Hello,
I am writing to express my strong support for the passage of HB 164. I have three children who attend Paul Banks Elementary School in Homer, AK. My youngest is enrolled in the Paul Banks Pre-K program this year and my 6-year old also attended the same program. I have spent three years volunteering in the school and have worked with students in Pre-K through second grade.

You must already know about the published science on the benefits of preschool and early intervention reading programs. I'm sure you have read the studies and reviewed the research on how much preschool benefits students as they move through life. I don't need to reiterate all the ways that preschool programs help prepare students for success in schools and therefore benefit the larger community. You also must know that reading intervention programs are crucial to help students learn to read and that when students are not reading at grade level by early elementary school that they never catch up with their peers. These benefits are well-studied and obvious.

Instead, I will share with you my own story about how preschool has benefitted my family and why I will always advocate for universal preschool and reading intervention programs in Alaska. Attending preschool has been such a huge and positive experience for my children. Both entered preschool as shy and timid children and through their preschool experiences they blossomed into self-assured students who love learning and are excited to go to school. Preschool has instilled within them a love of learning and laid a foundation that will help them navigate school and life. Besides my personal experiences with children in preschool, as a volunteer in the school system, I have also been able to witness how preschool has benefited other students. I have watched my childrens' preschool classmates grow and learn and often be better prepared for kindergarten than other students who did not attend preschool.

As a volunteer, I have also seen many students struggle with reading. There is a wide range of reading abilities in each grade and I have seen students struggle with reading and I think about how their lives will be affected if they can't get reading intervention. Many kids have parents who read with them and encourage a love of reading and many kids have parents who don't. Many kids pick up reading quickly and can read at grade level and many kids don't. By providing reading intervention programs in the crucial early years of learning to read, schools can support students and help them be successful for their entire school careers. Reading intervention programs are an essential part of school.

Honestly, I can't really believe there is a question of whether or not to support the passage of this bill. I hope lawmakers think about their own children and grandchildren and the children across Alaska and make the choice to support their education so that they can grow up to be smart, strong, skilled adults.

Thank you, Ahnie Litecky

seaaeyc Southeast Alaska Association for the Education of Young Children
An Affiliate of naeyc

May 10, 2021

To: Alaska House Education Committee
Regarding: House Bill 164

Dear Co-Chairs and members of the committee,

This letter is in support of House Bill 164, to increase early literacy in school districts across the state. It is encouraging to see the increased recognition of the opportunity to improve education outcomes of all our students by moving upstream to support children earlier.

Three recommendations to consider for strengthening this bill:

1. Add an alternative to the requirement of an Alaska Teaching Certificate, to include PreK teachers with a BA degree in early childhood. Teachers grounded in early childhood development contribute a high level of expertise to a high quality classroom. Currently early childhood educators with a BA in Child Development and Family Studies from UAF are not eligible for an Alaska Teaching Certificate. This needs to be addressed, but in the meantime, this alternative would open doors to careers for UAF early childhood graduates, and also make finding qualified teachers more accessible.

2. Allow school districts to partner with high quality community based early childhood programs recognized at a minimum of Level 3 in Learn and Grow, Alaska's Early Childhood Quality Recognition System. This is a positive trend in PreK initiatives throughout the nation, and allows more flexibility to meet community needs.

3. Consider adding the option for school districts to offer a Parents as Teachers program for delivery of PreK services. This could quadruple the number of children served, and deliver strong outcomes for kindergarten readiness. It is heartening to see the focus in the bill on increasing involvement and engagement of parents as a key to ensuring children arrive to kindergarten ready, and that parents are recognized and supported as their child's first and most important teacher.

This is where the Parents as Teachers program shines. Though a small part of this complex bill, I invite you to highlight the section in gold regarding building a statewide system of Parents as Teachers. This evidence based program is proven to increase parents reading with children, and to increase parent's involvement in their child's education straight through to high school graduation. Every visit celebrates what the parent notices their child is learning, and includes books, information, and activities to support their development, as well as health and developmental screenings. The program is cost effective, at about a quarter of the cost per child as a year of PreK. Recommending school districts provide space for Parents as Teachers is an excellent part of the bill. This connects families from the start with their local neighborhood school community.

Thanks for your work to advance this bill, and for your consideration of these amendments.

Joy Lyon

Executive Director

Association for the Education of Young Children - Southeast Alaska
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May 9, 2021

Dear Representative Drummond and Members of the House Education Committee,

Thank you for asking essential questions. I will address the two you asked following my testimony on HB164 on May 8, 2021. Hopefully, I wrote them down correctly.

Does "The Big Five" include writing?
No, not to my knowledge. I have not read the 449-page National Reading Panel (NRP) report (published in 2000) in its entirety. The title of the NRP report is *Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction.* This report concluded that there were five essential components to reading, known as "The Big Five"

1. Phonemic Awareness (knowing the sounds in words)
2. Phonics (decoding words)
3. Fluency (reading text aloud accurately, with appropriate speed and expression)
4. Vocabulary (knowing the meaning of words)
5. Comprehension (using reading strategies to understand text)

How might this bill (HB164) include writing?
This bill can include the ways of teaching writing to enhance and strengthen reading by:

1. Having students write about texts they read to increase comprehension by writing personal reactions, summaries, writing notes, answering questions about texts, and creating their own questions about texts.
2. Teaching students the writing skills and processes that go into creating text by teaching the process of writing, text structures of writing, sentence or paragraph construction skills—to improve reading comprehension.
3. Teaching spelling and sentence construction skills—to improve reading fluency. Teaching spelling skills—to improve word reading skills.
4. Increasing how much students write. Having students produce their own texts—to improve reading comprehension.

(Ideas shared from the Writing to Read: Evidence for How Writing Can Improve Reading 2010 report)

"Unless we want an education system just focused on making people consumers and not focused on helping them be producers, this emphasis on reading only, which does happen in so many places, is very short-sighted…Writing should be 'the central thing you're learning. Not writing on a test, not writing to demonstrate you're learning what someone has taught you, but also really writing as an author writes.'" -Elyse Eidman-Aadahl, Executive director of the National Writing Project (A federal education program in all 50 states, District of Columbia, Puerto Rico, and the U.S. Virgin Islands, with a "teachers-teaching-teachers" model of professional development.)

"Reading, of course, contributes immensely to one's personal growth. But teaching it together with writing nurtures both," says Rebecca Wallace-Segall, executive director of a New York City writing center, Writopia Lab. (Excerpt from an online article in the South Florida Sun Sentinel.)

Thank you for your interest in wanting to know why writing should be a part of this bill.

Sincerely,
Jessica L. Willis

May 6, 2021

Dear Members of the House Education Committee,

Thank you for your consideration of this important initiative. One which has potential to make tremendous impact if implemented effectively and in partnership with stakeholders including families, communities and educators. I want to particularly express appreciation for scheduling time outside of the workday for giving input.

Providing voluntary PreK opportunities for Alaska's students is a solid investment, and I am strongly in favor of this portion of the bill. The data is clear and there has been excellent testimony regarding the positive long-term effects of quality early childhood programs in previous hearings.

