

Cognitive Skills and Literacy & Case Studies

I. Highlights

- A. Oral language is the foundation of future literacy.
- B. Cognitive skills = reading, writing, thinking, problem-solving, communication, logic, figuring things out, memory / retaining information, connecting past knowledge to new and different situations
- C. Piaget's 4 stages of cognitive development = sensorimotor (age 0-2), preoperational (2-7), concrete operations (7-11), formal operations (11+).
- D. Schemes = ways of organizing information. Incorporate new information into schemes through assimilation (fit the information to a scheme) or accommodation (fit the scheme to the new information).
- E. Egocentrism = developmentally unable to take another person's point of view until around age 4
- F. "Emergent literacy" = pre-reading experiences at home and at school = adults reading with children, having books / printed materials around, introducing the concept of reading from left to right / top to bottom / front to back in English, etc.

II. Homework

- A. Journal V due 11/26 (same day as presentation) -- *Important! This is not on the syllabus calendar, but there were supposed to be 5 journals total. This one is added to the 4 on the calendar. Write about chapter 8 or 9 or 10, whatever you haven't written a journal about yet.*
- B. Community resource project due next week (11/19)
- C. Group presentation due in two weeks (11/26)

- D. Presentation summary due in three weeks (12/3)
- E. Final exam (12/10)

III. Discussion

- A. Can be a whole different challenge when the child is typically developing and both parents have significant special needs.
- B. Organization: "Families for Early Autism Treatment," feat.org, good source of information and resources for parents who are worried (whether or not their child has been diagnosed yet)
- C. Fetal Alcohol Syndrome is totally preventable, but once it's there, it's irreversible.
- D. Website: "Sensory Smart" and book: "Raising a Sensory-Smart Child" with forward by Temple Grandin
- E. CSEFEL = Center on the Social and Emotional Foundations for Early Learning = great resource for emotional/behavioral needs. <http://csefel.vanderbilt.edu/index.htmls>
 1. Social-emotional is the most important of the domains of development.
 2. We are having a lot of behavior issues in this county. Used to start in preschool, but now we are seeing infant mental health issues. This means they are not getting enough loving, nurturing, skin-to-skin affection when they're infants.
 3. Critical to develop trust and attachment from the beginning. "I'm here for you, I love you, I'll protect you and take care of you." Then act on it. Meet their needs, show they are cared for.
 4. Connect infants to their families. When they come to us at 6 weeks of age and spend 12 hours a day with us, what relationship do they have with their parents?

- F. www.AutismSpeaks.org is a great site for Autism resources, including practical connections such as where to go for a haircut for children with Autism

IV. What is the relationship between oral language and literacy?

- A. Oral (spoken) language develops first. That's where they learn vocabulary and grammar. Then literacy (written language) is a code for recording that language on paper.
- B. Oral language is like the "foundation" of the house. Without strong oral language in the first few years of life, future literacy and school success will be hurt.
- C. How old a child is when they learn to read makes no difference in the long run. One of Ms. Zarghami's sons read at 2.5, another at 6, and both are equally successful now.
- D. In 3rd world countries, where there are people around and everyone talks, a lot of children by age 2 can speak grammatically correct with a wide vocabulary. Here, with more toys and less human interaction, our kids' oral language is usually less fluent at the same age.
- E. We want children to learn strong language, then strong literacy, not just so they'll do well in school but also so they'll learn to love books and enrich their lives.

V. What are "cognitive" skills?

- A. Reading, writing, thinking, problem-solving, communication, logic, figuring things out, memory / retaining information, connecting past knowledge to new and different situations.
- B. Problem-solving = finding creative solutions to issues without the teacher or someone else having to come tell them how to handle it. Requires patience /

perseverance to “hang in there” until you find the answer. Also requires confidence to trust the solution you’re finding and pursue it.

