Quiz: Dyslexia Myths or Facts

Art & Craft of Teaching VS Research & Evidence-based practices
Characteristics: Fact or Myth?

1. Seeing letters and words backwards is a characteristic of dyslexia.

• Writing letters and words backwards are often symptoms of dyslexia.
• HOWEVER, doing so is common in the early stages of learning to read and write among average and dyslexic children alike.
• “Reversals” are a sign that orthographic representations (i.e., letter forms and spellings of words) have not been firmly established, not that a child necessarily has a reading disability (Adams, 1990)

Dyslexia is NOT a problem of “seeing & writing backwards”
Causes: Fact or Myth?

One of the major reasons for dyslexia-caused difficulties is due to visual problems.

- Although some individuals with dyslexia do report difficulty with vision, there is little evidence to support that this is related to dyslexia (Christenson, Griffin, & Taylor, 2001; Fletcher, Foorman, Shaywitz, & Shaywitz, 1999).

Characteristics: Fact or Myth?

Dyslexia is a disability specific to the English language.
3 Characteristics: Fact or Myth?

Dyslexia is a disability specific to the English language.

• Dyslexia appears in all cultures and languages in the world with written language, including those that do not use an alphabetic script such as Korean and Hebrew.
• In English, the primary difficulty is accurate decoding of unknown words.
• In consistent orthographies such as German or Italian, dyslexia appears more often as a problem with fluent reading – readers may be accurate, but very slow (Ziegler & Goswami, 2006).

4 Characteristics: Fact or Myth?

All students with dyslexia are intellectually gifted.

• Dyslexia or reading disability occurs in people of all levels of intelligence, not just the intellectually gifted (Moats & Dakin, 2012). There is absolutely no relation between dyslexia and IQ. Students with dyslexia can have high, middle or low IQs. In fact, researchers have shown that the nature and characteristics of a serious reading problem are not predicted by IQ.
Causes: Fact or Myth?

Dyslexia is caused by a literacy-poor home environment (e.g., parents not reading to their children).

- Dyslexia has a neurobiological origin.
- Dyslexia is not caused by poverty, developmental delay, speech or hearing impairments, although those conditions may put a child more at risk for developing a reading difficulty (Snow, Burns, & Griffin, 1998).

Causes: Fact or Myth?

Children with dyslexia are likely to have parents with dyslexia.
Causes: Fact or Myth?

6 Children with dyslexia are likely to have parents with dyslexia.

• Recent studies report a heritability of 50–70% (Harlaar, Spinath, Dale, & Plomin, 2005; de Kovel et al. 2004; Snowling, Gallagher, & Frith, 2003)
• Parents with dyslexia may have difficulty supporting students homework (Bonifacci, Montuschi, Lami, & Snowling, 2014).
• Gene*Environment Interaction (Rutter, Moffit, & Caspi, 2006)

Causes: Fact or Myth?

7 Dyslexia occurs more frequently in boys than in girls.

Causes: Fact or Myth?

7 Dyslexia occurs more frequently in boys than in girls.

Prevalence vs Identified

• Longitudinal evidence suggests that an equal number of boys and girls are affected by dyslexia (Wadsworth, Knopik, & DeFries, 2000).
• However, more boys are identified for reading disabilities (Shaywitz, Shaywitz, Fletcher & Escobar, 1990)
Prognosis: Fact or Myth?

7
Children will outgrow dyslexia.

• Adolescents with **dyslexia continue to have deficits in phonological coding**, the most discriminating measure of reading difficulty.
• Children with dyslexia **do not spontaneously recover from reading delays** (Shaywitz, et al., 1999).

9
At some age, it is too late to teach a student with dyslexia to read.
Prognosis: Fact or Myth?

At some age, it is too late to teach a student with dyslexia to read.

- The earlier struggling readers are identified and provided systematic, intense instruction, the less severe their problems are likely to be (National Institute of Child Health and Human Development, 2000; Torgesen, 2002).
- With adequately intensive instruction, however, even older children with dyslexia can become accurate, albeit slow readers (Torgesen et al., 2001).

Implications: Fact or Myth?

Individuals with dyslexia have difficulty with decoding/word recognition, exclusively.

- Dyslexia is characterized by the difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities resulting from a deficit in the phonological component of language that is often unexpected in relation to cognitive abilities and effective classroom instruction.
- Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge (Lyon, Shaywitz, & Shaywitz, 2003).
Implications: Fact or Myth?

10 Individuals with dyslexia have difficulty with decoding/word recognition, exclusively.

- Many with dyslexia have difficulties with some math tasks and especially with the language of math and the reasoning processes necessary for understanding concepts (Leong & Jerred, 2001)
- Social language

Implications: Fact or Myth?

11 Children with dyslexia have difficulties with spelling.
Dyslexia can cause difficulty with writing.

- Students with dyslexia do have difficulty with automatic letter writing and naming.
- which was related to impaired inhibition and verbal fluency and may explain their spelling problems (Berninger, Nielsen, Abbott, Wijsman, & Raskind, 2008).
Implications: Fact or Myth?

Dyslexia and emotional/social problems are highly correlated.

1. Students with dyslexia are regularly required to complete tasks that are extremely difficult for them. Despite countless hours spent in remediation, their progress may be agonizingly slow and frustrating. Others have not had the proper support. Some have been compared to their siblings or classmates, leaving them to feel embarrassed, cautious, and defensive.

