DYSLEXIA AND OTHER READING DISABILITIES:

AN OVERVIEW OF SCREENING, ASSESSMENT, INTERVENTION, AND ASSISTIVE TECHNOLOGY

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UNDERSTANDING DYSLEXIA: THE DEFINITION AND A CASE STUDY

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MEET TIM - A GRADE 2 STUDENT WITH DYSLEXIA
WHAT DOES DYSLEXIA LOOK LIKE IN A CHILD’S READING PERFORMANCE

- Substantial and persistent delay in acquiring reading and spelling skills
- Slow and/or inaccurate word identification and/or word spelling in isolation or context
- Secondary problems in reading comprehension
WHAT DOES DYSLEXIA SOUND LIKE?

• Let’s listen to a child with dyslexia read

• Note how slowly he reads compared to other kids his age

• Note that he “stumbles” from time to time as he reads – having to repeat some parts of the word before he gets it right; sometimes never getting it right
DEFINITION OF DYSLEXIA

Specific learning disability

Neurobiological in origin

Inaccurate or non-fluent word recognition

Deficit in spelling and decoding abilities

Often unexpected

Deficit in phonological component

Secondary consequences
NEURAL SIGNATURE OF DYSLEXIA
DIAGNOSIS OF DYSLEXIA: THREE MODELS

- Ability-achievement discrepancy
- Failure to Respond to Intervention
- Pattern of strengths and weaknesses
**Dyslexia is not**

- Difficulty with vision or hearing
- Seeing things backwards
- Attributable to limited intelligence
- Due to low motivation or limited effort
- Poor teaching
- A rare disorder
- A disorder which can be outgrown
CHARACTERISTICS OF DYSLEXIA

- Late learning to talk, slow to learn new words, trouble producing speech sounds
- Difficulty learning letter names and sounds
- Poor phonemic awareness
- Poor spelling
- Difficulty reading and spelling “sight” words
CHARACTERISTICS (CON’T)

- Inaccurate and slow oral reading
- Poor reading comprehension problem vs. listening comprehension
- Poor handwriting and/or written expression
- Avoidance of reading and writing
- Overreliance on context and guessing
COGNITIVE CORRELATES UNDERLYING READING

- Phonological processing
- Orthographic processing
- Rapid automatized naming (RAN)
- Processing speed
- Working memory
- Attention
- Executive Function
PHONOLOGICAL PROCESSING PROBLEMS

- Delayed speech, early articulation errors
- Confusion of similar sounds: b/p, f/v
- Poor phonemic awareness:
  - Rhyming
  - Segmenting
  - Identifying initial, medial, final sound
ORTHOGRAHIC PROCESSING PROBLEMS

- Reverses letters and numbers
- Difficulty with copying
- Difficulty learning how to form letters
- Trouble remembering sight words
- Confuses similar looking letters and words
- Violates rules of English spelling
PROBLEMS IN RAPID NAMING

- Difficulty sustaining attention to the process of naming/sounding the symbols
- Difficulty retrieving verbal labels rapidly
- Difficulty articulating words rapidly
PROCESSING SPEED PROBLEMS

- Difficulties in serial scanning of print
- Inefficient visual tracking
Limited ability to hold information in memory and process it.
Co-morbidity with ADHD

Between 25 and 40% of students with ADHD have reading problems.

15–35% of individuals with RD also meet criteria for ADHD.
<table>
<thead>
<tr>
<th><strong>TIM: RELEVANT HISTORY</strong></th>
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<tbody>
<tr>
<td><strong>Family history:</strong></td>
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<tr>
<td>• Dad had difficulty learning to read</td>
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<tr>
<td><strong>Medical history:</strong></td>
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<tr>
<td>• Frequent ear infections</td>
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<td><strong>Pre-School history:</strong></td>
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<td>• Delayed speech</td>
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<td>• Articulation errors</td>
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<td><strong>K-1 history:</strong></td>
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<tr>
<td>• Difficulty learning letter names and sounds for reading and spelling</td>
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<td>• Difficulty blending sounds in to words</td>
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<td>• Difficulty rhyming, identifying initial sound</td>
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<td>• No difficulty in math</td>
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<tr>
<td>• Motivated to learn</td>
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</table>
**TIM: CURRENT PROFILE IN GRADE 2**