1. Can help teach this by not “rescuing” children. Be there, be present, give them time, talk them through it if they need a nudge, but let them do it. Don’t do it for them. Let them get a little bit frustrated. Tell them you think they’re capable. Start this with infants.
2. There can be a cultural component to this. Some cultures show love by preventing every problem, fixing everything, and preventing any frustration. When this gets too far (such as an 8-month-old who still can’t roll over because they’re never on the floor at home), it’s more important to meet the child’s needs than to be consistent with home all the time.
3. It’s great to use Montessori materials because they have “control of error” -- the materials show the child directly if they did it wrong. It doesn’t require an adult to say, “You did it wrong.”

VI. Piaget

A. Four Stages of Cognitive Development

1. Sensorimotor = birth to 2 years old = discovery of relationships between sensation and motor behavior
 - a) Knocking on the table makes a sound. Learn that moving your hand in that way makes a noise they like. Exciting to learn they can cause this to happen by themselves.
2. Preoperational = 2-7 years = use of symbols to represent objects internally, especially through language
 - a) Preschool-age children
 - b) Learning that the numeral 2 means the quantity two
 - c) Mental reasoning

- d) Stable concepts form at this time (what is liquid, gas, solid, objects, letters, numbers, three letters make a word, etc.)
 - e) Egocentrism (true at other stages too, but especially in younger children because can't take other people's perspectives easily)
 - f) Magical beliefs (blurry line between imagination and reality, anything you want to be real is real to you at that age)
3. Concrete operations = 7-11 years = mastery of logic and development of "rational" thinking
- a) Elementary school-age children
 - b) Still need to see/touch/hear it to learn it. Must be concrete.
 - c) The foundation for most of our math and literacy is set here. Learn math operations, fractions, reading comprehension, etc.
4. Formal operations = 11 years+ = development of abstract and hypothetical reasoning
- a) Pre-teen and teenage, middle- and high-school-age children
 - b) Can be more abstract, can do more thinking/manipulating in their heads.
- This is why algebra comes later in life, not in elementary school.

B. Schemes = a form of organizing information

- 1. Example: "kitty scheme" = kitty is a four-legged furry animal, so any four-legged furry animal is called "kitty" for a while.
- 2. "Daddy scheme" = why young children call all men "Daddy" for a while.
- 3. Assimilation = process of taking in new information and fitting it into an existing scheme. Ex: "Four legs, bigger than a cat, friendly, wet nose = must be a dog."
- 4. Accommodation = adjusting to new experiences and revising the old plan to fit the new. Use the schemes you have, pull the evidence together. Try to fit

new information to the categories they already have, then expand the categories to fit the new information.

C. Obstacles to logical operations

1. 4 preoperational characteristics

- a) Centration
- b) Reasoning
- c) Irreversibility
- d) 4th? It wasn't on the screen...

D. Operations = internal set of actions that allow a child to do mentally what she formerly did physically

E. Symbolic function substage = 2 to 4 years of age

1. Child can mentally represent an object that is not present. (Ex: child can paint a dog or cat on the easel, but there isn't one in the classroom. Can have a pretend "tea party" without any physical toys or props.)
2. Children use scribble designs to represent whatever they want it to be -- cars, houses, people, clouds, etc. Never tell children what their scribbles look like! You can ask them to tell you about their picture, but don't try to guess. It means something to them.

F. Memory representation= able to remember and draw something an hour after they've seen the thing.

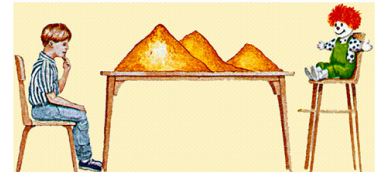
1. If you revisit the memory, they can retain it longer. If they don't get to revisit it, they'll forget it.
2. A preschool child will do a puzzle or painting last night, then it's often the first thing they'll do the next morning too.
3. Girls make you "breakfast" in the dress-up area in the morning because they just came from breakfast at home.

G. Symbolic play = has no rules or limitations, anything can stand for anything.
(Ex: a block can be a toy camera, your hand or a banana can be a phone, fingers can be a gun, etc.) (It's okay to put limitations on inappropriate behavior, such as finger guns shooting teachers.)

H. Imaginary friends (some kids have them, usually go away after a while, sometimes people still have them as adults. Depends on home culture and other people's reactions. Is very real to the child, so be respectful about it!)