As a 30-year educator, I hold both a Master's degree and NB certification in early childhood education. My career includes working in rural schools and those on the road system and I have seen firsthand the disparity in materials, staffing and professional learning opportunities which are available in different parts of our state. Some of the goals of HB 164 can make a real difference in reading achievement. We also need to be mindful that in an enthusiasm to measure and quantify learning in only standardized ways that we do not expand the disconnect between Indigenous ways of knowing and the compartmentalized manner of some westernized programs.

Concerns I have are related to the prescriptiveness, and the reporting requirements in the bill. Many of the mentions in Article 15 are already taking places in Alaska's schools. In others, they may have the components in their plans, but simply do not have the staffing to implement. How are the paraprofessionals and teachers going to manage writing the reports, running parent workshops and after school intervention opportunities, not to mention the summer learning? Some of our schools have very few staff members or have positions unfilled. Even in large districts acquiring personnel for interventionists and substitutes is challenging.

The reading services in Sec. 14.30.765 include many components of an effective early reading program, but the challenge is "… to the extent practicable." (p. 26, Line 11) This is where input needs to be explicitly sought from our CSI and TSI identified schools and other sites in remote villages. What will make a difference for their staff and students? How will it be ensured that supports are value added and not punitive? There is mention of "error correction and feedback," (p. 26, line 22) which seems a bit out of place and overly specfic. Feedback does have a crucial role in learners' awareness of their errors and performance. However, immediate correction can sometimes be harmful if it disrupts a child's time to think on his/her error and maintain the flow of communication. Depending on the setting, the lesson goal, and the individual child, and relationship with the assessor/interventionist sometimes feedback should be given afterward.

There are complex reasons that some children have reading problems and all are not going to respond to the same interventions in the same way. This is why school staff meet as PLCs (Professional Learning Communities) to examine data with colleagues, plan instruction, meet with families, and have special educators as a resource.

I applaud the addition of and attention to Culturally Responsive education, Developmentally Appropriate practice and the inclusion of oral language. Literacy is comprehensive and includes reading, writing, speaking & listening. I do however want to caution about appropriate assessments, particularly with second language learners. There needs to be expanded definitions to have common understanding of Culturally Responsive and not just a box to check off. Is it culturally responsive to focus on screeners using timed oral reading fluency?
Is it culturally responsive to require interventions outside of the school day preventing students from engaging in family time, subsistence activities and place-based learning?

Lastly, a great reading teacher evaluates students, engages in ongoing formative assessment and uses data to differentiate instruction for individuals, small groups and the whole class. We build relationships with each student and inform ourselves about their interests, and topics they find engaging. We build libraries to provide them with exciting titles across genre and read with them – noting strategy use, building on their strengths and addressing areas for growth. The tools in the toolbox of reading teachers are many and should be continually expanding with strong professional development and the availability of new research. There is no "one size fits all" set of materials or methods, but we do know that a strong literacy foundation is learner centered – not program centered.

Yours in education,
Lesa Meath

From: Rebecca Himschoot
To: House Education
Subject: HB 164
Date: Saturday, May 8, 2021 11:04:19 AM

Thank you for allowing time for educators to provide input, especially outside regular school hours. Your commitment to getting this bill right inspires me to speak with you today.

My name is Rebecca Himschoot, and I am a teacher in Sitka where I work with English Language Learners. I graduated from UAS in education in 1994, and I hold a Masters in Education from Gonzaga University. I have been honored to be recognized as the 2010 Junior Achievement of Alaska Teacher of the Year, the 2012 Presidential Award for Excellence in Math and Science Teaching for Alaska, and to serve as an Albert Einstein Distinguished Educator Fellow at the National Science Foundation 2016-7.

HB 164 is a good bill and it will make a difference for the vast majority of Alaska's struggling readers.

I want to provide two considerations today. One is expectations management, and closely tied to that is attention to an important and overlooked group of learners.

First, as policy makers you are charged with carefully considering how public funds are spent, or in the case of schools, how funds are "invested." You are looking for accountability for the investment you're making in this bill, and I applaud that. Alaska's schools and educators must stand ready to deliver on the promise of this bill.

However, I would invite you to carefully consider the data you are using as the baseline measure from which schools and students will grow with this legislation. I have heard the NAEP referenced countless times, and as the nation's oldest test I support it as a measure of our schools' successes. However, I strongly urge you to disaggregate the data you see in the NAEP for Alaska – when you do, you will discover how very much Alaska Native students are struggling to learn to read. With this in mind, I ask you to manage your expectations for the outcomes we hope this legislation with deliver – the time it will take to improve outcomes for Alaska Native learners will need to be measured in decades, not years.

Perhaps the greatest mandate our schools have, from federal funders to the local level, is to provide equity. It is a well-documented fact that English Language Learners are most successful when they can draw on fluency in their first language. Alaska Native students are English Language Learners who are also learning their first language – a heavy but critical lift as we seek to preserve and perpetuate Indigenous languages across the state. And that heavy lift is being asked of 10 year olds.

Research is very clear: a child who is learning a second language without deep fluency in their first language will struggle. In a gross oversimplification I will illustrate my point this way: if words were crayons, we are asking Alaska Native students to use the full palate of the 64-crayon box when they are equipped with only the 8-crayon box.

In correspondence with DEED I have found we have little expertise in the department on how best to develop second language skills in Indigenous learners, however, I believe that expertise may exist in other places such as Arizona, New Mexico, or Australia.

As you temper your expectations for the outcomes this bill will bring, I strongly urge you to convene a task force of world experts, alongside Alaska's incredible experts in immersion programming and language revitalization to help us learn what is known about best practices for Indigenous English Language Learners. It's a matter of equity, and it's a belated but important step in the right direction.

Thank you again for the opportunity to comment today.
Rebecca Himschoot

ALASKA POLICY FORUM

May 8, 2021

LEGISLATIVE TESTIMONY

House Bill 164
Early Education Program; Reading

House Education Committee
Representative Drummond, Co-Chair
Representative Story, Co-Chair
Representative Zulkosky, Member
Representative Hopkins, Member
Representative Prax, Member
Representative Cronk, Member
Representative Gillham, Member

Reading improvement legislation, what we have come to refer to as K-3 Literacy or Read By 9, has been introduced and debated in the Legislature since 2013. In that time, Alaska's fourth grade students have consistently ranked dead last in reading competency when measured against fourth graders in the other 49 states and the District of Columbia.

Alaska has good teachers, and our students have the same potential for learning as do children in the rest of the country, yet our children are still not learning the most basic of educational skills - reading. This despite Alaska ranking among the five highest spending-per-student states in the country.

We spend heavily on education, but our children cannot read. For the sake of our children and the future of our state, this must change, and that change can be made through a robust K–3 literacy program.

Reading should be the fundamental educational objective in our public schools. All other curricula are secondary. Children's brains allow them to learn to read at a more efficient rate prior to age nine. Children who learn to read by age nine then use their reading skills to continue learning other subjects. Children who are not competent readers by age nine are more likely to fall behind in their studies, drop out of school, live in poverty, or end up in prison. There is plenty of data that supports these unfortunate realities.

