The Power of Language: Why it Matters and How to Foster Its Development

C-PIN Webinar, February 27th, 2019

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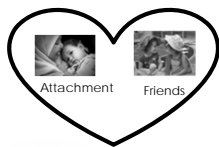DAVID.DICKINSON@VANDERBILT.EDU
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What does the future Hold?

Attachment Friends

Self-regulation Reading Success

Academic Success

LANGUAGE-RICH CONVERSATIONS

Responsive conversations

Skillful Teaching

Book Reading

Partnerships and Collaboration

With Parents | With Trainers | With Colleagues

Attachment

▶ A secure relationship reduces anxiety and enables the child to explore the world.

▶ Anxiety shuts down exploratory activities.

▶ Children who lack a secure attachment:

❖ Engage in little exploration

❖ Show minimal emotional response to their mother upon her return in the strange situation

❖ May have ambivalent response to mother upon her return

❖ May avoid or be resistant to the mother

Lasting Effect's of Secure Attachment

▶ Attachment is fostered by a history of warm, predictable, responsive and sensitive interactions.

▶ Hundreds of studies, summarized in meta-analyses, make clear that secure early attachment has long-term effects:

❖ Less likely to be depressed, fearful and withdrawn (Groh et al., 2012)

❖ More likely to have good relationships with peers:

❖ In the childhood years (Groh et al., 2014)

❖ At age 22 (Groh et al, 2012)

Language-Attachment Relationships

▶ Language development is related to attachment. Securely attached children at 15 months have stronger language at 36 months regardless of risk factors (Belksy & Feron, 2002).

▶ Attachment and book reading in the home are related. Across SES backgrounds securely attached children (Bus & Van Ijzendoorn (1988, 1995.)

  ❖ Are more likely to be to frequently.

  ❖ Require less discipline when being read to.

  ❖ More often try to read on their own and show faster early literacy development.

▶ These are correlational results. There might be bidirectional relationships between book reading and attachment.

Implications for the Early Childhood Education Community

▶ Provide parents guidance related to responsive parenting.

▶ Build relationships with programs that delivery services to families who may need special support. Proven programs that use video-based coaching with education.

  ❖ In the home:
    • Play and Learning Strategies (Landry et al., 2008, 2012)
      https://www.childrenslearninginstitute.org/programs/play-and-learning-strategies-pals

  ❖ In pediatric clinics:
    • Video Interaction Project: (Mendelson et al., 2005, 2007)
      https://www.videointeractionproject.org/
    • Thirty Million Word Project: (Suskind et al., 2016, 2017)
      https://tmwcenter.uchicago.edu/

Self-Regulation/Executive Function (EF)

▶ Behavior regulation: avoiding impulsive emotion-driven actions
  ▶ Example: Marsh mellow task
  ▶ Wrapped present task

▶ Cognitive regulation: maintaining a focus, tuning out distractions, holding verbal directions in mind
  ▶ Example: Head-Toes-Knees-Shoulders

▶ Language ability contributes to its emergence

Language and Executive Function

▶ Gesturing and pointing by infants and toddlers:
  ❖ Is associated with faster language development (Rowe & Goldin-Meadow, 2009).
  ❖ Relates to EF at age 4, with the association being mediated by preschool language ability (Kuhn et al., 2015).
▶ Among children who attended Early Head Start, age 24 month vocabulary predicted EF at 3, 4 and 5 years (Ayoub et al., 2011).
▶ Improvement in vocabulary between 15 and 36 months is an especially strong predictor of EF at age 5 (Kuhn et al., 2016).
▶ Use of language as part of parenting is predictive of EF development and strong EF predicts vocabulary growth (Matte-Gagne & Bernier, 2011: Landry et al., 2002).

