

CONSTRUCTIVIST APPROACHES TO LEARNING

Jean Piaget
(1896–1980)



Children learn from action and exploring their own environment

- ▶ Piaget proposed that children were active participants in their own learning, working as lone scientists.
 - ▶ Piaget studied children's cognitive or intellectual development over many years.
 - ▶ Children's logic different from adults.
 - ▶ Children 'construct' their ideas based on experience – constructivist approach.
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Schemas

- ▶ Piaget was interested in children's play as a way to support his theories about language and thinking.
 - ▶ He proposed the idea of schemas.
 - ▶ 'Schema' to mean a child's conclusions or thoughts, would change as new information becomes known.
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What are Schemas?

- ▶ Schemas are repeatable patterns or organised ways of making sense of an experience.
- ▶ They are linked through a theme which forms the basis of exploration and play for young children.
- ▶ They change with age.
 - First schemas are reflexes.
 - Involuntary responses that are children's first mental structures.

Piaget – Schemas

- ▶ Learning is an active process.
 - ▶ Children draw conclusions through exploration – schemas.
 - ▶ Children develop and adapt their experiences.
 - ▶ *Child always has milk in blue cup, then given milk in a red cup, over time he realises that his milk can come in all sorts of cups.*
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The process by which children's SCHEMAS form and change.

- ▶ Assimilation – Understanding new information and new experiences using existing schemas.
- ▶ *child constructs a schema based on what he/she knows e.g. the lady at the nursery stays there because I always see her there.*
- ▶ Equilibrium – schema remains the same whilst the child's experiences seem to confirm his/her ideas e.g. *every day the lady at the nursery is waiting for me in the room.*

The process by which children's SCHEMAS form and change.

- ▶ Disequilibrium – the child has information that now makes them unsure about their schemas e.g. *I see the lady from the nursery but what is she doing in the shop?*
- ▶ Accommodation – Modifies his/her thinking about existing schemas to explain new information, therefore adapting thinking to organise experiences and constructing a new schema e.g. *the lady doesn't stay at the nursery all the time.*



Developments of Piaget's Theory

- ▶ Work has been developed by Chris Athey.
 - ▶ Transporting – children move things from one place to another.
 - ▶ Connecting – when children enjoy putting things together and separating them.
 - ▶ Trajectory – children want to see how things move.
 - ▶ Rotation – interested to see how things move around.
 - ▶ Enveloping – interested in containers, putting things inside each other.
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Jean Piaget's Theory

- ▶ Has influenced current understanding of how children learn.
 - ▶ Play based curriculum – disputed.
 - ▶ Children should be actively involved in their own learning.
 - ▶ Pass through 4 stages of development from birth to adulthood.
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Piaget's Cognitive Development Stages

- ▶ Sensory Motor Stage – 0 to 2 yrs
- ▶ Pre-Operations Stage – 2 to 7 yrs
- ▶ Concrete Operation Stage – 7 to 11 yrs
- ▶ Formal Operations Stage – 11 to 16 yrs

Piaget's Stages of Play

- ▶ Piaget being a stage theorists developed three stages for play development.
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- ▶ Early to late infancy – non symbolic practice games where babies engage in exploratory play.
- ▶ Early childhood (before the age of 6) – make believe and symbolic play where a child's ideas and thoughts about the world are visible through play.
- ▶ Late childhood (before age 12) – games with rules. Children realise that rules of games are constructed so that games can be played uniformly and fairly.

Sensory–Motor (0 to 2 years)

- ▶ Newborns focus entirely on immediate sensory and motor experiences.
- ▶ Child begins to develop physical schemas, gains control of movements
- ▶ They are only aware of themselves.
- ▶ They learn to combine two reflexes.
- ▶ They learn object permanence between 8 and 12 months where baby begins to understand that objects continue to exist even if he/she cannot see them.
- ▶ They imitate others.

Exploring senses

Jamie is banging a drum, the gross motor movements he makes mean that his sensory experience is stimulating other areas of development.



