Assessment & Treatment of Child Language & Literacy Disorders: Applying EBP to Special Populations & Teletherapy

Melissa Brydon & Sheri Lake
Overview

- Developmental Language Disorder and 3 groups of co-morbid diagnoses: literacy disorders, ASD, ID
- Standardized, norm-referenced assessments
- Language sample analysis
- Criterion-referenced and informal assessments
- Evidence based interventions to target language and literacy disorders
- Addressing language and literacy disorders via teletherapy
- Addressing language and literacy disorders via Interprofessional Practice
Developmental Language Disorder (DLD)

Recommendation: **DLD**

Increase general awareness

- **Prevalence**
  - 7% of 5-year-olds (UK & US): **7% of 5-year-olds**
    - Tomblin, et al., 1997; Norbury, et al., 2016
  - 1 in every 15 children

- **Severity**
  - 2\(^{nd}\) most common childhood disorder

- **Impact**
  - 5x more prevalent than ASD
Criteria for DLD

1. Language difficulties that create obstacles to communication or learning in everyday life

2. Language problems are unlikely to resolve (or have not resolved) by 5

3. Problems not associated with known biomedical condition
Impact of DLD on Everyday Life

- Following long, complex instructions
- Simultaneously listening and understanding
- Learning new words/concepts
- Remembering words
- Being social with peers
- Recalling information when telling stories or reporting events
- Generalizing understanding and use across structures and contexts
3 Groups of Children with DLD

1. **Children with primary DLD**
   - Most salient challenge
   - Biological cause unknown
   - No other label is appropriate

2. **School-age children with primary DLD that co-exists with literacy disorders**
   - Language-learning disorders
   - Dyslexia
   - Poor reading comprehension

3. **Children with DLD that is associated with/secondary to other developmental disorders**
   - ASD
   - ID
   - ADHD
3 Groups of Children with DLD

- DLD + Literacy Disorders
- DLD + ASD
- DLD + ID
Many Strands Are Woven into Skilled Reading

Figure 1.9 Reading Rope (Scarborough, 2001)
DLD + ASD

Autism Spectrum Disorders in DSM IV vs. DSM V

DSM IV: 
- Autistic Disorder
- Asperger’s
- PDD-NOS

DSM V: 
- Level 1
- Level 2
- Level 3
- Social Communication Disorder

Important for us to know the difference and to be able to code-switch when speaking to professionals who are not well versed in current terminology.
DLD + ID

ID:

Deficits in intellectual functions: problem solving, reasoning, planning, learning.

Deficits in adaptive functioning: do not reach socially acceptable levels of independence in ADL’s at home, school, work, and community.

IQ score ranges

Comorbid conditions: CP, epilepsy, mental illness (ADHD, bipolar disorder), ASD,

Assessment and diagnosis by psychologist or other health professional

Overlap in assessment tools (PPVT, etc)
DLD + Complex Communication Needs

Light & McNaughton, 2012; 2015

Examples: CP, ASD, ID, CAS, TBI/Aphasia

These children cannot solely on speech to communicate, and use some form of AAC.

Research on implementation of AAC is needed. For now, we use clinical judgement and existing literature to determine how to best provide language and literacy intervention for this population.

Each child is different, so intervention decisions can be challenging.
Diagnosing DLD

1. **Standardized language assessment/s** that look/s at receptive and expressive language development in the areas of:
   a. Syntax
   b. Morphology
   c. Semantics
   d. Working memory
   e. Pragmatics

2. **Language sample**

3. **(Narrative language sample if #2 is conversational)**

4. Classroom observation
Assessment of Language & Literacy Disorders

- Standardized, Norm-Referenced Assessments
- Language Sample Analysis
- Informal Literacy Assessments
Standardized, Norm-Referenced Assessments

Which standardized/NR language assessments do you typically use with the populations that you serve? Why?
Standardized, Norm-Referenced Assessments

- **Standardized**: specified procedure for administration, analysis to achieve uniformity

- **Most** are **norm-referenced**: provide means of comparing child’s score to normative sample

**Should Include:**
- clear administration and scoring criteria
- validity
- reliability
Standardized, NR Assessments

Diagnostic Accuracy

- sensitivity
- specificity

- Range: $0 - 1.1 = 100\%$ accurate identification
- $90\%$ accuracy = good; $80 - 89\% = fair$; $<.80 = the \ test \ should \ not \ be \ used$

- Vary at different standard score cut-offs (aka: cut points/scores)
5. Characteristics of the Norming Sample

a) overall size
b) # in each age group
c) disability status
d) other considerations: ethnicity, race, gender, SES, geographic location, rural/urban/suburban
But, here’s the thing...

- Some (actually, kind of a lot) of test manuals don’t report the psychometrics (especially, sensitivity and specificity!)

- Some tests have really poor psychometric properties

- (We also tend to over-rely on omnibus assessments.)

Conclusion:

- Research before you buy or administer!
- Include additional methods of assessment (always!)
Let's Practice!

