

Lecture 8

Book: Students with Learning Disabilities

Chapter 8: Reading

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Summary

Dyslexia: It is a severe disability in learning to read. 'Dys' means impaired and 'lexia' means words, reading or language. Thus, Dyslexia means impaired reading or language. According to the International Dyslexia Association the definition of dyslexia is "a specific learning disability that is neurological 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." The medical perspective of dyslexia focuses on genetics, brain damage, and central nervous system dysfunction. American educators and psychologists consider dyslexia to be a reading disability of individuals who have average or above average intelligence. Most educators prefer the term 'reading disability'.

Cause of dyslexia:

- Phonological deficit: The most common source of reading difficulty is a core deficit in phonological processing. Studies have shown that instruction in phonological awareness improves reading acquisition. Studies also indicate that abilities in phonological awareness predict future success in reading. The effect of deficit in phonological awareness is that it impedes the acquisition of word recognition skills, which is the primary difficulty experienced by students with a reading disability.
- Naming-speed deficit: research from the field of cognitive psychology has provided evidence that, along with a phonological processing deficit, individuals with reading disability have a core deficit in naming speed. A naming speed deficit refers to the inability to retrieve rapidly the spoken referent for a visual stimulus. Readers with naming speed deficits may have difficulty establishing representations of letter sequences

in memory. An inability to retrieve rapidly and/or represent letter knowledge would, thus, limit the quality of the orthographic codes in memory.

- Orthographic deficit: According to Berninger (1994) there are various types of orthographic knowledge such as (a) orthographic structure- patterns in written language such as letters that regularly occur in certain positions within words and letters (b) orthographic coding- procedures for creating unitary mental representations from print (c) orthographic-linguistic mapping- it occurs when orthographic codes are connected to phonological codes (d) internal lexicon- this is where word- specific orthographic images are stored in memory; and (e) meta-cognitive knowledge about the writing system- this includes understanding the basic concept of print. Each form of orthographic knowledge contributes to reading acquisition. Furthermore, another deficit in orthographic processor would hinder the connectivity pattern among the orthographic, phonological and meaning processors. Moreover, in order to secure words in lexical memory, a systematic relationship between orthography and phonology must be established, clearly, orthographic information is crucial to the reading process. To translate print into spoken word and to comprehend what is read is a complex cognitive process that requires several skills simultaneously which involves two basic processes: a decoding process and a comprehension process. Decoding skills enable the learner to pronounce words correctly. Comprehension skills enable the learner to understand the meaning of words in isolation and in context.
- Organization of reading skills: Some of the major factors which influence reading comprehension are:
 - i) Language factors: Several factors related to language influence text comprehension, including phonological awareness and depth and breadth of vocabulary knowledge. The phonological skills that are most important to skilled decoding include blending and segmenting individualized sounds in words. A common characteristic of individuals with dyslexia or reading disability is a core deficit in phonological processing. Furthermore, vocabulary knowledge in kindergarten is a robust predictor of comprehension in later grades and in fact, the relationship between vocabulary and comprehension gets stronger over time. Clearly, to be able to comprehend a text, a student must understand the words in the text. Although the number of words a student knows (vocabulary breadth) is important, the depth of word knowledge is also critical to reading comprehension and should be a focus of vocabulary instruction.
 - ii) Life experiences: Early language experiences impact a child's phonological awareness and vocabulary knowledge. As the child engages in word play and nursery rhymes with adults, he or she begins to make sense of the sound structure of language. Likewise through early conversation and story book reading, a child's vocabulary grows in depth and breadth.