<table>
<thead>
<tr>
<th>Articulation errors: e.g., aminal for animal</th>
<th>Frequently inaccurate in word recognition of both phonetically regular words and sight words</th>
<th>Reads more slowly than classmates</th>
<th>Often guesses at multisyllabic words</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequent spelling errors on both phonetically regular and sight words</td>
<td>Has particular difficulty reading and spelling demon phonograms, e.g., au, ou</td>
<td>Doesn’t like reading</td>
<td>Responds more readily and accurately to questions on stories/information read to him than material he reads himself</td>
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<tr>
<td>Oral responses are more complex than written responses</td>
<td>Likes and does well in math</td>
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</table>
RESULTS OF INFORMAL ASSESSMENT OF READING

- Phonogram inventory for reading and spelling shows many gaps in his learning
- Fluency below average rate for his grade
- Listening comprehension noticeably better than reading comprehension
TIM: COGNITIVE CORRELATES

Processing speed is slow for all tasks requiring scanning a line of print, even math tasks, e.g., recognition of patterns of shapes or numbers.

Working memory is poor as observed in difficulty following oral directions.
INTERVENTION

- Tim receives structured literacy instruction in a small group in his classroom and improves somewhat
- Seeking better progress, intensity of instruction is increased by reducing group size, increasing number of “phonics” lessons/week
- Tim is given accommodations for reading and spelling
- Assistive Technology is introduced
- Tim’s frustration in reading, spelling, and writing is reduced
GRADE 4 HAPPENS

Transition to “reading to learn” is expected through use of more expository texts:

- Vocabulary harder to determine from context
- Denser text for reading, fewer pictures

Longer and more demanding writing assignments
Middle School

- Slow rate of reading remains
- Cannot work fast enough to cope as volume of work increases
- Overwhelmed by multiple assignments
- Lack of effective strategies for studying
- Residual problems in spelling remain and written work remains very difficult
HIGH SCHOOL: THE BAR IS RAISED AGAIN

- Slow rate of reading remains
- Cannot work fast enough to cope as volume of work increases
- Overwhelmed by multiple assignments
- Lack of effective strategies for studying
- Residual problems in spelling remain and written work remains very difficult
TIM: A SUCCESS STORY

Graduates from high school with a 3.2 GPA

Is well liked by peers and teachers

Excels in baseball and basketball

Recruited by colleges; selects a college with a support program

Uses AT and accommodations throughout college and grad school; continues to be a hard worker

Is comfortable with his dyslexia and proud of his level of achievement
Reflection
SCREENING, ASSESSMENT, AND ACCOMMODATIONS

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Alison Pankowski, Reading Interventionist, LDT-C
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EARLY INTERVENTION

“The rich get richer and the poor get poorer.”
The Matthew Effect (Stannovich, K. 1986)
We can’t afford “not to” do early intervention.

“75 % of children who were poor readers in the 3rd grade remained poor readers in the 9th grade and could not read well when they became adults.”

“The best solution to the problem of reading failure is to allocate resources for early identification and prevention.”
- Joseph Torgesen in Catch Them Before They Fall.
RESPONSE TO INTERVENTION ("RTI")
MULTI-TIERED SYSTEM ("MTS")

Tier 1
- Benchmark Level
- All students receive instruction in an effective, scientifically-based core curriculum
- Data on student progress is collected for all students at three "benchmark" periods during the year (Fall, Winter, Spring)

Tier 2
- Strategic Level
- Students who do not respond adequately to core curriculum, considered "at-risk" for academic failure
- Supplemental instruction provided

Tier 3
- Intensive Level
- Students who do not respond to interventions at Tiers 1 or 2 provided with more intensive interventions and progress monitoring