**CELF-5**
(Wiig, Semel, & Seacord, 2013)

**VS**

**PPVT-5**
(Dunn, 2019)
So, what’s an SLP to do?

➔ If the standardized, NR assessment isn’t a good choice for your client (or, even if it is!),

**LSA**

*should be part of your assessment battery!*
Language Sample Analysis

Conversational
Narrative
Expository
Persuasive

Do we really need to collect a language sample?
Language Sample Analysis

- **Language functioning during typical, authentic speaking situations**
  - Morphology
  - Syntax
  - Semantics
  - Phonology
  - (Pragmatics)

- Validates standardized test results

- Tied to state standards
  - Narratives
  - Expositions
  - Persuasion
Elicitation Contexts

<table>
<thead>
<tr>
<th>Age when language sampling context is recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Childhood</td>
</tr>
<tr>
<td>Preschool</td>
</tr>
<tr>
<td>Early Elementary</td>
</tr>
<tr>
<td>Elementary</td>
</tr>
<tr>
<td>Adolescent</td>
</tr>
<tr>
<td>Play with toys</td>
</tr>
<tr>
<td>Conversation with adult</td>
</tr>
<tr>
<td>Story retell or story generation</td>
</tr>
<tr>
<td>Expository</td>
</tr>
<tr>
<td>Persuasive</td>
</tr>
</tbody>
</table>

Conversational Language Samples

● **Play-based** for the littles

- ✔ 5 – 10 minutes
- ✔ Manipulatives > electronic toys
- ✔ Be patient and zip it
- ✔ Open-ended questions
- ✔ Involve the family if needed
Conversational Language Samples

• School-Age Kids

✓ Provides less info. about **complex syntax**, so not the best choice for older students

1. Classroom activities
   "Tell me about some of the things you've been doing in school lately."
   Ask about specific classroom units.

2. Holidays
   "Did you do anything special for Halloween (or appropriate holiday)?"
   "Tell me about that."
   "Are you going to do anything special for Christmas (or appropriate holiday)?"

Describe the scene
https://laurapickens.wordpress.com/2014/09/11/describe-the-scene/
Narrative Language Samples

Difficulties with Narratives

**DLD**
- Fewer total words (Strong & Shaver, 1991)
- Fewer different words (Klee, 1992)
- More syntactic errors (e.g., Gilliam & Johnston, 1992)
- Poorer use of cohesive devices (Liles, 1987)
- Less story grammar content (e.g., McFadden & Gilliam, 1996)

**ASD**
- Shorter (Perister, Andreou, & Tsimili, 2017)
- Less grammatically complex
- Limited vocab.
- Less reasoning & fewer explanations (King, Dockrell, & Stuart, 2014)
- Fewer references to emotions and thoughts
- Less conflict resolution
- Reduced character development
- Less coherent
Narrative Language Samples

AND, LET’S NOT FORGET:

To tell a well-formed narrative & answer comprehension questions, you also need to understand and use....

- Ability to sequence
- Units of time
- Cause/effect
- Abstract concepts of time
- Theory of mind
- Wh-questions
Narrative Language Samples: Story Retell

frog, where are you? by n. mayer
Pookins Gets Her Way by Helen Lester
A Porcupine Named Fluffy by Helen Lester
Doctor De Soto by W. Steig
Narrative Language Samples: Story Generation
Expository Language Samples

- 5th grade +

- Organizational skills needed to describe, provide information, or inform the listener clearly and logically

- Written response = more complex syntax (Brimo & Hall-Mills, 2018)

<table>
<thead>
<tr>
<th>Topic</th>
<th>What’s Covered</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Object</td>
<td>What you have to do to win</td>
<td></td>
</tr>
<tr>
<td>Preparations</td>
<td>Playing Area and Setup Equipment and Materials What players do to get ready</td>
<td></td>
</tr>
<tr>
<td>Start</td>
<td>How the contest begins, including who goes first</td>
<td></td>
</tr>
<tr>
<td>Course of Play</td>
<td>What happens during a team or player's turn, including any special plays, positions, or roles, both offensive and defensive</td>
<td></td>
</tr>
<tr>
<td>Rules</td>
<td>Major rules, including penalties for violations</td>
<td></td>
</tr>
<tr>
<td>Scoring</td>
<td>Different ways to score, including point values</td>
<td></td>
</tr>
<tr>
<td>Duration</td>
<td>How long the contest lasts, including how it ends and tie breaking procedures</td>
<td></td>
</tr>
<tr>
<td>Strategies</td>
<td>What smart players do to win, both offensively and defensively</td>
<td></td>
</tr>
</tbody>
</table>

"I’m interested in finding out how well you do at giving explanations."
Persuasive Language Samples

- 6th – 12th grade
- academic, social, occupational skill
- verbal OR written response = same level of complex syntax (Brimo & Hall-Mills, 2018)

Appendix B
Persuasive Protocol

Protocol for Eliciting a Persuasive Language Sample

Today I want to find out how well you can persuade. That’s when you talk people into changing their mind and doing something you want. I’m going to make a recording. If you want, you can listen to it when we’re finished.

