Piaget Handout – Alyssa

Use this handout and your reading of Chapter 6 on Piaget in the Crain text to write an observation entry for your Observation Journal. Please use the Observation Form and Observation Rubric to guide the development of your entry.

**Piaget’s Sensorimotor Period – 0 to 2 years of age**

An infant learns to coordinate their senses and motor skills

Six Substages:

1. Simple Reflexes (0 to 1 month)
2. First habits and primary circular reactions (1 to 4 months)
3. Secondary circular reactions (4 to 8 months)
4. Coordination of secondary circular reactions (8 to 12 months)
5. Tertiary circular reactions (12 to 18 months)
6. Internalization of schemes / beginnings of representational thought (18 to 24 months)

**Definitions:**

- **Sensorimotor intelligence** - thinking by perceiving objects and acting in response to them.
- **circular reaction** – a behavior that produces an event (thumb brushes mouth; kicking moves a rattle) that leads to repetition of the behavior.

**Stage 1: Ready-Made Reflexes (Birth to 1 Month)**

Reflexes are innate patterns of reacting to stimuli.
Reflexes give an infant a repertoire with which to begin exploring the environment.
Staring, sucking, and grasping are especially valuable for concept (schema) construction.

**Reflexes in newborns include the following:**

- **root reflex**
  This reflex occurs when the corner of the baby's mouth is stroked or touched. The baby will turn his/her head and opens his/her mouth to follow and "root" in the direction of the stroking. The root reflex helps the baby find the breast or bottle.

- **suck reflex**
  When the roof of the baby's mouth is touched with the breast or bottle nipple, the baby will begin to suck. This reflex does not begin until about the 32nd week of pregnancy and is not fully developed until about 36 weeks. Premature babies may have a weak or immature sucking ability, because they are born prior to the development of this reflex. Babies also have a hand-to-mouth reflex that accompanies rooting and sucking and may suck on their fingers or hands.

- **Moro reflex**
  The Moro reflex is often called a startle reflex because it usually occurs when a baby is startled by a loud sound or movement. In response to the sound, the baby throws back his/her head,
throws out his/her arms and legs, cries, then pulls his/her arms and legs back in. Sometimes, a baby's own cries can startle him/her - initiating this reflex. The Moro reflex lasts until the baby is about 5 to 6 months old.

- **tonic neck reflex**
  When a baby's head is turned to one side, the arm on that side stretches out and the opposite arm bends up at the elbow. This is often called the "fencing" position. The tonic neck reflex lasts until the baby is about 6 to 7 months old.

- **grasp reflex**
  With the grasp reflex, stroking the palm of a baby's hand causes the baby to close his/her fingers in a grasp. The grasp reflex lasts only a couple of months and is stronger in premature babies.

- **Babinski reflex**
  With the Babinski reflex, when the sole of the foot is firmly stroked, the big toe bends back toward the top of the foot and the other toes fan out. This is a normal reflex until the child is about 2 years old.

- **step reflex**
  This reflex is also called the walking or dance reflex because a baby appears to take steps or dance when held upright with his/her feet touching a solid surface.

**Stage 2: Primary Circular Reactions (1 to 4 Months)**

primary circular reaction – involves only the infant’s own body (not outside objects yet); seem to be trying to gain control over behaviors that happened accidentally

Termed “circular” because they are repeated actions
Termed “primary” because the focus on the child’s own body.
Examples:
- Sucking thumb, toes, or other objects
- Playing with fingers or toes
- Waving arms and legs
- Vocalizing
  *Child moves hands and arms randomly; accidentally brushes his hands by his face and captures his hand in his mouth; lets go and repeats the movements, catching hand again
  *Child accidentally puts cool hand on sunburned face; does it again b/c feels good

**Stage 3: Secondary Circular Reactions (4 to 8 Months)**

secondary circular reaction – like primary, only experiencing the effects of their behavior on external objects (not self only)

Adopted when primary circular reactions become BORING!
Use primary circular reactions as “tools” for exploration
Examples
- Shaking a rattle
- Hitting a mobile
- Dropping objects over and over
Stage 4: Purposeful Co-ordinations (8 to 12 Months)

Coordination of secondary circular reactions – child uses them in goal-directed chains of behavior – do something not just for its own sake, but as a way of accomplishing something else

Secondary Circular reactions become linked into longer patterns.

Examples
- Reach-grab food-open mouth-eat
- Watch toy-see toy go under blanket-pick up blanket-see toy ("A not B Error" In Piaget's classic "A-not-B error," infants who have successfully uncovered a toy at location "A" continue to reach to that location even after they watch the toy hidden in a nearby location "B.")
- Child will move an object out of the way of one he/she wants to reach

Infant “SEES THE FUTURE” (WOW!) - develops sense of anticipation and prediction

Stage 5: Tertiary Circular Reactions (12 to 18 Months)

tertiary circular reactions – infant experiments with the different kinds of effects the same behavior can have; trial-and-error variation

“Child as Experimental Scientist”
Child appears to experiment with variables

Examples
- Splash soft - splash hard
- Babble quietly - babble loudly
- Bounce ball down stairs - Bounce EVERYTHING down stairs!
- *Child drops a ball down a flight of stairs; then tries a stuffed animal; then a shoe; tries throwing them in different ways

Help child develop cognitive structures of comparison and purposeful variation
Learning may be by trial and error

Stage 6: The First Symbols (18 to 24 Months)

Start of transition from sensorimotor to symbolic or operational thought
Child may have mental representations of events or objects

Remember actions/results more efficiently.
Solve simple problems – box/shelf/toy e.g.
Many developmental changes occur:
Deferred imitation is possible
Symbolic play becomes possible
Language development increases
True self-concept emerges
Child develops a repertoire of schemes - concepts - to make sense out of his environment.

Object permanence occurs by this stage – understanding that objects continue to exist even when they can not be perceived

Evidence of developing object permanence by stage:

In Stages 1 and 2
- babies are able to track moving objects with their eyes and reach for objects
- but if something disappears behind something else they lose interest
- if only part of an object (eg, ½ bottle covered) appears, they don’t think all of it is there

In Stage 3
- child reaches for a partially covered object
- if someone totally covers an object while infant is looking, he/she won’t look for it

In Stage 4
- infants search for hidden objects
- related to goal-directed aspect of behavior
- but: will tend to look where they last found it, even if you hide it somewhere else
  Example: show baby rattle; put under cloth on right; repeat; now put under cloth on left; baby will look on right

In Stage 5
- Child searches for a hidden object where it disappeared from sight
- however: if put ball in hand, put hand under cloth, release ball, kid looks in hand only

In Stage 6
- Child now can imagine the movements of the hand and the ball under the cloth – search under cloth
- example of early representational thought