from the focus entities were considered influential. The focus publications are listed in Table 1. Purposive sampling of selected texts was used to gather and interrogate influential publications in the field supporting evidence-based elementary reading instruction aligned to recommendations by state legislation (Zhang & Wildemuth, 2009). The documents listed in Table 1 formed the pool of publications from which analyses developed.

Data Collection and Analysis

Following discussions on comparable versus contrastive recommendations of key entities in the quest for best practices in reading instruction for EEPs, the authors’ questions/concerns prompted a closer look at the data behind legislative mandates in their home state and university. The authors’ foci was on content from the NRP (2000) report, subsequent SRI publications (Foorman et al., 2016; Shanahan et al., 2010), foundational IDA tenets from their public website (Cowen, 2016; Liptak, 2016; McCombes-Tolis & Moates, 2018; Spear-Swerling et al., 2019), and both SRI and the IDA publication interpretations from the SREB (Durrance, 2018a; 2018b).

To determine if structured literacy programs, as defined, addressed tenets of

Table 1
Focus Publications

SRI Publications	IDA publications	SREB publications
Report of the National Reading Panel	IDA Moves Beyond Matrix	Dyslexia Policies in SREB States
Improving Reading Comprehension in Kindergarten through 3rd Grade	Knowledge and Practice Standards for Teachers of Reading	Ready to Read: Ready to Succeed
Foundational Skills to Support Reading for Understanding	Structured Literacy: An Introductory Guide	

Note: Target publications were limited to primary source publications from IDA and SRI as well as recommendations from SREB

scientific reading instruction, directed content analysis (Zhang & Wildemuth, 2009) of relevant research documents (Table 1) was employed. The researchers explore programs identifying themselves as followers of the structured literacy approach recommended by the IDA to see if they were aligned to SRI, as claimed. Focus publications' content was closely scrutinized for information on components and strategies of both SRI and structured literacy for reading instruction. Interpretations of both were found within the regional policy recommendations for EEPs as well as interpretations of the legislated policies for the region's participating states. Reliability and validity concerns were addressed through each author's individual coding of the focus publications leading to discussions of similar and variant coding. After several close readings and intense discussions, the authors focused on three themes: 4th grade NAEP performance; components of early reading instruction; and a structured literacy program matrix. Each of these themes will be detailed and discussed in the following sections.

Findings

Using the SREB recommendations for reading instruction as the linchpin of our analysis provided interesting fodder for comparison, as shown in Table 2. The authors' scrutiny of the focus publications and organizational tenets led to findings that took into account the foundational ideas of the NRP, SRI, and the IDA, organized around three critical themes.

4th Grade NAEP Performance

According to the NRP (2000) report, teachers with higher levels of educational training were more likely to incorporate instructional strategies leading to higher reading scores in NAEP testing. Shanahan et al. (2010) authored a companion publication for the NRP (2000) and in it, they further defined the SRI view of using NAEP standards for comparison and listed components of the standards for comprehension. The IDA (McCombes-Tolis, 2018) argued approximately one third of all 4th graders read "below basic" and cannot fully participate in grade-level work,

Table 2

Comparing Tenets of SRI and IDA to Dyslexia Policies in SREB States

Contradictions to SRI Tenets	Contradictions to IDA Tenets	SREB Dyslexia Policies
<p>Quote: “Darling-Hammond (2000)... reports...‘NAEP analyses found that teachers who had had more professional training were more likely to use teaching practices that are associated with higher reading achievement on the NAEP tests’” (as cited in NRP, 2000, p.5-3).</p>	<p>Quote: On the lower end of the distribution [of scores], the National Assessment of Educational Progress (NAEP) consistently finds that about 32% of all fourth-graders read at a level described as ‘below basic,’ which is not sufficient to support grade-level academic work” (KPS, 2018)</p>	<p>Quote: “Children with dyslexia <i>likely</i> [author emphasis] make up a significant portion of students who perform below the Basic level on NAEP reading in fourth grade” (p. 1).</p>

Our Statement: IDA does not state that 4th graders working below basic level are children with dyslexia, and SRI simply records that teachers who use NAEP standards were more likely to reach higher achievement levels and lists the categories of comprehension addressed in the NAEP Standards.