There are several aspects to making sure students are keeping up with expectations. These include early and continuous parental notification of struggling readers, pairing the weakest readers with the most highly effective reading teachers, and instruction in phonological awareness. Student reading progress will be closely monitored, and those who are not attaining proficient reading scores prior to third grade will be afforded these interventions. Students who attain proficient reading scores by the end of third grade will be promoted to the fourth grade. But, if a student's reading scores are not to standard by the end of third grade, that student should not be promoted to fourth grade. Yes, this sounds harsh, and it goes against society's prevailing ideals of promoting self-esteem, but the child who has to repeat third grade will, in that repeated year, get the focused attention he or she needs to attain a proficient reading level. Holding students back is not punishment. It provides them an opportunity to catch up and help avoid all those resultant issues mentioned earlier – dropping out, living in poverty, serving time in prison.

Many other states have been hugely successful with K–3 literacy programs, Florida and Mississippi among them. Both states passed early reading legislation and their students' reading competency levels dramatically increased. Alaska can do the same, and we can do it with legislation that is now before this committee in House Bill 164.

Alaska Policy Forum encourages this committee to pass reading intervention legislation this session. The education of our public-school children and the future of our state will be greatly enhanced by it.

Thank you for the opportunity to testify.

Tim Barto
Vice President External Relations
Alaska Policy Forum

Dear House Education Committee,

My name is Ronda Schlumbohm. I have been teaching beginning readers and writers in grades k-3 for thirty plus years. I hold a master's degree in reading, and I have participated in in-depth professional development by attending and teaching Alaska's Writing Consortium. This training has helped me understand the nuances of learning that all children have. I have never taught two children the same way because all children vary in skills, motivation, and interest.
I applaud the desire of this group to help Alaska's children, however I believe there is much more work to do in this bill to make it the best it can be.

Please consider the following points as you work.

- The federal government is talking about funding universal pre-k. Alaska could benefit from this federal legislation and cut this fiscal part out of the bill.
- There continues to be no mention of writing in HB 164. Writing is powerful to beginning learners. When children write, they are applying their knowledge of phonics, syntax, language, vocabulary, fluency, and comprehension. When a child creates a piece of writing, he/she is working at the top of Bloom's Taxonomy. Writing instructs the teacher about what the child needs next. Writing can slow down the reading process to help a child make sense of how words are put together and which kinds of words do not follow the phonics rules. Initially we call these words "sight words" because kids must memorize them by sight, but all words eventually become sight words with practice.

  Writing also uses the brain in more areas than reading, thus helping a child strengthen it. When a child writes, they are perfectly in their zone of proximal development. If writing is not included in this bill, my fear is that the message it sends is that it is not as important as reading.

- A third part of the bill I would like to address is a point of confusion. On page 30, line one it says, "the student will participate in additional 20 hours of individual reading improvement plan intervention services during the summer before the student enters grade four." Firstly, the retention part of the bill is very problematic. Secondly where did the 20 hours come from? Is there some research to back up the 20 hours? In my experience, if a child is struggling to learn to read, 20 hours is a drop in the bucket to being proficient, that is unless the child is on the cusp of being proficient. Malcolm Gladwell says you need 10,000 hours to be an expert at something. Which incidentally, I've done the math and that equates to over 8 years. So new teachers need to practice years until they become experts in their fields.

Thank you for allowing educators to speak to this bill. I will send this letter as written testimony along with the attachment of Peter Johnston's white paper, An Examination of Dyslexia Research and Instruction, With Policy Implications, for your review.

Yours in education,
Ronda Schlumbohm

From:
To:
Subject:
Date:

Hello,

I highly support funding pre-k and literacy programs. This past year every child experienced an impact from the global pandemic. Investing in early childhood has never been more important! For every dollar we invest in early childhood education we get a return of $7, as that child is more likely to succeed in school and in their community. I'd rather pay now than pay for very expensive incarceration later! Kids are worth the investment.

--
Tracey Schaeffer, Occupational Therapist

From: Deanna Fossler
To: House Education
Subject: HB 164 written testimony
Date: Saturday, May 8, 2021 2:30:37 PM

To The House Education Committee,

I write in support of House Bill 164. I have taught first grade in Anchorage public schools for 25 years.

My story starts as a first grader in Anchorage in the mid 70's. I was not learning to read at O'Malley Elementary. My mother had me tested, discovered I was dyslexic and got me into Rabbit Creek Elementary that had Slingerland trained teachers in 1st -6th grade. I repeated first grade and spent 4 years in Slingerland classes. This multisensory, systematic, direct instruction in reading is the reason I made it through school and on to college.

I went through Slingerland training in the late 90's as a teacher and was hired in 1997 as a Slingerland first grade teacher. I was forced to stop using that method when a new curriculum, Houghton Mifflin was adopted and mandated. That's when I started noticing my struggling readers were not leaving first grade as solid readers.

Fast forward to my son who entered school in 2007. He struggled with reading and was diagnosed dyslexic. Despite amazing teachers and every intervention they gave him I was forced to get him private tutoring for several years. He entered middle school reading. Not fast but got by.

I volunteered when my district started looking for a new ELA curriculum to be a voice for the dyslexic students. I was so disappointed when I showed up and 4 curriculums had already been chosen and I was tasked with filling out a checklist of criteria for one of them. At no time was I able to give my input of what I felt was needed.

Now many years later I stumbled upon the Science of Reading findings. It has taken me years to learn and understand that I have unfinished learning in how to teach reading. Even after 25 years. This is what I believe our primary teachers all need before new curriculum. We all must be thoroughly trained in the science. Forcing change in teachers before giving them the background knowledge is a recipe for a lot of defensive teachers.

At my school, Trailside Elementary our principal purchased the Heggarty Phonemic Awareness teacher guides for all our K-1 teachers and ELL tutor and we are seeing great results and the kids and teachers love it. ASD only purchased 1 teacher guide for each elementary school and only trained one kindergarten and first grade teacher from each school. If I had not heard about Heggarty from Posie Boggs I would have likely been in the same position many primary teachers were in questioning what this was and not wanting to do it after many years of

forced trainings in Ashlock with no background knowledge to help us understand why we should use it.

Since Covid-19 closed schools last March I have been impressed with the quick support several curriculum companies have developed for free to any teacher. Amplify created tons of free resources, S.P.I.R.E. put all their resources online for free download, and others. Unfortunately ASD's Cengage and Go Math had nothing for us. It says a lot about what their goals are. To help kids learn to read or to make money.

There are many interventions we can implement but none as valuable as training all our primary teachers in proven methods to teach all our students. If this happens our need for interventions will reduce greatly.

I welcome your law and look forward to the improvements we will see in all our students reading skills. I can't wait for the day I am able to use these methods with support from my district.

Cheers,
Deanna Fossler

AN EXAMINATION OF DYSLEXIA RESEARCH AND INSTRUCTION, WITH POLICY IMPLICATIONS

Peter Johnston

The University at Albany

Donna Scanlon

The University at Albany

Literacy Research Association

Literacy Research Report

December 8, 2020

Note: This manuscript has benefited from many colleagues' feedback. We offer them abundant thanks, but hesitate to name them so as not to imply endorsement since they have not seen the final iteration of the document.