- iii) Background knowledge: Having sufficient background knowledge about a topic and the structure of the text (i.e. text genre) and activating that background knowledge will allow for improved passage comprehension.
- iv) Decoding: Decoding refers to the process of converting print to speech (orally or silently) by applying the alphabetic principle. It is the process a reader uses to interpret abstract symbols as a word unit that bears meaning. The inability to acquire efficient decoding and word identification skills is the most common difficulty among students with dyslexia, often, as a result of poor phonological processing abilities. Unless a student is able to convert the symbols on a page to the correct word, comprehension will not be possible. Furthermore, decoding printed symbols to determine a correct pronunciation of a word must be done quickly and effortlessly to allow for reading fluency.
- v) Fluency: Reading fluency refers to an individuals' ability to read words accurately, at a pace that facilitates understanding, and with prosody (with expression, proper phrasing and intonation). A fluent reader has mastered the task of decoding to a level of automaticity, such that reading connected text appears smooth and effortless. Fluency influences comprehension but comprehension also affects fluency. A student's understanding of a text will help guide the phrasing, expression, and intonation, making reading more prosodic.
- vi) Strategies: A strategic reader consciously attends to comprehension while reading. Skilled readers know how to use reading strategies to monitor their understanding of a text and to make corrections when they do not understand what they are reading.

Development of reading skills:

- Ehri's theory of the development of word recognition abilities: According to Ehri and Saltmarsh (1995) "readers read sight words by accessing connections that they have formed between letters in the spellings of specific words and phonemes detected in pronunciations." Furthermore, they stated that readers who are able to use grapheme-phoneme connections are able to secure words in lexical memory. During the development of an ability to apply grapheme-phoneme and orthographic knowledge, however, a reader progresses through the following phases:
 - ◆ Prealphabetic phase: At the emergence of word reading ability, readers use a variety of visual cues to ascertain the identity of words. It is also known as the visual cue reading phase. During this phase of word reading ability, connections are formed between salient features of a word and the meaning of the word. The identification of the word occurs at the semantic rather than the phonological level and may rely on irrelevant and unreliable cues.
 - ◆ Partial alphabetic phase: This phase, also known as the phonetic cue reading phase is characterized by the emerging use of grapheme-phoneme connections.

Thus, rudimentary knowledge of the letter-sound correspondences in the English alphabet is necessary to enter into phonetic cue reading. Beginning readers in this phase use incomplete letter-sound correspondences to access words in memory. They may use the initial or final letter sounds, ignoring the medial phonemes in the word, such as recognizing the word 'ball' by the b and the l.

- ◆ Full alphabetic phase: In this phase, also known as cipher reading, access to words in memory occurs through a process called phonological recoding. In phonological recoding, word identity is established through the use of the cipher; the graphemic representation of the word is converted into its phonological representation. Connections are formed out of the "complete array of letters connected to the phonemic structure of the word" (Ehri, 1992).
- ◆ Consolidated alphabetic phase: In this phase, readers begin to consolidate multi letter patterns into memory. That is, phonemes and graphemes in common spelling patterns are analyzed and bonded as a consolidated unit. The more often a reader has encountered a particular combination of letters, the stronger the orthographic processing of those combinations becomes, and the reader breaks words into chunks at the weakest links. Instead of recoding words at the phoneme level, larger chunks might be used. Thus, connections to new words are more efficient. For e.g. if 'ing' is consolidated in memory from previous experiences reading words such as 'king', 'sing' etc. then adding new words such as 'bring' and 'sting' to lexical memory will occur more readily.

Chall's stages of reading development:

Stage 0: Prereading – During this stage from birth to about age 6, children gradually and unsystematically accumulate understandings about reading. Most children acquire some knowledge and insight into print and learn to recognize letters, common signs, and common words. Prereading activities should include parents' reading to children, experiences with environmental print (food labels, traffic signs etc.) and children's art and play activities.

Stage 1: Initial reading or decoding – The initial stage (first to second grade) involves learning to use letter-sound relationships to decode printed words not recognized immediately. Children learn to recognize words and understand material in their books; however, what they can read at this stage is considerably below what they can understand in speech. Often the student reads slowly, word by word, trying to break a detailed, complicated code. Some students experience difficulty acquiring beginning decoding skills due to problems with the phonological aspects of language. For many students, adequate phonics instruction involving the sequencing and blending of sounds to form words is necessary for the acquisition of basic decoding skills,

however, students who have difficulty with phonics analysis may use context analysis, syllabication, or structural analysis to aid in word identification.

