What Special Education Directors Need to Know about Dyslexia

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University of Arizona
September 24, 2018

Disclosure: I am an author of this course that I am going to mention.

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"Every child would read if it were in his power to do so" (Betts, 1936, p.5).

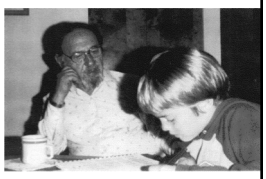
Source: Betts, E. A. (1936). *The prevention and correction of reading difficulties.* Evanston, IL: Row, Peterson and Company.

Basic Truths about Dyslexia

- Dyslexia is real.
- It affects approximately 5-8% of the population.
- It ranges from mild to very severe.
- It can be partially overcome with intensive instruction.
- Highly trained teachers and technology can provide this type of instruction
- Dyslexia affects self esteem.

Meet Charlie

A Third-Grade Student with Dyslexia



- **Strengths in:**
  - **Mathematics**
  - **Oral vocabulary**
  - **Academic knowledge**
- **Weaknesses in:**
  - **Word identification**
  - **Word perception speed**
  - **Spelling**

Topics

- What is dyslexia?
- A little bit about:
  - definitions
  - history
  - the brain
  - laws
- Intervention
- Teacher training
- Technology
- Impact on self esteem

The Term Dyslexia

"In the first half of this century the story of dyslexia has been one of decline and fall; in the second half it has culminated in a spectacular rise. From being a rather dubious term, dyslexia has blossomed into a glamorous topic; and rightly so, for with a prevalence of around 5% the condition is remarkably common" (Frith, 1999, p. 192).

Dyslexia and related terms

- **Specific Reading Disability**
- **Specific Learning Disability in Basic Reading Skills**
- **Specific Reading Fluency/Rate Disability**
- **Specific reading disorder (ICD-10- F81.00)**
- **Specific learning disorder with an impairment in reading (DSM-5 315.00)**

2013 DSM-5 diagnostic subtype of Specific Learning Disorder:
1. Specific learning disorder with impairment in reading includes possible deficits in:
Word reading accuracy
Reading rate or fluency
Reading comprehension
DSM-5 diagnostic code 315.00.
Note: *Dyslexia* is an alternative term used to refer to a pattern of learning difficulties characterized by problems with accurate or fluent word recognition, poor decoding and

Specific Reading Disability = Dyslexia

UNITED STATES DEPARTMENT OF EDUCATION
OFFICE OF SPECIAL EDUCATION AND REHABILITATIVE SERVICES
THE ASSISTANT SECRETARY

October 23, 2015

"In implementing the IDEA requirements discussed above, OSERS encourages SEAs and LEAs to consider situations where it would be appropriate to use the terms dyslexia, dyscalculia, or dysgraphia to describe and address the child's unique, identified needs through evaluation, eligibility, and IEP documents. OSERS further encourages States to review their policies, they do not prohibit the use of the terms dyslexia, dyscalculia, and dysgraphia in evaluations, eligibility, and IEP documents."

International Dyslexia Association (2003) defines dyslexia as:

[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.

Health Council of the Netherlands. Dyslexia. Definition and treatment. The Hague: Health Council of the Netherlands, 1995.

Dyslexia is present when the automatization of word identification (reading) and/or word spelling does not develop or does so very incompletely or with great difficulty. The term 'automatization' refers to the establishment of an automatic process. A process of this kind is characterized by a high level of speed and accuracy. It is carried out unconsciously, makes minimal demands on attention and is difficult to suppress, ignore or influence…

…dyslexia is characterized in practice by a severe retardation in reading and spelling which is persistent and resists the usual teaching methods and remedial efforts… it will be accompanied by very slow and/or inaccurate and easily disturbed word identification and/or word spelling.

"It was as if he were driving in a NASCAR race in first gear while everyone else was cruising along in fifth gear" (Lindstedt & Zaccariello, 2008) (pp 195-196).

Source: Lindstedt, K., & Zaccariello, M. J. (2008). A tale of two assessments: Reading Fluency. In J. N. Apps, R. F. Newby, & L. W. Roberts (Ed)., *Pediatric neuropsychology case studies: From the exceptional to the commonplace* (pp. 191-199). New York: Springer.

