
Piaget's Theory of Cognitive Development



Demonstration Storyboard by Thomas Broderick

Screen 1

Audio Narration

The first twelve years of life is a time of great physical and mental change. As we grow up, we adopt new habits in thought and action. In the early 20th century, Swiss psychologist Jean Piaget set out to study these processes and how they affect human intelligence. His theory would go on to forever change our understanding of cognitive development.

By the end of this lesson you will understand:

- The role of schemas in learning
- Piaget's theory
- The impact of Piaget's theory on Developmental Psychology, Classroom Teaching, and Child Raising
- And criticism of Piaget's theory

At the end of the lesson there is an activity to assess what you've learned.

Visuals

Jean Piaget & His Theory: An Introduction



Instructions for Interactivity

- Play narration. Only the title is visible.
- Jean Piaget picture appears when the narrator says 'Jean Piaget.'
- Picture on bottom left along with line appears when the narrator says 'developmental psychology'.
- Picture on bottom middle along with line appears when the narrator says 'classroom teaching'.
- Picture on bottom right along with line appears when the narrator says 'child raising'

Screen 2

Audio Narration

Central to Piaget's theory is the concept of schemas. Schemas are the habits that drive our behaviors and thoughts. In our day to day lives, mental schemas help us process:

- New experiences
- New information

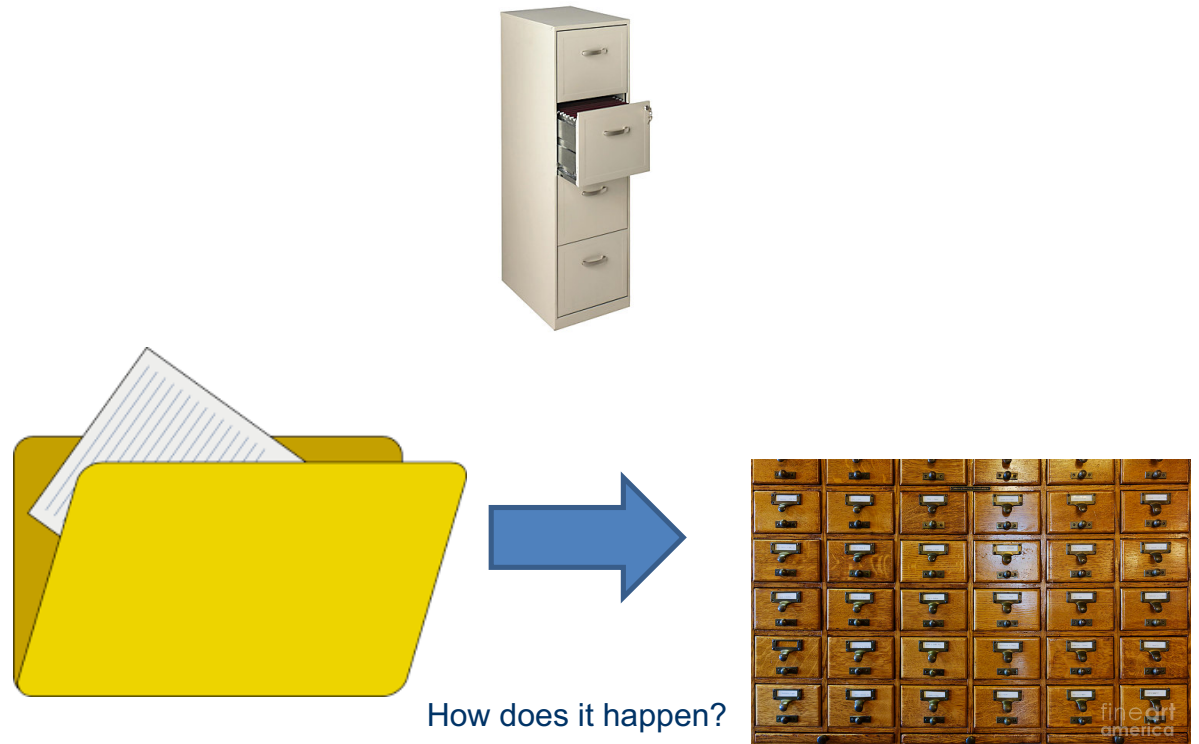
In a nutshell, schemas are our brain's filing system that helps us organize our knowledge.