I would like you to pick a rule or situation you would like to see changed in your school, job, or community. Imagine that I am an adult who has the power to make the change that you want. Here are a few examples:

1. Pretend I’m the principal of your school and you want to persuade me to provide money for a special event, or
2. Pretend I’m your boss and you want to persuade me to change your hours or work schedule, or
3. Pretend I’m a government official and you want me to change the law so that taxes are raised or lowered for a specific purpose.

I expect you to talk for at least a few minutes, so be sure to pick an issue you know and care about. You can choose an issue from this list (hand list to student) or else pick one of your own.

Appendix C
Suggested Issues List

- Changing the time school starts in the morning
- Allowing students to leave campus during the school day without special permission
- Requiring students to do graded homework
- Requiring students to take foreign language classes
- Allowing teachers to socialize with students on social networks such as Facebook, Twitter, Snapchat, Instagram, etc.
- Including grades in physical education classes in students’ grade point average
- Allowing students to listen to their music using headphones during free periods
- Changing the access teenagers have to entertainment that is violent or sexually suggestive; entertainment includes movies, music, and video games
- Requiring school uniforms or a dress code for students
- Awarding cash or other incentives to students who earn good grades
- Replacing traditional textbooks with notebook computers or digital materials
- Requiring cities to provide free wireless Internet access in public spaces
- Requiring people to get a license in order to become parents
- Allowing alternatives to jail, such as counseling or public service, for convicted criminals

(Heilmann, Malone, & Westerveld, 2020).
## Analyzing Language Samples

- **Comparison to SALT databases**

<table>
<thead>
<tr>
<th>Elicitation Context</th>
<th>SALT Database Ages</th>
<th>SALT Database Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conversation: Play</td>
<td>2;8 – 5;8</td>
<td>Pre-K; K</td>
</tr>
<tr>
<td>Conversation</td>
<td>2;9 – 13;3</td>
<td>Pre-K; K; 1 – 3; 5; 7</td>
</tr>
<tr>
<td>Narration: Story Retell</td>
<td>4;4 – 12;8</td>
<td>Pre-K; K; 1 - 6</td>
</tr>
<tr>
<td>Exposition</td>
<td>10;7 – 18;9</td>
<td>5 – 7; 9 - 12</td>
</tr>
<tr>
<td>Persuasion</td>
<td>14;8 - 18;9</td>
<td>9 - 12</td>
</tr>
</tbody>
</table>
Analyzing Language Samples

Play-based Conversational Samples
(Hadley, McKenna, & Rispoli, 2018)

- Once kids move beyond 1.5 – 2 MLU, measure sentence diversity

  - # of unique SV combinations

- Structure-specific language sampling
  - One specific grammatical structure
  - Consistent amount of time

Child 1: I see you!
Child 2: Dog run.
## Analyzing Language Samples

### Persuasive Samples

(Heilmann, Malone, & Westerveld, 2020).

## Appendix D

**Persuasive Scoring Scheme**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Proficient/advanced (5)</th>
<th>Satisfactory/adequate (3)</th>
<th>Minimal/immature (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue identification and Desired Change</td>
<td>• Existing role or situation is clearly understood before supporting reasons are stated</td>
<td>• Existing role or situation can be discerned; may require shared knowledge</td>
<td>• Speaker launches into persuasion with no mention of existing role or situation</td>
</tr>
<tr>
<td></td>
<td>• Desired change is clearly stated</td>
<td>• Desired change can be discerned</td>
<td>• Desired change is rejected/skipped</td>
</tr>
<tr>
<td>Supporting Reasons</td>
<td>• Reason(s) are comprehensive; Include detail</td>
<td>• One or more reasons are offered to support desired change</td>
<td>• Arguments are clearly &quot;rejected&quot;/summarized</td>
</tr>
<tr>
<td></td>
<td>• Benefits to others are clearly understood</td>
<td>• Benefits to others are unclear or omitted</td>
<td>• Concludes using language such as, &quot;to conclude,&quot; &quot;therefore,&quot; &quot;and so,&quot; &quot;in sum,&quot; etc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Final steps for change are monitored</td>
</tr>
<tr>
<td>Other Point of View (Counterarguments)</td>
<td>• Other point(s) of view are clearly explained/involve detail</td>
<td>• Other point(s) of view are acknowledged OR</td>
<td>• Points are fully covered before moving on to another</td>
</tr>
<tr>
<td></td>
<td>• Includes language to support or refute other point of view</td>
<td>• Dismissive of other point(s) of view</td>
<td>• Transitions between points are awkward/using more mature language</td>
</tr>
<tr>
<td></td>
<td>• Includes language, with some detail, to support or refute compromising</td>
<td>• Compromises are acknowledged OR</td>
<td>• Referees are clear</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Dismissive of compromising</td>
<td>• Listener can easily follow the argument</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Indicates of compromise</td>
</tr>
<tr>
<td>Effectiveness</td>
<td></td>
<td></td>
<td>• Arguments are compelling</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Argument is unconvincing</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Argument is well stated</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Audience is used with minimal errors of syntax and unclear/awkward</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Speaker’s delivery is clear; not necessarily passionate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Speaker engages listener</td>
</tr>
</tbody>
</table>