British Dyslexia Association

The word 'dyslexia' comes from the Greek and means 'difficulty with words'.
Definition: Dyslexia is a specific learning difficulty which mainly affects the development of literacy and language related skills. It is likely to be present at birth and to be lifelong in its effects. It is characterised by difficulties with phonological processing, rapid naming, working memory, processing speed, and the automatic development of skills that may not match up to an individual's other cognitive abilities.

The phonological deficit view that has dominated the field for years is inadequate for explaining all cases of reading disorder (Peterson & Pennington, 2012; Snowling & Hulme, 2012 and its importance has been overstated (Swanson, Trainin, Necoechea, & Hammill, 2003).

Peterson, R. L., & Pennington, B. F. (2012). Developmental dyslexia. *The Lancet, 379*(9830), 1997–2007.
Snowling, M. J., & Hulme, C. (2012). Annual research review: The nature and classification of reading disorders—a commentary for proposals on DSM-5. *Journal of Child Psychology and Psychiatry, 53*, 593–607.
Swanson, H. L., Trainin, G., Necoechea, D. M., & Hammill, D. D. (2003). Rapid naming, phonological awareness, and reading. A meta analysis of the correlational evidence. *Review of Educational Research, 73,* 407–444.

Consensus on the Definition

- Neurobiological disorder that affects the development of basic reading skills, spelling, and automaticity with sound-symbol connections.
- It is often accompanied by specific weaknesses in cognitive factors that predict poor reading and spelling.
- It is a lifelong condition but effective interventions reduce the impact.
- Many other abilities are often intact and can even be advanced.

Dyslexia Laws in the USA: An Update

by Martha Youman and Nancy Mather

Dyslexia Laws in the USA: A 2018 Update

by Martha Youman and Nancy Mather

As of December, 2015, 28 states had some type of dyslexia law. It's now up to 42.

Youman, M., & Mather, N. (2018). Dyslexia laws in the USA: A 2018 Update. *Perspectives*, 37-41.

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https://improvingliteracy.org/state-of-dyslexia

Dyslegia: A Legislative Information Site

New US & State Laws about Dyslexia and Reading Education

Home | About | Position Statements | Articles | State Dyslexia Laws | Feedback

State Dyslexia Laws

dyslegia.com

Arkansas Dyslexia Law

- Explicit direct instruction that is systematic, sequential, and cumulative
- Individualized or small group instruction
- Multisensory instruction
- Meaning-based instruction
- Provided by a person with training and certification in dyslexia

By 2014-2015, the Department of Education shall ensure that each teacher receives professional awareness on:

- the indicators of dyslexia
- the science behind teaching students with dyslexia
- Training may be online, or at an education service cooperative

Arizona Department of Education
Diane M. Douglas, Superintendent of Public Instruction

Arizona Technical Assistance System (AZ-TAS)

Dyslexia Handbook

Arizona – 2017 – SB 1131 – Schools – Retention and Remediation

April 11, 2017

Reading instruction, retention & intervention: Specifies that a pupil should not be promoted from the third grade if the pupil does no demonstrate sufficient reading skills on statewide assessments. A pupil who is not retained due to the unavailability of test data must receive evidence-based intervention and remedial strategies if the third grade assessment data subsequently demonstrates that the pupil does not demonstrate sufficient reading skills.

Read more

A pupil who does not demonstrate sufficient reading skills may be promoted if:

- the pupil is an English learner or limited English proficient student and has had fewer than two years of English language instruction.
- the pupil is in the process of a special education referral or evaluation for placement in special education, has been diagnosed as having a significant reading impairment, including dyslexia, or a pupil who is a child with another disability if the pupil's individualized education program team and the pupil's parent or guardian agree that promotion is appropriate based on the pupil's individualized education program.
- the pupil has demonstrates sufficient reading skills or adequate progress toward sufficient third grade level reading standards as evidenced though a collection of reading assessments.

"A President, a secretary of education, or a legislative body may well declare that 'no child will be left behind,' but that does not change the fact that testing (or any other measurement required for accountability) will always produce a distribution, including a bottom – even a bottom quartile, even a bottom tenth, even an individual or a group that scores lowest. It happens every single time, no exceptions!" (p. 521)

Kauffman, J. M. (2005). Waving to Ray Charles: Missing the meaning of disabilities, *Phi Delta Kappan, 86,* 520-521, 524.

Provide Early Intervention

Teach our children how to read; do not retain them.

Provide systematic, intensive instruction.