SPECIAL EDUCATION ELIGIBILITY DETERMINATION

RTI

5% of students

15% of students

80% of students in a school who typically respond to a good core curriculum
RTI MTS

Designed to improve outcomes for all students

Prevention-based Framework

Includes 6 components

• data-based problem solving and decision making;
• a layered continuum of supports;
• research-based instruction, intervention, and assessment practices;
• universal screening and progress monitoring;
• shared leadership; and
• family, school, and community partnering.
4 Types of Assessments

Screening Assessments: Which of our students might need some extra assistance in order to be successful academically?

Diagnostic Assessments: What are this student’s academic strengths and instructional needs?

Benchmark/Progress Monitoring Assessments: Is learning happening?

Outcome Assessments: Did our students make progress toward meeting the standards?
UNIVERSAL SCREENING

• All screenings should be based on Curriculum Based Measurement ("CBM") – standardized -30 years of research by Stan Deno and Mark Shinn.

• Standardized procedures for administering and scoring.

• Screening - typically administered 3-4 times a year to ALL students.

• CBM is efficient, cost-effective, brief.
CBM MEASURES

At the kindergarten level include: Phonemic Awareness (PA) and Rapid Automatic Naming (RAN).

- First Sound Fluency (FSF)
- Letter Naming Fluency (LNF)
- Letter-Sound Correspondence
- Phoneme Segmentation Fluency (PSF)
- Nonsense Word Fluency (NWF)
- Some screeners also include Picture Naming Vocabulary, Spelling, Blending of onset-rimes.
**WHAT DOES THIS LOOK LIKE?**

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FIRST GRADE - STILL PA AND RAN

- Letter Naming Fluency (LNF)
- Phoneme Segmentation Fluency (PSF)
- Real Word Reading- out of context
- Nonsense Word Fluency (NWF)
- Letter Sound Fluency (LSF)
- Oral Reading Fluency (ORF)

- Some screeners also include Picture Naming Vocabulary, Spelling by Sound, Retell Fluency, and Word Use.
ORF LOOKS LIKE

It was raining outside, and there was nothing for Norman to do.

"I have the most boring life," he moaned, as he plopped down on the couch. Just as he switched on the television, the power went out. Watching a blank television was not something Norman wanted to do. He looked around at the four dismal walls that kept him out of the rain.

"Now what am I going to do?"

"You could tidy up your room," his mom suggested, "or organize your closet. Your closet is a disaster, Norman. I'm actually frightened of what you might find in there. You haven't cleaned it in a decade."

There was nothing Norman could say after his mom had made up her mind. He was going to have to clean out his closet.

The only problem was that Norman couldn't even open his closet door.
GRADE 2 AND GRADE 3

- Real Word Reading
- Nonsense Word Fluency (NWF)
- Oral reading fluency (ORF)
- Reading Maze
- Spelling

“Oral reading fluency explains reading comprehension test results from mid-first to end of third grade. By fifth grade, verbal reasoning, vocabulary and background knowledge become more and more important to overall reading achievement.”
(Moats & Hancock, 2004)
When selecting a screening tool focus on:

**Predictive Validity**
- “If we used this screener to predict how every child will perform at some point in the future, how good would those predictions be?”

**Classification Accuracy**
- “If we used this screener to divide our students into those considered at risk and those considered not to be at risk, how well would we do based on the outcome of their future performance?”

