

Piaget's Theory of Cognitive Development

Demonstration Storyboard

by Kristopher Brown

Slide 1 [Introduction Slide]

Audio Narration

Visuals

Font: Times New Roman
Picture: Piaget



Instructions for interactivity

Functional Instructions

When Course begins, Play "*introMusic.mp3*" on screen open

- When user clicks "Begin" button, jump to next slide.
- When user hovers over "Piaget's Theory of Cognitive Development", play media "text-to-speech audio *textreader1.mp3*"

Slide 2 [Objectives Slide]

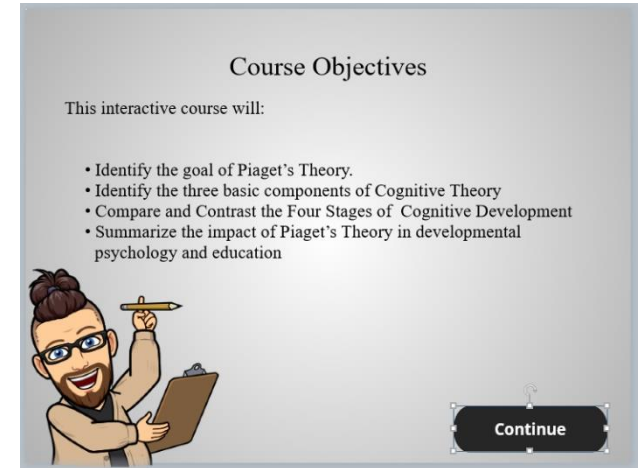
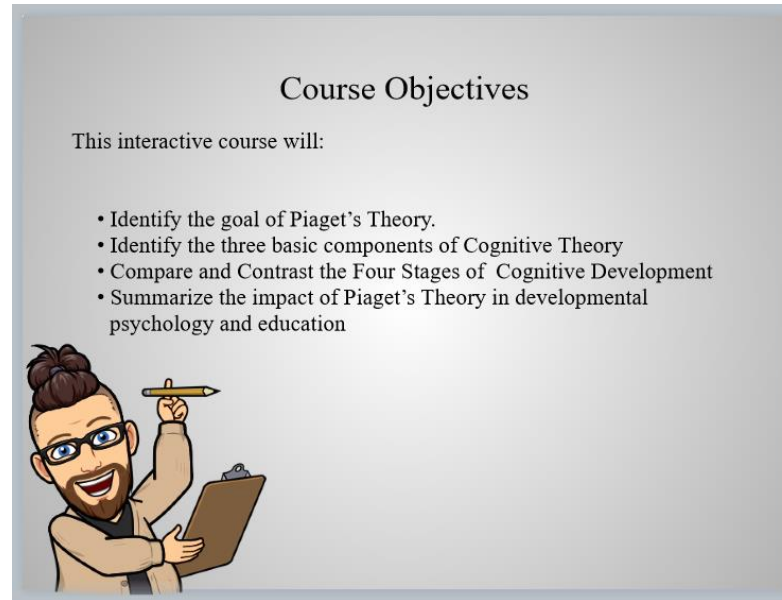
Audio Narration

This interactive course will:

- Identify the goal of Piaget's Theory.
- Identify the three basic components of Cognitive Theory
- Compare and Contrast the Four Stages of Cognitive Development
- Summarize the impact of Piaget's Theory in developmental psychology and education

Visuals

Font: Times New Roman



Instructions for interactivity

Functionality

When slide begins, play narration audio

- When narration audio plays, bulleted text fades in line by line.
- When narration audio ends, "continue" button changes state from *hidden* to normal
- When user clicks "continue" button, jump to next slide

Slide 3 [Introducing Piaget's Theory]

Audio Narration

Narration audio #1

Piaget's theory of cognitive development explains how a child constructs a mental model of the world. He believed cognitive development is a process of biological maturation and interaction with the environment.

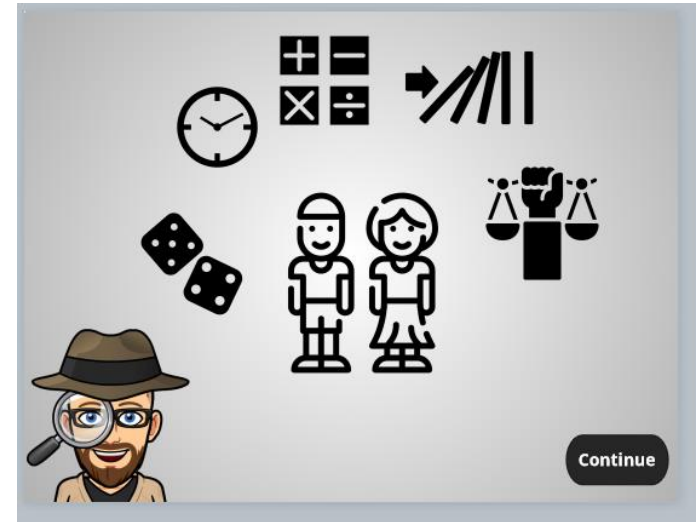
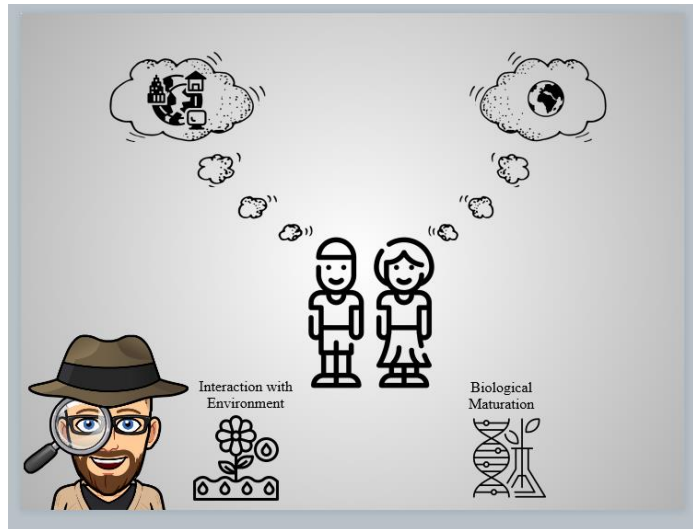
Narration audio #2

Piaget was interested in was the way fundamental concepts such as numbers, time, quantity, causality, and justice emerged in children.

Piaget proposed that children are born with a very basic mental structure on which all subsequent learning and knowledge are based.