Hereditary Factors

Strong converging evidence suggests:

1. **Dyslexia is genetic.**
2. **Family history is a key risk indicator.**

Left Hemisphere

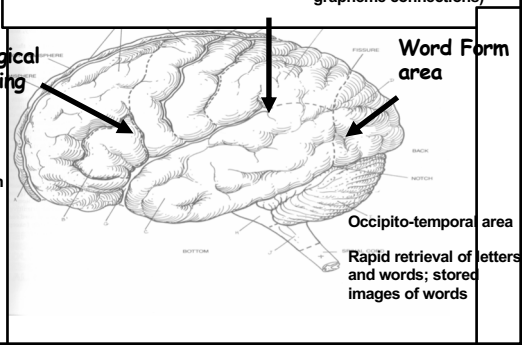
Sound-symbol connection

Parieto-temporal area: integration of sounds with symbols (phoneme-grapheme connections)

Phonological processing

Broca's area: Hearing sounds in words.

Word Form area



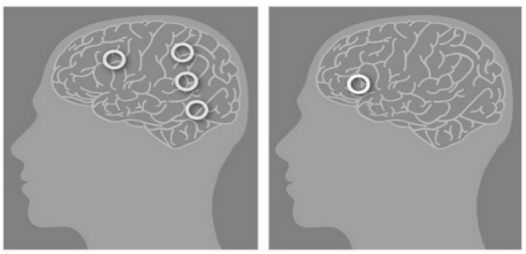
Occipito-temporal area

Rapid retrieval of letters and words; stored images of words

Thursday, November 3, 2011

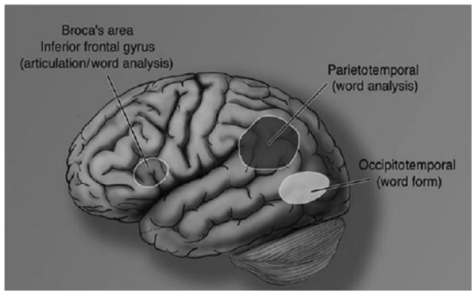
NIH-funded study finds dyslexia not tied to IQ

Research on brain activity fails to support widely used approach to identify dys



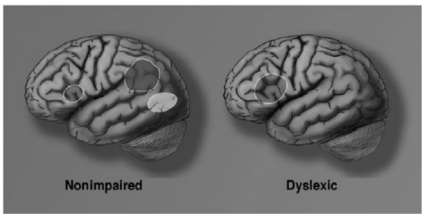
At left, brain areas active in typically developing readers engaged in a rhyming task. Shown at right is the brain area activated in poor readers involved in the same task.

Neural Systems for Reading



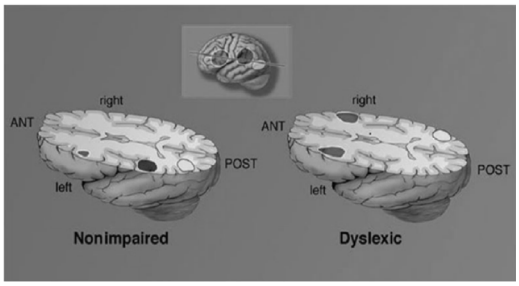
Source: Shaywitz, S. (2003). *Overcoming Dyslexia.* New York: Knopf.

The Neural Signature for Dyslexia (Shaywitz, 2003)



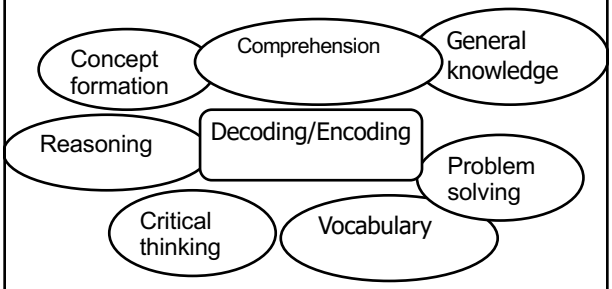
The anterior system is overactivated and the posterior system is underactivated (the neural signature).

Compensate: over-active left and right anterior systems and the right visual word form area

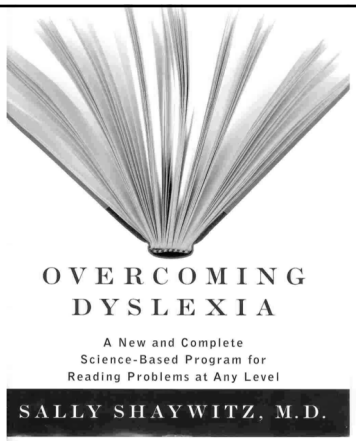


Shaywitz, S. (2003). *Overcoming Dyslexia.* New York: Knopf.