**Normative Scoring**
- Developed on large samples of diverse subjects.
- Allow us to compare scores on multiple assessments to properly judge whether we have a consistent picture of performance, or whether some of the scores are aberrant and may need special consideration.
- Gives us better ability to track performance over time.
# Informal Measures of Phonological Awareness

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
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<tbody>
<tr>
<td>Word Discrimination</td>
<td>• same or different</td>
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<tr>
<td>Rhyme Recognition</td>
<td>• 3 words which words rhyme…..cat, hat or sun</td>
</tr>
<tr>
<td>Onset-Rimes</td>
<td>• (bat) b is the onset and -at is the rime</td>
</tr>
<tr>
<td>Rhyme Production</td>
<td>• tell me a word that rhymes with tree</td>
</tr>
<tr>
<td>Syllable Blending</td>
<td>• if I say cup…..cake fast, it would be…cupcake</td>
</tr>
<tr>
<td>Syllable Segmentation</td>
<td>• compound words and syllables</td>
</tr>
</tbody>
</table>
**Informal Measures (Con’t.)**

<table>
<thead>
<tr>
<th>Syllable Deletion</th>
<th>• Compound Words and Syllables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phoneme Recognition</td>
<td>• Tell me a word that starts like “cat”</td>
</tr>
<tr>
<td>Phoneme Blending</td>
<td>• I’m going to say the sounds slowly and then say the word… /c/…/a/…/t/…..cat</td>
</tr>
<tr>
<td>Phoneme Segmentation</td>
<td>• Use blocks – push a block forward as you say each sound</td>
</tr>
<tr>
<td>Phoneme Deletion</td>
<td>• I'm going to say a word and leave off one sound. If I say “seat”, but don’t say /s/…it would be “eat”</td>
</tr>
</tbody>
</table>

(Essentials of Dyslexia Assessment and Intervention (2012) Nancy Mather and Barbara J. Wendling)
INFORMAL MEASURES OF RAN

• Color Naming: Using four or five colors known by the child, present either a series of blocks or a color chart using those known colors arranged in random order. Repeat the series of random colors so there is a total of 50 items. Ask the child to name the colors as quickly as he can. The time it takes to complete the task can be recorded and compared to the performance of other children in the classroom.

• Do this also with Object Naming (5-10 objects) or Letter Naming (10-20 letters)

(Essentials of Dyslexia Assessment and Intervention (2012) Nancy Mather and Barbara J. Wendling)
DECISION MAKING MODEL

At or above benchmark = Tier 1 and enrichment

Screen ALL students 3x a year

Below benchmark and way below benchmark -
Give phonics and spelling diagnostic surveys

Inaccurate poor decoding?
Focus on phonics, spelling, and word recognition accuracy

Accurate but slow?
Focus on fluency of component skills
COMPREHENSIVE ASSESSMENT BIG FIVE

- Phonemic Awareness
- Phonics
- Fluency
- Vocabulary
- Comprehension
- Writing
- Background Knowledge & Motivation
PHONOLOGICAL AWARENESS AND RAPID NAMING

- remove phonological segments from spoken words to form other words
- isolate individual sounds within words
- synthesize sounds to form nonwords
- segment nonwords into phonemes
- repeat both numbers and nonwords accurately
- select words with the same initial and final sounds
- rapidly name numbers, letters, colors or objects
ORAL LANGUAGE: VOCABULARY AND COMPREHENSION

- Vocabulary
- Language Structures-Syntax and Semantics
- Verbal Reasoning-Inferences, Metaphors
- Listening Comprehension
- Morphology
Informal Assessment of Morphological Knowledge

| Compound Words | • Ask the individual to break the compound word into its part and say what each part means.  
  • Ex: fireman….fire…man |
|---------------|----------------------------------------------------------------------------------------------------------------------------------|
| Affixes       | • Add an affix to a known word and have the individual describe the new meaning.  
  • Ex: skip…skipped |
| Derivations   | • Provide words that have the same base word and ask the individual how the words are related.  
  • Ex: ear, earring, eardrum, earache |
| Pictures      | • Use pictures to illustrate grammatical morphemes, providing a receptive evaluation of knowledge. Ask the individual to point to the picture that illustrates the correct grammatical morpheme.  
  • Ex: The boy is jumping over the fence. |

(Essentials of Dyslexia Assessment and Intervention (2012) Nancy Mather and Barbara J. Wendling)
# Processing Speed and Working Memory