### Conclusion

- Desired change is clearly stated/supported
- Arguments are clearly supported
- Concludes using language such as, "to conclude," "therefore," "and so," "in sum," etc.
- Final steps for change are monitored

### Cohesion

- Points are fully covered before moving on to another
- Transitions between points are awkward/using more mature language
- Referees are clear
- Listener can easily follow the argument

### Effectiveness

- Argument is compelling
- Argument is unconvincing
- Argument requires little to no clarification
- Acceptable syntax
- Speaker’s delivery is clear; not necessarily passionate
- Effort is persuasive
- Speaker engages listener

- Argument is not compelling
- Argument is not unconvincing
- Argument requires moderate to high clarification
- Erroneous syntax may be prevalent
- Speaker’s delivery lacks effort
- Speaker makes no attempt to engage listener
- Speaker uses inappropriate/immature tone
Analyzing Language Samples

Guo, Eisenberg, Schneider, Spencer, & Percent, 2019

Percent Grammatical Utterances (PGU) > MLU

1. Divide sample into C-units

2. Decide whether each C-unit has a verb

3. Mark each C-unit as grammatical or ungrammatical

4. Divide number of grammatical C-units by total eligible C-units (those that include a verb and are without errors)
Analyzing Language Samples: C-Units

- Segmentation based on **grammar**
  - *NOT* Intonation/pauses
  - Increases consistency and reliability

- C-Unit = independent (aka: main) clause
  OR main clause + subordinate clause

- Coordinating conjunctions link 2 main clauses which
  = 2 C-units
  *and, but, so (*NOT so that), and then, then*

*The frog was sitting on a lily pad, and then it jumped in.*

C The frog was sitting on a lily pad.

C And, then it jumped in.

*We played, swam, and went to the park.*

C We played, swam, and went to the park.
Analyzing Language Samples: C-Units

- Segmenting C-units
- Calculating Percent Grammatical Utterances (PGU)
LSA for Kids Who are Unintelligible

Note the presence of **words** and **syllables**

- Analyze
  - MLUw
  - Mean syllables per utterance
LSA for Kids With Limited Verbal Language
(Including Kids with ASD)

ELSA-A: 4 - 20

ELSA-T: 1;6 - 5

- 8 semi-structured play and narrative tasks
- 20 - 25 min.
- SLP or parents

1. Utterances per minute
2. Words per minute
3. Number of conversational turns per minute
AAC Videos

AAC: child with CP who types
AAC: Younger learner selection based
LSA for Kids Who Require AAC

(Kovacs & Light, 2017)

- **Goal**: 50 multi-morpheme utterances

- **Time frame**: 1-month sample window (vs. 1-hour or 1-day)

- Calculate **Mean Syntactic Length (MSL)** when context is unknown
  - Average # of morphemes/utterance excluding 1 morpheme utterances

- Calculate **Mean Length of Utterance in Morphemes (MLUm)** when context is known
Figure 2. Rules for counting morphemes in augmentative and alternative communication (AAC) language samples, adapted from Brown (1973) and Paul and Norbury (2011).

1. Count each regular bound morpheme (possessive /s, plural /s, regular past /d, etc.) as one morpheme.
2. Maze words are excluded during the transcription process and should not be counted.
3. If a word is repeated for emphasis (no, no, no) count each occurrence as a morpheme.
4. All compound words (birthday), proper names (Santa Claus), which may be deidentified in the log file transcripts (Mrs. [NAME]), and ritualized reduplications (night-night) should be counted as one morpheme.
5. Count irregular past-tense forms as one morpheme (did, gone, went). If a child overregularizes a past tense form (comed), count this as two.
6. Count words with diminutive endings (doggie, mommy) as one morpheme.
7. Count all auxiliaries as one morpheme (is, have, can, will).
8. Contractions containing auxiliaries or copula be should always be counted as two morphemes. This includes contracted forms of be (I'm, it's, aren't) and nonnegative contractions (can't, don't, wouldn't, etc.)
Why LSA for AAC Users?

More sensitive than standardized assessments for “difficult to assess” populations.

Reflect communication skills in the child’s natural environment....which can lead to better intervention goals!
External Factors to Consider

Is the examiner trained in AAC?

You want to avoid the traps!

- Asking Yes/No questions
- Talking too much
- Failing to provide wait time
- Providing few opportunities to respond
- Being unfamiliar with the communication system or app
LSA with AAC Users Helps Assess:

Pragmatic Language: What is the function of communication? Making requests? Commenting? Other?

Morphology: Is the child using word endings?

Syntax: Is the child using correct word order?

Semantics: What words are the child using?

Discourse: How does the child communicate with others? How does the child communicate with family? Novel listeners? Teachers?

Rate of Communication: How many WPM?