Visuals

Font: Times New Roman



Instructions for interactivity

Functionality

When slide begins, play Narration #1 audio

- When Narration #1 plays, **world1.png** and **world2.png** appear sequentially
- When Narration #1 plays “biological maturation”, **BioPic.png** and **BioText** appear.
- When Narration #1 plays “interaction with the environment”, **Enviro.png** and **enviroText** appear.
- When Narration #1 ends, **world1.png**, **world2.png**, **thinkingbubbles.png**, **BioPic.png**, **BioText** **Enviro.png**, **enviroText** disappear.
- When Narration #2 Audio says “numbers”, **dice.png** appears
- When Narration #2 Audio says “time”, **clock.png** appears
- When Narration #2Audio says “quantity”, **math.png** appears
- When Narration #2 Audio says “causality”, **domino.png** appears
- When Narration #2 Audio says “justice”, **justice.png** appears
- When Narration #2 Audio Ends, button “continue” appears
- When user mouse clicks button “continue”, jump to next slide

Slide 4 [Knowledge Check #1]

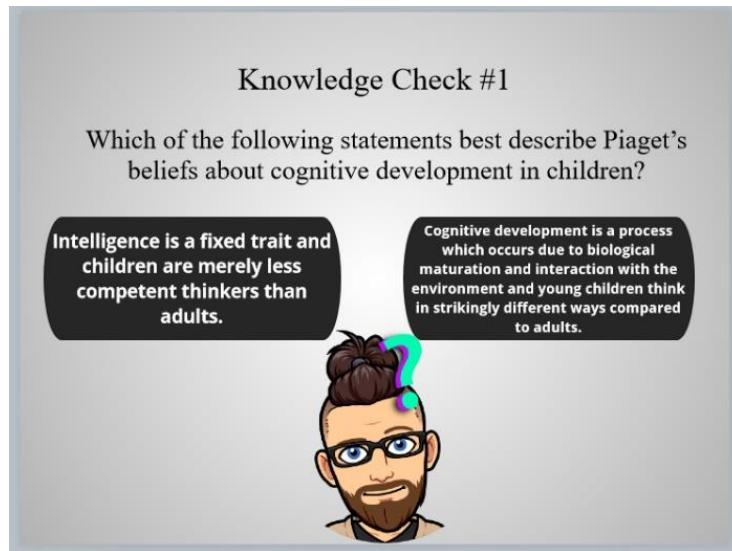
Audio Narration

Narration audio #1

Which of the following statements best describe Piaget's beliefs about cognitive development in children?

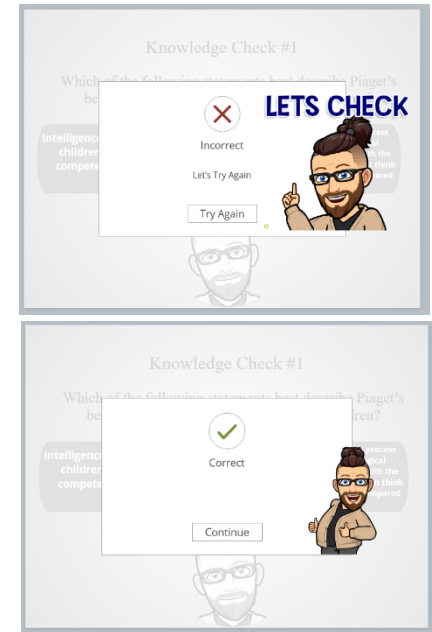
Visuals

Font: Times New Roman



Incorrect

Correct



Instructions for interactivity

Functionality

When slide begins, play Narration #1 audio

- Incorrect Answer = **LeftButton**
 - **LeftButton text** - *Intelligence is a fixed trait and children are merely less competent thinkers than adults.*
- When user mouse clicks **LeftButton**, hidden layer **Incorrect** appears, play **narration audio #2**
 - When user mouse clicks **tryAgain**, hidden layer **Incorrect** disappears, user may try assessment again.
- Correct Answer = **RightButton**
 - **RightButton text** - *Cognitive development is a process which occurs due to biological maturation and interaction with the environment and young children think in strikingly different ways compared to adults*
- When user mouse clicks **RightButton**, hidden layer **Correct** appears.
 - When user mouse clicks **Continue**, play **narration audio #3** jump to next slide

Slide 5 [Piaget's Big 3]

Audio Narration

Narration audio #1

Its important to remember that Piaget's Theory of Cognitive Development

Narration audio #2

specifically concerned with children, rather than all learners.

Narration audio #3

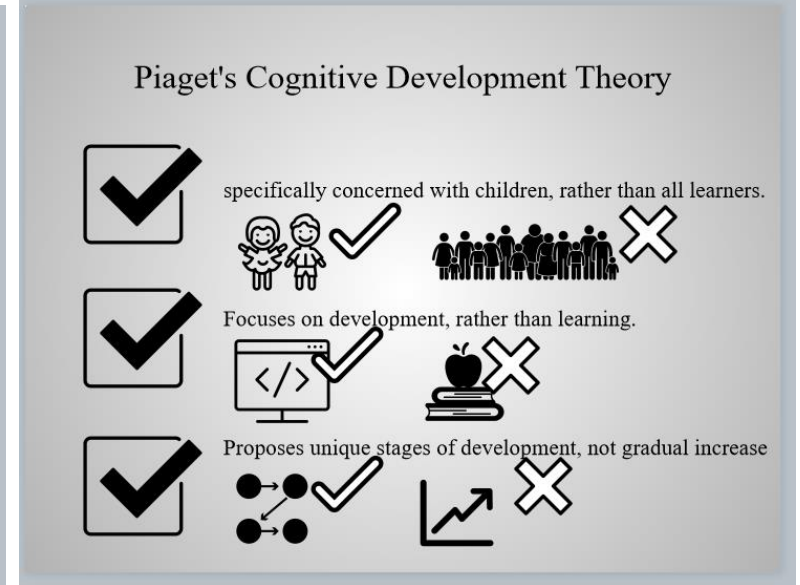
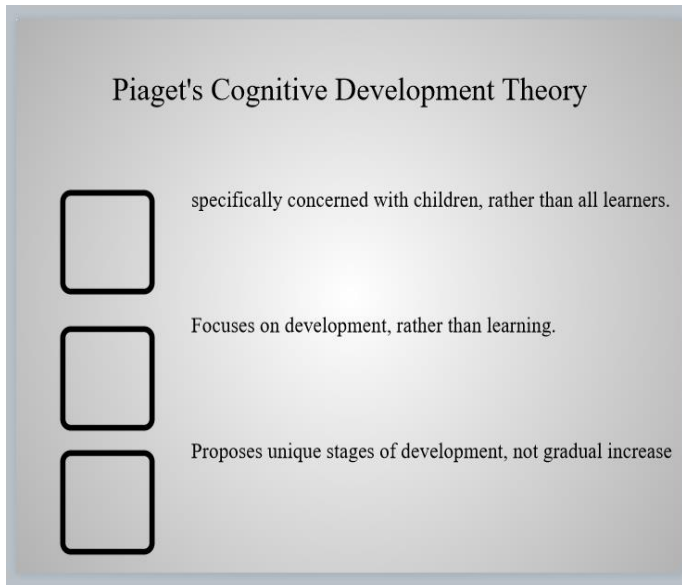
It focuses on development, rather than learning, so it does not address learning of information or specific behaviors.