Stage 2: Confirmation, Fluency and Ungluing from Print – In the 2nd and 3rd grades, what students previously have learned is consolidated in the recognition of words and the use of decoding skills to help them comprehend easy and familiar texts. At this stage, students automatically begin to use the tools acquired previously, attain fluent reading, and are able to read grade-level material in the range of 100 to 140 words per minute with two or fewer errors. By using their decoding skills along with repetitions inherent in the language and stories read, students gain competence in using context and, consequently, improve in fluency and reading rate. Perfetti (1985) notes that when the decoding process becomes automatic (accurate and rapid), attention is freed for higher-level reading comprehension skills.

Stage 3: Reading for learning the new – This stage, which begins in 4th grade and continues through 8th grade, marks the beginning of reading to learn, as opposed to learning to read in earlier stages. Reading is used to gain new knowledge, experience new feelings, and learn new ideas and attitudes. Thus, students acquire a rich base of information and vocabulary concepts by reading a wide variety of materials. At this stage, silent reading is done in large units and word study is concerned more with meanings than with recognition or decoding because the reading materials contain more unfamiliar abstract, technical, and literary words. Students with learning disabilities may be limited in learning usual reading experiences because poor decoding skills present a barrier to the acquisition of knowledge. Thus, students with learning disabilities are in need of effective and efficient instruction at this stage.

Stage 4: Multiple viewpoints – Reading at the secondary school level requires students to deal with a variety of viewpoints and to compare and evaluate information from a variety of sources. Through reading and studying materials that vary widely in type, content and style, students practice acquiring difficult concepts and learning new concepts and points of view through reading. At this level, metacognitive processes play an important role through monitoring and evaluating one's understanding of the text while reading. The failure of a student with learning disabilities to monitor understanding of the text may be due to an inability to decode rapidly and efficiently or to a lack of necessary information to understand the topic. Snider and Traver (1987) suggest that supplemental materials emphasizing vocabulary and background information should be developed to accompany content area textbooks to help students with learning disabilities profit from reading in the content areas.

Stage 5: Construction and reconstruction – At the college level, students read books and articles in the detail and depth that they need for their own purposes. From reading what others write, students construct knowledge for their own use. At this stage, the reader synthesizes information and forms hypotheses that usually are restricted to a specific area of study at an advanced level.

Assessment of reading skills:

- Standardized tests: ‘Achievement and reading standardized tests’. General achievement tests assess a student’s ability in various academic areas. Achievement tests with reading subtests often are used to obtain an overall measure of reading achievement. Reading survey tests measure reading skills only and are also used frequently to indicate a student’s general range of reading abilities.
- Diagnostic tests: Diagnostic tests provide a more precise, comprehensive analysis of specific reading abilities and disabilities. They differ from achievement tests in that they generally have more subtests and items related to specific reading skills. They are designed to measure many reading subskills such as word analysis, word recognition, comprehension etc.
- Criterion referenced tests: These tests describe performance according to fixed criteria. The teacher finds out what skills the student has learned, what skills are being learned now, and what skills still must be taught. A student who demonstrates mastery of a skill according to the determined criterion progresses to the next skill in the sequence.
- Informal assessment: It involves examining the student’s daily work or administering teacher-constructed tests by which the teacher can assess any measurable reading skill. Strengths and weaknesses of the student can be assessed by analyzing reading errors. An experienced teacher can obtain diagnostic information through careful, day-to-day observations. The teacher has many opportunities to observe and informally assess the student’s reading skills and can obtain information about the student’s reading interests and attitudes, as well as word analysis and comprehension skills, by observing oral reading, seatwork assignments, instructional sessions, testing sessions, and recreational reading periods. Observations can be recorded on a checklist of reading skills and behaviors. Some types of informal assessments are graded word lists, informal reading inventory, curriculum based measurement, portfolio assessment and teacher made tests.

Teaching reading skills:

Developmental reading approaches: This emphasizes daily, sequential instruction. The basic material for instruction is usually a series of books that directs what will be taught and when. A well developed program provides supplementary materials such as work books, skill packs, wall charts, related activities, learning games, and filmstrips.