Sea of Strengths Model of Dyslexia



Shaywitz, S. (2003). *Overcoming dyslexia: A new and complete science-based program for reading problems at any level.* New York: Alfred A. Knopf. (p. 58)



"The diagnosis of dyslexia is as precise and scientifically informed as almost any diagnosis in medicine" (p. 165).

Source:

Shaywitz, S. (2003). *Overcoming dyslexia: A new and complete science-based program for overcoming reading problems at any level.* New York: Alfred Knopf.

Components of Effective Reading Instruction

- provided individually or in small groups
- delivered systematically at a regular time each day
- supported with a supply of books suitable to child's reading level
- instructed by specially trained reading teachers

Source: Monroe, M., & Backus, B. (1937). *Remedial reading: A monograph in character education.* Boston: Houghton Mifflin.

A Major Problem: Inappropriate Reading Material

- scarcity of high interest books with simple reading vocabulary
- provision of reading books for only one grade level for each grade
- inflexible programs so that teachers cannot adjust the difficulty of the texts to the achievement level of the students

Source: Monroe, M., & Backus, B. (1937). *Remedial reading.* Boston: Houghton Mifflin.

"Furthermore, workbooks should be ordered in terms of the reading levels of the pupils in the room. No one can justify ordering thirty similar third-grade workbooks for the thirty dissimilar third-grade pupils found in any classroom in the country" (p. 525).

Source: Betts, E. A. (1946). *Foundations of reading instruction.* New York: American Book Company.

Reading Ability

"The ability to read well, both silently and orally, doubtless surpasses in importance many of the other learning skills, since it opens up all records of knowledge. For this reason the earlier that deficiency is eliminated during the school program, the more rapid will be the individual's approach to an effective education" (p. 347).

Source: Williamson, E.G. (1939). Reading disabilities. In E. G. Williamson (Ed.), *How to counsel students: A manual of techniques for clinical counselors* (pp. 327-347). New York, NY: McGraw-Hill.

Prevention Program

"A prevention program should have its inception at the earliest school age and be continued coordinately with correction through high school" (p. 343).

Source: Williamson, E.G. (1939). Reading disabilities. In E. G. Williamson (Ed.), *How to counsel students: A manual of techniques for clinical counselors* (pp. 327-347). New York, NY: McGraw-Hill.

Teacher Training

- understand the mechanics of reading
- the value of objective measurements
- how to chart and graph students' progress
- how to apply proper remedial measures dictated by diagnostic findings
- recognize individual differences

Source: Williamson, E.G. (1939). Reading disabilities. In E. G. Williamson (Ed.), *How to counsel students: A manual of techniques for clinical counselors* (pp. 327-347). New York, NY: McGraw-Hill.

The Upper Grades

"…provision for correcting reading disability in the upper grades and high school should be a major responsibility of teachers and administrators" (Williamson, 1939, p. 347)

Visual and Auditory Dyslexia (Johnson & Myklebust, 1967)

- Confuses letters and words with similar appearance
- Slow rate of perception
- Reversals in reading and writing
- Difficulty retaining visual sequences
- Difficulty hearing the differences among speech sounds
- Difficulty discriminating short vowel sounds
- Difficulty with blending and segmentation

Diagnosis

"…there is a deficit in learning in the presence of basic integrity" (p. 25).

Source: Johnson, D. J., & Myklebust, H. R. (1967). *Learning disabilities: Educational principles and practices.* New York: Grune & Stratton.

Lessons from History

- Certain parts of the brain are involved.
- A specific problem exists in cognitive, linguistic, or perceptual processes that affects reading and spelling development.
- Oral language and reasoning abilities are often more advanced than basic reading skills.
- Early intervention is critical.
- Reading problems can affect an individual of any level of intelligence.