<table>
<thead>
<tr>
<th>Processing Speed</th>
<th>Working Memory</th>
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<tbody>
<tr>
<td>• Rate at which an individual will scan or identify stimuli, make quick associations, make accurate decisions and move quickly to the next item.</td>
<td>• Involves the capacity to hold information in immediate awareness while manipulating or transferring that information in some way.</td>
</tr>
</tbody>
</table>

(Essentials of Dyslexia Assessment and Intervention (2012) Nancy Mather and Barbara J. Wendling)
DECODING, ENCODING, READING FLUENCY: PHONICS, FLUENCY AND COMPREHENSION

Decoding (Word Reading- Real and Nonsense)
Encoding (Word Spelling- Real and Nonsense)
Orthographic Awareness
Reading Fluency- this includes accuracy, rate and prosody
Oral Reading
Silent Reading
Writing Sample
**Orthographic Processing Assessment**

| **Writing Name** | • Ask the child to write his/her first and last name. |
| **Writing the Alphabet** | • Ask the child to write the letters of the alphabet in order. |
| **Recognizing Letters** | • Present written letters and ask the child to tell you the letter name. Make a page with letters that are similar in visual appearance (e.g., b and d, n and u). Ask the child to name the letters and count the number of errors made. |
| **Recognizing Words** | • Present a written sentence and ask the child to find a word, any word, and circle it. This illustrates if the child has the concept of a printed word. Extend the activity by asking the child to circle a specific word. |
PATTERN TO LOOK FOR IN TEST RESULTS TO DIAGNOSE DYSLEXIA

• Difficulty reading single words;
• Particularly difficulty decoding nonsense or unfamiliar words;
• Reading Comprehension often superior to decoding individual words;
• Inaccurate and labored oral reading of passages;
• Trouble reading small “function” words—*that*, *is*, *for*, *an*;
• Slow reading; and/or
• Poor spelling.

(Overcoming Dyslexia (2003)- Sally Shaywitz, M.D.)
Structured Literacy

- Simultaneous, Multisensory
- Explicit Direct Instruction
- Systematic and Cumulative
- Diagnostic Teaching
- Synthetic and Analytic Instruction
- Data Driven

Teacher Training is essential!
SIMULTANEOUS, MULTISENSORY

- Teaching is done using all learning pathways in the brain (visual/auditory, kinesthetic-tactile) simultaneous in order to enhance memory and learning.
SYSTEMATIC AND CUMULATIVE

- The organization of material follows the logical order of language. Follows a planned scope and sequence.
- Begins with the easiest and most basic elements and progresses methodically to more difficult material. Progresses in measurable, manageable steps.
- Each new concept is based on previous learning.
- Concepts taught must be systematically reviewed to strengthen memory. Skills are continually reviewed, practiced, extended, and once mastered, applied to more and more difficult text.
EXPLICIT DIRECT INSTRUCTION

- Concepts are clearly and directly explained.

- No assumptions are made about the student’s ability to make inferences.

- Instruction requires the direct teaching of all concepts with continuous student-teacher interaction.

(Explicit Instruction: Effective and Efficient Teaching – Anita L. Archer, Charles A. Hughes)
DIAGNOSTIC TEACHING

• The teacher must be adept at prescriptive or individualized teaching.

• The teaching plan is based on careful and continuous assessment of the individual’s needs.

• The content presented must be mastered to the degree of automaticity, that is the skill can be performed with relatively little effort and attention.
DATA DRIVEN

• Progress monitoring assessments are used frequently.

• Curriculum-based measurements are emphasized to assess progress.

• Guided practice is continuous and ample.

• Independent application is expected.
SYNTHETIC AND ANALYTIC INSTRUCTION

• Synthetic Instruction presents the parts of the language and then teaches how the parts work together to form a whole.

Example: con + struct + tion = construction

• Analytic Instruction presents the whole and teaches how this can be broken down into its component parts.