Piaget also advocated the concepts of assimilation and accommodation. Assimilation is when we put new information into existing schemas. This is like putting a file into an envelope. Accommodation is adjusting schemas to fit new information. This is like buying a new filing cabinet.

Part of what Piaget's theory attempts to explain is how a child adopts schemas and how schemas evolve over time. Let's discover how this happens.

Visuals

Schemas: The Mind's Filing Cabinet



Instructions for Interactivity

- Play narration. Only the title is visible.
- The top image appears when the narrator says 'filing system'. There is the sound of a file cabinet opening.
- The bottom images and text appear in left to right order when the narrator says 'Part of what..'. The final image appears just as the narrator says 'over time.'

Audio Narration

After studying children of all ages, Piaget theorized that cognitive development occurs in four stages:

- The sensorimotor stage
- The preoperational stage
- The concrete operational stage
- The formal operational stage

Each stage is defined by measurable improvements in cognitive ability. The reason for the varying ages is that children mature at slightly different rates. This influences the speed of their cognitive development.

In the next slide, we'll take an in-depth look at each of the stages, along with how schemas play a role in cognitive development.

Visuals

Piaget's Developmental Stages: An Introduction

Age 0-2



Sensorimotor

Age 2-6/7



Preoperational

Age 6/7-11/12



Concrete Operational

Age 11/12+



Formal Operational

Instructions for Interactivity

- Play narration. Only the title is visible
- As the narrator lists the stages, the corresponding pictures/texts appear in order. The reveal of each picture is accompanied by a snapshot sound, and the picture appears with a flash as if it is a photograph.

Audio Narration

In this slide you will have the opportunity to explore each of Piaget’s developmental stages. When you click on a stage, you will hear a narration describing it. When the narration ends, a box will pop up with information about a schema that develops during this stage.

When you are ready to move on to the next stage, click outside the box to make it disappear.

(For Sensorimotor Stage)

In this stage, babies and infants learn from their senses. One way to tell that a child is at the end of this stage is that he or she understands the concept of object permanence: that an object continues to exist even though he or she cannot see it.

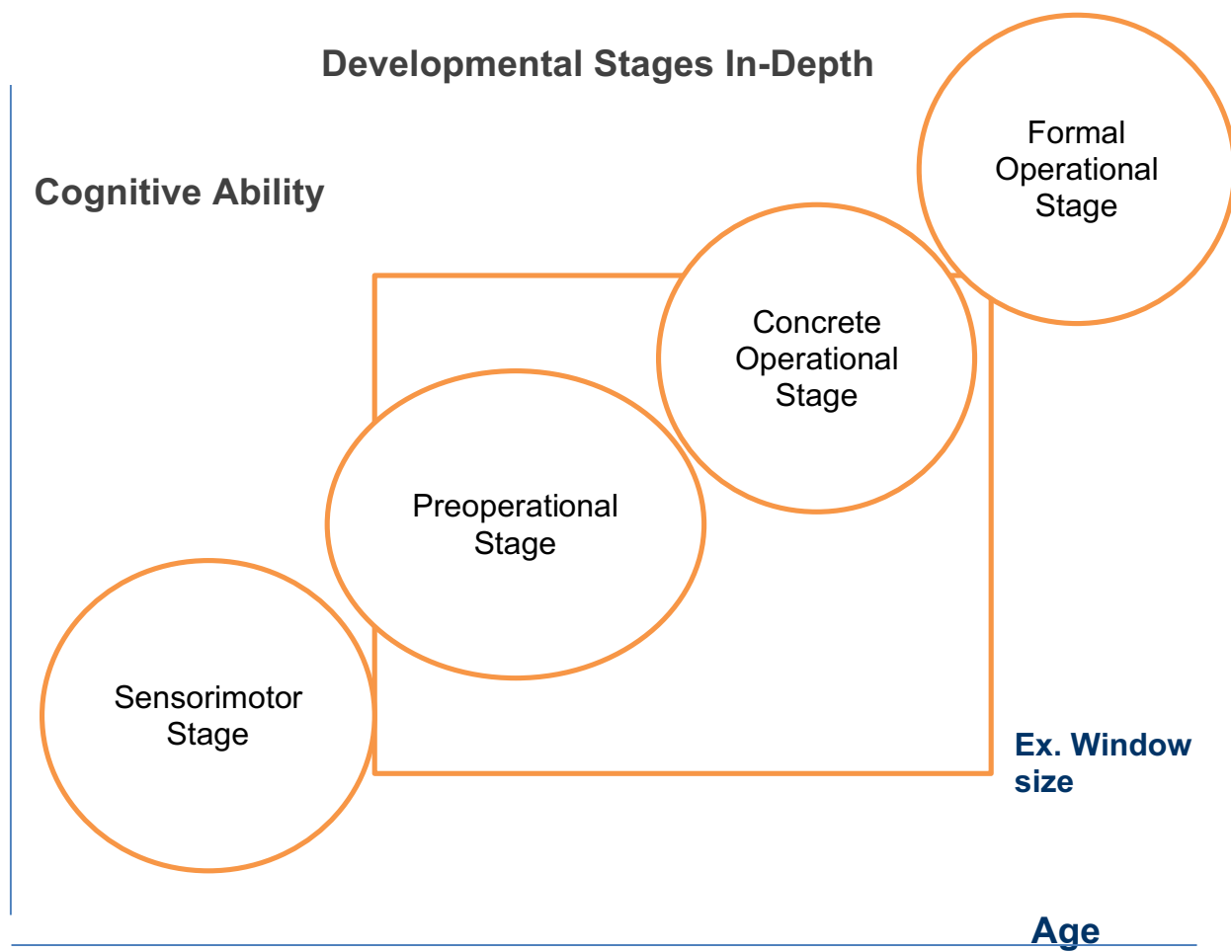
(For Preoperational Stage)

