Cognitive Development (Piaget)

I. Jean Piaget
- A. Einstein was #1 on the most influential people between the 1900's and 2000
- B. Piaget was #14 on the list
- C. Interested in how the mind changes over development (how kids get smarter as they grow older)

II. Theory
- A. First cognitive theory, observing and describing children at different ages
- B. Very broad theory, from birth to adolescence, and includes concepts of language, scientific reasoning, moral development, and memory

III. His Assumptions about Children
- A. Children construct their own language in response to their experiences
- B. Children learn many things on their own without intervention of older people
  1. Learn things the best way through hands on things*
- C. Curiosity motivates children to do and try new things
  1. Motivated to learn and do not need rewards from adults to motivate learning. They live to learn; the love to learn

IV. Overview of Theory
- A. Intelligence - a form of biological adaptation
- B. Animals adaptation to the environment they are in
  1. Took notion and said same thing goes for intelligence; adapting to understanding world knowledge
     a) Become smarter as they try to understand info
     b) Brain biologically adapting to information given
- C. Learning - a process of adapting to the environment
  1. Schemes: peoples current knowledge base
  2. Assimilation - people translate incoming info into a form they can understand
     a) Obtaining unknown knowledge and turning it into something that you already know to be able to understand it
     b) Have existing knowledge of what and how to pick up this object, but have to figure out how to grasp object differently to pick it up
  3. Accommodation - people change current knowledge structures in response to new experience
  4. Equilibrium - people balance assimilation and accommodation to create stable understanding
  5. Infant Grasping (Assimilation vs Accommodation)
     a) FIrst thing a child tries to do is assimilate
        (1) Put a big ball in front of them and reach for it
     b) Can also accommodate
        (1) Ball stuck against the wall, so baby reaches for it with the other hand...discovers two-handed reach is possible
        (2) If small, one hand can work, if larger object, two hands can be used
        (3) Applying knowledge to real situations
  6. Learning Math (Assimilation vs Accommodation)
     a) Homework is assimilation - doing rules you were taught to do

b) Accommodation comes in when you get a problem that is different with same concept that requires deeper thinking to figure it out

(1) Subtraction but carrying the remainder up top

V. Adapting to College

A. Happyville - no crime, no drugs, not many crowds of people

B. Come to Pitt for college and now associated with all of that (Accommodation)

C. Like the person that might be doing bad things but he or she is not a bad person

1. Feel like maturity is increasing

2. Can go past adolescence

D. Assimilation - Equilibrium - New situation - Disequilibrium - Accommodation

VI. Stages

A. Sensorimotor (birth - 2 years old) - understands world though senses and actions

B. Preoperational (2-7 years old) - understands world through language and mental images

C. Concrete operation (7-12 years) - understands world through logical thinking and categories

D. Formal Operation (12 years onward) - understands world through hypothetic thinking and scientific thinking

VII. Sensorimeter Stage

A. Humans can come

B. Kids represent things in the first years

C. Understanding time and space

D. Babies don't have a sense of self

E. 18 to 2 months old will point to themselves in a mirror

F. General Trends

1. From reflexive to a controlled, voluntary behavior

2. Pushing through independence, recognizing they have voluntary control

3. Behavior goes from external to interior

4. Behavior gradual separate means from ends

a) 12-14 months, baby gets interested in how to solve things (strategies of goals)

b) Kids are into discovery and don't just want, they want to know why and what it is

VIII. Preoperational and Concrete Operational Stages

A. From 2-7, get better at developing operational operation

B. If things are concrete, preopertional gradually increases

C. At 7- adolescence, concrete operational state

D. Early Work

1. based on observations and interviews

2. Focused on lack of logical reasoning in preoperations

E. Preoperatations

1. Preoperational children lack the ability to think operationally: Thought that is organized logical and integrated. Thinking that is based on logical conclusion

F. Preoperational Children

1. Can't get out of children's own mind - preoperational kids are teerible at t

G. Egocentrism

1. Tend to be much worst at seeing someone else's perspective

2. Inability to take or understand another perspective

a) Language

(1) Two kids talking and not listening to each other (Linda listen, listen linda listen)

b) Thought

(1) 4-5 year old will say, “your old, You’re gunna die”, and not think twice about what the listener thinks

c) Emotions

d) Perspective

IX. Theory of Mind

A. The ability to understand what others are thinking

B. Sally/Anne Task

1. Container of M&Ms, dump out M&Ms and put pencils then ask, what is now inside of the container?” He says pencils. Kim walks in and doesn’t know they were dumped out, so she says M&Ms

X. Piaget’s Later Research

A. Clinical Method” (In Pre-operational phase)

1. Tested ability of kids of perceiving and logic connected to it
2. Conservation Task: tests the understanding that certain physical characteristics of objects remain the same, even when their outward appearance changes
3. Makes no logical sense on what they see
4. Number Conservation
   a) Two rows of beads, same number of beads and same length = he thinks they have the same
   b) spread out his row and he says he has more
   c) She asks why and he will come up with a reason thats illogical
   d) Piaget’s Theory: They are responding by the way it looks, not the logistics
5. Conservation of Liquid
   a) Two glasses and have same amount of water and asks kid does one have more than the other
   b) Pour one into a wider bowl to appear less or tall cylinder to appear more, then asks and kid thinks the one that is in different shaped container has more or less
   c) Kid will answer with some type of reason; they don’t care if its logical or not
6. Conservation of Area
   a) Two farmers, both have same area of patch of grass for horse to eat
   b) One farmer disperses pieces of the grass all over
   c) Asks kid which has more grass for horse to eat and he says the scattered dispersed blocks of grass has more
   d) All about the physical appearance, no logic with kids

B. Preoperational vs Concrete Operational

1. Preoperational
   a) Centered - once they are locked on something, they have a hard time thinking about other things/ideas
      (1) Strong believer of a religion (Why? Because the book says so)
   b) Lack of Coordination
   c) Tied to Perceptions
   d) Lack of Reversibility
   e) Egocentric - tend not to be good at taking someone elses perspective