- Basal approach: Many teachers use a basal reading series as the core of their program. Most series include a sequential set of reading texts and supplementary materials such as workbooks, various assessments and enrichment activities. In addition, a comprehensive teacher’s manual explains the purpose of the program and provides precise instructional

plans and suggestions for skill activities. The readers usually begin the premier level of difficulty and gradually increase in difficulty through the eighth grade.

- Phonics approach: this approach teaches word recognition through learning grapheme-phoneme associations. After learning vowels, consonants and blends, the student learns to sound words by combining sounds and blending them into words. Thus, the student learns to recognize unfamiliar words by associating speech sounds with letters or groups of letters.
- Whole language approach: The whole language concept involves the use of student's language and experiences to increase their reading and writing abilities. Reading is taught as a holistic meaning-oriented activity and is treated as an integrated behavior rather than being broken into a collection of separate skills. In a classroom with a whole language orientation, the curriculum is organized around themes and units that increase language and reading skills, and reading materials consist of various relevant and functional materials such as children's literature books and resources the student need or want to read. Whole language relies heavily on literature or on printed matter used for appropriate purposes or writing for varied purposes.

Instructional and remedial reading programs:

- Reading mastery and the corrective reading program: Reading mastery is an intensive, highly structures programmed instructional system. There are six levels for students in first through sixth grade. The students are grouped according to their current abilities, with no more than five students in a group. They sit in chairs in a quarter circle around the teacher. Each day, one 30-minute lesson is presented. The manual specifies the sequence of presentation as well as statements and hand movements. Each student receives positive reinforcement for correct responses. A student who masters skills, which is indicated by performance on tests, changes groups. Reading mastery is fast paced, providing immediate feedback and correction procedures for various student errors. However, Kirk et al. (1978) note that the rigidity of the instructional program and its emphasis on auditory skills may be considered disadvantages. The companion 'corrective reading program' is an advanced remedial reading program designed for students in 4th through 12th grade who have not mastered decoding and comprehension skills. The program is divided into two strands, decoding and comprehension, and each strand includes approximately 300 lessons. Each lesson lasts 35 to 45 minutes and provides teacher directed work, independent applications, and tests of student performance. The decoding strand follows the Reading Mastery format and includes word-attack basics, decoding strategies, and skill applications. The comprehension strand provides real life situations and includes thinking basics, comprehension skills, and concept applications.
- Orton-Gillingham method: This is a highly structured, phonetically oriented, multisensory approach based on the theoretical work of S.T. Orton (1937). The method

requires five lessons a week for a minimum of two years. Each letter sound is taught using a multisensory approach. Consonants and vowels with only one sound are presented on drill cards, and letters are introduced by a key word. Associative processes are used, beginning with the student associating the name and sound of a letter with its printed symbol.

Teaching strategies in reading:

- Phonemic awareness: Phonemic awareness is a component of phonological awareness and refers to a child's ability to recognize and manipulate the smallest unit of sound in speech, phonemes. It includes the ability to perceive spoken words as a sequence of sounds as well as the ability to consciously manipulate the sounds in words.
 - Elkonin boxes: One method to help students develop an understanding of phonemic awareness is the use of Elkonin boxes. For this strategy, draw one box for each sound in a particular word. For example, the word 'sun' has three phonemes, so the teacher should draw three connected boxes below a picture of a sun. Ask the child to count the sounds in the word along with the teacher. Then the teacher should help the child push one marker into a box for each sound in the word as the teacher says the sound.
- Phonics: Phonics is an instructional approach used to teach students to make use of the alphabetic system to decode. To decode words, students must have the facility with phonological awareness and, in particular, phonemic awareness.
 - Word work with manipulative letters: Word work with manipulative letters is an activity that helps make the abstract concept of blending and segmenting more apparent for students. In this activity, students use plastic letters or letter tiles to decode(read) and encode (spell) words.
- Fluency:
 - Repeated readings: This method requires the student to reread a short, meaningful passage several times until a satisfactory level of fluency is reached. The procedure then is repeated with a new passage. Repeated readings thus emphasize reading rate on a single passage rather than single words, and identification of words in context must be fast as well as accurate.
 - Neurological impress method: This method was developed to teach reading to students with severe reading disabilities. The method consists of joint oral reading at a rapid pace by the student and the teacher. It is based on the theory that students can learn by hearing their own voice and someone else's voice jointly reading the same material. At first, the teacher should read slightly louder and faster than the student, and the student should be encouraged to maintain the pace and not worry about mistakes. The teacher's finger slides to the location of the words as they are being read. As the student becomes capable of leading the oral reading, the teacher can speak more softly and read slightly slower, and the student's finger can point to the reading. Thus, the student and teacher alternate between reading and following.