An Examination of Dyslexia Research and Instruction, with Policy Implications

Some children experience more difficulty than others becoming literate, often at great emotional, intellectual, social and economic cost to themselves, but also to those who love and care for them, and for society at large. The causes of those difficulties, and what to do about them, have been the source of much research and sometimes heated disagreement among researchers and educators – disagreements that, in one form or another, go back well over a century. The current focus of this attention, from the media, some researchers, parents and politicians, is on the construct dyslexia – a term used (mostly) to describe serious difficulty with the word reading aspect of the reading process.

Currently, there is a well-organized and active contingent of concerned parents and educators (and others) who argue that dyslexia is a frequent cause of reading difficulties, affecting approximately 20 percent of the population, and that there is a widely-accepted treatment for such difficulties: an instructional approach relying almost exclusively on intensive phonics instruction. Proponents argue that it is based on "settled science" which they refer to as "the science of reading" (SOR). The approach is based on a narrow view of science, and a restricted range of research, focused on word learning and, more recently, neurobiology, but paying little attention to aspects of literacy like comprehension and writing, or dimensions of classroom learning and teacher preparation.[1] Because the dyslexia and instructional arguments are inextricably linked, in this report, we explore both while adopting a more comprehensive perspective on relevant theory and research.

Despite differing views on the causes and potential solutions to reading difficulties, to date, at least 42 states and the U.S. federal government have passed laws invoking dyslexia,[2] laws that are largely aligned with the SOR perspective and that change the distribution of

resources and educational practices affecting not only students classified as dyslexic, but all students, their teachers and teacher education more generally. The media have also become involved in advocating the SOR perspective. In the four years between 2016 and 2020, there was a flurry of reports about dyslexia in respected outlets such as National Public Radio, the Public Broadcasting Service, CBS, *Time*, *Newsweek*, the *New York Times*, and *Education Week*, each asserting a narrative that dyslexia is a central cause of reading difficulty and that SOR-aligned instruction is necessary, not only for those classified as dyslexic, but for all students.

To promote engagement in the issues that face stakeholders (including educators, parents, and policymakers) in relation to dyslexia and related literacy instruction, we offer responses to 12 FAQs. Doing so will, of necessity, involve some repeated coverage of certain topics that are relevant for more than one question. Question numbers are for convenience of reference rather than a reflection of priorities.

Q1: What is the definition of dyslexia?

A: There is much disagreement about how to define dyslexia. So much so, that some argue it is not a useful classification.

There are many, often conflicting, definitions of dyslexia and none offers a clear foundation for determining who qualifies for the classification. Take, for example, the International Dyslexia Association's (IDA) 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.[3]

This definition asserts that dyslexia is recognizable by deficiencies in word recognition, spelling and decoding, but only if the deficiencies have a biological cause and are not related to limited cognitive (intellectual) ability. It also asserts that difficulty analyzing speech sounds (commonly referred to as phonological awareness) is a common, but not the only cause of dyslexia.

This definition is too vague to serve any practical purpose, which is compounded when the same organization offers a different definition that does not require biological causation and expands the scope of difficulties to "usually" include "difficulties with other language skills such as spelling, writing, and pronouncing words."[4] It also introduces a new criterion, that dyslexics "respond slowly to the instruction being provided to their peers but not because of their IQ or lack of effort." The IDA is not alone. Such discrepancies in definition are widespread. Elliott lists four distinct kinds of definition, each with different implications.[5] Definitions also frequently use hedging, such as "often," "frequently," or "typically."

Why does this matter? First, there is no practical, nor consensually definitive, way to decide who is and is not dyslexic. For example, there is no way to directly detect presumed biological causes in individuals. Consequently, students whose difficulties are presumed to arise from non-biological conditions such as "environmental, cultural, or economic disadvantage," or below average IQ (as specified in federal law) are excluded from the classification.[6] Indeed, between 1963 and 1973, the early years in which children were classified as "learning disabled in reading" (a term researchers often use interchangeably with dyslexia), 98.5 percent of students deemed to have such a disability were white, and most were middle class.[7]

Second, researchers who study word reading difficulties/dyslexia use different definitions

and criteria to identify the students they study. Some researchers choose a simple, arbitrary cut-off point such as below the 25th percentile, or the 7th percentile, on a wide variety of different tests, subtests or subtest clusters. Some researchers accept as dyslexic anyone who has been diagnosed by any authority. Some exclude from their studies children with lower IQs or with behavioral or other problems; others do not. Consequently, when researchers report their findings, they are often talking about very different groups of students whose only common factor is that, by some definition and some means, it has been determined that they are having difficulty learning to read. Basically, the majority of researchers studying reading difficulties simply select children who on some test are not reading well. Most do not even use the category dyslexic or even mention it in their published reports, a fact that has not inhibited others from referencing that research to draw conclusions about dyslexia.

Because of this variability in definition, estimates of the prevalence of dyslexia range from five to as much as twenty percent of the population.[8] This confusion has led some highly regarded researchers to propose not using the term at all. For example, Keith Stanovich observes, "No term has so impeded the scientific study of reading, as well as the public's understanding of reading disability, as the term dyslexia. The retiring of the word is long overdue."[9]

The bottom line is that there are many definitions of, and theories about, dyslexia and simply no agreed-upon definition that allows schools, clinicians, researchers, or anyone else, to decide who is dyslexic in any valid or reliable way. By contrast, it is simple enough to decide at kindergarten entry who *might* encounter difficulty learning to read using measures of actual literacy knowledge. Such a determination has immediate instructional implications.

Q2: Is there a biological basis for some children's difficulties becoming literate?

A: Probably.

Like virtually every human characteristic, there are likely heritable influences on reading and language skills. The strength of such heritability is an active area of ongoing research but the issue, at this point, has virtually no instructional implications. There is, however, evidence that instruction impacts characteristics of a physical nature. For example, studies of people's brains, as they process print, show that patterns of activity in the brains of good readers are, on average, different from those of poor readers. However, these studies have not shown differences between poor readers in general and those classified as dyslexic because most neuroscience studies on dyslexics simply define them as children scoring below a certain point on a reading test. More significantly, with both children and adults, there is suggestive evidence that instruction in aspects of reading, and the resulting progress in reading development, can change the brain activity of poor readers to look more like that of good readers.[10] That is, while differences in brain anatomy and/or activity correlate to some degree with reading performance, brains are sufficiently plastic that the process of learning to read can, to some extent, reorganize (normalize) brain anatomy and activity. Beyond this, there are no instructional implications.

The bottom line is that individual biologically-based differences can make literacy learning more difficult. However, such differences do not *determine* whether children will readily become literate. Our brains remain somewhat plastic in responding to environmental factors, including reading instruction, into adulthood.

Q3: Is there a difference between those classified as dyslexic and others who struggle with learning to read words?

A: No.

