Why Not?
Enhance Literacy and Language Skills While Addressing Speech Sound Disorders and Childhood Apraxia of Speech!
Find Out How in This Dynamic Workshop!

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Traditional Speech Therapy
• Traditional Therapy Hierarchy
• Traditional Therapy Results

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Traditional Articulation Therapy
1. Target Sound in Isolation
   “f”
2. Target Sound in Syllables
   “fe, fo, fi, fu”
3. Target Sound in Words
   Initial Position: “fish”
   Final Position: “leaf”
4. Target Sound in Phrases
   “My fish”
5. Target Sound in Sentences
   “I see a fish”
6. Target Sound in Conversational Speech
   “I see a farm. There is a leaf on the roof.”

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Orthographic Approaches
• Improve speech intelligibility
• Provide a literacy foundation
• Develop phonemic awareness

Speech Disorders & Reading Delays
Studies have shown that children with speech disorders typically develop reading and spelling delays (Catts et al., 2001; Gillon, 2002; Lewis, Freebairn, & Taylor, 2000).

If children do not receive early intervention, they are likely to be unsuccessful throughout their school experience (Carter, 1984; Juel, 1988; Foster, W. A. & Miller, M., 2007)

Speech Disorders & Reading Delays
“50 percent of adults cannot read a book written at an eighth grade level.”

“Between 46 and 51 percent of American adults have an income well below the individual threshold poverty level because of their inability to read.” (National Institute for Literacy, National Center for Adult Literacy, 2007)

Investments in early literacy development programs are more beneficial and supportive of long-term academic skills than remediation programs. Reading remediation programs are costly and time consuming (Commission on Reading, National Academy of Education, 1989)
Learning to Read

Orthographic Processor
- Recognizes and processes print
- "Note that the Orthographic processor is still the only one to receive information directly from the printed page, reflecting the fact that reading depends first and foremost on visual processing" ~M. Adams, 1990

Phonological Processor
- Identifies speech sounds; then, codes sounds to visually recognized print
- "The Phonological processor cannot usefully learn letter sounds until the Orthographic processor has learned to discriminate the individual letters with which they must be linked." ~M. Adams, 1990

Meaning Processor
- Retrieves possible meanings for a word from the lexicon*

Context Processor
- Determines appropriate meaning of words
- If a word does not make sense in a sentence, the word will be sent back to be processed again ~M. Adams, 1990

* vocabulary

"The greater time and effort that a reader must invest in each individual word, the slimmer the likelihood that the preceding words of the phrase will be remembered when it is time to put them together.~M. Adams, 1990

The Orthographic processor is the first and only processor that "activates" the reading system!

Phonological processor and Orthographic processor must communicate to correctly decode printed words!

"The greater time and effort that a reader must invest in each individual word, the slimmer the likelihood that the preceding words of the phrase will be remembered when it is time to put them together.~M. Adams, 1990

Learning to Read

Processes
- Orthographic
- Phonological
- Meaning
- Context

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Functional magnetic resonance imaging (fMRI) allows neural pathway mapping during active reading activities. Skilled readers activate the back portion of the brain to "decode" incoming orthographic/phonological information. The front portion of the brain (Broca's & Wernicke's areas) is then activated for comprehension.

"The latest imaging studies continue to probe deep into the brain to better understand reading difficulties. Tantalizing new data suggest that we are on the verge of being able to tease apart different groups of poor readers. For example, imaging studies of our longitudinal sample are providing clues that there may be two major groups of poor readers. One, the classic dyslexic, is born with a glitch in his posterior reading systems. This group has higher verbal abilities and is able to compensate somewhat—improving in accuracy but remaining slow readers. The second group seems to have developed into poor readers mainly, we speculate, as a result of experience. It may be the result of a combination of poor reading instruction in school and a disadvantaged language environment at home. In this group, the wiring for the posterior reading system may have been laid down early on but never activated appropriately; the system is there, but it is not functioning properly. Without effective intervention, individuals in this group remain poor readers, reading both inaccurately and slowly." ~S. Shaywitz 2003