- Vocabulary:
 - Keyword method: To teach new vocabulary words and the initial learning and retention of facts, Mastropieri (1988) suggests the use of the keyword method, which is a memory enhancing technique that relies strongly on visual imagery. The method uses three steps (a) recoding- changing a vocabulary word into a word (keyword) that sounds like part of the vocabulary and is easy to picture (b) relating – integrating the keyword with its definition by imagining a picture of the keyword and its definition doing something together and (c) retrieving – recalling the definition by thinking of the keyword and the picture or interactive image of the keyword.
 - Shared storybook reading: It involves making the student an active participant in the story reading event rather than a passive participant.
- Comprehension:
 - Reciprocal teaching: To improve reading comprehension, reciprocal teaching is an interactive teaching strategy that promotes both comprehension of text and comprehension monitoring through active participation in discussions of text. The teacher and students work together to comprehend text through the use of a dialogues structured by four strategies (a) predicting: students are taught to make predictions about upcoming content from cues in the text or from prior knowledge of the topic. They can use text structure such as headings, subheadings and questions embedded in the text to hypothesize what the author will discuss. (b) question generating: through teacher modeling and practice in generating main-idea questions about the text, students learn to identify information that provides the substance for a good question. (c) summarizing: the teacher guides students in integrating the information presented in the text. (d) clarifying: the student’s attention is given to reasons why the text may be difficult to understand. They are taught to reread or ask for help to restore meaning.
 - Mapping strategies: Story mapping procedures can be used to improve reading comprehension through a schema-building technique. A pictorial story map is used as an organizer for readers, and the students are asked to fill in the map components as they read. The map components of a narrative story include the setting (characters, time, and place), problem, goal, action and outcome. The teacher initially models the story-mapping procedure by pointing out information related to the story map components and having the students write the correct answer on the story-map outline. Then students independently complete the story map with prompting from the teacher as needed. Improved comprehension results as students structure the schemata (the story-map components) that are applied to a narrative story.

Reading and study skills for adolescents

- ❖ Reading rate: Adolescents may need to increase reading speed to finish assignments on time and keep up with older classmates. Roe et al. (1995) note that secondary students should be made aware of poor reading habits that may decrease their reading rate, including forming each word as it is read, sounding out all words (familiar and unfamiliar), re-reading material, and pointing to each word with the index finger. Another technique is to present words and phrases with a tachistoscope and gradually reduce the presentation time, thus speeding up the students responses.
- ❖ Study skills:As students learn to study various content areas, they should develop effective study skills. The SQ3R method (survey, question, read, recite, review) developed by Robinson (1961) is still used widely, especially for social studies and science.
- ❖ Learning strategies: Lens and Hughes (1990) present a word identification strategy, DISSECT which is as follows:
 - D- Discover the content: Skip a difficult word and read the remainder of the sentence to guess the word by using the meaning of the sentence.
 - I- Isolate the prefix: look at the beginning of the word to see if it is possible to box off the first several letters that form a suffix.
 - S- Separate the suffix: look at the end of the word to see if it is possible to box off ending letters that form a suffix.
 - S- Say the stem: If able to recognize the stem say the prefix, stem and suffix together.
 - E- Examine the stem: If a stem or any part of the stem begins with a vowel, separate the first two letters from the stem and pronounce. Another rule is to isolate the first letter of the stem and try to apply the first rule again.