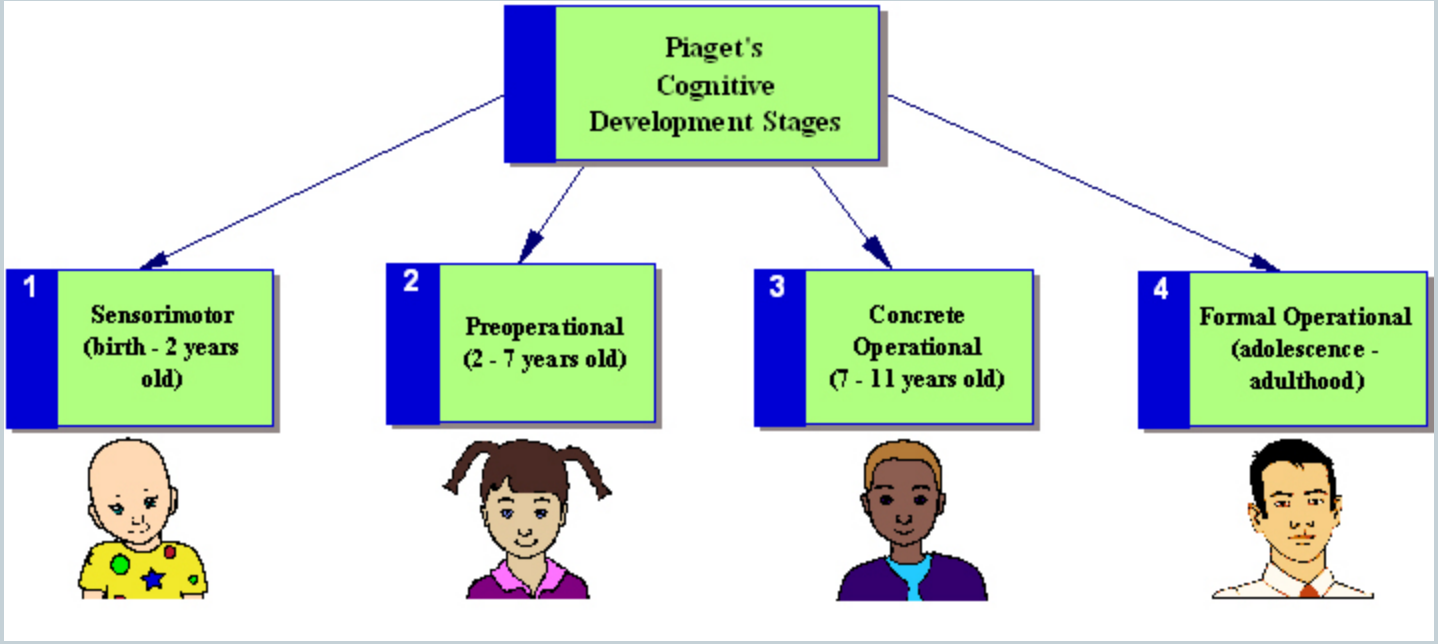
Piaget's Cognitive Stages

STUDIED ERRORS IN THINKING



Piaget Overview

Jean Piaget

- Was working for Alfred Binet (creator of the 1st IQ test) and noticed kids gave similarly wrong answers to some questions
  - Kind of like Noam Chomsky and grammatical errors of kids
- Theorized that kids think differently than adults
  - They aren't just undeveloped adults…they have entirely different ways of figuring the world out

Key Terms

- Children view the world using schemata (schemas)
  - Helps them organize the world
- Assimilation – incorporating experiences into existing schema
- Accommodation – changing our schemas to fit our experiences

Stage 1: **Sensorimotor Stage** (birth-2yrs)

- Learning by looking, touching, hearing, tasting
- Thinking = coordinating sensory information with body movements

- Building Schemas

- Major accomplishment: object permanence and ability to think in symbols (mental imagery)
  - Marks ability to use mental imagery (imagining it's there without actually seeing it)
  - Ability to think in concepts –
    - words mean something

- Normal to develop Stranger Anxiety

Stage 2: **Pre-operational Stage** (2-7yrs)

- Use of language and symbols accelerates
  - Pretending is fun now because we can make dolls/ourselves symbolize other things (like them being real or us being Batman)
- Lack mental abilities to understand abstract concepts (like knowing that division is the reverse of multiplication = irreversibility)
- Egocentric – sees world from only his/her perspective – *see video next slide*
  - *But toward the end…*Theory of Mind should develop
- Lack of conservation

Stage 3: **Concrete Operations Stage** (7-12yrs)

- Children start to understand conservation, reversibility, and cause and effect
- Learn to categorize things
- **Very rule bound**! – see things as black and white
- Enjoy fooling adults (pretend sleeping, hiding, etc.) because they understand theory of mind and deception
  - (not everyone is thinking like them…they can fake sleep and other might not know)
  - Side note: problems with ToM can be seen in autism and schizophrenia

Stage 4: **Formal Operations Stage** (12-adult)

- Abstract Reasoning
  - Can think hypothetically and in past, present, future

- "Consequences" in adolescence:
  - Argumentativeness
  - Egocentrism, self- consciousness, self-focusing
  - Invincibility
  - Idealism and criticism (think that the world could be perfect…if only….)