Long-term Effects of EF

▶ A study that included data from 36,000 kindergarten children found that EF at school entry helped predict later reading and math in fifth grade (Duncan et al., 2007).
▶ Cool EF is especially predictive of growth (Brock et al., 2009).
▶ Bi-directional effects: Between preschool and the end of kindergarten:
  ❖ Early EF resulted in improved language and academic skills in during pre-k.
  ❖ The improvement in language and academic skills contributed to later growth in EF (Fuhs et al., 2014).

What Experiences Foster EF?

▶ Adult-child interactions that are: (Bernier et al, 2015)
  ❖ Sensitivity: gentle, warm interactions and sensitive to children's interests and needs;
  ❖ Autonomy support: Give children opportunities to select and control activities and avoid being intrusive;
  ❖ Mind-mindedness: Adults are aware of how children are feeling and what is of interest to them;

  ❖ Directiveness:
    • Is helpful up to 24 months,
    • This becomes unhelpful as children get older (Bindman et al., 2013: Landry et al., 2000).
    • This has interesting implications for preschool classrooms.

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EF, Language and Parents

► Watch Tanya noting varied ways she supports Eliza's language and EF and how Eliza's abilities make this possible.

► What makes this event on that fosters Eliza's executive function capacities?

EF, Language and Parents

► Some ways that the experiences contribute to Eliza's emerging EF abilities.
  ❖ Activity setting: predictable time, location material, activity
  ❖ Eliza leads, Tanya supports and directs on occasion in a sensitive, warm manner.
  ❖ Tanya uses language while she makes suggestions.
  ❖ Tanya's uses many novel words and complex syntax
  ❖ Tanya uses language for many purposes: labeling objects, describing actions, talking about feelings, talking about past events, directing actions
  ❖ Eliza is fully engaged is having fun and uses language freely

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Strong EF Helps Children Gain More from ECE Learning Opportunities

► In preschool, 4 year olds' EF helped predict fall-spring growth in academic skills among children who were more fully engaged in learning-related behaviors (such as listening to books, engaging in sustained play) (Nesbitt et al., 2015).

► Children with strong EF are more likely to learn new words when taught through book reading or playful activities (Dickinson et al., in press).

What Are Implications of Findings Related to EF for Classrooms?

▶ What recommendations would you make that relate specifically ot efforts to foster EF?

▶ What are common weaknesses you observe?

▶ What successes have you had in helping teachers make adjustments?

Implications for Classrooms

▶ Help children stay engaged with predictable routines and systems.
  ❖ Minimize (boring) time in large groups.
  ❖ Help children stay on task during groups with clear rules that are regularly enforced using a light touch.
  ❖ interesting activities, clear rules and quick reminders.
▶ Activities that involve multiple steps and require sustained attention:
  ❖ Blocks, puzzles, art
  ❖ Dramatic play
  ❖ Book reading
▶ Provide many activities that build language.

A Useful Resource
https://my.vanderbilt.edu/mnpspartnership/magic8/professional-development-materials/

▶ Magic 8 Professional Development Series
  ▶ Presentation slides and handouts

▶ Developed through a collaboration between Metropolitan Nashville Public School teachers and researchers at Vanderbilt University (led by Caroline Christopher)

▶ For math supports also see:
https://dreme.stanford.edu/

▶ Topics:
▶ Reducing transitions
▶ Increasing the level of instruction
▶ Creating a positive environment
▶ Listening to children
▶ Increasing sequential activities
▶ Fostering high levels of engagement
▶ Providing math opportunities

Language and Executive Function
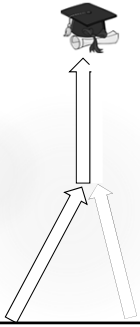
- Language development and EF are correlated beginning when children are toddlers.
- This relationship begins to develop at 14 months and continues through the school years. (Ayoub et. al., 2011; Landry et al., 2002; Matte-Gange & Bernier, 2011)
- Each capacity fosters the development of the other.
  - Better EF helps with language learning.
  - Stronger language fosters development of EF.