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Piaget's Mountain Task



I. Egocentrism = young children demonstrate an inability to take another's point of view.

1. This is a stage of development. It doesn't just mean they're not listening.
2. Around age 4, they can learn empathy and begin taking another person's point of view. They learn that if they kick someone, it hurts the other person. (Tell a 2-year-old it hurts when they kick, they will look at their own feet and say, "No hurt.")
3. Some adults don't seem to get this one. They either can't or won't see another point of view. Very self-centered.
4. We need to help children

J. Piaget's Three Mountain Task

1. Child sits across the table from a doll, views a mountain scene, and is asked to select the picture of what the doll would say.
2. When the child can accomplish this task, it shows he can take someone else's perspective. Understands there is another way to look at it.

VII. Number concepts

A. How do you teach number concepts?

1. Quantity first: counting and one-to-one correspondence
2. Then the symbol/numeral: 1 2 3 4 5
3. Then put those things together. The digit 3 means three Cheerios.
4. Then operations. What happens if you add $2 + 2$? Do this with single digits and hands-on exploration first.

VIII. Literacy

A. What is literacy?

1. Reading and understanding what is read. Understanding that letters are symbols for sounds, letters together make words that have a meaning, and then that those words are connected to your existing oral language.
2. We usually write more precisely / formally than we speak, so literacy requires learning that more formal language.
3. When reading out loud, always connect what is read to children's prior knowledge.
4. "Emergent literacy" is the pre-reading experience, introducing children to the world of print / books / literacy, exposure to pre-literacy concepts.
 - a) Ex: adults reading to children
 - b) Ex: showing that in English we read from left to right, top to bottom, front to back of the book
 - c) Ex: having a print-rich environment
5. "Whole language" is about sight reading / memorization, believing children will learn to read by being read to and seeing a lot of print around them. (That helps, and there are certain words you just have to memorize because they don't follow phonics rules, but now we believe they need phonics too.)

- They won't learn solid reading skills just by being around it, but the whole language method says they will.)
6. Respect for books and love of reading is very important for the enrichment of their future life.

B. Why is literacy important?

1. It's a form of communication!
2. It's a way of "hearing" people from the past, sharing our ideas in the present, and recording things for people to read in the future.
3. It lets us understand community / traffic / safety signs that help us learn in new situations.
4. "What you don't have, you cannot give." If you don't love reading, it's very difficult to help children develop love of reading.
5. Don't use the book corner as a place to redirect or punish / discipline children. "You two are being disruptive or playing too rough, go to the book corner and read books." That DOES NOT help them learn to love books!
6. Until 3rd grade, children learn to read. After 3rd grade, they "read to learn," meaning they are expected to be able to read and then learn new material (geography, history, math, etc.) through reading their textbooks. If we can't give them fluency by 3rd grade, they're going to struggle all the way after that.
7. Important to read books that are meaningful to the children, not just the books we loved as "classics" when we were little. Remember when you were in high school and had to read all those stupid books that were "classics"? Choosing meaningful books for children will help them to connect to reading as an enjoyable activity.

8. Other countries (such as Iran) have government funding for night school for adults who cannot read/write the main language (Farsi in Iran). Their literacy rates are sometimes higher than here.
9. You have to know the population in your school. If parents speak English but have low literacy because of poverty (such as in Kansas City), they can offer different support at home than parents who don't speak English and may or may not be literate in their home language (such as here).

IX. Case Studies handout

- A. #5: Child has sleep apnea and sleeps with a mask on, even at nap time. Has speech delays from being in and out of the hospital so much. What can the teacher do to prepare the kids?
 1. Talk about what they'll see before she comes. Make it a lesson about breathing, lungs, air, etc. Let kids try on disposable surgical masks, touch pieces of rubber tubing, etc. Make it something so it's not scary.
 2. Keep the machine in a special part of the room, hands-off. Make dress-up pretend masks available for other children.
 3. Work with the speech therapist from the school district.
 4. Connect her dad (single parent) to resources for respite care and ongoing support. Make sure the goals are the same for the speech therapist, parents, and teachers so she gets consistency.
- B. #1: Child is in a wheelchair, gets frustrated when she can't reach books and cars. Can crawl, needs help sitting or walking, can't get in/out of her wheelchair by herself. Not potty trained. Needs help feeding.
 1. See if a different bookshelf would make books more accessible to her from her wheelchair.