"Traditional speech and language intervention was effective in improving the children's speech production, but had little effect on developing phonemic awareness skills or reading development. Harbers, Paden, and Halle (1999) also observed that significant improvements in the production of a targeted phoneme for preschool children with phonological impairment did not result in improvements in a child's ability to detect the targeted sound in a phoneme." ~Gillon, 2000
Explicit phoneme awareness and knowledge of grapheme-phoneme relationships may assist children in establishing accurate phonological representations. For example, becoming consciously aware of the number and order of phonemes in a word, and having access to the orthographic cues from the word, may help children realize the breakdown in their communication attempt and provide cues to repair their attempt. —Gillon, 2000

"Studies suggest, with impressive consistency, that programs including systematic instruction on letter-to-sound correspondences lead to higher achievement in both word recognition and spelling at least in early grades and especially for slower or economically disadvantaged students" —W. Adams, 1990

A well-formed early knowledge of letters and sound correlations has been found to be a strong predictor of later reading success. In fact, sound-letter knowledge has been found to be a better predictor than IQ scores (Stanovich, Cunningham, and Feeman, 1984)

Children have been found to learn rhymes naturally, while acquisition of printed alphabet, corresponding sounds and phonemic awareness requires specific instruction (Adams, 1990; Moats, 2005)

Choose sounds that are not included in the child’s sound repertoire and/or sounds that are consistently in error

Selection and treatment of sounds consistently in error will result in a broader system-wide improvement (Gierut, 2001; Gierut, Elbert, & Dinnsen, 1987)

"Children who were treated on a later acquired sound evidenced substantial changes in other untreated sounds from different manner classes, whereas those treated on early acquired sounds did not.” —J. Gierut, 2001
Target Sound Selection

Non-Stimulable Sounds

Select sounds that are non-stimulable.

Selection and treatment of non-stimulable sounds generalize to both stimulable and non-stimulable sounds (Gierut, 2001; Gierut, Elbert, & Dinsen, 1987; Powell, Elbert, & Dinsen, 1991).

For additional evidence-based approaches visit SLPPath.com/BestPractices.html

Cycles-Based Approach

A four to six week cycles-based approach is recommended to target selected stimulus sounds.

Adapted from the traditional cycles-based approach (Hodson & Paden, 1991)

Four to six week cycles allow introduction of various sounds and stimulate system-wide sound improvements. Also, utilizing a four to six week cycle allows for the introduction of orthographic cues.

The child may not master each sound introduced during a cycle. If a sound is not mastered, it may be "recycled" after all sounds have been targeted.

Modified Cycles-Based Approach

1. Target sound/letter(s) in isolation
2. Target sound/letter(s) in words
   - Segmented Words
   - Blended Words
3. Target letter(s)/sound with picture recognition
4. Target words and sight words in phrases
5. Target words and sight words in sentences
6. Target words in books

Orthographic Instruction Progression

1. Target sound/letter(s) in isolation
2. Target sound/letter(s) in words
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Literacy for the Love of it!

Spend the first few minutes of a lesson reading a sound-loaded book!

It is imperative to create a love of books at an early age or children will never appreciate the places print can take them or the knowledge it can give them!

Target Sound in Isolation

Begin by introducing the sound in isolation with the individual printed letter

This method allows the child to become familiar with the letter while learning the sound in isolation and teaches letter-to-sound correlation.
Orthographic Instruction introduces the 'h' digraphs (letter pairs representing single sounds) early in a child’s literacy experience. Orthographic cues encourage fluency of the digraphs within the brain.

The Orthographic processor must recognize digraphs such as ‘sh’, ‘th’ and ‘ch’ as one segment.

If these digraphs are coded individually (‘s’ and ‘h’), the message is continually sent back to the Orthographic processor for decoding.

Introduction of ‘h’ sound digraphs early in a child’s literacy experience encourages fluency of ‘h’ digraphs within the brain.

Traditionally, students are introduced to ‘h’ digraphs later in literacy experiences. At this point, the individual sounds have been so extensively drilled that digraph recognition becomes very difficult.

