EBP Suggests Pre-literacy Activities be Embedded into Speech & Language Therapy for the Preschool Population

Carrie Knight & Orlene Martens
Disclosures

• Carrie Knight has no relevant financial or nonfinancial relationships to disclose. She is employed by Salus University.

• Orlene Martens has no relevant financial or nonfinancial relationships to disclose. She is employed in private practice with NOMAD Therapies.
Agenda

• Introductions
• Overview, background, & review of current literature to promote pre-literacy in preschool years
• Suggestions on embedding treatment into practice to promote:
  • Phonological awareness
  • Writing awareness
• Conclusion and Wrap-up
Introductions

- Carrie Knight, PhD, CCC-SLP (C)
- Orlene Martens, MSLP(C)
PRE-LITERACY DEVELOPMENT
Pre-literacy Development

• Early literacy: defined as the behaviors and concepts of young children in the years that precede and develop into conventional literacy (Kaderavek & Sulzby, 1998; Sulzby, 1985)

• Researchers report that early literacy and early language skills relate to later reading achievement (e.g., Catts, Fey, Zhang, & Tomblin, 1999: Hammill, 2004; NELP, 2008; Pentimonti et al., 2016)

• Preschool years are a critical timeframe in which children acquire implicit and explicit knowledge about oral and written language (Justice, et al., 2005)
<table>
<thead>
<tr>
<th>Age</th>
<th>Phonological Awareness</th>
<th>Print Knowledge</th>
<th>Reading</th>
<th>Writing</th>
<th>Literacy Socialization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth to 2</td>
<td>• Rhyme awareness can emerge at 24-30 months with exposure to rhyme</td>
<td>• Can distinguish print from pictures</td>
<td>• Will pretend to read when others are reading</td>
<td>• Can hold crayons</td>
<td>• Enjoys joint book reading</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Begins to scribble</td>
<td>• Holds book right-side up</td>
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<td></td>
<td></td>
<td>• Turns pages</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Answers questions about pictures &amp; characters</td>
</tr>
<tr>
<td>2-5 years</td>
<td>• Recognizes/produces rhymes (ability to produce rhyme emerges at 30-36 mo)</td>
<td>• Learns alphabet song</td>
<td>• Learns to recognize name in print</td>
<td>• Representsational drawing</td>
<td>• Interested in books</td>
</tr>
<tr>
<td></td>
<td>• Segments sentences into words</td>
<td>• Recognizes letters, usually if it’s in their name</td>
<td>• May recognize environmental print on signs and labels</td>
<td>• Writes name</td>
<td>• Learns the need to turn page to get to next part of story</td>
</tr>
<tr>
<td></td>
<td>• Segments words into syllables (emerges at 48- 60 mo)</td>
<td>• Letters “have” sounds (grapheme-phoneme relationship)</td>
<td>• Knows front to back reading</td>
<td>• Distinguishes drawing from writing</td>
<td>• Learns print is stable; anyone reading a book reads the same words</td>
</tr>
<tr>
<td></td>
<td>• Counts syllables:50% by age 4</td>
<td>• Print is what you read</td>
<td>• Learns left-right progression of print</td>
<td>• May use invented spelling to label drawings</td>
<td>• Recognizes familiar books, may know their titles</td>
</tr>
<tr>
<td></td>
<td>• Recognizes/produces words with the same beginning sound</td>
<td>• Letter clusters are separated by space to form words</td>
<td></td>
<td>• Writes in any direction</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Segments/blends words by onset/rime (m+om=mom) or given sounds, can blend them into a word</td>
<td></td>
<td></td>
<td>• Copies a cross, right oblique cross, some letters &amp; numerals, and may be able to write own name (4-5 years)</td>
<td></td>
</tr>
</tbody>
</table>

Pre-literacy Development

• Two broad dimensions for early literacy foundation
  • Phonological awareness and Written language awareness (Justice et al, 2005; van Kleeck, 1998)
• Need both dimensions (e.g., Catts et al., 1999; Justice et al, 2005)
• Our presentation will focus on
  • Phonological awareness
  • Written language awareness
    • Writing & Print knowledge
PHONOLOGICAL AWARENESS
Phonological Awareness

- Many terms, similar meaning:
  - Phonological awareness, phonological processing