Narration audio #4

It proposes unique stages of development, marked by qualitative differences, rather than a gradual increase in number and complexity of behaviors, concepts, ideas, etc.

Visuals

Font: Times New Roman



Instructions for interactivity

Functionality

When slide begins, play Narration #1 audio

- When Narration #1 ends, **box1.png**, **box2.png**, **box3.png**, and **boxText** appear then start **narration #2**
- When Narration #2 starts, **checkBox1.png** appears, then **childrenCheck.png** appears, then **allLearnersCheck.png** appears.
- When Narration #3 starts, **checkbox2.png** appears then **developCheck.png** appears, then **appleBookCheck.png** appears.
- When Narration #4 starts, **checkBox3.png** appears then **sequenceCheck.png** appears, then **chartCheck.png** appears.
- When Narration #4 ends, jump to next slide

Slide 6 [The Three Components To Piaget's Theory]

Audio Narration

Narration Audio #1

There are three basic components to Piaget's Cognitive Theory.

Narration Audio #2

Schemas: the building blocks of knowledge

Narration Audio #3

Adaptation processes that enable the transition from one stage to another: : Equilibrium, assimilation, and accommodation.

Narration Audio #4

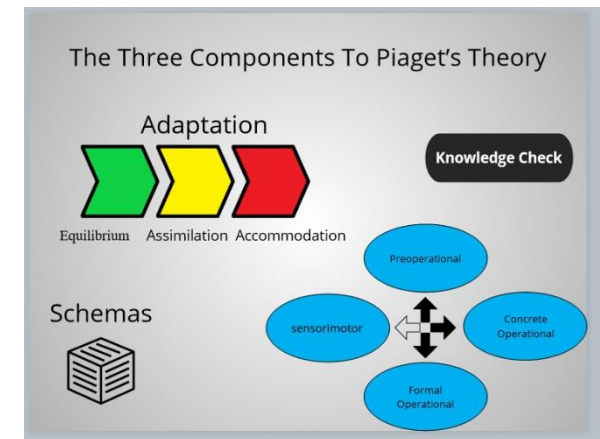
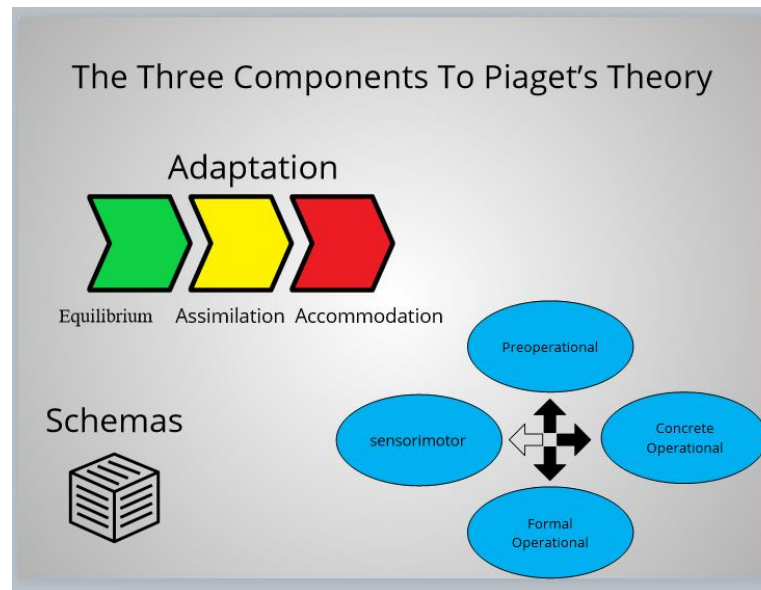
Four Stages of Development which are sensorimotor, preoperational, concrete operational, and formal operational.

Narration Audio #5

Click on each of the components to learn more.

Visuals

Font: Times New Roman



Instructions for interactivity

Functionality

- If this is the first-time user lands on slide #5, then
 - When slide begins, play Narration #1 audio
 - When Narration #1 ends, play Narration #2, **schema.png** and **schemaText** appear
 - When Narration #2 ends, play Narration #3, **adaptation.png** and **adaptText** appear
 - When Narration #3 ends, play Narration #4, **stages.png** appears
 - When Narration #4 ends, play Narration #5
- Else
 - **schema.png** and **schemaText** , **adaptation.png** and **adaptText**, **Development.png** appear sequentially
 - When user clicks **schema.png**, jump to Slide #7
 - When user clicks **adaptation.png**, jump to Slide #8
 - When user clicks **stages.png** jump to Slide # 10
 - If user has clicked each component and returned to slide #6, **button** "knowledgeCheck" appears.
 - When user mouse clicks **button** "KnowledgeCheck", jump to slide # "Assessment"

Slide 7 [Schemas]

Audio Narration

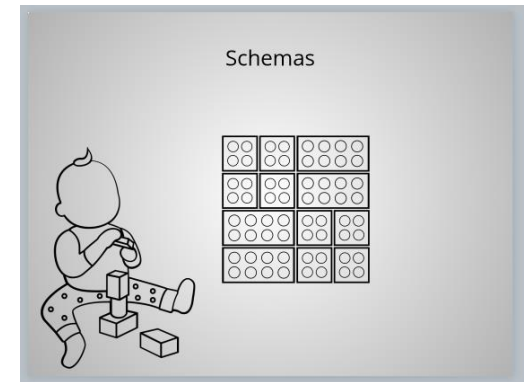
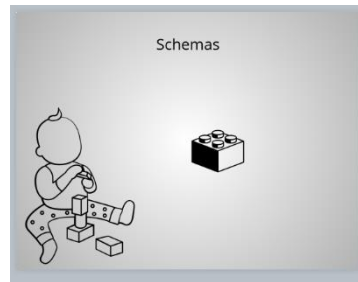
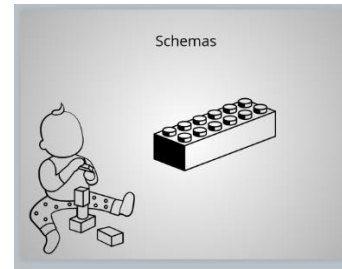
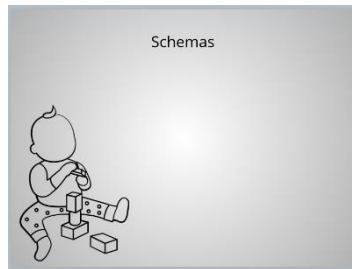
Narration Audio #1

Schemas are basic building blocks of information that enable us to form a mental representation of the world from past experiences and plan for future actions.