No wonder so many children are not recognizing digraphs!

Establishing orthographic digraph comprehension early will enhance reading skills later!

Begin by introducing the printed digraph in isolation. This allows the child to become familiar with the orthographic digraph while learning the sound in isolation.

Clinician/Teacher: “This is an ‘s’ (point to the letter ‘s’). Can you show me the ‘s’?”

Child: Points to the letter ‘s’

Clinician/Teacher: “Good! This is his buddy ‘h’ (point to the letter ‘h’). Can you show me the ‘h’?”

Child: Points to the letter ‘h’

Clinician/Teacher: “Great! When ‘s’ is next to his buddy ‘h’, they make the sound /sh/. Can you make the sound /sh/?”

Child: “/sh/”

Clinician/Teacher: “Awesome! You made the /sh/ sound!”
After the child has established the digraph in isolation, continue to cue the child by using the same step progression examples presented for the single-letter target stimulus sounds.

Substitute appropriate letters and sounds as necessary for the digraphs 'sh', 'ch' and 'th'.

Target Sound in Words

First, teach the child to locate the target letter within the printed text.

Next, introduce the segmented word pausing between the target sound and the rest of the word.

Once productions of the segmented word are mastered, introduce the blended word.

Target Sound in Words

Once the child is able to produce the word with orthographic cues, a picture representing the word is introduced.

This gesture ensures that the child’s orthographic knowledge and "phonological conception" coincide.
Introduce sight words to establish the use of target words in phrases.

Point to the words as you give a model.

This activity exposes children to essential sight words.

Children learn that the composition of letters in words never changes.

Continue to use sight words for production of target words in sentences.

Remember, it is critical to point to each word as you offer a model.
**Target Word in Books**

Stimulus books containing sound targeted words and essential sight words may be used during therapy/classroom activities and for homework activities.

Reproducible coloring books containing a very simple story are effective and efficient.

Sound targeted books that repeat sight words promote fluent speech and reading skills.

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**Additional Considerations**

~Elementary School Caseload~

- There is no evidence that the IQ – achievement discrepancy formulas can be applied in a consistent and meaningful (reliable and valid) manner.

- In addition, this approach has been particularly problematic for students living in poverty or culturally and linguistically different backgrounds, who may be erroneously viewed as having intrinsic intellectual limitations when their difference on such tests really reflect lack of experience or educational opportunity.

- Early Intervention

  Children with speech and/or language impairment, children learning English as a second language and children in low income households have been found to have difficulty developing phonemic awareness.

  (Bird, Bishop, & Freeman, 1995; Catts, Fey, Zhang, & Tomblin, 1999; Ehri, et al., 2001, Gillon, 2000; Koutsoftas, Harmon & Gray, 2009)

  Print knowledge, vocabulary, alphabet knowledge and beginning sound awareness are critical skills for literacy development. Intervention in these areas can increase literacy skills.

  (Justice, 2006; Koutsoftas, Harmon & Gray, 2009)
Early Intervention Resources

- Harcourt [www.hschool.com/School/index.html]
- Lindamood-Bell [www.lblp.com]
- Road to Reading [www.Brookespublishing.com]
- Interventions for Reading Success [www.Brookespublishing.com]
- Earobics [www.Earobics.com]
- Literacy Speaks! [www.LiteracySpeaks.com]
- Phonological Awareness Literacy Screening (PALS) [www.Pals.Virginia.edu]
- Dynamic Indicators of Basic Early Literacy Skills (DIBELS) [www.Dibels.uoregon.edu]

Additional Considerations

~ Response to Intervention ~

1. Target letter(s)/sound in isolation
2. Target letter(s)/sound in segmented words
3. Target letter(s)/sound in blended words
4. Target letter(s)/sound with picture recognition
5. Target words and sight words in phrases
6. Target words and sight words in sentences
7. Target words in books

Letter Activities

- Trace a Letter
- Go on a Letter Hunt
- Read A Book
- Be Creative!!