<p>Quote: “The National Reading Panel (NRP) took into account the foundational work of the National Research Council (NRC) Committee on Presenting Reading Difficulties in Young Children (Snow, Burns, & Griffin, 1998)... [in which] the NRC Committee did not specifically address ‘how’ critical reading skills are most effectively taught and what instructional methods, materials, and approaches are most beneficial for students of varying abilities” (p.1-1).</p>	<p>Quote: “Currently there is not an empirical basis to identify one particular Structured Literacy™ program or method as more effective than all others, or as more effective for all children with a specific type of difficulty such as poor decoding, specific comprehension difficulties, dyslexia, or language disabilities” (Spear-Swerling, 2019, p.10).</p>	<p>Quote: “IDA standards specify the use of structured literacy teaching strategies to address the five essential components of reading identified by the National Reading Panel: phonemic awareness, phonics, vocabulary, fluency, and comprehension.... Structured literacy...teaches students the basic elements of language... required for decoding words when reading. These include phonological and phonemic awareness, sound-symbol association, syllable types and syntax (p. 7).</p>
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Five Components of Reading Instruction	Structured Literacy Elements
Phonemic Awareness	Phonology
Phonics	Sound-Symbol Association
Fluency	Syllable Instruction

Vocabulary Development	Morphology
Fluency	Syntax
	Semantics

Our Statement: Structured literacy does not address all of the components of evidence-based reading identified by the National Reading Panel (2000).

Quote: “Systematic phonics instruction is significantly more effective than non-phonics instruction in helping to prevent reading difficulties among at-risk students and in helping to remediate reading difficulties in disabled readers” (NRP, 2000, p.2-133).

Quote: “In their publication of *IDA Moves Beyond Matrix* (Liptak, 2016)... IDA compiled the Matrix following publication of NRP (2000) recommendations in response to requests from schools and parents for guidance on which reading curricula or programs were considered evidence-based. However, the information in the Matrix was provided by the organizations... not through independent research or review by IDA In 2010, ten years after the publication of the Matrix, IDA published *Knowledge and Practice Standards for Teachers of Reading*. This comprehensive document, supported by research, details the knowledge and skills teachers need to teach reading effectively. [This]... shifted IDA’s focus to teacher preparation rather than a specific curriculum... [since] any curriculum will only be effective with deep teacher knowledge and training.... Because IDA’s focus now is on teacher preparation and review of teacher preparation and training programs for their alignment with the IDA Standards, we have made the decision to cease updating and publishing the Matrix” (p. 1).

Quote: “...research shows that children who struggle to learn the fundamentals of reading benefit from structured, multisensory instruction. To help provide guidance for educators, the International Dyslexia Association has compiled a *Matrix of Multisensory Structured Language Programs*, with information on proven approaches to teaching language and reading skills” (p. 8).

Our statement: The most recent publications from the SREB misidentify the IDA's focus and do not align their recommendations for reading instruction with SRI strategies.

Note: Quotations from target publications were the focus for this comparative table

as defined by NAEP standards. The SREB took information from both SRI and the IDA and determined children with dyslexia are likely a large component of the students performing "below basic level" on the NAEP. The IDA does not state 4th graders working below basic level are mainly children with dyslexia, while the SRI view recorded teachers who use NAEP standards were more likely to reach higher achievement levels.

Components of Early Reading Instruction

In the seminal NRP (2000), "methods, materials, and approaches" for most effectively teaching reading are not addressed because the report is a research literature review of skills, contexts, and communication connections that best support early reading skills (p.1-1). However, the NRP *did* identify five components of reading instruction: phonemic awareness, phonics, fluency, vocabulary development, and comprehension (p.1-2). When comparing NRP recommendations to those of IDA (Cowen, 2016; McCombes-Tolis & Moates, 2018; Spear-Swerling et al., 2019), it is important to note IDA no longer recommends reading programs (Liptak, 2016). Instead, IDA promotes structured literacy programs containing the components: phonology, sound-symbol association, syllable instruction, morphology, syntax, and semantics. In their policy recommendations, SREB (Durrance, 2018a) stated structured literacy strategies addressed the NRP's five components of reading instruction. However, structured

literacy does not address all of the components of evidence-based reading identified in the NRP (2000).