When Piaget describes a child's mental development, he is referring to increases in the number and complexity of the schemata that a child has learned.

Visuals

Font: Times New Roman



Instructions for interactivity

Functionality

- When slide begins, play Narration #1
- As Narration Plays Change image sequence throughout narration, starting with **lego1.png**, then **lego2.png**, then **lego3.png**
- When Narration #1 ends, jump to slide #5

Slide 8 [Adaptation]

Audio Narration

Narration Audio #1

Piaget perceived intellectual growth as a sequence of adaptation or adjustment to the world.

Piaget determined there are three stages to adaptation

Narration Audio #2

Assimilation

—using an existing schema to deal with a new object or situation.

Narration Audio #3

Accommodation

—when existing schema (knowledge) does not work, and needs to be changed to deal with a new object or situation.

Narration Audio #4

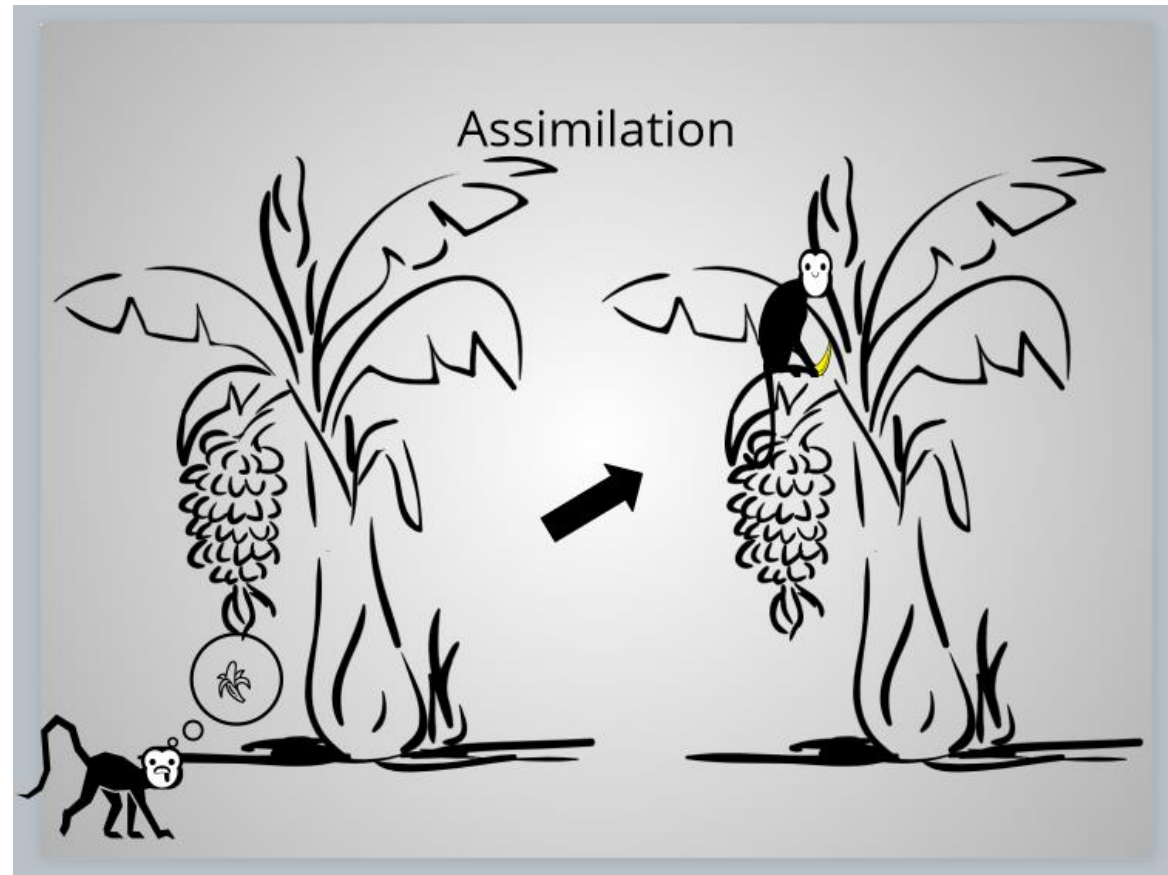
Equilibration

—the force which moves development along. Piaget believed that cognitive development did not progress at a steady rate, but rather in leaps and bounds.

Equilibrium occurs when a child's schemas can deal with most new information through assimilation. However, an unpleasant state of disequilibrium occurs when new information cannot be