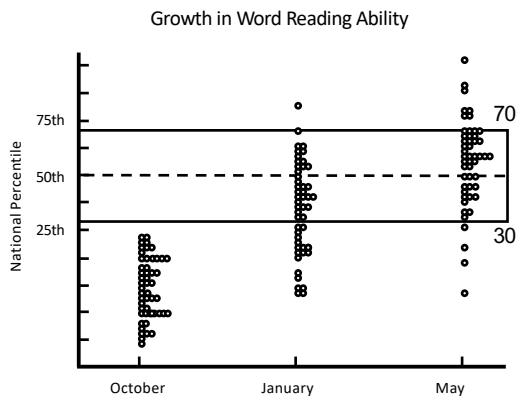
Lessons from History

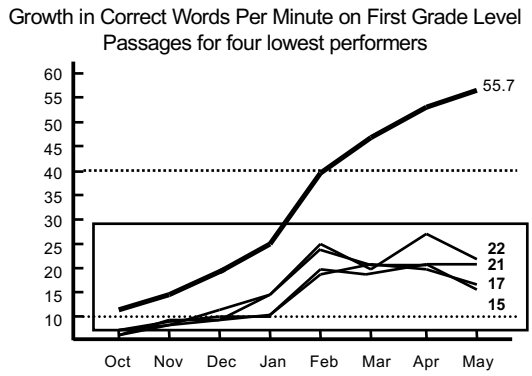
- Both assessments and treatments must be individualized.
- Instruction must be planned, adapted for each individual, systematic and intensive.
- One-to-one or small group instruction is effective.
- Teachers must receive adequate training.
- Dyslexia affects self esteem.

Design of study in which intervention occurred

1. Most "at risk" first graders from five elementary school - PPVT above 70
2. Instruction provided in 45 min. sessions every day from October through May in groups of 3 or 5 by experienced teachers or well-trained paraprofessionals
3. Used a structured (scripted) reading program that contained instruction and practice in phonemic awareness, phonics, fluency, and comprehension
4. Used a number of methods to achieve fidelity of implementation: 3 days of initial training, weekly supervisory visits, and monthly inservices (3 hours)

Source: Torgesen, J. K. (2004, January). Setting new goals for reading interventions: Evidence from research. Keynote presentation at the Northern California Branch of the International Dyslexia Association, San Francisco.



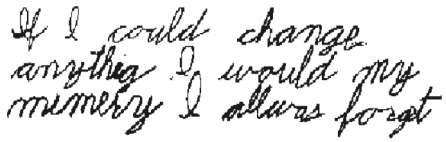


"The remedial work was unsuccessful in about 4 or 5 percent of the cases, in that this percentage of cases did not show improved scores on the retests" (p. 151).

Source:

Monroe, M., & Backus, B. (1937). *Remedial reading.* Boston: Houghton Mifflin.

Students with dyslexia still need comprehensive evaluations that address cognitive and linguistic processes…



"We are coming to recognize that deficiencies in certain cognitive processes are indicators of LD that predict and, therefore, result in expected underachievement" (p. 239).

Source: Learning disabilities: Implications for policy regarding research and practice: A report by the National Joint Committee on Learning Disabilities March 2011. *Learning Disability Quarterly, 34,* 237-241.

Attention (ADHD)/Reading Disability

- **25 to 40% of individuals with ADHD also meet the criteria for RD [e.g., August and Garfinkel, 1990; Semrud-Clikeman et al., 1992]**
- **15–35% of individuals with RD also meet the criteria for ADHD [Gilger et al.,1992; Shaywitz et al., 1995; Willcutt & Pennington, 2000].**

Source: Willcutt, E. G., Pennington, B. F., & DeFries, J. C. (2000). Twin study of the etiology of comorbidity between reading disability and Attention-Deficit/ Hyperactivity Disorder. *American Journal of Medical Genetics (Neuropsychiatric Genetics), 96*, 293–301.

"The students of greatest concern to us were those who were very poor readers at the start of the school year and as a group made no progress, despite being part of responsible inclusion program that received substantial support. We must conclude that full-time placement in the general education classroom with in-class support from special education teachers is not sufficient to meet the needs of these students. They require combined services that include in-class support and daily intensive, one-to-one instruction from highly trained personnel. This is an expensive proposition but appears to be the only solution that will yield growth in reading for students with severe reading disabilities" (p.159).

Source: Klingner, J. K., Vaughn, S., Hughes, M. T., Schumm, J. S., & Elbaum, B. (1998). Outcomes for students with and without learning disabilities in inclusive classrooms. *Learning Disabilities Research and Practice, 13*, 153–161.