From an instructional standpoint, there is no practical distinction between those classified as dyslexic and others at the low end of the normal distribution of word reading ability in the

early elementary grades.[11] This distribution of word reading ability is likely the result of complex combinations of normally distributed individual differences in, for example, phonological awareness, rapid naming, working memory, and many other biological, cognitive (including instructional) and situational factors.[12] Difficulties with phonological analysis are the most common factor associated with early reading problems, but no single factor or combination of factors, guarantees or fully explains literacy difficulties.

The bottom line is that there is currently no consistent basis - biological, cognitive, behavioral, or academic - for distinguishing those who might be identified as dyslexic from others experiencing difficulty learning to decode words. In the end, determining whether or not someone is dyslexic amounts to deciding where on the normal distribution to draw a line – and for some, determining how many lines to draw (whether for reading ability only or for intellectual ability as well). There is no agreement about where to draw the line(s) and there is no evidence that instructional response should be different for those above or below the line(s).

Q4: Does dyslexia confer benefits such as greater intelligence, creativity, and the like?

A: No.

Public narratives about dyslexia commonly claim that people classified as dyslexic have an array of special positive attributes such as intelligence or creativity – more so than those not so classified. There is virtually no scientific evidence for these claims. The narratives are based largely on high-profile actors, scientists, artists, or others claiming (or having claims made for them in posterity) to be dyslexic. This lack of evidence has not stopped those advancing such claims. For example, the IDA's website at once recognizes that the evidence for such claims is "pretty weak,"[13] while using visual media to suggest that such claims have validity.[14]

Similarly, Yale University's Center for Dyslexia and Creativity website includes no

research on creativity. The word "creativity" occurs only in the website title. Although not included in their explicit definition of dyslexia, the site claims, without evidence, that indicators of dyslexia among school children might include: "Eager embrace of new ideas"; "Surprising maturity"; "Enjoys solving puzzles"; "Talent for building models"; "Excellent thinking skills: conceptualization, reasoning, imagination, abstraction," among many others. Similarly, the Connecticut State Department of Education's working definition of dyslexia includes, "Typically, students with dyslexia have strengths and cognitive abilities in areas such as reasoning, critical thinking, concept formation, problem solving, vocabulary, listening comprehension, and social communication (e.g., conversation)."[15]

A higher incidence of such characteristics among individuals classified as dyslexic lacks any empirical basis. However, the claims do enhance the attractiveness of a diagnosis of dyslexia and the support and funding for researchers studying the dyslexia construct.

Q5: Can difficulties often attributed to dyslexia be prevented?

A: Answers vary depending on one's definition.

There is strong evidence that *most* children whose initial assessments suggest they might have difficulty developing reading skills can be spared that experience through good first instruction and early intervention. Intervention in kindergarten and first grade is more effective than in later grades.[16] These conclusions are valid whether or not children are classified as dyslexic. A small percentage of children, 2-6 percent by some estimates, despite best efforts so far, continue to make slow progress.[17] The most under-researched area, and possibly the most important, is how to address the difficulties of students who do not benefit from intervention that has been successful with many of their peers. It is possible that this gap may, at least in part, be attributable to the belief that dyslexia is a permanent condition and to an assumption that we

already know *the* right way to approach instruction for such students.

Q6: Is it useful to screen kindergarten and first-grade children for dyslexia?

A: It is definitely useful to screen to identify children who demonstrate limited early literacy skills – which does not imply screening for dyslexia.

Early screening to identify and support students whose early literacy skills are limited, has been shown to be effective for reducing subsequent reading difficulties through early intervention.[18] Preventive screening in kindergarten can be simple and efficient. For example, a simple screening for alphabet knowledge at kindergarten entry (but not subsequently) allows for the identification of children who may need closer monitoring and perhaps intervention to prevent subsequent problems.[19] Assessments based on assumptions about dyslexia are more fraught. Current efforts at dyslexia screening are misleading about 50 percent of the time.[20] In addition, they often lead to less instructionally relevant screening practices. For example, based on the idea that there is a heritable component to literacy difficulties, some propose screening using family literacy histories collected on school entry.[21] But literacy difficulty can have a range of sources. For example, there are higher rates of difficulty in minority student families, difficulties that are more likely related to a history of schooling and impoverished conditions with fewer family opportunities to acquire the foundations of literacy, than to biologically-based family characteristics. There is little evidence that screening for dyslexia via family history indices would improve identification of those in need of instructional supports over simple measures of early literacy knowledge. Neither is there evidence such approaches would lead to better instruction. In fact, exactly the opposite effect might accrue as instructional personnel and families might be led to expect that long-term difficulties among those who are flagged as potentially dyslexic are inevitable.

Q7: How do we help children most likely to be classified as dyslexic learn to read - those who demonstrate difficulties learning to read words?

A: While a good deal is known about this issue, there is currently considerable disagreement about the meaning and interpretations of available evidence.

Reading is a complex process and comprehension is the central goal. To comprehend written texts, readers need to be able to devote most, if not all, of their attention to the meaning of the texts they read. To do so, among other things, readers need to be able to quickly and accurately identify most, if not all, of the words in the text. For readers who struggle with word identification (those most likely to be identified as dyslexic), limits in fast and accurate word identification can become a bottleneck that can create frustration and limited comprehension. The question for educators is how to help readers gain proficiency in word identification? This question has become a hot-button issue because of concerns about dyslexia and, once again, arguments about what science has to say about instruction for beginning and struggling learners.

Those who believe that dyslexia is a useful diagnostic category have historically supported the Orton-Gillingham (O-G) and derivative approaches to instruction for children classified as dyslexic and, of late, for all learners. This instruction, originating in the 1920s, traditionally teaches children, in a fixed sequence, letters and sounds and letter patterns, using what are referred to as multi-sensory techniques. Despite 90 years of use, there is little other than testimonial evidence that this approach has been successful. In the only comparative study of intervention approaches we could find, the O-G based approach was found to be no more effective than other types of intervention in improving reading comprehension among third and fifth grade struggling readers despite a year of instruction using the approach.[22] A study included in the National Reading Panel (NRP) report even demonstrated a substantial *negative* impact on

comprehension a year after students participated in an O-G-based intervention.[23] Nevertheless, enthusiasm for such approaches persists and the IDA, which advocates for O-G-based programs, now refers to them, for "marketing" purposes to help "sell what we do," as "Structured Literacy".[24] This advocacy has intersected, and merged, with perennial advocacy for explicit systematic phonics as the preferred and sometimes sole approach to instruction for all children.