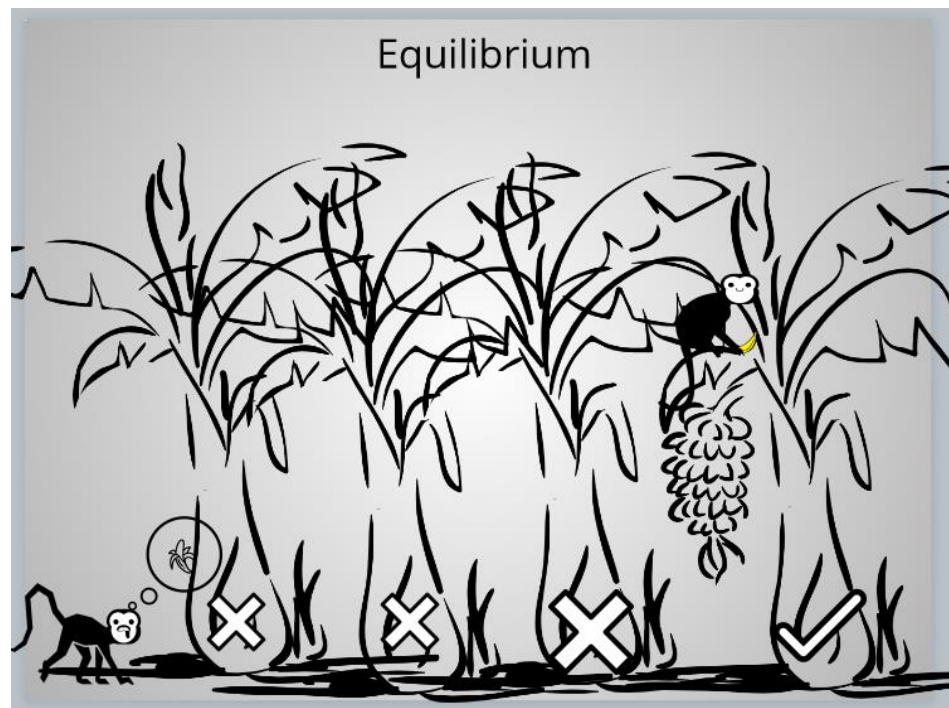
Visuals

Font: Times New Roman



fitted into existing schemas (assimilation).

Equilibration is the force which drives the learning process as we do not like to be frustrated and will seek to restore balance by mastering the new challenge (accommodation). Once the new information is acquired the process of assimilation with the new schema will continue until the next time we need to make an adjustment to it.



Instructions for interactivity

Functionality

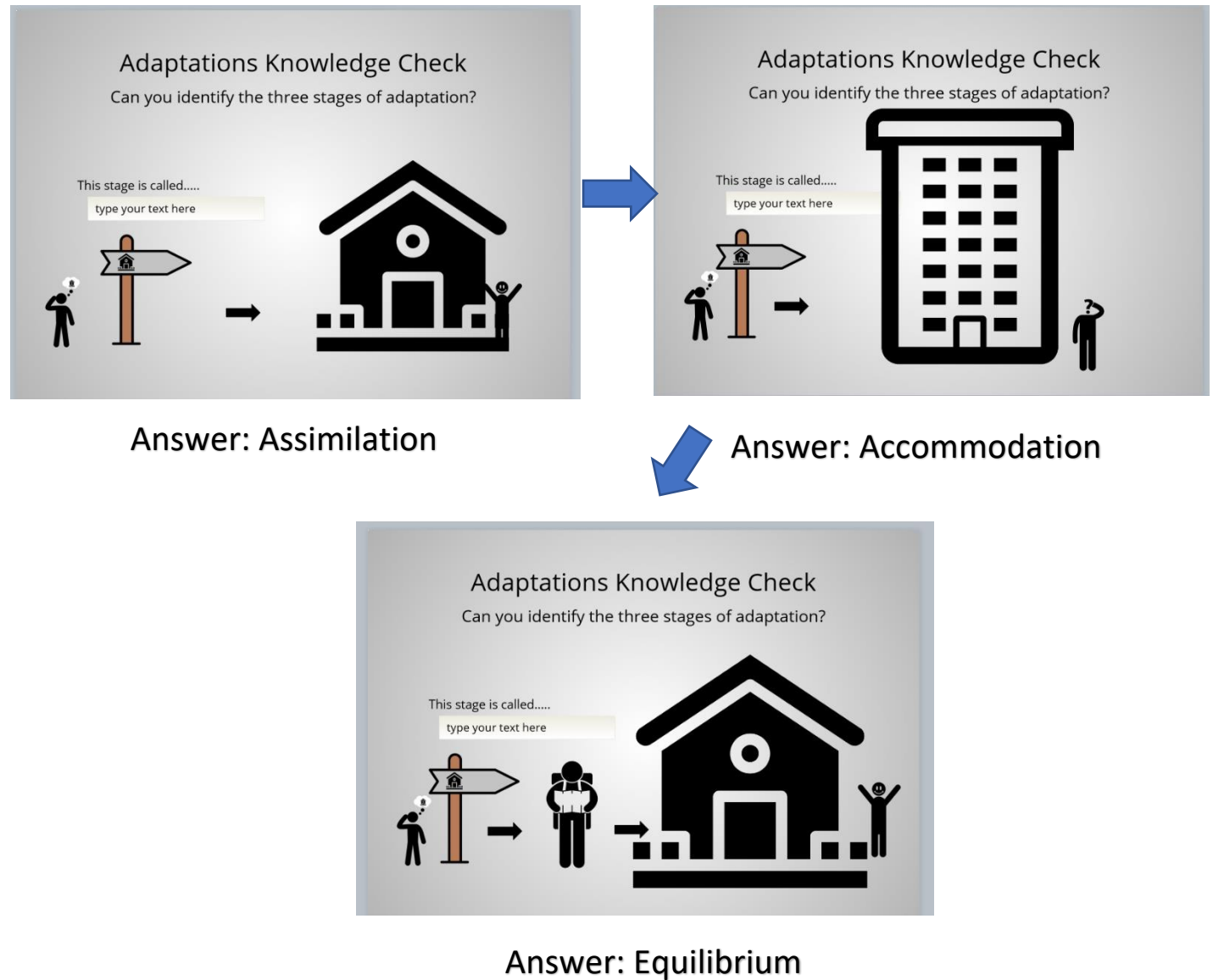
- When slide begins, play Narration #1, show scene 1
- When Narration #2 plays, show scene 2
- When Narration #3 plays, show scene 3
- When Narration #4 plays, show scene 4
- When Narration #4 ends, jump to slide 9

Slide 9 [Adaptation Knowledge Check]

Audio Narration

Visuals

Font: Times New Roman



Instructions for interactivity

Functionality

- FreeFrom Question: textEntry
- If user types correct answer for Scene 1, display scene 2, display correct layer, then
 - Else, show incorrect layer, then try Scene 2 again,
- If user types correct answer for Scene 2, display correct layer, then display scene 3
 - Else, show incorrect layer, then try Scene 2 again
- If user types correct answer for Scene 3, display correct layer, then jump to Slide #6

Slide 10 [Four Stages of Cognitive Development]