2. Many with dyslexia experience high stress levels, specifically in interactions with teachers.

3. Worries about assessment and performance testing, causing emotional problems (e.g., fear, shyness and loneliness) and physiological symptoms (e.g., nausea, tremors or rapid heart rate; Alexander-Passe, 2008).
Interventions: Fact or Myth?

Children with dyslexia need more systematic and explicit reading (direct literacy) instruction than their typically developing peers.

Mastering the alphabetic principle (that written symbols are associated with phonemes) is essential to becoming proficient in the skill of reading, and methods that teach this principle directly are more effective than those that do not (Rayner, Foorman, Perfetti, Pesetsky, & Seidenberg, 2001)

• Instruction must be more explicit and comprehensive (e.g., more intensive, and more supportive than the instruction provided to the majority of children (Torgesen, Foorman, & Wagner, 2007)
• Structured literacy instruction in the areas of phonology, sound-symbol association, syllable types, morphology, syntax, and semantics
• Explicit instruction is direct, systematic, and leaves nothing to chance (Rayner, Foorman, Perfetti, Pesetsky, & Seidenberg, 2001)
Dyslexia can be helped by using colored lenses and/or colored overlays.

**Interventions: Fact or Myth?**

- There is no independent research evidence that using colored overlays or special lenses has any effect on the word reading or comprehension of children with dyslexia (Iovino, Fletcher, Breitmeyer, & Foorman, 1998; Henderson, Tsogka, & Snowling, 2013)

Eye tracking exercises are effective in remediating dyslexia-caused difficulties.

**Interventions: Fact or Myth?**
10/13/15

Interventions: Fact or Myth?

16 Eyetracking exercises are effective in remediating dyslexia-caused difficulties.

• The current research consensus indicates dyslexia is best characterized as a problem with language processing at the phoneme level, not a problem with visual processing (Lyon, Shaywitz, & Shaywitz, 2003; Morris et al., 1998; Rayner et al., 2001; Wagner & Torgesen, 1987), therefore direct, explicit instruction on language processing at the phoneme level is essential.

Interventions: Fact or Myth?

17 Certain medications have been found to be effective in treating dyslexia.

• There are NO known medical treatments for Dyslexia.
• This misconception may come from the fact that dyslexia and ADHD often co-occur. Medications have been found to be effective in treating attention disorders.
Public schools don’t recognize students with dyslexia.

**Current Definition of Specific Learning Disability:**
A disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in impaired ability to listen, think, speak, read, write, spell, or to do mathematical calculations including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. It does not include learning problems that are the primarily result of visual, hearing, or motor disabilities, or intellectual disabilities, serious emotional disturbance, or of environmental, culture, or economic disadvantage (NC Policy 2014).

**Proposed Definition of Specific Learning Disability:**
Means a disability in one or more of the basic processes involved in understanding or in using language, spoken or written, that may manifest itself in the impaired ability to listen, think, speak, read, write, spell or do mathematical calculations. The disability substantially limits academic achievement so that the child does not learn at an adequate rate when provided sustained, high quality instruction and scientific research-based intervention. Alternate terms may include, but are not limited to, dyslexia and dyscalculia.
Interventions: Fact or Myth?

Public schools don’t serve students with dyslexia.

Public school teachers don’t know how to teach students with dyslexia.

- 91 of districts participate in the NC SIP, focusing on reading and writing. Each of these districts has certified Reading Foundations trainers
- 242 certified Reading Foundations trainers who conduct multiple trainings each year throughout the LEAs
Interventions: Fact or Myth?

Public school teachers don’t know how to teach students with dyslexia

Over the past 3 years,
• over 4,000 special and general educators, and administrators have completed the 30-hour Reading Foundations Course, which is based in the principles of instruction for students with dyslexia: systematic, explicit and multisensory instruction.
• 3,492 educators in NC were trained in evidence-based reading programs as part of NC SIP grant work.

Still more work to do:
• In North Carolina (2012-2013)
  • 115 school districts
  • 2,426 traditional schools and 108 charter schools
  • 93,964 teachers (NCPublicSchools.gov)

Interventions: Fact or Myth?

Higher education does not prepare teachers to meet the needs of students with dyslexia
Interventions: Fact or Myth?

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Council for the Accreditation of Educator Preparation (CAEP; formerly NCATE) require IHEs follow the Council for Exceptional Children’s professional standards..

Interventions: Fact or Myth?

Higher education does not prepare teachers to meet the needs of students with dyslexia

Council for Exceptional Children’s professional standards. Beginning special education professionals:

- understand how exceptionalities may interact with development and learning and use this knowledge to provide meaningful and challenging learning experiences for individuals with exceptionalities
- use knowledge of general and specialized curricula to individualize learning for individuals with exceptionalities
- select, adapt, and use a repertoire of evidence based instructional strategies to advance learning of individuals with exceptionalities.

Interventions: Fact or Myth?

Higher education does not prepare teachers to meet the needs of students with dyslexia

The NC State Improvement Project (NC SIP) currently partners with the following Institutes of Higher Education to align content curriculum with Reading Foundations coursework thus improving pre-service teacher preparation and efficacy in teaching reading to students with disabilities:

- University of North Carolina at Charlotte
- East Carolina University
- University of North Carolina at Pembroke
- North Carolina State University
Interventions: Fact or Myth?

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Still more work to do
Quiz: Dyslexia Myths or Facts

• What surprised you?
• What other misconceptions do you hear in the field?

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References