The Pre-Operational (2 to 7 years)

There are three features:

- ▶ Symbolism
- ▶ Egocentrism
- ▶ Animism

Pre-operational (2–7 years)

- ▶ Begin to use symbols to stand for things (*Symbolism*).
 - ▶ Children show *Egocentrism* – believing that everyone sees the same things or has the same thoughts as them.
 - ▶ Piaget felt that children were easily tricked by appearances e.g. *Conservation*.
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Symbolism

- ▶ This is having the ability to think in ideas and use words to express those ideas.
- ▶ A red light means stop and a thumbs up means ok – these are symbols that we know as adults.
- ▶ Symbolism stimulates the child's imagination, as a child's knowledge of symbols expands so does the child's imagination, often seen through play.

Egocentrism

Egocentrism limits the child's ability to reason logically:

- ▶ Believe everyone thinks the same way they do.
- ▶ May offer sweet from their mouth because they are enjoying it.
- ▶ When playing hide and seek, they assume that you can't see their whole body if they can't see you.
- ▶ They cannot understand that what they see depends on where they are.

Animism

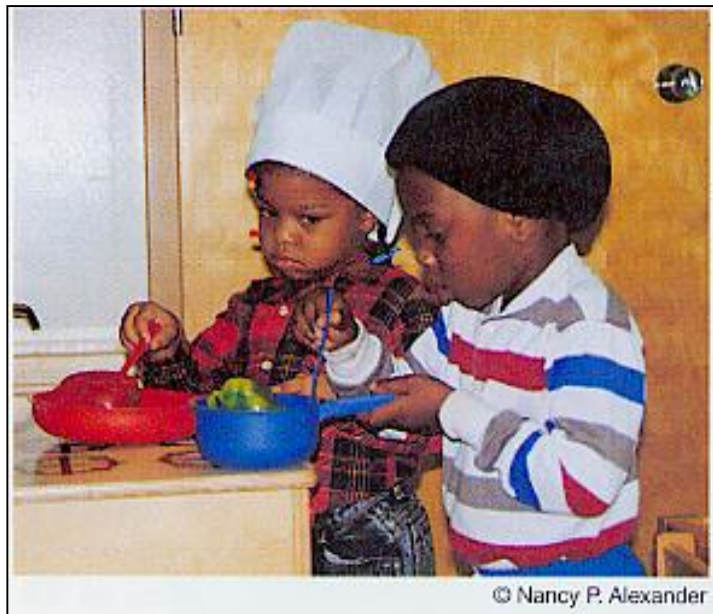
This is the belief that everything that exists has some kind of consciousness:

- ▶ A car won't start so the car is tired or ill.
- ▶ A child hurts himself by colliding into a chair so the child will smack the naughty chair.
- ▶ A child is still egocentric in that they can't see things from any other points of view, and since they have emotions and can feel pain and pleasure so they believe everything else does too.

Animism

- ▶ Many children in the pre-operational stage draw animals with human faces.
- ▶ Children believe that puppets and teddies have real feelings.

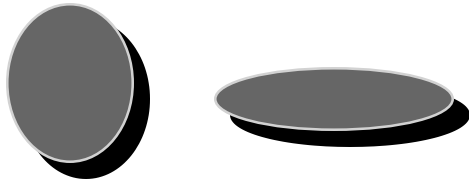
Make believe play is used to create and express all kinds of mental images