Thus, despite decades of research on reading instruction for beginning and struggling readers, including several syntheses of research that have found no support for the effectiveness of heavy, near-exclusive, phonics-based approaches to reading instruction when compared to other instructional approaches that might be employed, these approaches are still widely advocated and employed.[25] Throughout, the NRP meta-analysis has been cited frequently to justify extreme versions of phonics instruction for those identified as dyslexic as well as others who struggle with reading, and sometimes all beginning readers. However, the NRP report *did not* support that conclusion. Instead, it asserted that, "various types of systematic phonics approaches are significantly more effective than non-phonics approaches in promoting substantial growth in reading," though effects were in the moderate range.[26] The report did not argue for any particular phonics approach. Rather, it recognized that, given the individual differences in knowledge and skills in any classroom, phonics instruction would need to be flexible, and that teachers need to know how to adapt instruction to those individual differences. In addition, it asserted that, "systematic phonics instruction should be integrated with other reading instruction to create a balanced reading program. Phonics instruction is never a total reading program."[27] Underscoring this point, the report noted, "Phonics should not become the dominant component in a reading program, neither in the amount of time devoted to it nor in the significance attached. … By emphasizing all of the processes that contribute to growth in

reading, teachers will have the best chance of making every child a reader."[28]

Subsequent meta-analyses and re-analyses of the studies included in the NRP report, using different techniques and correcting for various analytical weaknesses, have been even less supportive of the type of instruction advocated by SOR proponents.[29] In a recent summary of intervention for struggling literacy learners, Fletcher and colleagues concluded:[30]

> At this point in the development of reading interventions, the issue is not whether to provide explicit phonics instruction; rather, the question is how to integrate phonics instruction with instruction on other components central to learning to read. Individuals who argue that the solution to reading difficulties is simply to introduce more phonics instruction in the classroom, without incorporating instruction in other critical reading skills (e.g., fluency, vocabulary, comprehension) are not attending to the NRP findings or the converging scientific evidence. This is true for programs that attempt to enhance the reading abilities of all students in the classroom, as well as programs that attempt to enhance reading in students with LDs.

Thus, the idea that there is a "settled science" that has determined the only approach to the teaching of reading, is simply wrong. There is no evidence that the highly scripted approaches often advocated in media stories are more effective than other approaches that explicitly teach learners about the alphabetic code. And, there is no evidence that such approaches impact the end goals of reading instruction – comprehension and knowledge development.

There is, however, considerable agreement among researchers with a broader perspective on scientific research in reading, that children, including those experiencing difficulty with reading, and potentially classified as dyslexic, benefit from explicit instruction designed to develop phonological sensitivity (the ability to analyze the sounds in spoken words), an

understanding of the alphabetic code (how print is related to the sounds in spoken words) and attention to orthographic structure (the predictable patterns of letters in printed words), and that these warrant serious instructional attention *in combination with instruction to develop comprehension, vocabulary, fluency, and a strong positive relationship with literacy*. These latter aspects do not simply arise spontaneously from improving children's decoding ability.

There is no question that, as children learn phonological and orthographic skills, they should be encouraged to bring all of those skills to bear on figuring out unfamiliar words. However, there are far too many words in printed English that cannot be fully decoded given initial, or even advanced, phonics skills. Indeed, many printed words are irregularly or ambiguously spelled and cannot be accurately decoded using phonics alone. The percentage of irregularly spelled words among the most common words in English, and thus the ones beginning readers are likely to encounter early, is particularly high (e.g., *of, the, come, gone, one, was, said).* Of course, many words are not fully decodable by beginning and struggling readers because, not only do they not yet have all of the requisite phonics skills and orthographic knowledge, but also because of differences in spoken dialects. For example, in the American South, there may be little difference between the pronunciation of *wheel* and *will* while in Maine it is hard to distinguish between *Carl* and *Kyle.*

When readers encounter a word that they are unable to fully decode, they must either stop reading, skip the word, get help, or turn to additional sources of information for assistance. For beginning readers who are reading books at their level, this additional information may include pictures and the sentence context which would be integrated with code-based information derived through the application of their existing knowledge of sound-spellings and other word parts.[31] For older struggling readers, illustrations may still be helpful, but it is primarily the

sentence context in which the word occurs and their advancing knowledge of word meanings, *in combination with* the decodable aspects of the word, that will help them to accurately and independently identify the word, and thus continue reading and, potentially, make the initially unknown word more recognizable upon subsequent encounters.[32] SOR proponents argue strongly against encouraging learners to use these additional types of information (see Question 8), a position which has the clear potential to limit learners' growth in sight vocabulary.

Further, there are important gaps in the research. For example, O-G-based approaches teach learners many details of the English writing system that most highly literate adults do not know. These details, such as the six syllable types, are believed to provide assistance in word solving. However, there is no evidence that such knowledge improves word solving in context – which is the setting in which the identities of most written words are learned. Indeed, there is reason to hypothesize that such details may impede word learning by turning readers' attention away from text meaning which contributes to word solving in important ways (see Question 8).

In addition, most research on dyslexia and approaches to phonics pay little or no attention to children's writing and the role of their motivation to write in their learning about the alphabetic and orthographic code. Existing evidence suggests that encouraging children to write, approximating spelling based on their analysis of speech, accompanied by feedback on the quality of their approximations, helps them to become better readers and spellers.[33]

Q8: Are approaches that encourage children to use context information as an assist in figuring out words based on a disproven theory of reading?

A: No.

Certain advocates of SOR instruction have asserted that encouraging the use of meaningful context to help identify words, arises from a theory that has been "disproven," and

that the use of context strategies impedes the development of automatic word recognition. Each such claim we have examined, either offers no evidence, or simply refers to another researcher offering the same unsupported argument. The National Council on Teacher Quality (NCTQ), a forceful supporter of this perspective, has been asked four times over a period of months for its evidence base for this claim, so far without response.

In fact, the utility of using context to direct and check decoding attempts has long been recognized as critical in enabling learners to build sight vocabulary.[34] These approaches assume that many common words cannot be figured out solely through phonic analysis. Instead, they propose that children need multiple strategies to figure out words and to read effectively – using knowledge of the relationships between speech and print and letter patterns, *as well as* context information such as meaningfulness and grammar. The argument is twofold. First, multiple strategies offer the greater flexibility necessary with an orthography such as English in which many of the most common words are not fully decodable. Second, children can only self-correct and be independent in identifying unfamiliar words and in building their sight vocabularies when they use multiple strategies accessing different sources of information. Monitoring for meaning is presumed to be part of building independence in word-solving rather than something that is learned after word-solving has been mastered. If children are not monitoring for meaning, they will not be able to confirm that their decoding efforts are accurate.

Contrary to the "disproven theory" claims, the approach has strong theoretical and empirical support. For example, more than 20 years ago Share theorized, and demonstrated empirically, that, in order to build sight vocabulary, readers need to rely on phonological skills coupled with contextual information to enable them to resolve decoding ambiguities.[35] Further, having a *set for variability*[36] as articulated by Gibson and Levin, explains how readers can use

context to help settle on the correct identity of unfamiliar words - *if the first attempt at the pronunciation of a word doesn't result in a word that fits the context, try a different pronunciation for some of the letters, especially the vowels*. In addition, the effectiveness of teaching multiple strategies to children experiencing difficulty learning to read has been supported (albeit not explicitly tested) by intervention studies that have either examined the word solving guidance offered by more and less effective intervention teachers[37] or have directly manipulated the guidance provided to teachers with regard to how to support students' word solving efforts.[38] Furthermore, among first-grade students assigned to special instruction because of reading difficulties, those making the most progress by the end of the year used multiple strategies for identifying words, including contextual meaning and language structure, while their less successful peers used only phonics.[39]

Finally, the argument that scientific evidence disproves the use of strategies other than phonics, is based on analysis of competent readers, not analysis of the challenges facing beginning readers.[40] Proficient readers rarely encounter words they cannot identify, which is why they do not normally need context to identify them. However, when faced with difficulty, they will draw on context, when the word is in their listening/spoken vocabulary but not their sight vocabulary. Such instances are likely to involve words that have irregular spellings (e.g., *albeit*) and cannot be identified relying exclusively on the decoding elements typically taught.