In this stage, the child grasps spoken and written language. A child at this stage does not understand logic, and cannot comprehend hypothetical situations.

(For Concrete Operational Stage)

In this stage, children understand logic and inductive reasoning – making

Visuals



Instructions for Interactivity

- Play narration. Everything but the box is visible.
- Accompanying narration plays when user clicks on a circle.
- **(For Sensorimotor Stage)** After narration has finished, text in window reads ‘As infants learn only from experiences, they develop the schema to grasp new objects early on in life.’
- **(For Preoperational Stage)** After narration has finished, text in window reads ‘A schema that dominates this stage is egocentrism. Children only see the world

<p>generalizations from their observations.</p> <p>(For Formal Operational Stage)</p> <p>In this stage, children gain the ability to perform deductive reasoning and think abstractly about different topics. For example, a child in the formal operational stage would be able to come up with a hypothetical scenario.</p>	<p>through their own point of view.'</p> <ul style="list-style-type: none"> • (For Concrete Operational Stage) After narration has finished, text in window reads 'In this stage, children lose their egocentrism. A new schema develops that allows children to consider other people's points of view.' • (For Formal Operational Stage) After narration has finished, text in window reads 'One important schema that develops at this stage is the ability to solve various problems through trial and error.'

Screen 5

Audio Narration

Simply put, the answer is no. The reasons are varied. Lack of access to education and learning impairment are two possible causes.

Even for people who reach the formal operational stage as young adults, they do not spend every waking moment deducing. For the majority of people, day to day activities require only the schemas formed during the concrete operational stage.

Yet like any set of skills, the schemas associated with the formal operational stage can be improved through practice.

Visuals

Does Everyone Reach the Formal Operational Stage?



"Good heavens, Holmes! How did you deduce that I had recently lost my reading glasses?"



Instructions for Interactivity

- Everything on the slide is visible when the narration begins.
- When the narrator says 'deducing,' the cartoon on the left spins clockwise once.
- When the narrator says 'practice,' the image on the right spins clockwise once.