Structured Literacy Programs Matrix

NRP (2000) advocated systematic phonics strategies to best prevent difficulties in reading for at-risk students and as interventions for disabled readers. In response to the NRP and at the prompting of schools and parents, IDA published the Matrix of reading curricula and programs based on research evidence provided by the requesting organizations (Liptak, 2016). The intent was to shift the focus from curricula and programs to teacher preparation and training. The IDA no longer stands behind the information previously contained in the Matrix. Instead, they support deep knowledge in reading instruction through alignment of teacher training programs with their *Knowledge and Practice Standards for Teachers of Reading* (Liptak, 2016). Despite the IDA update, the SREB (Durrance, 2018a) recently advocated using the IDA Matrix (Henry, 2000) as "proven approaches to teaching language and reading skills" (p.8). The most recent publications from the SREB misidentified the IDA's focus and did not align their recommendations for reading instruction with SRI strategies.

Discussion

Our findings suggest differences in SRI and structured literacy approaches/dyslexia interventions in the elements of literacy they address. Further, we found that *some* SRI elements are taught through structured

literacy approaches. Although agencies such as the SREB are dedicated to assisting states with effective implementation of policies, in this case, their *Dyslexia Policies in SREB States* recommendations do not comprehensively address all components of SRI for early reading instruction. This misrepresentation could hinder programs in determining what teacher candidates must know to pass licensure exams assessing knowledge of SRI. Conclusively, SRI and structured literacy programs are not one in the same.

The results suggest EEPPs should take caution when reviewing recommendations from SREB reports for selecting instructional materials they will use to teach their candidates SRI. Without noting this discrepancy, EEPPs choosing to use a structured literacy program as recommended by the original IDA Matrixes for preparing their candidates would lack the full scope of the SRI components and may have difficulties passing licensure exams assessing SRI. Choosing not to supplement structured literacy programs for early reading instruction will result in the lack of preparation in the five SRI elements for future teachers. This outcome would lead to an inequity in teacher preparation, and consequently, a disparity in classroom instruction as teachers would lack the knowledge and experience to teach all five SRI elements.

Our findings offer insights for those who are preparing future elementary teachers to teach early reading. To ensure elementary teacher candidates are prepared to teach using evidence-based reading strategies with students, we suggest: SREB policy recommendations be considered *in conjunction* with the NRP (2000), Foorman et al. (2016) and Shanahan et al. (2010) reports. The NRP provided recommended components for reading instruction while the latter reports supplemented the NRP with

updated research supports for reading components and concrete recommendations for reading instructional practices. We encourage EEPPs to take caution as there continues to be misinterpretations of both the NRP findings and the IDA recommendations for early reading instruction.

Conclusion

EEPPs are facing scrutiny. To some degree, the state of reading achievement and the quality of reading instruction in public schools are a result of what is taught in teacher preparation programs (NCTQ, 2016; Durrance, 2018a; 2018b; Lubell, 2017; Cowen, 2016). EEPPs must carefully consider research interpretations being used by interest groups to support specific programs and methods for implementing SRI. Although the groups supporting specified programs and methods for early reading instruction likely have pure intentions and want elementary teacher candidates to be prepared to teach reading, recommendations from these interest groups should be considered *in tandem* with the original research on SRI and what the EEPPs know their candidates must be able to do to successfully meet teacher licensure exam requirements in their particular states. With the careful selection of reading content to be included in the coursework of EEPPs, teacher candidates can be most prepared to successfully implement SRI components in their future classrooms and teach reading to all students.