Q9: Is there one right way to teach a child experiencing difficulty learning to read?

A: No, but we can do much better than we currently do.

Numerous studies show that identifying children who are behind in their reading development and intervening early can prevent lasting difficulty in *most* children and multiple approaches have been variously successful in this regard.[41] As noted previously, whatever the

approach, there always remains a small group for whom intervention efforts are not successful. In spite of the claims of some, no form of instruction has been invariably effective with these children. What this means and what to do about it, are important questions. For those who believe there is a distinct group of dyslexic poor readers, the explanations for failure to respond to intervention either invoke the severity of dyslexia or the lack of the type of instruction that SOR proponents advocate. If such instruction has already been provided, rather than examining the qualities of instructional interactions, the recommendation is often to simply double down on the previously unsuccessful strategy with sometimes unsatisfactory side-effects.[42] Requiring such instruction to be applied to all children, as some advocates do, risks creating problems across the spectrum of reading ability.[43]

There is another option. Rather than assuming a singular explanation for students' word reading difficulties (dyslexia) and the singular correctness of the type of instruction advocated by SOR proponents, we might instead assume that students' difficulties are explained individually by unique combinations of factors. Rather than assuming that the instruction is scientifically correct, and that the problem rests permanently within the student, a conclusion that leads to doubling down on the ineffective instruction, we might instead assume that the problem lies in the instruction not accommodating the student's unique complexities, and undertake a thorough analysis of instructional interactions.[44] Such research is virtually non-existent.

Q10: What is the value of the term dyslexia?

A: It is unclear.

The first assumed advantage of classifying someone as dyslexic, is that it will lead to optimal instruction specifically aimed at remediating their condition. As noted previously, there is no evidence that such definitive instruction exists, and there is at least some evidence that

some popular instructional interventions for students classified as dyslexic may do more harm than good.[45] Of course, in general, such outcomes are unlikely to be published. Although evidence shows that early identification of students who are at-risk for having difficulties learning to read is valuable if it leads to early intervention, early classification as dyslexic contributes nothing beyond that awareness. The second most articulated advantage is that the classification offers those with reading difficulties, and their parents, a tool for breaking the cultural link between reading difficulty and negative assumptions about intellect. Thus, a diagnosis of dyslexia is a vehicle for maintaining self-esteem, albeit at the expense of those whose reading difficulties are deemed "expected" due to other causes such as poverty or culture.

Although this latter argument is plausible, there is so far no reliable evidence that it is widely the case, or that it outweighs its potential downsides (including a sense the reading difficulties may be permanent). On the other hand, there is reason to believe that attributing students' lack of success to fixed conditions such as dyslexia could undermine a growth mindset and motivation to overcome difficulties.[46] Furthermore, there is the risk that parents, teachers and others will have lowered expectations, a risk that is heightened when children are screened for dyslexia on or before entry to school. Screening for limited early literacy-related skills, rather than for dyslexia, *might* be less likely to impact such expectations. .

The idea that dyslexics are a separate class of individuals, distinct from those experiencing reading problems for other reasons such as intellect, culture, poverty, and/or limited opportunities to learn, coupled with the allusion that dyslexia indicates other exceptional skills, doubtless appeals to some as advantageous.[47] Less-often articulated arguments emphasize that the diagnosis increases access to more and different resources (e.g., extra time on exams, or assistive technologies) that are not available to those who are slow readers not classified as

dyslexic. If history is a guide, making such resources available to those classified as dyslexic but not to others with reading difficulties invites class- and race-related inequities.[48] Further, as Miciak and Fletcher point out, because "there is little evidence for the specificity of dyslexia interventions… the search for dyslexia-specific interventions potentially limits access to effective reading instruction for some children."[49]

Q11: Given the problems with the term dyslexia, and related claims about the need for instruction in word solving to focus exclusively on phonological and orthographic information, what fuels the thriving public narrative about them?

A: That's complicated.

Most people know someone who has difficulty with reading and related literacy skills, with all the associated troubles and anxieties. Bearing witness to their suffering makes us passionate about protecting them. Parents, researchers, school personnel, journalists and others bring that passion to their advocacy for resources for those who struggle to learn to read. Support groups have brought collective resources, passion and particular narratives to lobbying on their behalf. The International Dyslexia Association and Decoding Dyslexia, two such organizations, have been particularly effective at lobbying politicians to implement state laws they hope will best serve their cause and the learners about whom they are concerned. They have been effective in part because the dyslexia narrative has been embedded in the culture since the 1920s when the popular theory held that dyslexia was a visual problem. Although research rejected that theory in the late 1970s,[50] both the term and the theory had a strong foothold in the public imagination, a foothold that persists to this day. Stories that are repeated frequently, become an unquestioned part of cultural knowledge, and the internet and media have turned dyslexia into a cultural meme.

Second, the narrative includes the reasonable premise that a reading problem is not the

child's nor the parents' fault, and does not reflect a problem with intelligence or some other hypothetical characteristic like laziness. The narrative's appeal has been enhanced with unfounded claims that dyslexia may also entail an array of exceptional abilities. These claims are supported, not by research, but primarily by anecdotes about prominent, successful public figures, living and dead, who overcame reading difficulties presumed to be due to dyslexia. The experiences of those struggling to overcome reading difficulties, are certainly real. As evidence that dyslexics are more likely to be gifted in various ways, their value is questionable.

A third appealing part of the narrative is that there is a simple, and scientifically certain, solution to the problem. But as Petscher and colleagues point out, "the accrual of scientific knowledge related to reading is ever evolving, at times circuitous, and not without controversy," a sentiment echoed in Solari and colleagues' observation that, "the science on any human phenomenon or behavior is rarely settled."[51]

A fourth narrative element involves demonizing other instructional approaches by offering caricatures. Anything other than exclusive reliance on alphabetic decoding is demonized as not teaching phonics, but teaching children to "guess" at words, and thus unscientific and even educational malpractice. In fact, approaches that include alphabetic decoding as one of multiple instructional elements, have been shown to be successful with young readers experiencing difficulty.[52] Such dualisms are counterproductive. It is possible, even likely, that when teachers over-emphasize context strategies, some children will neglect expanding their phonics knowledge. It is equally possible, even likely, that when teachers neglect the use of context strategies, children will lose the sense that reading is about meaning construction, and not build the knowledge base and language skills on which comprehension depends.

