1-11-12

Wednesday, January 04, 2012 10:14 AM

- 3 - How does change work?
  - Is something gained or lost?
  - Is something prenatally developed or innate?
  - Does later development mean not genetic?
  - Constructivists (piaget)
    - Assimilation
    - Accommodation
    - In other words, stage like
  - Associationist
    - Gradual
    - 4 main areas of change
      1. Automatization
      2. encoding
      3. Generalization
      4. Strategy construction

4- Individual differences
   a. IQ
      i. Original purpose - identify slow learners (developed in france)
         1. Language, memory, reasoning and problem solving
         2. Original calculation IQ=(MA/CA)*100
            a) MA - mental age
            b) CA- Chronological age
      ii. Good - helps predict school performance
      iii. Bad- discrimination
      iv. Is IQ stable?
         1. Something you are born with? How early can you tell?
         2. Ok(not great) from age 4+
         3. Previously BAD from infancy to childhood
         4. But is it just due to our ability to measure?
         5. New habituation time - much better

5- Brain development
   a. Brain 4x heavier from birth to adulthood
   b. Structures
      i. Subcortical areas
         1. Evolutionarily oldest
         2. Nearly fully developed at birth
      ii. Cortex
         1. Very immature at birth
         2. Develops over time - frontal lobe still developing in the teen years
   c. Neurons
      i. How they work
      ii. How they develop in the womb
         1. Created at inner layer by ventricles
         2. Migrate to outer layer of cortex
         3. Start forming connections when they arrive
   d. Synaptogenesis = creating connections
      i. Birth -> 2 years old most are created
      ii. Connections decrease after age 2
         1. Based on use and experience

6- What effect do others have?
    a. Social contributions to development
        i. Society tells us what is valued in our culture
        ii. Much of learning happens indirectly
    b. Sociocultural perspective
        i. Social scaffolding - learning assisted by others, but only as much as needed
        ii. Zones of proximal development - how much can be learned at one time?
        iii. Cultural tools
            1. All objects and ideas that let people learn
            2. Activities that guide learning through social means
    c. What makes culture?
        i. Teaching,
        ii. learning,
        iii. ability to transmit information over time
        iv. Language is key
    d. Society interacts
        i. Family, school, society all influence the child
        ii. Child influences family, school back

1. 8 Central themes
    1- Most basic issues in children's thinking are:
        a. What develops
        b. How does it happen
    2- 4 change processes
        a. Automization
        b. Encoding
        c. Generalization
        d. Strategy construction
    3- Infants and very young children are more competent than they appear
    4- Older children and adults are not that different from young children
    5- Development builds on previous development
    6- Increased ability comes from both brain development and more efficient use of brain resources
    7- Children's thinking develops in a social context
    8- Research is leading to practical applications as well as new theories

1-13-11

Friday, January 13, 2012 10:35 AM

- Piaget's theory in general
  - 1960s, associationists ruled
    - Conditioning
    - Learning theories
    - Behaviorism
  - Piaget was working at the same time on cognitive development model
  - How does knowledge evolve as you get older?
    - The way your thinking is changing
  - Translated in 1960's, created revolution in developmental science

  - How stages work
    - Assimilation
      - Fit information to current ways of thinking
    - Accommodations
      - Changes schemas to fit new information
    - Equilibration
      - Balance of schemas and information coming in from the world

  - Progression of learning
    - Equilibrium (assimilate)
    - Notice problems
    - Accommodate
    - New state of equilibrium
    - repeat
- **Piaget's stages**
  - Basic assumptions
    - Child is a scientist
    - Child is active
    - Used observations and simple experiments for infants
    - Use interviews and experiments for kids
  - Stages
    - Sensorimotor -
      - from birth to age 2
      - Senses and motor coordination
      - Use them to gain information to start reasoning
        - Sub-stages
          - Reflex action(0-1month)
          - Primary circular reactions(1-4months)
          - Secondary circular reactions(4-8 months)
          - Coordination of secondary circular reactions(8-12months)
            - Interacting with 2 objects
          - Tertiary circular reactions(12-18 months)
          - Beginnings of representational thought (18-24 months)
    - Preoperational
      - 2-6 years old
      - Symbols- letters numbers words
      - Toys standing in for something real in the world.
      - Deferred imitation
      - Can only do reasoning in one dimension