- Phonological awareness: the ability to perceive, store, retrieve, and manipulate speech sounds of both oral and written language (Wagner & Torgesen, 1987; Serry, Rose, & Liamputton, 2009)
  - Reflect on and manipulate the structure of an utterance as distinct from its meaning
  - Independent of meaning
Phonological Awareness

• Literacy supports phonological awareness
  • The process of learning how to read requires a focus on sound–symbol relationships (e.g., Jenkins & Bowen, 1994)
  • Reading books to children supports language acquisition which in turn may assist with phonological awareness especially rhyming books (e.g., Hempenstall, 1997)
  • Frequency of caregivers reading for pleasure to children (Lonigan et al, 1998)
  • Increase in oral language skills are associated with storybook exposure (e.g., Senechal et al, 1998; Whitehurst & Lonigan, 2001)
Phonological Awareness

• Development (Anthony et al, 2003; Lonigan et al., 2009):
  • Syllables, onset/rimes and then phonemes
  • Emerge in overlapping rather than discrete stages
  • Suggests that children do not need to master one level before the another
Phonological Awareness

- Syllable awareness: multisyllabic words can be segmented into syllables (e.g., caterpillar) around age 4 can state number of syllables (Moats, 2000)
- Rhyme: as young as 2 (Hempenstall, 1997)
  - E.g., Which word rhymes with file? Mile or cat? (Lonigan et al., 2009)
  - E.g., Which word does not rhyme? Pail, mail, coat (Lonigan et al., 2009)
Phonological Awareness

• Alliteration (Dowker, 1989; Lonigan et al, 1998)
  • Which word does not start the same? Mad, dill, mom

• Phoneme (Lonigan et al., 1998)
  • Mastery between 6 & 7 years of age but 5-year-olds from advantaged backgrounds can successfully complete phoneme-deletion task
  • E.g., Say “might” without the /t/

• Reading and writing
  • In school (6+ years)
APPLICATION TO THERAPY
Application to Therapy

• Phonological awareness is a fundamental part of many broad therapy goals and specific hierarchies when planning a session (e.g., Ziolkwoski & Goldstein, 2008)

• *Remember we are always modeling to others
  • (e.g., parents, guardians, aunts, uncles, etc.)

• **Parent training is critical**

• Highlights of parent training:
  • Increase infant, toddler, preschooler exposure to DAILY ADULT SUPPORT
Therapy for Infants

• Increase a parents awareness of SOUND SEGMENTS, SOUND or WORD BLENDING

• Increase the child’s exposure to RHYTHM and RHYME

• Appropriate books
Therapy for Toddlers

• Phonological Awareness = Parent Awareness (e.g., Bowen & Cupples, 1999)

• Continue to talk to parents about reading

• Choose books that follow normal language development

• Add movement to language such as clapping, tapping, snapping, singing, pausing, rate changes
Therapy for Preschoolers

• Model, model, model for parents + early childhood educators

• Agree with some ROTE memory strategies

• Repetition, alliteration, imitation, shaping, reinforcement

• Emphasize other language targets:
  • Word endings, sentence completion tasks
WRITING
Writing

• What is writing?
• Writing is the activity of expressing ideas, opinions and views in print: A style or form of composition (Gerde et al., 2012)
• For the preschool population, it is the beginning of a complex skill that develops over years of practice (e.g., Schneck & Case-Smith, 2015)
  • Master the mechanical and perceptual process of graphics and the acquisition of language, learning of spelling and phonology
<table>
<thead>
<tr>
<th>Age Level</th>
<th>Performance Task</th>
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<tbody>
<tr>
<td>10-12 months</td>
<td>Scribbles on paper or other surface</td>
</tr>
<tr>
<td>2 years</td>
<td>Imitates horizontal, vertical, and circular marks on paper</td>
</tr>
<tr>
<td>3 years</td>
<td>Imitates horizontal line, vertical line and circle</td>
</tr>
<tr>
<td>4-5 years</td>
<td>Copies a cross, right oblique cross, some letters &amp; numerals, and may be able to write own name</td>
</tr>
<tr>
<td>5-6 years</td>
<td>Copies a triangle, prints own name, copies most lowercase &amp; uppercase letters</td>
</tr>
</tbody>
</table>