2. Have a section of toy cars on a wheelchair-accessible table, ideally level with the tabletop on her chair.
 3. Maybe have enough carpeting so it's comfortable for her to crawl, then make everything accessible from crawling height during choice time. Put support seats in each area if that helps her.
 4. Show parents the adaptations we are making in class, help them brainstorm low-cost ways to do similar things at home to support her independence. Ask for their suggestions for the classroom too.
 5. Have a private, respectful place to change diapers. Change them promptly and discreetly. Have her tell adults when she needs to be changed. Talk with the rest of the class that this doesn't make her a "baby."
 6. Make sure the lunch tables are arranged so she can sit with her friends and be included.
- C. #3: 4-year-old child only speaks Spanish, but her speech isn't understandable in Spanish either. Not a stable place for her family to live.
1. Want to talk with parents: give us more background on her early development, what is home environment & family interaction like, etc.
 2. Find out what behaviors they see at home vs. what we see at school, how adults respond in each place, etc.
 3. Help arrange play dates outside of school, especially with peers who also speak Spanish.
 4. Help connect families to job placement and other resources.
 5. Encourage evaluation in Spanish prior to kindergarten. (Big red flag for cognitive development if the child doesn't seem to speak or understand the home language!)

- D. #4 = child has multiple allergies and asthma, some teachers are afraid to give medication because they don't feel trained.
1. Have all staff attend training so they understand what to do.
 2. Have parents provide all bedding and extra clothes so she doesn't get skin reactions to school clothes/linens.
 3. Have parents provide food from home. School should provide cooking projects that are safe for her.
 4. Watch her carefully, encourage breaks during physical activity. Encourage all children to take water breaks so this child doesn't feel singled out.
- E. #2: Wears hearing aids, but it doesn't seem to help her pay attention any better. Verbalizes a few words, usually communicates through facial expressions and gestures. Loves pretend play and attention, gets frustrated at circle time. Lives with grandparents.
1. Are hearing aids working properly?
 2. Can we connect the family with organizations/resources?
 3. Are there outside sounds that are distracting her? (Are the hearing aids working too well?)
 4. Do flannel board stories, fingerplay, puppets, etc. so they're more interactive, things she can touch.
 5. Can we include sign language in the classroom?
 6. Would audiobooks with headphones help her get less distracted?
 7. Can we set up with picture cards with visual cues for things in the classroom/routine to help her communicate?
 8. Make sure the teacher is talking clearly (slowly enough and articulating well) and stands right in front of the child with eye contact.
 9. Are there other ways we can adapt the environment with carpeting or other materials to quiet the distracting noises?

- X. Literacy: Plan a literacy-rich area (book corner) that is inviting to all children.**
- A. Free library for parents to bring and take.
 - B. Have flannel stories that match the books in the area.
 - C. Soft pillows, rugs, comfy chairs, bean bags.
 - D. Lift-the-flap, pop-up and textured books (more interactive).
 - E. Have tape players for audio books.
 - F. Culturally sensitive books that match the culture and language of the children in the room. Is great to expose them to other printed languages.
 - G. Have materials to make their own little books.
 - H. Put it under the big window to have natural light. Maybe a window seat?
 - I. Interactive storytime with the teacher, maybe acting out the stories together.
 - J. A little nook or individual place to read alone.
 - K. Hang up a curtain in the corner to make a “book club” for a few children at a time.
 - L. Have a puppet theater for children to put on their own puppet shows.
 - M. Have flannel board stories for songs (such as The Wheels on the Bus) or props for songs (such as big elastic loops to do Row Row Row Your Boat)
 - N. Have flowers to make it a beautiful living space
 - O. Stuffed animals are good to hug, and fun for children to read to, or can be related to the stories in the books
 - P. Take pictures of children reading with their parents and post those on the walls.
 - Q. Have photo albums of our families on the shelf with the books.
 - R. Anything that brings children to the book area and keeps them interested!