Example: teacher = /T/ + /Ẹ/ +/CH/+ /ŨR/
**Content: What is Taught?**

- Phonology and Phonological Awareness
- Sound-Symbol Association
- Syllable Instruction
- Morphology
- Syntax (reading comprehension and written expression)
- Semantics (comprehension)
- Fluency
- Handwriting
PHONOLOGY AND PHONOLOGICAL AWARENESS

• Elkonin Boxes
Sound-symbol association- knowledge of the various sounds in the English language and their correspondence to the letters and combinations of letters that represent the sounds.

Sound-symbol association must be mastered in two ways- visual to auditory and auditory to visual.

Students must master the blending of sounds and letters into words as well as the segmenting of whole words into sounds.
SYLLABLE INSTRUCTION

A syllable is a unit of oral or written language with one vowel sound.

6 basic types in the English language

Syllable division rules are directly taught in relation to word structure.
# 6 SYLLABLES

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<tr>
<th>Type</th>
<th>Examples</th>
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<tr>
<td>Closed syllable</td>
<td>bat, will, trip, mash, bend</td>
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<tr>
<td>Vowel-Consonant-e syllable</td>
<td>rope, safe, lime</td>
</tr>
<tr>
<td>Open syllable</td>
<td>he, go, my, flu</td>
</tr>
<tr>
<td>Consonant-le syllable</td>
<td>middle, table</td>
</tr>
<tr>
<td>R-controlled syllable</td>
<td>bird, star, her, corn, turn</td>
</tr>
<tr>
<td>Vowel digraph/Diphthong</td>
<td>beat, toad, sweet, saw, boil, snow</td>
</tr>
</tbody>
</table>
A morpheme is the smallest unit of meaning in the language.

Morphology is the study of how morphemes are combined to form words.

Study of word origins- Anglo-Saxon, Latin, Greek.

The curriculum must include the study of:

- Base words= stand alone words
- Roots= the original form from which a recorded word is derived
- Affixes= prefix and/or suffix
ORAL VOCABULARY

Select words for direct instruction that are Tier 2 words (Isabel Beck)

Repeated Exposures

Active Use
  - Explanation of multiple meanings.
  - Using in varied contexts (role playing, sentence writing, picture captioning, comic strip bubbles).

Emphasis on relationships between and among words and concepts
  - Semantic (graphic) organizers.
  - Comparison charts.
FLUENCY

Simultaneous oral reading.
  • Reading together with an adult or peer.

Alternate oral reading.
  • Reading alternate pages with an adult or peer.

Repeated reading.
  • Practicing a passage 3-4 times to improve fluency.

Charting results of practice on a simple graph.

Increasing speed in word reading and other underlying skills.

Norms for adequate oral reading fluency are well established by research.
## Syntax: Written Expression and Reading Comprehension

<table>
<thead>
<tr>
<th>Topic</th>
<th>Concepts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sentence structure</td>
<td>• who + did what</td>
</tr>
<tr>
<td>Sentence expansion</td>
<td>• when, where, why and how</td>
</tr>
<tr>
<td>Grammar</td>
<td>• parts of speech and their usage</td>
</tr>
<tr>
<td>Mechanics of Language</td>
<td>• capitalization/punctuation</td>
</tr>
<tr>
<td>Topic Sentences</td>
<td></td>
</tr>
<tr>
<td>Paragraphs and Essays</td>
<td>• planning, outlining, graphic organizers</td>
</tr>
</tbody>
</table>
**SEMANTICS**

**Reading Comprehension**
- summarization skills
- questioning; text implicit or text explicit
- visualization
- comprehension monitoring

**Developed on a continuum....**
- listening comprehension skills
- comprehension at the sentence level
- comprehension at the paragraph level
HANDWRITING INSTRUCTION

Handwriting instruction needs to be explicit and systematic.

Students use large muscle movements to practice handwriting; guided scripts to discuss movements.

Kinesthetic memory is the earliest, strongest and most reliable form of memory.
ACCOMMODATIONS

• Fair does not mean treating every student exactly the same.
• Fair means providing each student with what that student needs to have a chance to succeed.