Grasp

http://redbridgeserc.org/resources/stages-of-hand-writing-grip-development/
Preschool Writing

• Write intentionally meaningful messages (developmental process)
  • With pictures
  • Scribbles (understand separation of print and pictures)
  • Letter-like forms
  • Strings of letters
  • Continue with writing development as enter into school (language symbols)
Preschool Writing

• Why is preschool writing important?
• Because preschoolers’ ability to write is related to:
  • Phonological awareness (Blair & Savage 2006)
  • Letter knowledge (Welsch, et al. 2003)
  • Word recognition (Bloodgood, 1999)
• Practicing the formation of letters leads to better understanding of the relationship of sounds in words and in turn leads to the alphabetic principle which is the understanding that letters represent sounds of words (Levin, et al. 2005)
APPLICATION TO THERAPY
Application to Therapy

- EARLY WRITING SKILLS can be embedded into Speech-Language sessions
  - SLPs CAN apply writing into sessions to enhance literacy skills
- For children with fine motor and coordination difficulties, always refer to and consult with our colleagues in Occupational Therapy (OT)
Writing Strategies

• Help babies and young children hold objects that are tubular, large markers, and crayons
  • Safety first: Do not provide small objects to children who may put them in their mouths
• Hold the marker with a fisted grasp, thumb up
• Gradually teach holding with isolating first 3 fingers
• Encourage crossing midline
  • Present the marker in the center of the child
  • Avoid promoting hand dominance in early preschool years

• (Case-Smith & Pehoski, 1992)
Writing Strategies

• Teach pointing skills

• Point to objects then to letters on a table or around the room; then point to letters or words in books (Case-Smith & Pehoski, 1992)

• Use hand-over-hand if child cannot imitate you easily
  • Gradually remove physical support (Donica, Goins, & Wagner, 2013; Lust & Donica, 2011)
Writing Strategies

• Engage the child in touching various mediums wet sand, foam, lentils

  • Be aware of any sensory issues a child may have

  • Avoid requiring touching of items that the child cannot tolerate, again consult and/or work together with OT
Writing Strategies

• Allow the child to draw or scribble on paper

• Cover the whole table with paper taped to the table

• Model and encourage imitation of scribbling, then strokes or lines and circles

• Demonstrate representational drawing to make people, items, letters (lower-case and upper-case)

  • (e.g., Donica, Goins, & Wagner, 2013; Lust & Donica, 2011: Case-Smith, & Pehoski, 1992)
Writing Strategies

- Label the child’s drawings with their name as the child watches
  - Say the letters you are writing
- Use hand over hand to help the child write his/her name
- Keep writing practice brief 5-10 minutes within a SLP therapy session - it takes concentration and time which parents can also build
Writing Strategies: AAC

• For children with significant motor difficulties work together with OTs to determine alternate means to develop early writing skills
  • This may include keyboarding practice, switch use with computer programs, Touch Window use, voice activation or word prediction software
  • Begin writing early in the preschool years
Writing Strategies

• Build in social, speech - language, and print knowledge activities

• Again don’t over tax the child’s concentration or she/he will shut down and may not return to enjoy therapy

• Write a child’s stories or narratives as they speak them

• Model writing then give the child a chance “to write” their sentence or story
Group or Early Childhood Classrooms

- Emphasize with teachers, the importance of modeling writing, scaffolding children’s writing attempts, and adding writing opportunities to all aspects of the child’s early education program
- Accept all forms of writing the child attempts
  - Allow all phonetic spellings
  - Show other children what the child has written
- (Gerd, Bingham, & Wasik, 2012)
Group or Early Childhood Classrooms

• Apply writing to all the themes and centers in the classroom

• Add technology such as interactive boards, computer painting, stylus pens

• Support families with ideas to support their preschooler

• (Gerd, Bingham, & Wasik, 2012)
PRINT

KNOWLEDGE
Print Knowledge

• Print knowledge is the understanding of:
  • The forms of print
    • Letters or words
  • Features of print
    • Directionality or organization of print on a page
  • Functions of print
    • That print symbolically represents speech and meaning

• (McGinty & Justice, 2009)
APPLICATION TO THERAPY
Application to therapy

- When planning goals and hierarchies or achievable targets use 3Fs

- FEATURES of print:
  - directionality / organization
  - left to right
  - front to back