Minutes of Communication: How many minutes per hour or day?
CR & Informal Language & Literacy Assessments

- IMPACT rating scale (Lavi, 2020)
- Rice Wexler Test of Early Grammatical Impairment
- PAST
- SPAs (Making Sense of Phonics) (Beck & Beck, 2013)
- QRI-6 (Leslie & Caldwell, 2016)
Evidence-Based Treatment of Language & Literacy Disorders
Language Treatment Targets for Kids with DLD
General Principles of Treatment for Children with DLD

(Eisenberg, 2014)

- Comprehension and production
- Be explicit
- Use visuals
- **Keep the target consistent** across trials but vary the words that surround the target
- Spaced exposure > mass exposure

- Extra processing time
- Rephrase and repeat
- High repetition of targets, high # of trials
- Opportunities to practice targets in authentic, meaningful, social contexts
Grammar Treatment for Kids with DLD

- When targeting verbs:
  - Pair them with **specific** adverbs

  (Syrett, Arunchalam, & Waxman, 2014)

  (Hadley & Walsh, 2014)

  ○ **Nouns > pronouns**

  - Subject and verb are separated
  - No contractions
  - Makes learning verb tense and agreement easier

  **Without toy talk:**
  - It’s soft.
  - He’s running.

  **With toy talk:**
  - The kitten *is* soft.
  - The horse *is* running.
Grammar Treatment for Kids with DLD

1. Be mindful of prerequisite skills and knowledge

2. Don’t assume that use = understanding

3. Target academically relevant syntax even if morphology isn’t 100%
3 Keys to Successful Reading Intervention

1. Eliminate **PA deficit** and teach to advanced level
2. Teach and reinforce **decoding** and **encoding** skills at all levels
3. Provide opportunities to read **authentic, connected text**

(Kilpatrick, 2015)
Key Principles of Reading Instruction

**automaticity**

Verbal Efficiency Theory  
(Perfetti, 1985)

- ✔ phonological, phonemic awareness
- ✔ l/s correspondences
- ✔ automatic word recognition
- ✔ **working memory**
Key Principles of Reading Instruction

Explicit
- Unambiguous
- Don’t assume
- Clear, precise, consistent

Systematic
- Evidenced-based scope + sequence
- Logical, step-by-step
- Easy to hard
- Gradual release of responsibilities
Phonological Awareness

- phonological awareness
- word awareness
- syllable awareness
- onset-rime awareness
- phoneme awareness

**THE PHONEMIC AWARENESS TOWER**

**Integration PHONICS**
Grammar rules clinicians to move to the next level, while
helping to free up working memory and solidify phonemic
and grapheme correspondences.

**Phoneme Blending**
( correlates with decoding)
/g/ /- /v/-/r/-/n/- /g, r, n/“grown”
parts to whole

**Instructional TIP**
C = consonant SOUND (bl/p/ b)/
V = vowel SOUND (aul/ a)/

Words beginning with continuous sounds (bl/p/ b) are easier for
children than words beginning with
dropped sounds (al/ a).

**Phoneme Segmentation**
( correlates with encoding)
“grown” /g/ /- /r/-/n/-/n/
whole to parts

**Phoneme Isolation**
Helps clinicians identify and manipulate one sound from a word as a scaffold
to reach blending and segmenting.

**The Foundation of Phonemic Awareness**
Phonological representations, refined through rich language experiences & varied vocabulary

Tiffany Pelletier
Phonemic Awareness

1. categorize
2. blend
3. isolate
4. segment
5. delete, add, substitute
6. reverse

more working memory

less working memory
Phonological Awareness Instruction

- Developmental sequence for linguistic units and tasks
- Initial, final, medial
- Continuants, then stops
- First: "Activities that can be done in the dark"
- Then: link to letters

"While phonemic awareness appears to be a necessary ingredient in highly successful intervention, unless it is integrated with phonics instruction and reading opportunities, it is not likely to produce the desired results." (Kilpatrick, 2015)
Phonological Awareness Instruction

- First, do this
- Then this
Phonological Awareness Instruction

- Do this
- Then this
Phonemic Awareness Instruction

- Do this
- Then this
Decoding Instruction: l/s correspondence

- Identification before naming
- Simple to complex
- Spelling
- Goal: automatic

"Instruction should move as fast as you can, but as slow as you must." (Gillingham)
# Decoding Instruction: l/s correspondence

**First:**
- continuants
- short vowels
- high contrast
- lowercase
- high utility
- 3 – 6/week

<table>
<thead>
<tr>
<th>Auditorily similar</th>
<th>Visually similar</th>
</tr>
</thead>
<tbody>
<tr>
<td>/f/ /v/</td>
<td>b d</td>
</tr>
<tr>
<td>/t/ /d/</td>
<td>b p</td>
</tr>
<tr>
<td>/b/ /d/</td>
<td>q p</td>
</tr>
<tr>
<td>/b/ /p/</td>
<td>n m</td>
</tr>
<tr>
<td>/k/ /j/</td>
<td>h n</td>
</tr>
<tr>
<td>/m/ /n/</td>
<td>v w</td>
</tr>
<tr>
<td>/i/ /e/</td>
<td>n r</td>
</tr>
<tr>
<td>/o/ /u/</td>
<td></td>
</tr>
</tbody>
</table>