Theory of Mind

- Understanding that:
  - You may know things that other do not know and they may know things that you do not know.
  - People have different ways of understanding the world.
  - People's actions are motivated by desires and goals that may not be directly expressed.

- Important capacity for understanding stories.
  - Note how important it is for understanding this story and how Jana supports her daughter.

Theory of Mind and Development

- Children begin developing a theory of mind (TOM) in the preschool years.
- TOM development in the preschool years is related to:
  - Social competence (Razza & Blair, 2009)
  - Language (Muller, 2012)
  - Executive function (Korucu et al., 2017)

- All three emerging capacities are mutually reinforcing.

What Experiences Support TOM?

- Talk about mental states
  - Mothers' and children's use of mental state words when they were 3 and 4 years old was predictive of TOM (Ruffman, et al., 2002).
- Syntactic development:
  - Mental state words are used in syntactic structures called complements using phrases such as "she thinks," "I wonder/believe/recall …."
  - Acquisition of skill using this syntactic form is related to TOM skill (Schick et al., 2007).

What Experiences Support TOM?

- Book reading
  - Book conversations are rich with opportunities to talk about mental states.

- Watch and think \ \ \ \ \Desktop\C-PIN\Minerva Louise MOV
  - How is theory of mind important for understanding the humor of this book?
  - How does Jana support her daughter's understanding?

- Talking about states of mind during book reading may support TOM development (Tompkins, 2015).

The Intertwined Nature of Development

Language-rich interactions help foster attachment, executive function, and theory of mind.

These capacities are intertwined and mutually supportive.

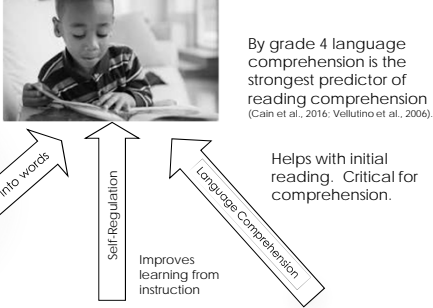Development of all begins very early and continues through the preschool years.

Reviews the research I have been reporting.

Profiles programs that support parents in ways that foster language growth.

If ordered using my flyer you get a 20% discount.

Using the limited time code: CATALK20

Connecting THROUGH T A L K
NURTURING CHILDREN'S DEVELOPMENT WITH LANGUAGE

David K. Dickinson & Ann B. Morse
Foreword by Catherine E. Snow

http://bit.ly/Connect-Talk

Language and Reading

Comprehension

The Simple View of Reading

By grade 4 language comprehension is the strongest predictor of reading comprehension (Cain et al., 2016; Vellutino et al., 2006).

Beginning readers' primary challenge

Decoding: turning print into words

Self-Regulation

Language Comprehension

Helps with initial reading. Critical for comprehension.

Improves learning from instruction

Low-Income Children's Vocabulary Lags Behind Others

▶ At kindergarten entry there are large differences in achievement associated with income (1.25 SD). These widen somewhat in early elementary school (Reardon,2014).

▶ Differences observed in the preschool years persist throughout the elementary school years.
  ❖ For native speakers of English (Farkas & Beron, 2004).
  ❖ For second language learners who start school with limited knowledge of English (Mancilla-Martinez & Lesaux, 2011).

Grade 4 National Assessment of Educational Progress Results for Reading in California

Average Scores for State/Jurisdiction and Nation (public)

California is improving reading outcomes in 4th grade faster that the nation in general.

There is significant improvement since 1998.

Language Across the Day

▶ Language use varies by classroom activity (Dickinson et. al., 2014)
  ❖ Summarizing language use by averaging across settings risks missing the ability to identify when language support is strong and when more assistance is needed.
▶ Settings most conducive to good talk are
  ❖ book reading and large group meetings,
  ❖ Mealtimes when teachers sit with children
  ❖ Centers time
  ❖ Small groups **when the activity has a focus on language and concepts** (not skills).