Students with dyslexia need methods that provide…

- structure
- explicit teaching
- feedback
- repetition
- practice

Elements of Effective Reading Instruction for Students with Dyslexia

Use methods that provide intensive, systematic, explicit instruction in the alphabetic system (e.g., Wilson Reading System).

Focus instruction on building word reading, spelling skills, and reading rate

Provide daily instruction in a one-to-one or small group setting with a highly trained reading teacher

A Variety of Instructional Programs are Effective

"It would seem that, taken as a group, these studies suggest that instruction in small groups with high response rates, immediate feedback, and sequential mastery of topics-all typical of good teaching-are more important than the specific evidence-based program used" (p. 12).

From: Responsiveness to Intervention and Learning Disabilities, A report prepared by the National Joint Committee on Learning Disabilities, June 2005.

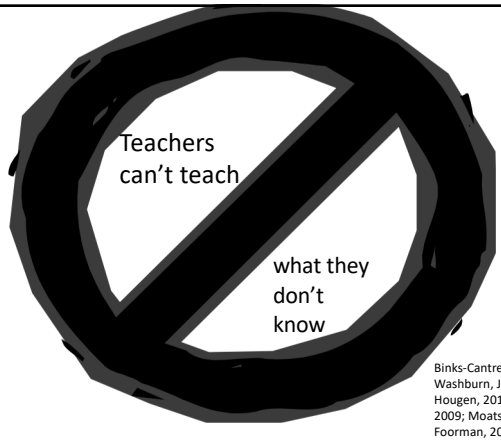
"A variety of programs must be available for children who have a variety of needs" (p. 194).

Source: Cruickshank, W. M. (1977). Least-restrictive placement: Administrative wishful thinking. *Journal of Learning Disabilities, 10,* 193-194.

The Problem

- Struggling readers need to receive explicit and intensive code-based reading instruction.
- Most teachers do not possess the necessary knowledge to teach these readers effectively.
- When teachers do not know enough about systematic reading and writing instruction, their abilities to provide accurate examples, make appropriate instructional decisions, and use commercial programs effectively are significantly limited.

Most teachers are not provided with adequate information and training regarding code-based reading instruction from their education



Binks-Cantrell, Washburn, Joshi, & Hougen, 2012; Moats, 2009; Moats & Foorman, 2003.

Teachers need administrative support. They need to:

- participate in trainings, conferences
- have necessary resources
- have time to meet with each other
- have time to provide systematic, daily reading instruction to individual students or small groups

Knowing what is needed
to help students
is not
the same thing as
being able to provide it.

Kauffman, J. M., Lloyd, J. W., Baker, J., & Riedel, T. M. (1995). Inclusion of all students with emotional or behavioral disorders? Let's think again. *Phi Delta Kappan*, 542-546.

"About one-third of the children in the longitudinal study were receiving special help, but this help was often very erratic, occurring sporadically and consisting of what might best be described as a Band-aid approach to a gushing wound" (pp. 34-35).

Source:

Shaywitz, S. (2003). *Overcoming dyslexia: A new and complete science-based program for reading problems at any level.* New York: Alfred A. Knopf.

Mindplay Virtual Reading Coach
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MindPlay Virtual Reading Coach

Internet-based

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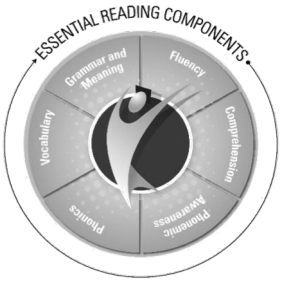
- Phonics
- Fluency
- Vocabulary
- Comprehension
- *and* Grammar & Meaning



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MindPlay Comprehensive Reading Course (MCRC) provides comprehensive instruction (30 to 35 hours):

- ✓Phonology
- ✓Reading and Spelling Development
- ✓Phonics Fundamentals for Reading and Spelling
- ✓Advanced Phonics for Reading and Spelling
- ✓Fluency
- ✓Grammar
- ✓Vocabulary
- ✓Reading Comprehension

WHO SHOULD TAKE THIS COURSE?

- This course is designed for educational professionals who wish to increase their knowledge about how to teach reading and spelling.
- It is appropriate for general education teachers, special education teachers, reading teachers, school psychologists, and speech-language pathologists who deal with diverse age ranges and skill levels.
- It can be used in teacher preparation and professional development programs within colleges and school districts.