References

- Banks, S., Toppo, J., & Huppertz, K. (2019). *IDA corrects inaccuracies in Bacallao opinion column*. International Dyslexia Association.

- <https://dyslexiaida.org/ida-corrects-inaccuracies-in-bacallao-opinion-column/>
- Cowen, D. (2016). *What is structured literacy? A primer on effective reading instruction*. International Dyslexia Association.
<https://dyslexiaida.org/what-is-structured-literacy/>
- Durrance, S. (2018a). *Dyslexia policies in SREB states*. Southern Regional Education Board (SREB).
<https://www.sreb.org/publication/dyslexia-policies-sreb-states>
- Durrance, S. (2018b). *Ready to read: Ready to succeed: State policies that support fourth grade reading success*. Southern Regional Education Board (SREB).
<https://www.sreb.org/ready-read-ready-succeed>
- Foorman, B., Coyne, M., Denton, C., Dimino, J., Hayes, L., Justice, L., Lewis, W., & Wagner, R. (2016). Foundational skills to support reading for understanding in kindergarten through 3rd grade. *What Works Clearinghouse*.
https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/wwc_foundationalreading_0407_17.pdf
- Henry, M. (2000). *Framework for informed reading and language instruction: Matrix of multisensory structured language programs*. International Dyslexia Association.
<http://social.dyslexiaida.org/wp-content/uploads/sites/21/2016/08/matrix-ForMultisensoryPrograms.pdf>
- International Dyslexia Association. (2015). *Effective reading instruction for students with dyslexia*.
<https://dyslexiaida.org/effective-reading-instruction/>
- Liptak, E. (2016). *IDA moves beyond matrix*. International Dyslexia Association.
<https://dyslexiaida.org/update-on-idas-matrix/>
- Lubell, S. (2017). *The science of teaching reading*. National Council on Teacher Quality. <https://www.nctq.org/blog/The-Science-of-Teaching-Reading>
- McCombes-Tolis, J. & Moates, L. (2018). *Knowledge and practice standards for teachers of reading*. International Dyslexia Association.
<https://app.box.com/s/21gdk2k1p3bnagd fz1xy0v98j5ytl1wk>
- National Center for Teacher Quality. (2016). *Understanding our early reading standard*. National Center for Teacher Quality.
https://www.nctq.org/dmsView/NCTQ_-_Standard_2_Why_and_How_-_Standard_Book
- National Reading Panel. (2000) *Report of the national reading panel--Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction*. National Institute of Child Health and Human Development.
- Rowland, J. (2015). *Trends in teacher certification*. Education Commission of the States.
- Shanahan, T., Callison, K., Carriere, C., Duke, N., Pearson, N.D., Schatschneider, C., & Torgesen, J. (2010). Improving comprehension in kindergarten through 3rd grade. *What Works Clearinghouse*.
<https://files.eric.ed.gov/fulltext/ED512029.pdf>
- Spear-Swerling, L., Hougan, M., Odegard, T., & McCombes-Tolis, J. (2019). *Structured literacy: An introductory guide*. International Dyslexia Association.
<https://app.box.com/s/mvuvhel6qaj8tghvu1nl75i0ndnlp0yz>

- Southern Regional Education Board [SREB]. (n.d.). *Where policy meets practice*. <https://www.sreb.org/>
- White, M. & Marsh, E. (2006). Content analysis: A flexible methodology. *Library Trends*, 55(1), 22–45.
- Zhang, Y. & Wildemuth, B. (2009). Qualitative analysis of content. In B. Wildemuth (Ed.), *Applications of Social Research Methods to Questions in Information and Library Science*, (pp.1-12). Libraries Unlimited.

Dr. LaToshia Woods is an Associate Professor of Reading at Arkansas State University. Her research interests include disciplinary literacy, teacher beliefs about literacy practices, and literacy teacher preparation.

Dr. Karen Kleppe Graham is an Assistant Professor of Reading at Arkansas State University. Her research interests focus on preparing teacher candidates and working with in-service teachers' professional development in literacy.