Audio Narration

Narration Audio #1

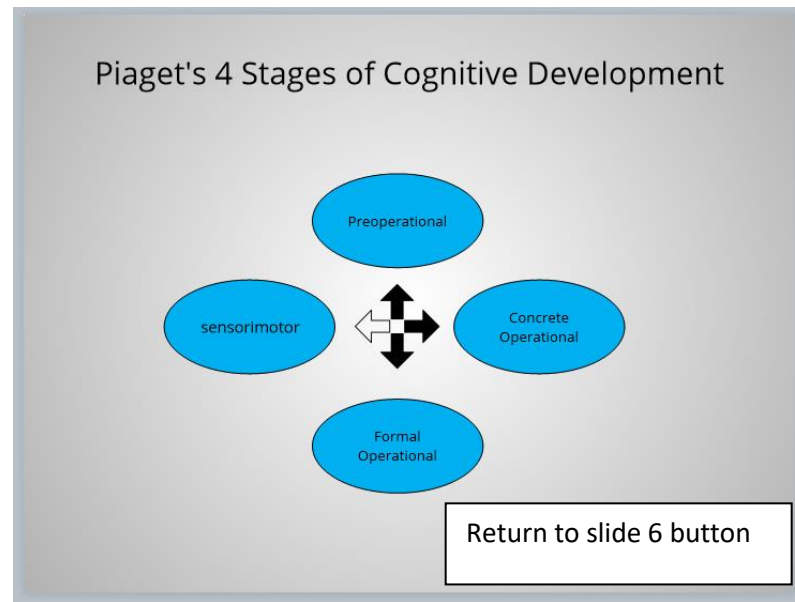
Piaget's theory prescribes that children pass through four different stages of intellectual development which mirror the increasing complexity of thoughts.

Piaget's four stages of cognitive development include:

1. Sensorimotor: Birth to ages 18-24 months.
2. Preoperational: Toddlerhood (18-24 months) through early childhood (age 7).
3. Concrete operational: Ages 7 to 11 years.
4. Formal operational: Adolescence to adulthood.

Visuals

Font: Times New Roman



Instructions for interactivity

Functionality

- When slide begins, play Narration #1
- When user mouse hovers over **button** “sensorimotor”, Highlight button as selected.
- When user mouse hovers over **button** “preoperational”, Highlight button as selected.
- When user mouse hovers over **button** “concreteOperational”, Highlight button as selected.
- When user mouse hovers over **button** “formalOperational”, Highlight button as selected.
- When user mouse clicks **button** “sensorimotor”, jump to slide #11, scene 1
- When user mouse clicks over **button** “preoperational”, jump to slide #11 scene 3
- When user mouse clicks over **button** “concreteOperational”, jump to slide #11 scene 5
- When user mouse clicks over **button** “formalOperational”, jump to slide #11 scene 6

Slide 11 [Sensorimotor & Pre Operational]

Audio Narration

Narration Audio #1

The main achievement during this stage is object permanence or knowing that an object still exists, even if it is hidden.

It requires the ability to form a mental representation of the object.

This stage begins at birth and ends around 2 years of age.

Narration Audio #2

During this stage, young children can think about things symbolically. This is the ability to make one thing - a word or an object - stand for something other than itself.

Thinking is still self-centered and the infant has difficulty taking the viewpoint of others.

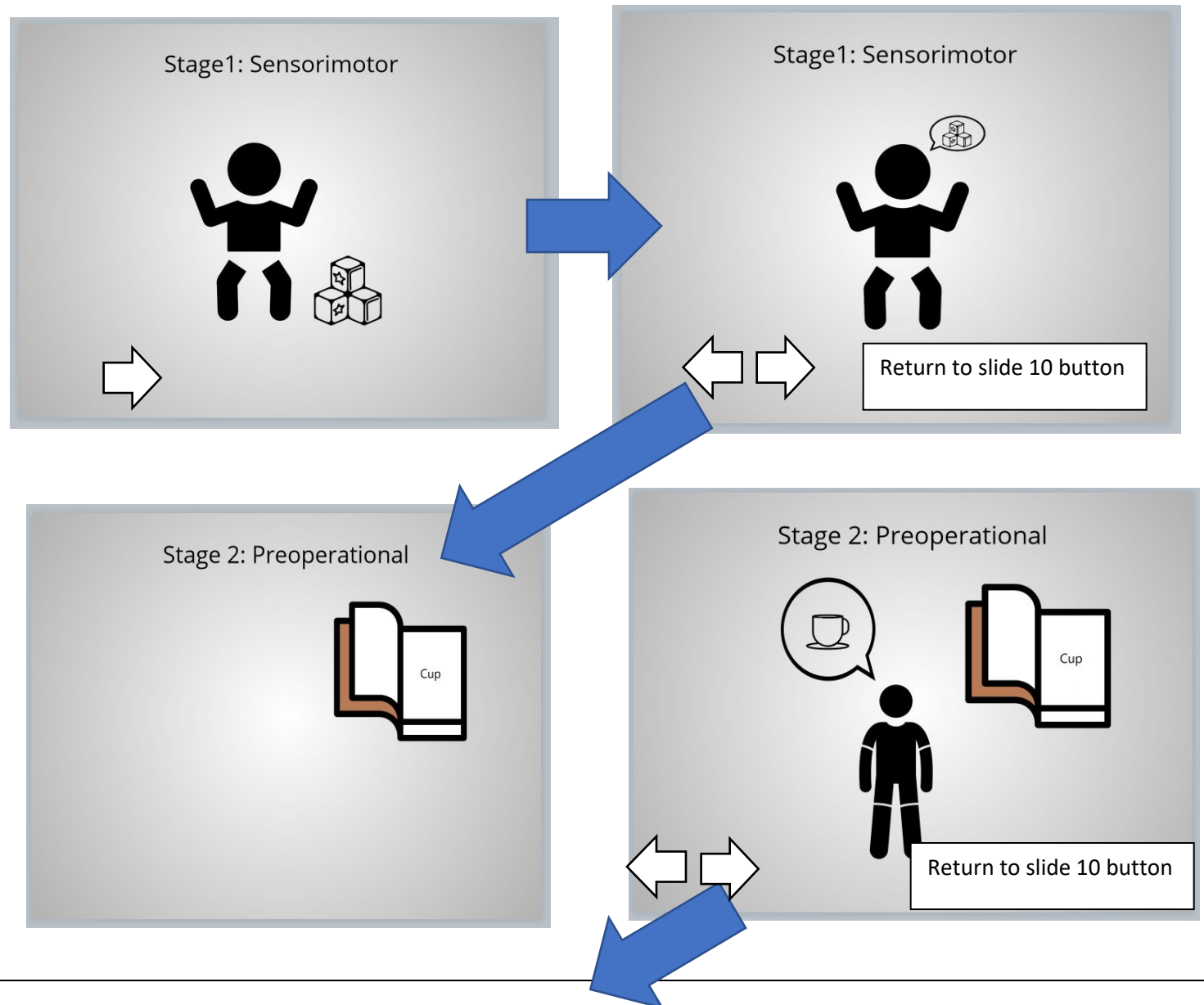
This generally lasts between the ages of 2 – 7.