“For a dyslexic reader, accommodations represent the bridge that connects him to his strengths, and, in the process, allows him to reach his potential.” Shaywitz, 2003
ACCOMMODATIONS ADDRESS A NEED

- Note taking
- Reading
- Writing
- Spelling
- Memory
- Math
- Homework
- Testing
ACCOMMODATIONS

- Use of word banks
- Don’t penalize for spelling; grade for content
- Don’t ask them to read out loud in front of the class
- Extended time
- Read tests aloud; read text to student when appropriate
- Provide copies of notes
- Provide study guides
- Provide graphic organizers or structured templates for writing tasks
- Provide advanced organizers at the beginning of units
- Provide access to audiobooks
Reflection
It is more than just, "THERE’S AN ‘APP’ FOR THAT!"

ASSISTIVE TECHNOLOGY

Vincent J. Varrassi MA, LDT-C
vivarrassi@gmail.com
LAP TOPS OR PHONES OR TABLETS
OMG!
MAC OR PC???

Do You Use a PC or a Mac?

60%  40%

Nerd.  Pretty Boy.

conditional or test format (see Ch. 1-6)
EVEN COOKIE MONSTER HAD TO ADJUST
REASONS NOT TO USE TECHNOLOGY

For purposes of today’s discussion.....

- You love having the latest toys
- The “COOL” factor
- You like gadgets
- It’s better than dealing with people
- The community wants the latest “tech” in the schools.
- The students love their iPads, or phones etc.
- It is fun to take stuff apart + see how it works.
YOU’RE NOT BUYING TECHNOLOGY~

With assistive technology you

MUST THINK ABOUT BUYING SOLUTIONS!

THEREFORE

YOU MUST CLEARLY IDENTIFY THE PROBLEM
YOU ARE LOOKING TO SOLVE.
Tech should have a PURPOSE!!!

What is it the student is having difficulty doing that could be done BETTER or EASIER with the use of Technology?
WHAT ARE SOME PROBLEMS TO SOLVE?

- Needs help on writing assignments,
- Needs to hear what he is reading.
- Always or often forgets homework and/or other assignments
- Has trouble breaking down projects/papers etc into manageable tasks,
- Needs help to study and memorize,
TODAY’S AGENDA

READING AND WRITING

- What are some solutions, hardware, “apps”, web sites that can work on the various platforms:
  - MAC OS
  - Windows
  - Android
THE AREAS FOR TODAY’S DISCUSSION

What are the problems accessing the curriculum for the student with Dyslexia that can be addressed by Assistive Technology?

Remember! We are not using AT to teach the student to read. He needs a teacher for that.

We are trying to address the problem that reading poses for him in accessing his education.
NOTE TAKING: CLASSROOM AND MEETINGS
TAKING NOTES: WHAT IS THE NEED/PROBLEM?

- You can’t spell what you want to write.
- You can’t write fast enough to keep up.
- It is hard to write and listen carefully at the same time. (listening memory, attention)
- You can’t hold what the teacher has said long enough in memory to get it down. (working memory)
- Your handwriting is REALLY, REALLY bad.
What’s the problem?

- Student cannot “decode” the words in front of him.
- The sight sound relationship is lost on him.
- Reading, however, is essential for his ability to keep pace with his peers in class.
- As a non-reader, he is constantly behind in general knowledge/information as well as content of a course. Gap increases over years.
- Even with remediation, his gains in reading will take time. Therefore, how will he access the same information as his peers? Now-in real time!
THE ANSWER TO BOTH THESE ISSUES

ASSISTIVE TECHNOLOGY

HE IS INTELLIGENT.

DO NOT EQUATE ABILITY TO READ WITH INTELLECTUAL CAPACITY.

SOMEHOW WE HAVE CONFUSED THIS ISSUE AND THE MINDSET HAS TO CHANGE.