Critiques of Piaget's Theory

- Piaget was a very "choppy" theorist….
  - We don't fall into concrete stages
  - Our cognitive processes are flowing and overlapping
- Children understand more than Piaget thought
  - Toddlers can think symbolically (little room representing a big room, for example)
- Preschoolers are not as egocentric as Piaget thought
  - They *can* take another's perspective
  - Developing a theory of mind…how our minds are individual and effected by beliefs and feelings

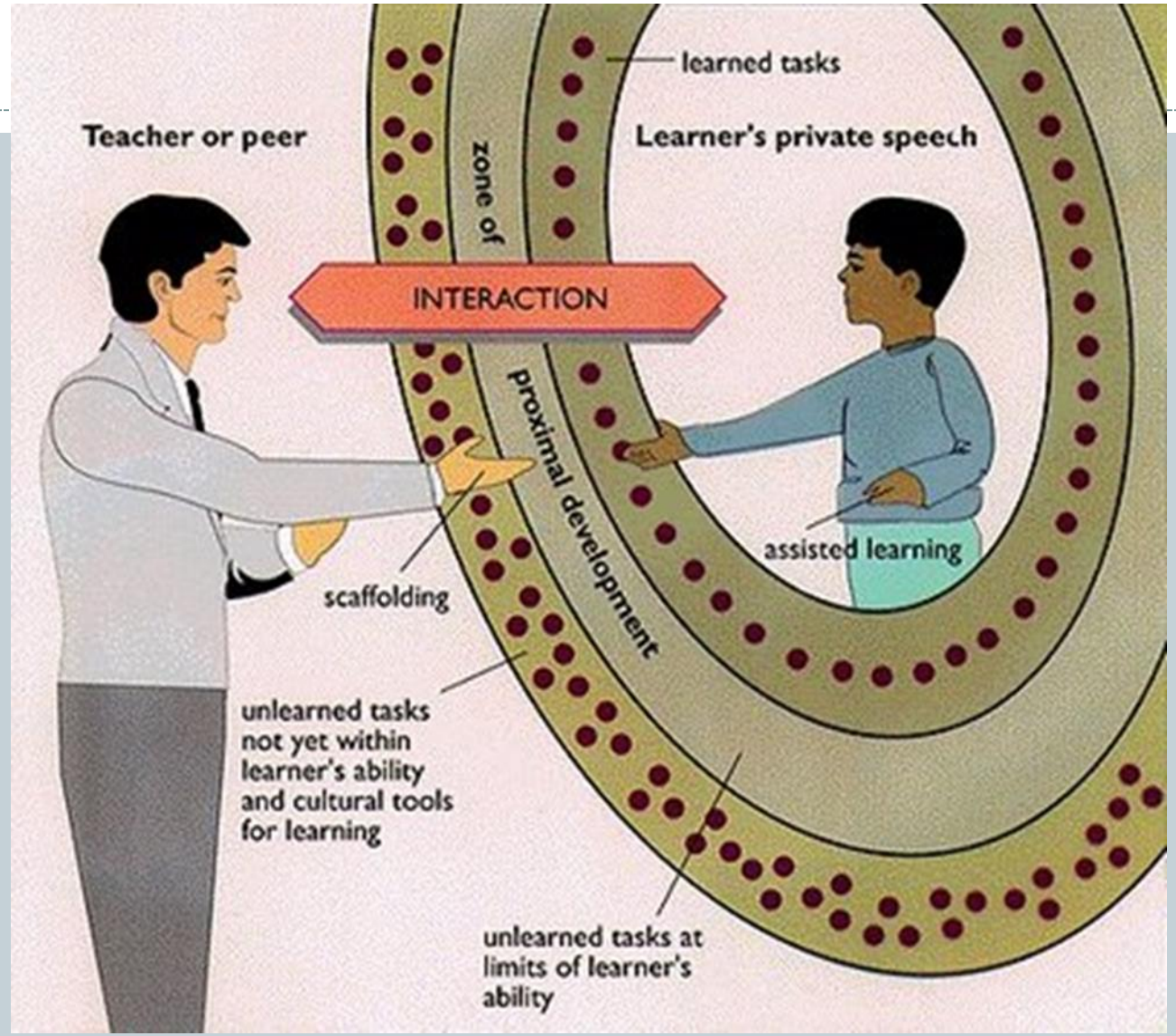
Critic of Piaget - Lev Vygotsky

- Critic of Piaget
- Believed that language was the most important cognitive process in humans
- All other processes (like problem-solving, memory, perception) depended on language
- Language helped give us cognitive thought/mental images
- Language helped us mature, not the other way around
- We learn from the help of *others*…it's not all magically independent

Vygotsky's ZPD

- Zone of Proximal Development
  - the difference between what a learner can do without help and what he or she can do with help
- Vygotsky and other educational professionals believed education's role was to give children experiences that were within their zones of proximal development, thereby encouraging and advancing their individual learning

(figure modified from Bodrova & Leong, 2007, p. 41)


learned tasks
Teacher or peer
Learner's private speech
zone of
INTERACTION
proximal development
assisted learning
scaffolding
unlearned tasks
not yet within
learner's ability
and cultural tools
for learning
unlearned tasks at
limits of learner's
ability

Vygotsky's "Scaffolding"

- Scaffolding
  - a process through which a teacher or more competent peer helps the student in his or her ZPD as necessary, and tapers off this aid as it becomes unnecessary, much as a scaffold is removed from a building during construction