Public dyslexia narratives often take the form of conversion narratives - stories with

sharp before and after contrasts featuring the (often emotional) recognition of dyslexia or of the significance of the near exclusive emphasis on phonics instruction. These narratives position public schools as either ignorant or heretical, and private providers of O-G based instruction as primary sources of knowledge and certification.[53]

In recent years, pronouncements about the presence and nature of dyslexia and the importance of SOR instruction have been delivered by practitioners of neuroscience or "brain science," a field that very powerfully captures the public imagination. While yielding increasingly interesting data regarding reading processes, it remains a very large leap from neurological research to recommendations for instructional practice.[54]

Further, there is, in this process, no voice for families who have been failed by instructional approaches aligned with the SOR position. This is likely for at least two reasons. First, it is very difficult to speak up against large, organized, highly passionate lobbying groups and media presentations, particularly those whose stated mission is to protect vulnerable children. Second, diagnoses of dyslexia, with their promise of creativity or other gifts, are hard to give up, particularly when the slow progress in reading only confirms the diagnosis.

Fletcher and Grigorenko observe that "Unfortunately, science is generally not a primary basis for decision making in education; political trends, experience, anecdotes, and similar bases for evidence prevail."[55] Such decisions are, however, frequently made in the name of science. The current state of research on dyslexia and related literacy instruction does not justify the bulk of the arguments about "settled science" relating to these matters. Indeed, there is strong support for a broader view of literacy-relevant science, and serious concern about the narrow view of the science popularized in the press.[56]

Q12: Given the confusions and complexity surrounding dyslexia, how might we think about

and address children's literacy learning difficulties?

A: A bit more humbly and with more recognition of what research actually offers, its breadth and its limitations.

Some students have difficulty, sometimes extreme difficulty, with the word reading aspect of the reading process, and too often instruction does not meet those students' needs. These difficulties absolutely need to be addressed instructionally and institutionally. That said, recent advocacy efforts have not been accurate or forthright about the current state of instructional research, its limitations, or its implications. Consequently, in the name of dyslexia, decisions are being made at school, district and state levels that affect the literacy instruction of all children. Doubtless, all parties involved have children's best interests at heart. However, decisions are often made based on misrepresentations of the state of research promoted by media, commercial interests, and lobbying groups. Neither the nature nor the existence of dyslexia is settled science. Nor is the best approach to reading instruction for children experiencing difficulty learning to read, settled science. Educational and legislative decision-makers should be wary of claims to the contrary. Indeed, enthusiasm for the potentially curative benefits of the approach to instruction currently promoted by SOR proponents led to a grand, federally-funded experiment, the Reading First program, that failed to deliver any impact on reading comprehension (the most important target of reading instruction), despite a small but significant increase in word decoding skills. This despite the expenditure of billions of dollars in funding from the US Department of Education over six years.[57]

Teaching all children to read and write is no simple undertaking and instruction in word reading skills needs to be considered in the broader context of literacy development. Research suggests that teachers are the most important in-school factor in students' learning.[58] It is what

teachers know and do, particularly in meeting the needs of individual students, rather than the programs or approaches they use, that are most influential in literacy outcomes. Children enter classrooms with very different knowledge, skills, biological attributes, and life experiences that influence their literacy development, and they encounter a range of difficulties in becoming literate. Consequently, teachers of young children need a deep understanding of early literacy development and teaching strategies in order to teach effectively. Some children will need more emphasis on decoding and related processes than others, some will need more support with language skills, or the conceptual knowledge and vocabulary upon which comprehension depends. Many, especially those who encounter difficulties, will need motivational support. It is not enough for teachers to know what children need to learn. They need to know how to create conditions such that children will develop that knowledge, and engage and persist with challenging activities, while maintaining a sense of meaningfulness, self-efficacy, and a positive relationship toward literate activities. Building such professional knowledge can reduce the number of children encountering difficulty.[59]

Unfortunately, teacher preparation programs typically have too few courses on literacy teaching and learning to enable future teachers to develop the needed expertise. But, adding courses onto teacher preparation programs increases the cost and timeline of preparing for a career that is generally underpaid. Adding literacy courses, on top of extensive other new priorities (anti-bullying, anti-racism, ADHD, SEL, etc.) without changing the cost and timeline, results in tradeoffs against learning how to teach science, social studies and math, teaching that contributes to the development of the knowledge and vocabulary necessary for enabling comprehension. That these costs and benefits have not been researched, has not impeded the implementation of state laws requiring a shift to screening and instructional procedures that are

aligned with the dyslexia and SOR perspective.[60] Too often, emergency and alternative certifications and limited professional development mean that teachers do not have the necessary professional knowledge to teach literacy effectively, especially for students who are highly dependent on school to promote their growth in literacy; students for whom limitations in background knowledge and language skills are at least as likely to limit reading comprehension as are weak phonics skills. These are serious problems to be solved that will affect the number of children encountering difficulty becoming literate in the broader sense of literacy that not only encompasses word reading accuracy but using written and spoken language for communication and knowledge development. Solutions to these problems are likely to reduce the number of children who some would have wished to classify as dyslexic as well as those who experience difficulties with the literacy development more broadly.

Policy Implications

It should be clear that the nature of children's difficulties becoming literate and the best ways to teach are the focus of ongoing, not "settled" science. That said, currently, with respect to dyslexia, we can say:

1. Definitions of dyslexia vary widely, and none offers a clear foundation - biological, cognitive, behavioral, or academic - for determining whether an individual experiencing difficulty with developing word reading skill should be classified as dyslexic. (Questions 1 and 10).
2. Although there are likely heritable dimensions to reading and language difficulties, there is no way to translate them into implications for instructional practice. (Question 2).
3. Good first instruction and early intervention for children with a slow start in the word reading aspect of literacy, reduces the likelihood they will encounter serious difficulty. Thus, early screening with assessments that can inform instruction, is important.

Screening for dyslexia, particularly with instructionally irrelevant assessments, offers no additional advantage. (Questions 5 and 6).

4. Research supports instruction that purposely develops children's ability to analyze speech sounds (phonological/phonemic awareness), and to relate those sounds to patterns of print (phonics and orthographics), *in combination with instruction to develop comprehension, vocabulary, fluency, and a strong positive and agentive relationship with literacy*. (Questions 7, 8, 9 and 12).
5. Evidence <u>does not</u> justify the use of a heavy and near-exclusive focus on phonics instruction, either in regular classrooms, or for children experiencing difficulty learning to read (including those classified as dyslexic). (Questions 7, 8, 9 and 12).
6. Legislation (and district policies) aligned with the SOR perspectives on dyslexia will necessarily require tradeoffs in the allocation of resources for teacher development and among children having literacy learning difficulties. These tradeoffs have the potential to privilege students experiencing some types of literacy learning difficulties while limiting instructional resources for and attention available to students whose literacy difficulties are not due (exclusively) to word reading difficulties. (Questions 3 and 12).

These policy implications should not, in any way, serve to diminish concerns about the experiences of learners who encounter difficulty with the word reading process. Most learners who experience such difficulties can overcome those difficulties with early and appropriately targeted instruction and intervention that is not limited to an exclusive phonics focus. There is no evidence that their classification status is relevant in this regard.

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