Sound-Letter Correlation Activities

Target Sound in Isolation

Once the sound has been established, introduce the home and classroom activities to strengthen knowledge of the newly presented letter and sound.

Sound-Letter Correlation Activities

Trace a Letter with Me!!

Tracing target letters helps a child become familiar with the shape of a letter while learning the sound the letter makes.

Tracing the target letter is not a writing task. This activity encourages sensory-motor learning.

Use crayons, paint, glue and glitter or even fingers to trace letters.

Let’s Go on a Letter Hunt!!

Letters are EVERYWHERE!!
They are in the grocery store!
They are at the zoo!
They are in the classroom!
They are even in our kitchens!

Go on a letter hunt!
Find the target letter and make the sound together!
Letters in the Classroom
~Systematic Approaches~

• Letter of the Week
• Letter Themes

Classroom Letter of the Week Schedule

Week 1......Mm  ...  Week 10......Ss  ...  Week 19......Xx
Week 2......Pp  ...  Week 11......Ee  ...  Week 20......Ll
Week 3......Tt  ...  Week 12......Vv  ...  Week 21......Qq
Week 4......Ff  ...  Week 13......Dd  ...  Week 22......Zz
Week 5......Aa  ...  Week 14......Ww  ...  Week 23......Th
Week 6......Hh  ...  Week 15......Sh  ...  Week 24......Rr
Week 7......Nh  ...  Week 16......Oo  ...  Week 25......Yy
Week 8......Bb  ...  Week 17......Gg  ...  Week 26......Jj
Week 9......Cc & Kk  ...  Week 18......Ii  ...  Week 27......Uu
Week 28......Ch

Letter of the Week Activity
(Examples)

Time for tea and triangle triscuits!

Letter of the Week Activity
(Examples)

Xx marks the spot!

Letter Themes

• Seasons: spring, summer, fall, winter
• Seasonal: flowers, gardens, water, leaves, apples, snow
• Holidays: Valentine’s Day, Halloween, Christmas
• Just for Fun: beach, camping, farm

Letter Themes

Silly Snow

sack
snack
snowman
snow
seven
stocking
sun
Santa
silly
six
sled
Let's Go Camping

Letter Themes
(Examples)

Orthographic Instruction
Resources

• Websites
• Books

• Movies
• Music

• Food
• Educational Toys

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Orthographic Instruction Resources

Books
Music
Educational Toys

Additional Resources

Available at Amazon.com

Classroom Literacy Resources

Amazon.com
TheEducationCenter.com

Literacy Websites

LiteracySpeaks.com/Kids.html
ReadingResource.net
HummingBirdEd.com
ReadingRockets.org
StoryPlace.org/Preschool/Other.asp

Literacy Apps

Writing Wizard - Kids Learn to Write Letters & Words
(L’Escapadou)

Starfall ABCs
(Starfall Education)

Sight Word Flip It
(ReadingResource.net, LLC)

Martha Speaks Word Spinner
(PBS Kids)

Additional Resources

Literacy Movies
Magnet Set

The presenter does not benefit financially from the following resources.
Literacy for the Love of It!

Create an Early Love of Literacy!

- Library Suggestions
- Book Choices
- Read a Book

Library Suggestions
- Create a library
- Utilize your local library for resources

Book Choices
- Use sound-loaded books
- Find books with print in the pictures or repeated words

"Five little monkeys jumping on the bed. One fell off and bumped his head! Momma called the doctor and the doctor said: No more monkeys jumping on the bed!"

Successful Reading Predictors

"The best predictor of students’ year-end reading achievement was their entering ability to recognize and name uppercase and lowercase letters."
- M. Adams, 1990

"The next best predictors were the students’ scores on an auditory phoneme discrimination task and a general intelligence test. Again, the fundamental value of letter and sound knowledge is suggested."
- M. Adams, 1990

Highlights

Traditional Approaches
- Reading Delays
- Delayed progress with involved sound errors and motor-planning speech disorders

Orthographic Approaches
- Improve speech intelligibility
- Provide a literacy foundation
- Develop phonemic awareness

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