Narration Audio #3

During the concrete operational stage, a child can work things out internally in their head. They are able to

Visuals

Font: Times New Roman

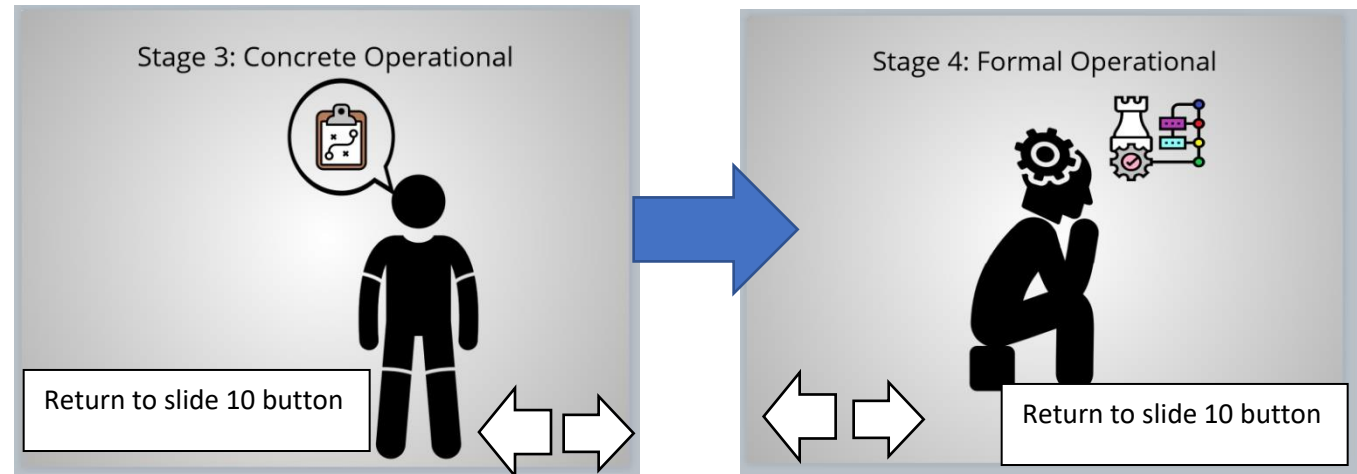


formulate virtual plans for physical problems.

Children can conserve number (age 6), mass (age 7), and weight (age 9). Conservation is the understanding that something stays the same in quantity even though its appearance changes.

Narration Audio #4

The formal operational stage begins at approximately age eleven and lasts into adulthood. During this time, people develop the ability to think about abstract concepts, and logically test hypotheses.



Instructions for interactivity

Functionality

- When slide begins, Play narration #1, then slowly transition to scene 2, play narration #2
- When narration #2 begins, transition to scene 3,
- When narration #3 begins, transition to scene 5,
- When narration #4 begins, transition to scene 6
- White Arrows toggle user ability to switch between scenes

Slide 12 [Knowledge Check]

Audio Narration

Narration Audio #1

Click and drag the correct cognitive development stages and place them in the correct numbered order. Then, click check your answer.

Visuals

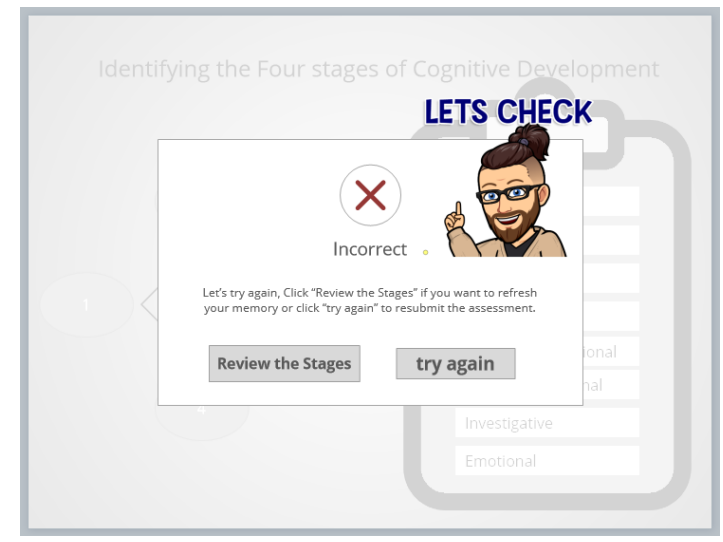
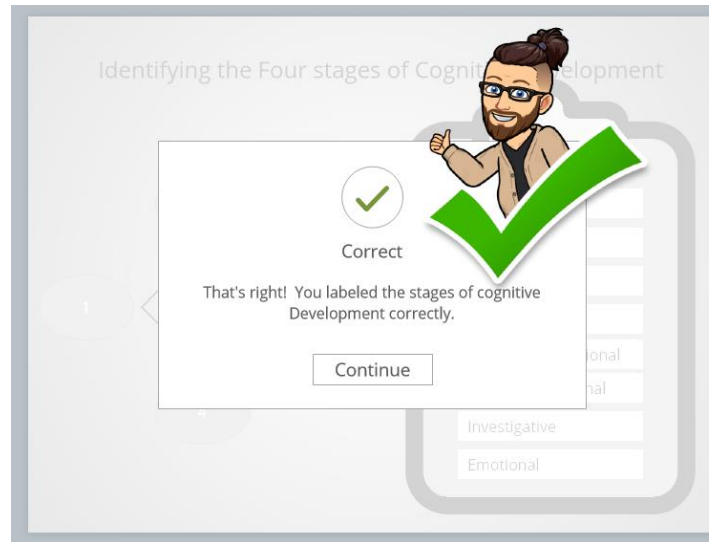
Font: Times New Roman

Identifying the Four stages of Cognitive Development

1 2 3 4

Check your Answer!

Preoperational
Puberty
Locomotor
Sensorimotor
Concrete Operational
Formal Operational
Investigative
Emotional



Functionality

- Words on clip board are draggable
 - Sensorimotor, Preoperational, Concrete Operational, Formal Operational, the correct answers.
 - The Correct order is
 - Sensorimotor
 - Preoperational
 - Concrete Operational
 - Formal Operational
- **Button** “check your answer” submits assessment
 - if answers are incorrect, show layer “incorrect”
 - incorrect layer has two buttons.
 - **button** “review the stages” returns user to slide 10
 - **button** “try again” resets the assessment, returns slide 12 to normal state.
 - if answers are correct, show layer correct.
 - Button “continue” jumps user to final slide.