Audio Narration

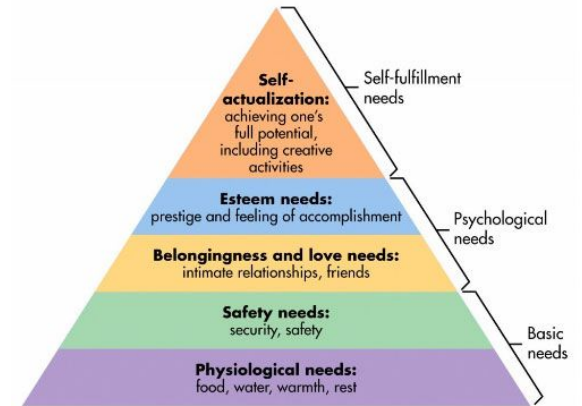
The impact of Piaget’s theory on developmental psychology is enormous. Never before had anyone systematically carried out a study of cognitive development.

In the decades since Piaget published his theory, other psychologists have made various additions and modifications based on their own research.

- Lawrence Kohlberg attempted to combine Piaget’s theory with his own theory of moral development.
- Abraham Maslow’s Hierarchy of Needs was directly influenced by Piaget’s theory.

Visuals

The Impact of Piaget’s Theory on Developmental Psychology



Instructions for Interactivity

- The title appears and the narration begins.
- The image on the left appears when the narrator says “Lawrence Kohlberg...”
- The image on the right appears when the narrator says “Abraham Maslow’s...”

Audio Narration

Jean's Piaget's theory of cognitive development has influenced classroom teaching throughout the world. In the primary school setting, the application of Piaget's theory is visible in the following ways:

- The greater use of images and physical examples rather than just text.
- Differentiating instruction for students who have yet to graduate to the next developmental stage.
- Allowing students to learn in different ways rather than just through reading and lecture.

Visuals

The Impact of Piaget's Theory on Classroom Teaching



Instructions for Interactivity

- The title is visible as the narration begins.
- The top image appears when the narrator begins to say 'the greater use...'
- The bottom left image appears when the narrator begins to say 'adapting education...'
- The bottom right image appears when the narrator begins to say 'allowing students...'

Audio Narration

To find Piaget's influence on child raising, look no further than children's toys.

Click on the pictures to hear a brief description of how this toy relates to one of Piaget's developmental stages.

(for top left picture)

During the sensorimotor stage, children are learning basic movements. A mobile hanging above a baby's crib will encourage the baby to reach and grasp at the toy figures.

(for top right picture)

During the preoperational stage, children participate in symbolic play. In the case of blocks, children can easily imagine their creations as majestic skyscrapers or fantastical worlds.

(for bottom left picture)

During the concrete operational stage, children can follow simple instructions, and solve problems that have more than one step. Chemistry sets like these prompt children to develop these skills with the

Visuals

The Impact of Piaget's Theory on Child Raising



Instructions for Interactivity

- All images and texts appear on the screen as the narration begins.
- When the viewer clicks on the top left picture, there is a brief sound of a music box before the narration begins.
- When the viewer clicks on the top right picture, there is a brief sound of falling

promise of a fun result.

(for for bottom right picture)

In the formal operational stage, children can think abstractly, and make predictions.

Games of strategy, such as chess, challenge children to develop formational operational skills.

blocks before the narration begins.

- When the viewer clicks on the bottom left picture, there is a brief sound of bubbles coming from a beaker before the narration begins.
- When the viewer clicks on the bottom left picture, there is the sound of someone saying 'checkmate' before the narration begins.

Screen 8

Audio Narration

Piaget's theory of cognitive development is not without its critics.

Click on the pictures to learn about the three main criticisms some modern psychologists have about Piaget's theory.

(for top picture)

- Piaget never explained how he selected his research subjects. He also did not record any statistical information other than the subjects' ages.

(for bottom left picture)

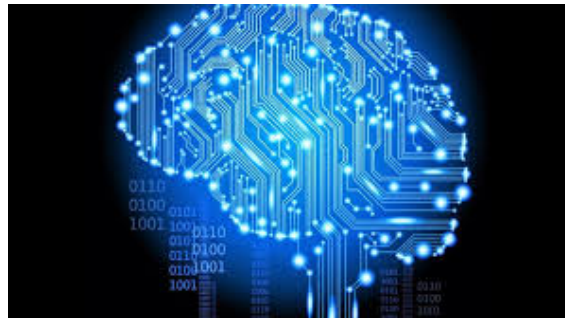
- We now know that human intelligence is much more complex than what Piaget understood. Therefore, using 'stages' is too simple an explanation how intelligence develops.