Making the Most of Book Reading

Some Basics

▶ Planning
  ❖ Select key vocabulary (8-10 per book), create definitions
  ❖ Create questions that prompt for conversation that become increasingly complex as books are reread.
  ❖ Create picture cards and use gestures to teach key words.
▶ Reread books at least three times.
▶ Move from telling children meanings of words to eliciting meanings from the class.
▶ Engage the children
  ❖ Read in an interesting manner.
  ❖ Respond to comments and questions.
▶ Challenge children's thinking by engaging in conversations that require inferential thinking and that build background knowledge.

Sample: Teachers & Classrooms

▶ Fifty-two Head Start preschool classrooms
▶ Associate's Degree (77%); Bachelor's degree (17%).
▶ Nearly all held a CDA (92%)
▶ 699 Children
  ❖ low language (PLS-4 SS < 75)
  ❖ typical language (PLS-4 SS > 85)
  ❖ Primarily African American (97.3%)
  ❖ 4.6 years old at the time of pre-test
▶ Low-language (n= 247) had a mean standard score of 65 (
▶ Typical language (n= 242) had a mean standard score of 90

Benefits of Cognitive Challenge Varies by the Child's Language Abilities

▶ Analyses of book reading in 52 Head Start classrooms
  (Barnes et al., 2017):

  ❖ Greater vocabulary growth when teachers were made comments with **conceptually rich** information that **responded** to something said by a child (Barnes et al., 2017).

  ❖ Conceptually focused comments were more predictive of gains than were comments defining words.

  ❖ Gains were greater among children with stronger vocabulary.

Cognitive Challenge During Book Reading and Language Gains
(Collins, 2016)
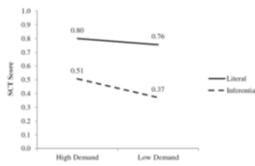
Figure 1. Interaction effect of demand level and question type. High-demand discussion benefits both types of questions but is significantly more helpful to inferential questions than low-demand discussion. SCT = story comprehension test.

Higher demand inferential questions are more helpful for fostering growth in story comprehension (SCT)

Decontextualized Comments in Extended Discourse

1. TCH: Now the next spot that he got was a +...
2. **CHI**: Yellow.
3. *TCH: Yellow spot.
4. TCH: And he got that from the ...
5. CHI: Bee!
6. TCH: From the bee.
7. TCH: That's a bee, a bee is a insect.
8. CHI: and he was tryin' ...
9. TCH: a bee is an insect.
10. CHI: and he was ...
11. TCH: a bee is a insect.
12. TCH: <insects carry> [//] bee carry pollen.
13. TCH: and the pollen was yellow. What color was the pollen?
14. CHI: yellow.
15. *TCH: And sometime if you look the trees have shedded pollen and you can see pollen all over your cars.
16. *TCH: Not this month.
17. *TCH: But in about three more months, two more months.

Capitalizing on Opportunities for Expanding on Personal Connections

Transcript

- ▶ *TCH: Have you ever played on the grass and got **green spots** on your clothes?
- ▶ *CHI: no.
- ▶ *CHI: yes.
- ▶ *TCH: grass stains?
- ▶ *CHI: no.
- ▶ *CHI: no.
- ▶ *TCH: Well, if you play in the grass sometime you will get grass stains.
- ▶ *TCH: and Dog got a green grass stain on his white coat.