1. **Introduce**
2. **Discriminate in initial position**
3. **Develop pa in final position**
4. **Discriminate in final position**
5. **Discriminate between initial and final**

(Beck & Beck, 2013).

www.fivefromfive.org.au
Word Building

(Beck & Beck, 2013)

• pocket chart

• letter cards

• Model:
  1. building a word
  2. changing letter/s to make a new word
Successive/Cumulative Blending

Do This:

/s/
/æ/
/sæ/
/t/
/sæt/
Prepackaged Treatments

Orton Gillingham

- Structured language instruction: systematic, explicit
- Letter/sound correspondence, phoneme segmentation, blending, synthetic phonics
- Logical, developmental scope and sequence
- Multi-sensory
  - Schlesinger & Gray (2017): “...this study did not show that simultaneous multisensory input improved learning over structured language interventions alone.”

Lindamood Phoneme Sequencing® Program for Reading, Spelling, and Speech (LiPS®)

- Multi-sensory
- Oral phoneme placement
- Then identify the identity, number, and sequence of sounds in words.
- After those skills are mastered, moves to applying phonemic awareness to reading and spelling
- Typically used as a Tier 2 or Tier 3 intervention in RTI
Evaluation Tools for Commercially Available Literacy Programs & Curriculums

www.readingrockets.org

www.thereadingleague.org

https://ies.ed.gov/ncee/wwc/
Considerations for children who need a higher level of support?

Project follow through

---

**Project Follow Through, 1967 - 1977**

*Nine models of teaching K-3 compared in history’s largest educational experiment*

**Student Results**
- Basic academic skills
- Problem-solving skills
- Self-esteem

**Findings:**
- Nine models grouped into 3 broad teaching approaches: Academic focus, problem solving focus, or self-esteem focus.
- Three categories of results were measured: Basic academic skills, problem-solving skills, and changes in self-esteem.
- *Direct Instruction* produced the best results in all areas: Basic skills, problem solving, & self-esteem.
- Most other models were less effective than traditional schooling, yet many remain in use today.
DI-Four Main Features

Students begin instruction at their own skill level: typically involves a “placement test.”

Instruction is modified to maximize rate of learning

The program’s structure is designed to ensure mastery of concepts

Programs are field tested and revised prior to publication.

Cautions: Remember best practices specific to our area of expertise. May need a combination of programs or supplement a program with additional instruction.
DI Programs-McGraw Hill

Phonemic Awareness
Language for Learning
Language for Thinking
Reading Mastery Signature Edition
Expressive Writing
Essentials for Writing
-and others
Content
Vocabulary Instruction for Children with DLD

(Storkel, et al., 2019)

**magic #36**

- tier 2 words during storybook reading activities
- 6 exposures across 6 therapy sessions
- 4 X 9
- 9 X 4
- + maintenance monitoring

It really doesn’t matter!
Excellent Vocabulary Intervention

✔ Explicit

✔ Repeated exposures

✔ Variety of semantic contexts

✔ Includes written spelling of target words (Chambre, et al., 2019; Chambre et al., 2019)

✔ Deep processing
Vocabulary Interventions: Which Words Should We Teach?

**Tier-3 words:** Is it a word whose meaning students are unlikely to know? Is it a specialized word that does not appear frequently in written or oral language? Is the word specific to a particular content area or subject matter?

**Tier-2 words:** Is it a word whose meaning students are not likely to know? Is it a word that is generally useful? Can the meaning of the word be explained in everyday language? Is it necessary for comprehension?

**Tier-1 words:** Is it a basic word whose meaning students are likely to know? These words rarely require instruction unless children are word impoverished.
Vocabulary Interventions: Which Words Should We Teach?

Tier 2 Words

- Appear frequently in a wide variety of texts
- Part of a mature language users’ written + oral vocabulary
- Refined, more precise, mature way to refer to ideas that the child already knows/uses

<table>
<thead>
<tr>
<th>Tier 2 word</th>
<th>child’s current expression</th>
</tr>
</thead>
<tbody>
<tr>
<td>required</td>
<td>have to</td>
</tr>
<tr>
<td>maintain</td>
<td>keep going</td>
</tr>
<tr>
<td>fortunate</td>
<td>lucky</td>
</tr>
<tr>
<td>tend</td>
<td>take care of</td>
</tr>
</tbody>
</table>
Vocabulary Interventions: Which Words Should We Teach?

Criteria for Selecting Tier 2 Words

✔ Importance and utility
✔ Instructional potential
✔ Conceptual understanding
## Vocabulary Interventions: Which Words Should We Teach?

<table>
<thead>
<tr>
<th>Tier 2 word</th>
<th>Child-friendly definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>disguise</td>
<td>Something we wear to look different</td>
</tr>
<tr>
<td>bulge</td>
<td>Something that sticks out really far</td>
</tr>
<tr>
<td>capture</td>
<td>If you capture something, you catch it and don’t let it go</td>
</tr>
<tr>
<td>tremendous</td>
<td>Really big or really good</td>
</tr>
<tr>
<td>dash</td>
<td>Move really fast</td>
</tr>
</tbody>
</table>
Vocabulary Interventions: Which Words Should We Teach?