(for bottom right picture)

- Over the last 80 years, psychologists have discovered many children who mastered deductive reasoning well before the age of twelve.

Visuals

Criticisms of Piaget's Theory



Instructions for Interactivity

- Everything on the slide is visible when the narration begins. The narration stops after 'have about Piaget's theory'
- As the user clicks on an image, the narrator reads the accompanying text.

Audio Narration

Let's see what you've learned about Piaget's Theory of Cognitive Development.

Each mouth represents a different subject we've covered today. The apple will have a statement related to one of the subjects. Drag the apple to the mouth which matches the subject. If you're right, you will hear this sound, and the apple will disappear. If you are wrong, you will hear this other sound, and the apple will bounce back to the center of the screen.

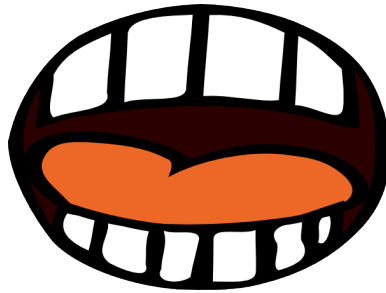
There are ten apples, so make sure they all get to the right mouth. Good luck!

When user has successfully finished:

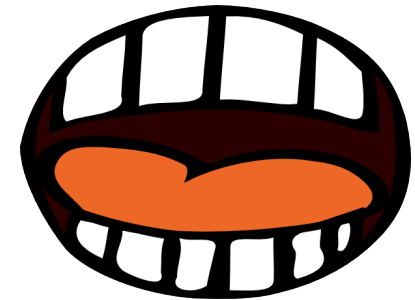
Great job learning about Piaget's Theory of Cognitive Development!

Visuals

Check Your Understanding



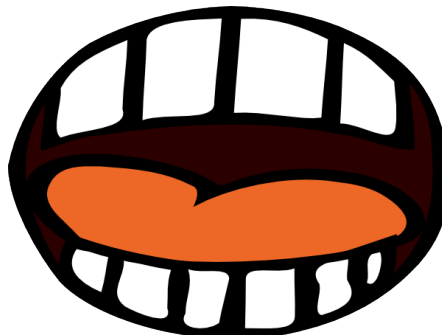
Piaget's Theory



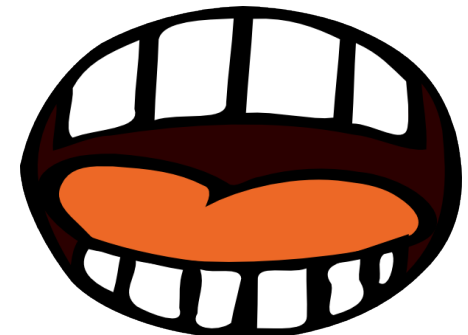
Piaget's Impact



The Sensorimotor Stage



Criticisms of Piaget Theory



Schemas

Instructions for Interactivity

- The title and images are visible as the narration begins.
- When the narrator says 'different subject', the subjects underneath each mouth appear.
- When the narrator says 'statement,' the first statement appears under the apple.
- Just after the narrator says 'you will hear this sound' there is a biting sound.
- Just after the narrator says 'you will hear this other sound' there is a spitting out sound.
- If the user gets the question right, there is a biting sound and the apple disappears into the mouth. The apple for the next matching appears in the center of the screen.
- If the user gets the question wrong, there is a spitting out sound and the apple bounces back to the center of the screen

Correct Answers for Matching

- **The Sensorimotor Stage:** Piaget's Theory
- **Some Children Master Deduction at a Young Age:** Criticisms of Piaget's Theory
- **The Way We Process Information:** Schemas
- **Specialized Toys:** Impact of Piaget's Theory
- **Maslow's Hierarchy of Needs:** Impact of Piaget's Theory
- **Egocentrism:** Piaget's Theory
- **The Mind's Filing Cabinet:** Schemas
- **The Mind is More Complex Than Once Thought:** Criticisms of Piaget's Theory
- **Cognitive Development Happens at Different Stages:** Piaget's Theory
- **Differentiating instruction:** Impact of Piaget's theory