Slide 13 [Impact]

Audio Narration

Narration Audio #1

Although Piaget did not explicitly relate his theory for education, it has been influential in how education specialist and researchers approach learning and child cognitive development in the classroom.

It encourages the teacher to:

Narration Audio #2

Focus on the process of learning, rather than the end product of it.

Narration Audio #3

Use student centered activities that require rediscovering or reconstructing "truths."

Narration Audio #4

provide collaborative, as well as individual activities (so children can learn from each other).

Narration Audio #5

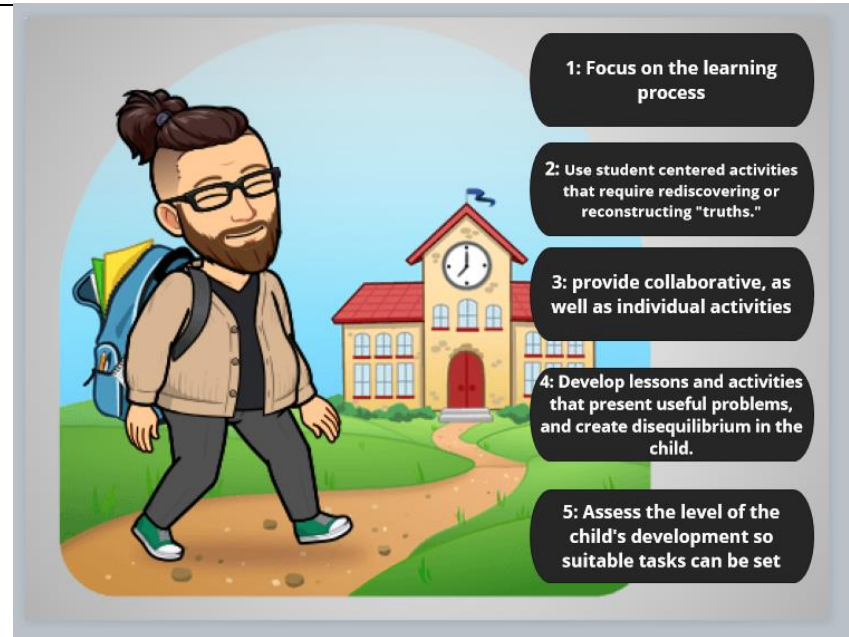
Develop lessons and activities that present useful problems, and create disequilibrium in the child.

Narration Audio #6

Assess the level of the child's development so suitable tasks can be set

Visuals

Font: Times New Roman



1: Focus on the learning process

2: Use student centered activities that require rediscovering or reconstructing "truths."

3: provide collaborative, as well as individual activities

4: Develop lessons and activities that present useful problems, and create disequilibrium in the child.

5: Assess the level of the child's development so suitable tasks can be set

Instructions for interactivity

Functionality

When slide begins, play Narration Audio #1

- When Narration #2 begins, **button 1** appears
- When Narration #3 begins, **button 2** appears
- When Narration #4 begins, **button 3** appears
- When Narration #5 begins, **button 4** appears
- When Narration #6 begins, **button 5** appears

Slide 14 [In Summary]

Audio Narration

Narration Audio #1

Let's review what we covered.
Today, we

Narration Audio #2

Identified the goal of Piaget's
Theory.

Narration Audio #3

Identified the three basic
components of Cognitive
Theory

Narration Audio #4

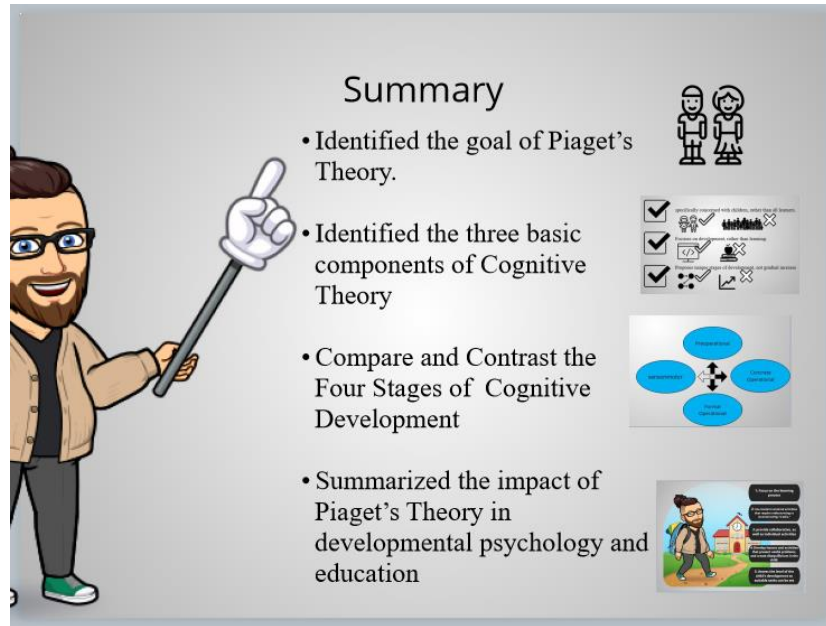
Compare and contrast the
Four Stages of Cognitive
development

Narration Audio #5

And summarized the impact
of Piaget's Theory in
developmental psychology
and education.

Visuals

Font: Times New Roman



The slide features a cartoon character on the left, a central text area with a bulleted summary, and three small icons on the right. The character is a man with a beard and glasses, wearing a tan jacket and green shoes, holding a pointer stick. The central text area has a light gray background and contains the following text:

Summary

- Identified the goal of Piaget's Theory.
- Identified the three basic components of Cognitive Theory
- Compare and Contrast the Four Stages of Cognitive Development
- Summarized the impact of Piaget's Theory in developmental psychology and education

The three icons on the right are: 1) A family icon (man, woman, child) with a checklist of 'Identified the goal of Piaget's Theory', 'Identified the three basic components of Cognitive Theory', and 'Compare and Contrast the Four Stages of Cognitive Development'. 2) A circular diagram showing the four stages of cognitive development: Sensorimotor, Preoperational, Concrete Operational, and Formal Operational. 3) A cartoon of a person walking towards a house with a checklist of 'Summarized the impact of Piaget's Theory in developmental psychology and education'.

Instructions for interactivity

Functionality

When slide begins, play Narration Audio #1

- When Narration #2 begins, **NarrationTextIcon1.png** appears.
- When Narration #3 begins, **NarrationTextIcon2.png** appears.
- When Narration #4 begins, **NarrationTextIcon3.png** appears.
- When Narration #5 begins, **NarrationTextIcon4.png** appears.