

Dyslexia

1. In 1877, Berlin coined the term “dyslexia,” which was another name for word-blindness in adults, or what others referred to more accurately as “alexia” (an acquired inability to read as a result of brain damage).
2. In 1925, Samuel Orton wrote the first report on the clinical features of dyslexia in children.
3. In 1963, Samuel A. Kirk introduced the term “learning disability” at a national conference on behalf of frustrated parents who could not get funding for their dyslexic children, because there was no funding category for this yet.
4. In 1970, a neurologist named Critchley gave a good basic definition of dyslexia: “...a disorder manifested by difficulty in learning to read despite conventional instruction, adequate intelligence, and socio-cultural opportunity. It is dependent upon fundamental cognitive disabilities which are frequently of constitutional origin.” Later on, he expanded his definition and called the condition “developmental dyslexia.”
5. The 1994 DSM-IV Criteria for *Reading Disorder* (dyslexia):
 - a. Reading achievement, as measured by an individually administered standardized test of reading accuracy or comprehension, is substantially below that expected given the person’s chronological age, measured intelligence, and age-appropriate education.
 - b. The disturbance interferes with academic achievement or activities of daily living that require reading skills.
 - c. If a sensory deficit is present, the learning difficulties are in excess of those usually associates with it.
6. Dyslexia afflicts approximately 3 percent of the school-age population, and about 5 percent of the entire U.S. population.
7. Dyslexia affects equal numbers of males and females.
8. A “dyslexic” individual typically has very poor decoding, word recognition, and spelling, with somewhat better reading comprehension skills.
9. In 1970, Boder reported on three subtypes of dyslexia: (a) dysphonetic (roughly 70 %), (b) dyseidetic (roughly 20 %), and (c) dysphonetic-dyseidetic [mixed] (roughly 10%).
10. It has been well established in the literature that the majority of students with dyslexia lack sufficient phonemic or phonological awareness. This is the ability to discriminate and mentally manipulate the basic sound units in spoken words. Phonemic awareness involves rhyming, isolating phonemes, segmenting phonemes, blending phonemes, deleting and replacing phonemes, and so on.
11. Dyslexic students lack automaticity in decoding, and have limited sight word vocabularies.
12. Dyslexic students also tend to be passive learners, with poor metacognitive awareness of word meaning.
13. Post-mortem studies of dyslexics have shown more symmetry in the brain, as well as ectopic neurons (i.e., neurons that did not migrate properly and are not lined up into columns in the proper areas).
14. Recent studies have identified genes on chromosomes 6 and 15 as etiological factors in dyslexia (e.g., These mutations result in faulty neuronal migration to the left thalamus, which may not send speech sounds to the temporal lobe fast enough to identify them properly).

Teaching Dyslexic Students

Types of Programs

- **Individualized Approaches:** include the following principles and approaches.
 1. *Multisensory methods,*
 2. *Over-learning and automaticity,*
 3. *Highly structured and usually phonetically based,*
 4. *Sequential and cumulative*
 e.g., Alphabetic Phonics, Bangor Dyslexia Teaching System, DISTAR, Hickey Multisensory Language Course, Letterland, Reading Recovery, Slingerland, Orton-Gillingham, etc.
- **Support Approaches & Strategies:** e.g., Sound Linkage, Phonological Awareness Procedures, Phonic Code Cracker, Reason and Boote (1994), Visualizing and Verbalizing (Nancy Bell, 1991), etc.
- **Assisted Learning:** e.g., Paired Reading, Peer Tutoring, Reciprocal Teaching, Cued Spelling, etc.
- **Whole-School Approaches:** e.g., Counselling strategies, Literacy projects, Study Skills Programmes, Thinking Skills, and Consultancy.

General Resource Strategies

1. **Improve phonemic awareness** – e.g., The Phonological Awareness Kit - Intermediate, Earobics software, Lindamood Phonemic Sequencing Program, Fast Forward, etc. Many books are now available to help children learn phonemic awareness in kindergarten and the primary grades (e.g., Joe Fitzpatrick has a good one). This improves readiness for phonics instruction.
2. **Improve word recognition skills:**
 - a. Teach a combination of high-frequency (e.g., Dolch, Fry) and thematic words using a variety of methods (e.g., individual or small group instruction, configuration clues, diacritical marks, multisensory-VAKT strategies, repeated readings to build fluency or automaticity, predictable books, dictated stories, word bank cards, word families, closed sorts, games like Making Words, Glass Analysis, teach only a few high-frequency phonics rules, etc.).
 - b. Initially, children's words can come from their own dictated stories.
 - c. Try high interest low vocabulary books at the student's instructional level.
 - d. Build automaticity and fluency using repeated readings.
3. **Published Reading Programs by SRA:**
 - a. Merrill Reading Program can be used along with the Preventing Academic Failure program (Grades K – 3).
 - b. The Corrective Reading program (Grades 4 – 12) by Siegfried Engelmann (1999) – for struggling readers.
4. **Software Reading Programs:**
 - a. *The Language Tune-Up Kit for Schools* – teaches reading and spelling using the Orton-Gillingham Method.

- b. The Lexia Reading S.O.S. program – phonics-based software designed for senior high school students and adults. There are 4 levels with 5 activities, each with 7 – 25 units, and it teaches over 3,000 words.
5. In class, try **Paired Reading**, in which the dyslexic student follows along with a partner or while listening to a tape-recorded book. A scribe could be used to help with writing, along with shorter written assignments.
6. Use **story grammars** or **story maps** to help with reading comprehension (e.g., The Before-During-After Strategy). **Reciprocal teaching** helps students learn to summarize, generate questions, clarify information, and predict. Specific strategies can also be taught separately in high school, such as summarizing expository text via **rule-governed summaries** and **hierarchical summaries**, as well as **student-generated questioning**, **self-monitoring**, **text lookbacks**, and **question-answer relationships**. It's also helpful to teach the **SQ3R** study strategy (survey, question, read, recite, review), which includes self-questioning techniques.
7. Use a systematic multisensory study strategy for learning to spell new words.

Helpful Resources

Boyles, N. & Contadino, D. (1997). The learning differences sourcebook. Los Angeles: Lowell House.

Manitoba Education and Training (1996). Strategies that make a difference (part of the English Language Arts curriculum).

McGuiness, D. (1997). Why our children can't read and what to do about it: A scientific revolution in reading. New York: Simon & Schuster.

Reid, G. (1998). Dyslexia: a practitioner's handbook. Toronto: John Wiley & Sons.

Spafford, C. & Grosser, G. (1996). Dyslexia: research and resource guide. Toronto: Allyn and Bacon.

Swanson, P. & De La Paz, S. (1998). Teaching effective comprehension strategies to students with learning and reading disabilities. Intervention in School and Clinic, 33 (4), 209-218.

Stowe, C. M. (2000). How to reach & teach children & teens with dyslexia. Center for Applied Research In Education.

Tarasoff, M. (1993). Reading instruction that makes sense. Victoria, B.C.: Active Learning Institute.

Useful Diagnostic Tests

Robertson, C & Salter, W. (1997). The phonological awareness test. East Moline, IL: LinguiSystems Inc.

(2001). Wechsler Individual Achievement Test – Second Edition (WIAT-II). The Psychological Corporation.