Arizona-2018- HB2520-School Reading Requirements

Published on April 21, 2018 || Updated: May 27, 2018

Makes various changes to the K-3 Reading Program.

1. Requires, applicants for elementary teaching certificates to complete 45 classroom hours, or three credit hours, in reading instruction, including training on assessments, instructional practices and interventions to improve student reading proficiency.

Read more

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Arizona
Leave a comment

"Learning to teach reading, language and writing is a complex undertaking. The competence and expertise o teachers can be nourished with training that emphasizes the study of reading development, language and individual differences," said Dr. Louisa Moats, Chair of IDA's Standards and Practices Committee. "If teachers are better prepared, the impact of reading difficulties, including dyslexia, will be lessened, and many more students will receive the instruction and support they require to reach their potential."

Press Release: International Dyslexia Association Recognizes Nine Universities for Meeting Teacher Training Standards in Reading*Teachers who are Better Prepared Lessen the Impact of Reading Difficulties*. **BALTIMORE, May 2, 2012**

"…lower level language mastery is as essential for the literacy teacher as anatomy is for the physician" (Moats, 1994, p. 99).

Teaching reading really is rocket science (Moats, 1999)

"To be successful, the most struggling child requires the most expert teacher"
Lose, 2007

- "In the final analysis, reading difficulties can be prevented to the degree that the teacher has a professional understanding of her work" (p. 245).

- Source: Betts, E. A. (1936). *The prevention and correction of reading difficulties.* Evanston, IL: Row, Peterson and Company.

"…it is generally concluded that structured, comprehensive, and individualized reading instruction is the only defensible approach to correcting early and protracted reading difficulties as compared with alternative approaches that have questionable validity and no empirical support…" (p. xv)

Source: Vellutino, F. (2014). Foreward. In J. G. Elliott & E. L. Grigorenko (2104). *The dyslexia debate.* New York, NY: Cambridge University Press.

"Failure to learn to read as others do is a major catastrophe in a child's life" (p.1).

Source:

Dolch, E. W. (1939). *A manual for remedial reading.* Champaign, IL: Garrard Press.

"My ignorance of my dyslexia only intensified my sense of isolation and hopelessness. Ignorance is perhaps the most painful aspect of a learning disability" (p. 64).

Source: Schultz, P. (2011). *My dyslexia.* New York, NY: W. W. Norton & Company.

"A little over a decade ago, Foorman and Torgesen (2001) claimed that if current research findings on effective classroom reading instruction were implemented, meeting the additional needs of the at-risk child for effective, intensive, and explicit individual or small group instruction, the literacy needs of all children could be met. This is the case where advances in the science of reading disorders and intervention research, if brought to the front line of educational practice, could change the life circumstances of millions of at-risk children and adolescents" (p. 351).

Source: Lovett, M. W., Barron, R. W., & Frijters, J. C. (2013). Word identification difficulties in children and adolescents with reading disabilities. In H. L. Swanson, K. R. Harris, & S. Graham (Eds.), *Handbook of learning disabilities* (2nd ed.) (pp. 169-185). New York, NY: Guilford Press.

January 27, 2014, 04:00 pm Make dyslexia a national priority by Sally E. Shaywitz, M.D. and Bennett A. Shaywitz, M.D Rep. Bill Cassidy (R- La.) has introduced a House Resolution on Dyslexia (H.Res. 456, 113th Congress…"As physician-scientists, we have seen the devastating impact on children and families resulting from the failure by our schools to recognize and address dyslexia; as scientists we know the powerful scientific knowledge that both explains dyslexia and offers an evidence-based route to remediation. Often we wish there were more knowledge to address a problem. In the case of dyslexia, we have the knowledge to do much better for our children and our nation and so rather than a knowledge gap, there is an action gap which H.R. 456 – by bringing science to education - takes a major step to close."

Rather than a knowledge gap,
we have an action gap…
(Shaywitz & Shaywitz, 2014)

Solutions

- Provide early intervention with a structured, systematic phonics program, followed by methods to increase reading rate.
- Incorporate technology as part of reading instruction.
- Ensure that a variety of methodologies are available.

- Provide small group or individualized instruction.
- Adjust books to the different reading levels of the students.
- Provide teachers with in-depth training and time to teach reading.
- Ensure that all teachers have a basic understanding of dyslexia and how it affects reading and spelling progress.
- Ensure that all school personnel attempt to understand and meet the needs of struggling readers in all grades.