ALSO, AT is a REQUIRED consideration PER IDEA.
TEXT TO SPEECH TECHNOLOGY: READING

Factors to consider:

- Can range in cost from free to low/medium cost.
- If you provide it in school, it is only logical to think the student will need it at home to read his homework assignments too. (most companies offer low cost, at home solutions)
- It can run the gamut from digital texts from places like:
  - www.Bookshare.org
  - Learning Ally (formerly RFBD) https://www.learningally.org/
  - Commercially available digital texts that can convert text to speech.
- TO Programs that convert text to speech.
“Some” examples
WORD TALK: FREE.
HTTP://WWW.WORDTALK.ORG.UK/HOME/
READ OUT LOUD PROGRAMS

Kurzweil 3000

Highlighting and summarizing

SOLDIER BOY - PRIVATELY TO HIMSELF

I am Buffalo Bill's horse. I have spent my life under his saddle - with him in it, too, and he is good for two hundred pounds without his clothes; and there is no telling how much he does weigh when he is out on the war-path and has his batteries belled on. He is over six feet in height, hasn't an ounce of spring in his motions, quick as a cat, and has down on his shoulders, and is beautiful to look at, nobody is stronger, except myself. Yes, a person should see him in his beaded buck-skins, on my shoulder, chasing a hostile trail, with me going behind from the shelter of his broad slouch. You part of it myself.

I am his favorite horse, out of dozens. Big as he is, I have carried him eighty-one miles between midnight and sunrise on the scout; and I am good for fifty, day in and day out, and all the time. I am not large, but I am built on a business basis. I have carried...
TEXT HELP: Read and Write Gold

Mac or PC

Laptop or Tablets
In addition,

Today’s latest operating systems in both WINDOWS and the MAC Operating System (X), have the ability to both:

- convert text to speech and
- convert speech to text.
NOTE TAKING: CLASSROOM AND MEETINGS

There are a variety of tools available

- Microsoft One Note**
- Ever Note
- Note Everything
- Pulse/Echo Pen by Livescribe**
- Digital Recorders**
TWO TYPES OF SOLUTIONS

Some solutions will still require writing.
MICROSOFT ONE NOTE
(STILL HAVE TO WRITE)

MAC OR PC

iPad or lap/desktop
EVERNOTE:
IPAD, IPHONE, ANDROID, CPU
Pages for the iPad
SOME WILL NOT REQUIRE WRITING

PLEASE CONSIDER!

Taking notes is not just about knowing what to write down.

1. It is about auditory working memory.
2. It is about physical disabilities like a paralyzed hand.
3. It is about a writing disability, also physical, like Dysgraphia.
4. And it is about being able to “encode” or spell the words that one needs to write on the page.
Meeting with Jane at Sandwich shop

Jane is planning to release her product in 3 weeks. She will contact me with details for coordination next week.

TODO:
- Prepare final build
- Take a vacation

Notes from August 14, 2008  |  Characters: 191  |  Recorded: 0:02:01
DRAGON NATURALLY SPEAKING ET AL.
Speak it! Text to Speech  
By Future Apps Inc.

Description
Introducing Speak it! 2, the most advanced text to speech solution in the App to work with iOS 4, and take advantage of all the multitasking features.

Future Apps Inc. Website  Speak it! Text to Speech Support
DRAGON ON THE iPHONE!
AND YET STILL…

There other issues that influence a student’s ability to successfully write.
WHAT IS THE NEED/PROBLEM

- Long Term Assignments: Students sometimes:
  - Don’t understand what to do
  - Don’t know what to do first
  - Don’t know how to budget time for completing the sections/parts of project
  - Don’t know how to put it all together
  - Don’t know how to study
  - Don’t have a way to memorize vocabulary/terminology
GETTING THE LONG TERM PROJECTS DONE

"MY TERM PAPER HAS HYPERTEXT LINKS, FULL-SCREEN VIDEO CLIPS, ANIMATED FONTS, AND AWESOME 3D SPECIAL EFFECTS... NOW ALL I NEED IS A TOPIC."
Reflection
THANK YOU!

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Long Valley, NJ 07853
908-876-1179
www.njida.org

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