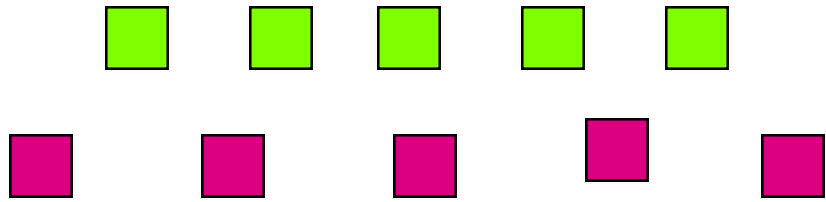
Conservation

- ▶ Conservation – understanding that certain things do not change in quantity or quality even though their appearance does change.
 - ▶ Piaget suggested that young children find it difficult to conserve because they are easily taken in by appearances.
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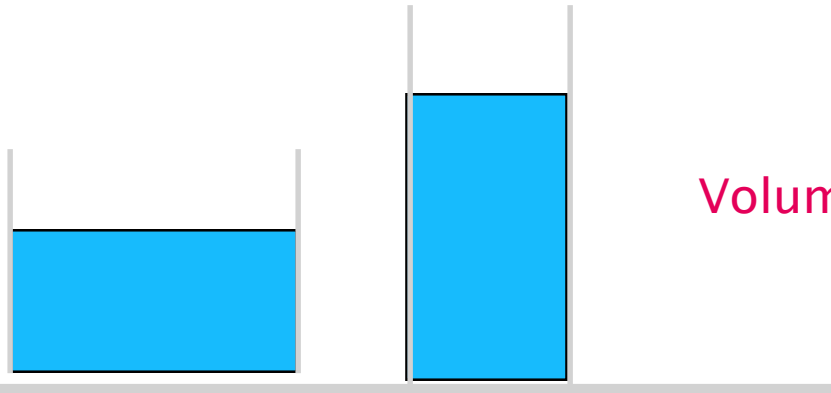
Conservation



Mass



Number



Volume

Concrete operations (7–11 years)

- ▶ Significant change in children's logic, they are less easily deceived by appearances, can apply rules and thinking to their logic.
 - ▶ The term 'concrete' used – children are helped in their thinking when they can see and do things in practical ways.
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Concrete operations (7–11 years)

- ▶ Egocentrism and Animism decline.
- ▶ Children now realise that things aren't always as they appear.
- ▶ The ability to understand that even if something has changed shape or form, its other properties will remain the same.
- ▶ Therefore understanding conservation.

Formal Operations (11 – 16 years)

- ▶ Children able to think in the abstract and is now able to work things out in their heads without the need of real objects e.g. multiply numbers in their head.
- ▶ Teenagers also start to think about moral and philosophical issues.
- ▶ They are able to manipulate thoughts including ideas like honesty, morality, freedom.
- ▶ They can see other people's points of view and can take reasons for behaviour into account – called decentring.
- ▶ Piaget argued that the changeover from concrete to formal operations take several years to become fully established. Some recent research however shows that quite a number of adults never reach this stage.

Piaget's work on early years practice

- ▶ Before his work was recognised, children's education was about getting them to remember knowledge.
 - ▶ Children seen as passive rather than active learners.
 - ▶ Piaget's work stresses importance of encouraging children to learn from direct experiences – ACTIVE LEARNING.
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Criticisms of Piaget's work

- ▶ He underestimated children's abilities.
 - ▶ He designed experiments that were difficult for children to understand.
 - ▶ He failed to account for the ways in which adults influence a child's development.
 - ▶ Some doubt as to whether or not children really follow the stages that Piaget described, some children master some aspects of cognition but not others.
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Criticisms of Piaget

- ▶ Piaget claimed that children do not use the rules of logic like most adults for the first ten years, however he was considering scientific issues when he was a child himself.
- ▶ He believed conservation was understood from 7 years and up, however Bruner, a well known theorist, showed that children at 5 can be taught to conserve.

Criticisms of Piaget

- ▶ Another theorist, Bryant thought that some experiments were too complicated. Bryant simplified some, finding that children under 5 were capable of logical thought.
 - ▶ Some researchers such as behaviorists, suggest that development does not occur in stages but is continuous, this is something we will look at in future lessons.
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More Criticisms

- ▶ Like Freud, there is no firm evidence that Piaget's concepts exist. He observed children, made assumptions about the organisation of mental function, which he then named.
- ▶ Piaget concentrated on children's interactions with their environment when they were alone. However, more recent evidence suggests that children's social development with others has a great deal to do with their cognitive development.

References

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