- The child will understand how to open a book; turn it in the “readable” direction; start to help with turning the pages; acknowledge left to right by looking first to the left side then the right side.
Application to Therapy

• FORMS of print: letters then words become recognizable
  • The child will look at or point to a target letter / letters on a page, puzzle, poster, sign throughout his daily life

• FUNCTIONS of print: like speech sounds represent meaning, print symbols represent meaning

• The child will recognize the person, object, action by “recognizing the word”
  • Mom: who is this / child points to mother

• (e.g., Lovelace & Stewart, 2007; Gillon, 2005)
Application to Therapy

- Adults can point out “print” everywhere!
- Take child’s hand to assist and join with pointing ***
- Print knowledge can be built into a sequence of a therapy session
- (E.g., Justice & Ezell, 2000; Justice & Kaderavek, 2004)
Strategies

• Embed strategies into greetings, warm ups, hand washing, snack, themes, structured play, most language activities, and goodbyes (e.g., Gerde et al, 2012)

• It’s easy to add print and emphasize print in therapy (e.g., Kaminiski et al., 2016)

• Instead of spending a lot of time developing print materials, spend time thinking and planning WHERE and HOW to embed print easily

• SLPs just don’t have much prep time!
Strategies

• As with phonological awareness, provide exposure to good BOOKS and highlight the key printed material

• Sit side by side or facing the book
  • Take turns “reading”
  • Pause, show, point, use cue cards, add objects and props like puzzles, wind up toys, animal toys
  • Focus on any theme or category you or other adults are planning to use

• ADD PRINT TO ALL GOALS & TREATMENT!
Strategies

• Print knowledge should be embedded into practical knowledge
• What MOTIVATES the child?
• What does the child LOVE TO DO?
  • Child’s name, family names, age, phone number, signs while walking or in a car, and other activities of daily living
  • Alphabet board, manipulative books, create them, reuse and adjust to the child’s language level
  • Write numbers, cue cards of key words, sentence strips, narratives, send them home
  • Practice with parents in the therapy session then give the homework they love!
Video Recordings

• Introduction to children = building interest + attention
  • Use of alphabet boards
  • Use of word cards with manipulatives
  • Use of books with manipulatives
  • Support or scaffolding that fades

• Measure changes

• RANGE OF SKILLS
  • Sulaiman
  • Crystal
  • Shafia
  • Keyanne
Pictures
Video Recordings
Video Recordings
Video Recording
Video Recording
And More...

- Print knowledge involves easy to more challenging tasks
  - Smile - get excited - animate - praise! ALWAYS (e.g., Bus & van IJzendoorn, 1997)
  - Show, model, repeat (e.g., Sénéchal & LeFevre, 2002)

- Awareness is seen in a child’s eyes and by his/her increased attention to the task
And More...

• Match, imitate, repeat, REINFORCE AGAIN + AGAIN

• Hide items etc., do whatever it takes to have Fun!

• Review previous tasks, provide choice, back away, guide, back away again

• Always assess: Collect data, measure successes, and adjust as necessary
TAKE HOME MESSAGE
TAKE HOME MESSAGE: Pre-literacy research

• Supports the need for direct, explicit training of pre-literacy skills (e.g., McGinty & Justice)

• Family involvement (e.g., Bus & IJzendoorn, 1997)

• Repeat, repeat, repeat (e.g., Fielding-Barnsley & Purdie, 2003)

• Link to later development in literacy skills (e.g., Storch & Whitehurst, 2002)

• Enthusiasm (e.g., Bus & van IJzendoorn, 1997)
TAKE HOME MESSAGE: Pre-literacy research

• Practice, practice & more practice
• Try embedding more phonological awareness tasks, print knowledge and early writing skills into each therapy session, even a few minutes at a time
• Avoid making prep the main focus - use pointing, good books, and hand written cue cards that take very little time
• Promote reading daily to babies, toddlers and preschoolers

• It’s never too early or too late!
Questions

• Other comments or questions

• Pre-literacy skills is a huge topic that takes more than one hour to cover thoroughly, thank you for your understanding.
Thank You

Carrie Knight & Orlene Martens
REFERENCES


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