Possibilities

- ▶ TCH: Have you ever played on the grass and got green spots, or **grass stains**, on your clothes?
- ▶ CHI: yes!
- ▶ TCH: **I remember** that Ellen got a grass stain when we were on the playground…. (modeling a reflection)
- ▶ TCH: **Tell me about a time** that you got a grass stain … (engaging students to reflect)
- ▶ TCH: **Turn to a shoulder partner** and tell her about a time that you got a grass stain… (extended discourse with peers to encourage reflection)

Being Responsive

- ▶ Classroom climate in which children feel free to ask questions that reveal confusion.
- ▶ Orientation toward listening and to allow children to speak without raising their hands.
- ▶ Ability to ask clarifying questions that reveal sources of confusion.
- ▶ Conceptual agility to recognize potentially subtle sources of confusion.
- ▶ It may be helpful to know of possible sources:
  - ❖ Illustration-based issues
  - ❖ Pronominal reference
  - ❖ Conceptual confusion based on world knowledge gaps
  - ❖ Complex plot lines, events that are not depicted explicitly

Supporting Comprehension During Book Reading: Recognize and Address Sources of Confusion

- ▶ Teacher reading a rather sophisticated book with three-year-olds. Interesting sources of confusion emerge.
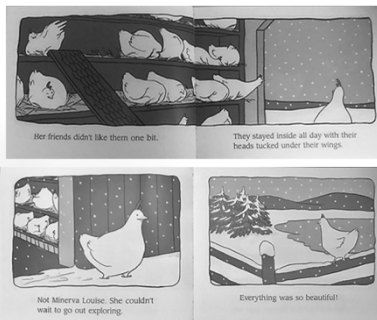
- ▶ What is the confusion here?

What are its sources? How might you address it?

- ▶ The Cow Who Fell in the Canal, Phyllis Karilovsky
- ▶ .\.\.\.\.\Desktop\C-PIN\Hendrikastart_bckgrnd.mov

- ▶ Start at :35
- ▶ .\.\.\.\.\Desktop\C-PIN\Hendrika - Wrong Ans Confusion.mov

Issues

- Reliance on prior knowledge over information from the text.

- Difficulty entering the imaginary world of the book.

- Mismatch between pictures and prior knowledge.


Unseen Actions, Picture Detail

Her friends didn't like them one bit.

They stayed inside all day with their heads tucked under their wings.

Not Minerva Louise. She couldn't wait to go out exploring.

Everything was so beautiful!

- Luke: I see another one on the gate!
- Teacher: Do you think it's the same one?
- Luke: Yeah!
- Teacher: She's actually on the *fence*.
- Teacher: "Everything was so beautiful!"

[Teacher read the text on the right hand page.]

Issues and Responses

- Note: The teacher has to <u>hear</u> the comment and recognize it is an expression of confusion.

- Issues
  - Failure to attend to what the text said.
  - Change in location not depicted.
  - Size of the chicken images.

- Possible responses
  - Acknowledge the source of the confusion
  - Re-read the text and discuss its implication
  - Explain that the actions of characters are not always shown or described
  - Explain the issue of perspective and size

What Might Be Confusing About These Pictures? How Would You Respond?

Jim Arnosky
Rabbits & Raindrops
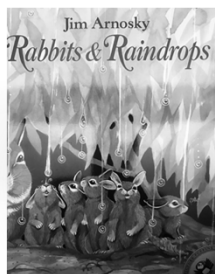
Acknowledge the confusing element.

Validate it by explicitly noting its source.

Explain the author's intention.

Useful Strategies for Helping Children With Confusion Related to Pictures

▶ *Provide Information About Illustrations*

▶ *Help Children Use Relevant Background Knowledge or Acquire It*

▶ *Reread or Refer to Relevant Text*

▶ *Model Reasoning and Support Children's Attempts to Reason*

Times When You Can Have Rich Conversations: Mealtime

- Homes: Use of sophisticated vocabulary by home meal times in kindergarten is related to 4th grade vocabulary. (Weizman & Snow, 2001)

- Head Start classrooms meal conversations helped predict vocabulary fall-spring growth (Barnes, Grifenhagen & Dickinson, under review):

❖ Use of sophisticated vocabulary *mixed with*

   a. Talk about home experiences and school-based academic topics

   b. Minimal amounts of managerial and manners talk

Mealtime Talk in a Head Start Program

Social-Personal Focus

- Child: Everybody was sick.
- Teacher: Who was sick?
- Child: My granny and my poppa momma.
- Teacher: What's wrong with granny?
- Child: She had to get a shot.
- Teach: She ok? What's wrong with momma granny?
- Child: mm she had surgery.
- Teacher: She did? She in the hospital?
- Child: Yes.