**Example:** reluctant

1. **Contextualize:** “In the story, Lisa was reluctant to leave the laundromat without Corduroy.”

2. **Define:** “Reluctant means that you are not sure you want to do something.”

3. **Example(s):** “Someone might be reluctant to eat a food that he or she had never had before, or someone might be reluctant to ride a roller-coaster because it looks scary.”

4. **Interact with Examples:** “Tell me about something that you would be reluctant to do.”

5. **Relate to other target words:** “If you walked briskly to school, would you be reluctant to go?”

(Beck, McKeown, & Kucan, 2002)
What if Tier 2 is Too Difficult?

Target, approach, and dosage needs to be tailored for each child with DLD (McGregor, et al., 2021)

Vocabulary is complex:

Parts: Seeds, stem, peel, leaf, core

Function: we eat it, we use it as an ingredient, we feed it to animals, etc.

Classification:

- Convergent: something we eat, a fruit, something that is red, etc.
- Divergent: we eat an apple. What are some other things we eat? Apple is a fruit. What are some other fruits?

Attributes: red, crunchy, sweet, sometimes sour, etc.

Multiple exemplars: Red delicious, golden delicious, granny smith, etc.
Tier 1 Vocabulary Web

Animals
- Bird
  - Has feathers
  - Has tail
  - Pet
    - Meows
  - Whiskers
- Chicken
  - Lives on a farm
- Cow
  - Moos
  - Lives on a farm
- Fish
  - Swims
  - Lives in water
- Lion
  - Whiskers
  - Mane
  - Roars
- Pet
  - Lives in a zoo
ASD Language Delays

Criterion Referenced Assessments are often used by ABA practitioners.

One example of an assessment with moderate to strong content validity:
Why the VB MAPP?

It does a relatively good job with following developmental norms.

Makes collaboration between service providers easier because SLPs use similar sequences when teaching semantics.

Can be a more sensitive measure for children in need of Tier 1 vocabulary development.
Take away

● Kids have to know a lot about words in order to use them effectively when speaking and reading.

● Vocabulary development is never “done”: think about your own careers. Have you learned new vocabulary today?

● In order to connect new words to prior knowledge, we need our students/clients to have a strong Tier I background.
Use

Checklists
Video modeling
Pivotal Response Training
### Social Skills Checklists

#### Social Communication Skills – The Pragmatics Checklist

<table>
<thead>
<tr>
<th>Child’s Name</th>
<th>Date</th>
<th>Completed by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent: These social communication skills develop over time. Read the behaviors below and place an X in the appropriate column that describes how your child uses words/languages, no words (gestures—preverbal) or does not yet show a behavior.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Pragmatic Objective**

**Instrumental – States needs (I want...)**
1. Makes polite requests
2. Makes choices
3. Gives description of an object wanted
4. Expresses a specific personal need
5. Requests help

**Regulatory – Gives commands (Do as I tell you...)**
6. Gives directions to play a game
7. Gives directions to make something
8. Changes the style of commands or requests depending on who the child is speaking to and what the child wants

**Personal – Expresses feelings**
9. Identifies feelings (I’m happy.)
10. Explains feelings (I’m happy because it’s my birthday)
11. Provides excuses or reasons
12. Offers an opinion with support
13. Complains
14. Blames others
15. Provides pertinent information on request (2 or 3 of the following: name, address, phone, birthdate)

**Uses No Words (gestures—preverbal)**

**Uses 1-3 Words**

**Uses Complex Language**
Pragmatic Language Interventions for Children with DLD

**PEER MEDIATED: VIDEO MODELING**
(Duenas, Plavnick, & Bak, 2018)

- Joint video modeling: *including a typically developing peer*

- Less intrusive than adult-delivered prompts and reinforcement

- Educated and trained a preschool-aged peer

- 30-second video model

- Increased scripted and unscripted verbalizations
USING VIDEOS TO TARGET SOCIAL SKILLS

YouTube clips
KEY STRATEGIES

1. Gaining and maintain the child's attention
2. Establishing shared control
3. Interspersing established skills with new targets
4. Reinforcing contingently
5. Reinforcing attempts
6. Use natural consequences for reinforcement

Example: https://youtu.be/oYQ0R6pSFGE
Addressing Language & Literacy Disorders via Teletherapy
Recent Teletherapy Research

- Toddlers can learn new words via video chats (Roseberry, Hirsh-Pasek, & Golinkhoff, 2014)
  - **social contingency**: eye contact, immediate responses, using the child’s name, asking questions, and taking and encouraging conversational turns

- Online platforms can be used effectively for parent coaching (Douglas, et al., 2018)
  - Increased communication opportunities for kids with complex communication needs
CONSIDERATIONS in PLANNING TX for TELETherapy

1. Hands-on
2. Movement
3. Visual engagement
4. Authentic, personalized materials
5. Reinforcement
6. Engaging parents and caregivers as facilitators
7. Coaching families on using Zoom: computers vs. iPads vs. Chromebooks
Universal Design for Learning

These guidelines offer a set of concrete suggestions that can be applied to any discipline or domain to ensure that all learners can access and participate in meaningful, challenging learning opportunities.

