

# COGNITIVE DEVELOPMENT

## PIAGET'S THEORY

- Piaget believed that the driving force behind intercellular development is our biological development midst experiences with the environment. Our cognitive development is shaped by errors we make.
- Through the interaction with the world, children learns through the errors they make.
- Piaget believed that a child's cognitive ability developed through a series of stages (constantly active).
  - Each stage reflects a **qualitative change, not a quantitative change**.
  - Proposes that all individuals progress through stages in a particular order, maybe at different rates suggesting that the progress is universal and invariant.
  - Achieving a new stage involves transforming the previous stage therefore it is rare to regress.

## SCHEMAS

- Children experiment so they can see how things work in the world and what reactions they get. Piaget believed that children created schemas. As they develop, these schemas become more complex.
  - **Schemas:** cognitive structures that organise and represent information and our experiences of the world (pattern of behaviour, concepts etc.).
- To explain how cognitive schemas change, Piaget proposed two concepts.
  - **Assimilation:** incorporating new experiences into our current understanding (schemas).
  - **Accommodation:** adjusting a schema and modifying it. This occurs when the current structures fail to interpret a particular event or situation via assimilation.

| Stages in Piaget's Theory                 |   |   |
|---|---|---|
| Stage                                     | Description   | Criticisms  |
| Sensorimotor<br>(Birth to Nearly 2 Years) | <ul style="list-style-type: none"> <li>- Babies experience the world through their <b>senses and actions</b>; looking, hearing, touching, mouthing and grasping.</li> <li>- Children develop <b>object permanence</b> (object continues to exist even when it can no longer be seen) after 6 months and actively look for the object if its out of sight.</li> <li>- As they progress to 2 years, their behaviour becomes more intentional where they plan and combine their schemas.</li> <li>- They also start to discover the boundaries of their bodies.</li> </ul> | Researchers believed that such abilities do develop much early than Piaget may have thought where babies can be surprised by unexpected events.   |
| Pre-operational<br>(2 to 6/7 Years)       | <ul style="list-style-type: none"> <li>- Representing things with <b>words and images</b>; use intuitive rather than logical reasoning.</li> <li>- They can imagine things that are not directly in front of them. Can be seen through imaginary play.</li> <li>- Children fail to grasp the <b>principle of conservation</b> (volume, mass or quantity of something remains the same even if it changes shape or placement).</li> <li>- They have <b>egocentric thinking</b> where they can't see things from other peoples perspectives.</li> </ul>                   | Preschoolers, although still egocentric, develop the ability to understand other's mental states when they begin forming a <b>theory of mind</b> (people have different thoughts and feelings). |
| Concrete operational<br>(7 to 12 Years)   | <ul style="list-style-type: none"> <li>- <b>Thinking logically</b> about concrete events; grasping concrete analogies and performing arithmetical operations.</li> </ul>  | DeLoache showed that 3 year-olds can use mental operations.   |
| Formal operational<br>(12 to Adulthood)   | <ul style="list-style-type: none"> <li>- From the age of 12, our reasoning ability expands from concrete thinking to <b>abstract thinking</b> (use symbols and imagined realities to systematically reason).</li> <li>- Use scientific method (form and test hypothesis against reality).</li> </ul>  | Researchers have suggested that such thinking begins earlier if simpler language is used.   |

## RESEARCH TODAY

- Although Piaget's research has been very influential, todays researchers believe;
  - Development does not proceed in distinct stages.
  - Children express their mental abilities and operations at earlier stages.
  - Formal logic is not considered to be as important in other cultures.