Food/Academic Focus

- Teacher: Do we have a vegetable today?
- Child: yeah.
- Teacher: What kinda vegetable do we have on our plates?
- Child: Banana!
- Teacher: Umm. Banana's a fruit. What kinda vegetable do we have?
- Child: Broccoli!
- Teacher: Broccoli and potatoes. Well potatoes are sorta like something that you call a starch.

Teach with a Focus on Content

- Use a curriculum that provides
- engaging hands-on content.

- Encourage planning that has a focus on key concepts and processes.

- Support teachers in attending to concepts and key vocabulary.

Making Lemonade: Cooking Activity or Science?

- **Procedures**
- Tell children they are going to make lemonade like the lemonade Matthew and Tilly sold at their stand
- Explain that the first thing they need to do is wash their hands because clean hands are important for preparing food.
- Show children the whole lemon and talk about it
  - This lemon is a fruit. It grows on a lemon tree
  - What do you think is inside this lemon?
  - Cut the lemon in half and show children seeds
  - Explain that they need to be removed.
- Give each child half a lemon, paper plate and a craft stick.
- Demonstrate how to dig the seeds out with the stick.
- Discard them onto paper plates.
- Show children how to squeeze out the juice.
- Have each child pour their juice into the pitcher. Discard the lemon rinds

- Tell children that next, you are going to make lemonade with the juice from their lemons
- Add water to the pitcher and explain why you're doing that.
  - The lemon juice is very, very sour by itself so we need to add water to make it less sour.
  - Have you ever tasted something sour? It can make your mouth pucker like this. Demonstrate.
- Set aside a small cup of the unsweetened juice, then add the sweetener to the pitcher. Stir the pitcher and give each child a turn to stir as well.
- Give children cups of the lemonade to taste. Let them taste a tiny sip of the unsweetened juice to compare its taste with the sweetened version.

- **Recommended vocabulary:**

Fruit	Lemon	Lemonade	
Seeds	Rinds	Taste	
Sour	Sweet	Sweeten	
Blend	Measure	Mix	Stir

.\.\.\.\. \Desktop\Lemonade lesson\Teacher C Video (Low) (1).wmv

Summing Up

▶ Language is central to many aspects of development.

▶ Parents play a pivotal role starting at birth.

▶ Classrooms provide many opportunities to support acquisition but often they are not used in an optimal manner.

▶ Settings to consider focusing on:
  ❖ Meal times
  ❖ Book reading – encourage vocabulary focus and responsiveness to children's questions that reflect confusion.
  ❖ Small group lessons – encourage planning and delivery with a conceptual focus

Guiding Principles

Teach with intentionality.

Reflect constantly.

Believe passionately in the importance of your work.

A Thought to Live By

I am only one.
But still I am one.
I cannot do everything.
But still I can do something.
And because I cannot do everything
I will not refuse to do the something that I can do.

Rev. Edward Everett Hale
from: Singing the Living Tradition,
Unitarian Universalist hymnal

Useful Resources

► Interviews to assess parents' support for language and literacy for children of different ages in English and Spanish: StimQ (Dreyer, B., Mendelsohn, A., Tamis-LeMonda, C.)
https://med.nyu.edu/pediatrics/developmental/research/belle-project/stimq-cognitive-home-environment
► Website with resources to support math instruction:
https://dreme.stanford.edu/

► https://my.vanderbilt.edu/mnpspartnership/magic8/professional-development-materials/

► Leung, C. Y. Y., et al. Enriching home language environment among families from low- SES backgrounds: A randomized controlled trial of a home visiting curriculum. Early Childhood Research Quarterly (2018), https://doi.org/10.1016/j.ecresq.2018.12.005