These guidelines are widely used in the field of education and with online learning.

Can be applied to telepractice.
BOOM CARDS

- www.boomlearning.com

- Free version: create 5 free Boom cards
- Not free version: unlimited + selling feature

- Interactive#1, #2, #3, #4

- Authentic and personalized
Addressing Language and Literacy Disorders Via Interprofessional Practice
What Does IPP Look Like for You?

- What other professionals do you collaborate with in your current setting?
- How are overlapping roles divided between you and your colleagues?
- How do you maintain healthy, open lines of communication?
- What are some barriers to collaboration for you, personally?
Collaboration

It looks kind of like this

MESSY

adapted from TAMARACK'S Collaboration Continuum

E. Greenfley 2015
<table>
<thead>
<tr>
<th>TEAM COLLABORATION APPRAISAL FORM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TEAM</strong></td>
</tr>
<tr>
<td>Date</td>
</tr>
<tr>
<td>School / Facility</td>
</tr>
<tr>
<td>Student/Client/Patient</td>
</tr>
<tr>
<td>Team Members’ Names and Roles</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STATEMENTS</th>
<th>Disagree</th>
<th>Undecided</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TEAM MEMBERSHIP</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Team members have the necessary qualifications and expertise.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The team is action oriented.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goals for collaboration team members are explicitly stated in the written treatment plan.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>STUDENT/Clients/Patient GOALS</strong></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The team has established concrete, measurable goals for improving performance.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All team members are working toward achieving common goals.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All team members are engaged, devoting the effort necessary to achieve goals.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Developed by Jean Blosser, CCC-SLP, EdD - jblosser23@gmail.com - 410-783-7758
Blosser cont.

<table>
<thead>
<tr>
<th>STATEMENTS</th>
<th>Disagree</th>
<th>Undecided</th>
<th>Agree</th>
</tr>
</thead>
</table>

**INFORMATION AND DATA**
- The team has access to relevant information to support problem solving, decision making, and recommendations.
- The team has access to and discusses needed information about the challenges in home, school, work, and community environments.
- The team uses and analyzes data to make decisions.
- The team has established methods for monitoring student/client/patient performance and providing feedback.

**TEAM PROCESS**
- Adequate time is allocated for planning and meeting.
- The team has established ground rules and expectations for how members will work together.
- The team orient new team members.
- Team meetings are productive.
- The team uses a mix of formats for meeting so everyone can be included (face-to-face, e-mail, phone, written, and video and audio conferencing).

**TEAM COMMUNICATION**
- The team engages in purposeful dialogue.
- The team has leaders who provide a clear direction.
- Team members promote contributions from all members.
- Divergent opinions are expressed and listened to.
- The team considers cultural differences when interacting with one another and when working with the student/client/patient and family.
- The team builds consensus when making decisions.
- Team members work to build positive relationships.
- The team celebrates its successes toward achieving its goals.

**GETTING RESULTS**
- Team members provide resources and recommendations to facilitate and support student/client/patient success.
- Team members can discuss the pros and cons of treatment and/or service delivery options.
- Team members ensure that each member understands how to implement procedures and models for instruction and treatment.
- Team members follow through with recommendations.
- Team members review and refine plans to achieve continuous improvement.

**COMMENTS AND RECOMMENDATIONS FOR IMPROVING THE EFFECTIVENESS OR EFFICIENCY OF COLLABORATION.**

Developed by Jean Blosser, CCC-SLP, EdD  -  jblosser23@gmail.com  -  410-783-7758
Characteristics of Collaboration

● Voluntary

● Requires parity among participants
  ○ contributions are equally valued
  ○ equal power in decision making

● Based on mutual goals

● Depends on shared responsibility
Characteristics of Individuals who Collaborate

- Share resources
- Share accountability for outcomes
- Value interpersonal style
- **Believe in collaboration**: results are more powerful than results of individual efforts
- Trust
Barriers to Collaboration

- Professional Training
- Resource sharing—time, space, materials
- Individual assumptions
- Scheduling and planning time
- Lack of common terminology/vocabulary
- Personality differences
- Poor administrative leadership/support
Market your knowledge

- Educate co-workers and related service providers

- Scope

- Areas of expertise
References


Five From Five. (n.d.). Retrieved from https://www.fivefromfive.org.au/scope-and-sequence/?fbclid=IwAR1e-lxYztaiz7Qeph6L5kZUzAEg2D0UNjF_syDOwBlGhiGZx6lyNKB7wgw

Norbury, C., Frazier; Gooch, Debbie; Wray, Charlotte; Baird, Gillian; Charman, Tony; Simonoff, Emily; Vamvakas, George; Pickles, Andrew, 2016. *Journal of Child Psychology and Psychiatry, 57* (11), 1247–1257. doi:10.1111/jcpp.12573


