

Piaget's theory

The specification says . . .

Piaget's Theory of Cognitive Development including concepts of assimilation and accommodation.



← Black cat called Maynard.

→ The same black cat with a dog's mask over his head.



This is one of my (Cara) all time favourite studies in psychology – and not just because I have had black cats for most of my life.

Three-year-olds were shown Maynard the cat and then watched while the cat went behind a screen (with his tail still visible) and a mask was placed over his head. When they saw the post-transformation 'dog' the children said it was a dog even though they had watched the whole transformation (DeVries 1969).

Young children are 'overwhelmed' by what they see – and let that dominate their thinking. They don't think in a way that has internal logic – in other words, their thinking doesn't quite make sense. Though it might make sense to them. A person of your age knows that a cat can't change like that.

Stretch and challenge

Think of a concept such as 'bank robbery' or 'going to a restaurant'. Write down the first five words that come into your head. Compare your answers to other people in your class.

Were there many with the same words, and if so, what does this tell us about our schemas?

The theory

'Cognitive development' refers to the way a person's knowledge, thinking and intelligence changes as they get older. In psychology, the term *cognitive* is used to refer to mental processes, especially thinking.

Before Jean Piaget's theory, people held the view that children were the same as adults but just knew less. They believed that once children developed that knowledge they would be the same as adults.

Piaget (1954) changed the way that we understand cognitive development. He showed that children don't simply know less. They actually think in a quite different way – as in the example on the left.

Stages

Piaget suggested that young children are not able to think logically about the world. Their brains are simply not mature enough to think in a logical way, in the same way as a very young child cannot walk because their muscles and coordination are not mature enough.

As a child gets older, their brain develops and different kinds of thinking are possible, such as being able to use numbers and to think in a more abstract way. These are described as different **stages**. We will look at these stages later in this chapter.

Schemas

Piaget did not just consider the stages children go through. He also described how they learn new information. The world is *represented* in the mind – that is where knowledge is stored. As children develop, they construct more and more detailed and complex mental representations of the world. These representations are stored in the form of **schemas**. A schema is a mental structure containing all the information we have about one aspect of the world.

As adults we have schemas for people (including ourselves), for objects, physical actions and also for more abstract ideas like justice and morality. According to Piaget, children are born with a small number of schemas. Gradually these schemas become more numerous and more complex through the processes of **assimilation** and **accommodation**.

Assimilation

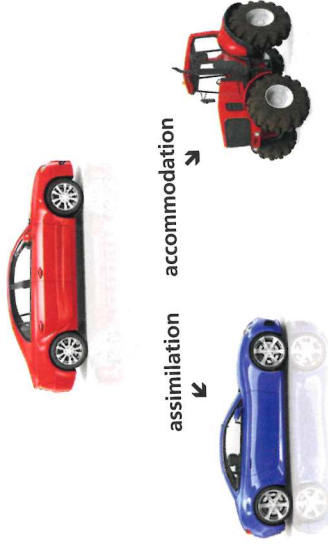
Let us imagine that a young child has a schema for 'car'. The child knows that you get into a car and other people get into a car and the car makes a noise and it moves. A car is red and shiny. One day the child encounters a blue sports car. This doesn't quite match their existing schema – the colour is different, only one other person can get in, the car makes a different noise, etc. So the child's 'car schema' needs a bit of change to take in the new information.

We say that *assimilation* takes place when we understand a new experience and add that new information to our existing schema.

Accommodation

On another occasion the child gets to ride in a tractor – this also moves and is shiny and red but makes quite a different noise and has very large tyres. This requires a big change to the existing car schema or the formation of a new one – a tractor schema.

Gradually we develop the detail of each existing schema and, on some occasions, develop completely new ones. This is how we acquire knowledge about the world.



Evaluation

Research evidence

Point: One strength is that Piaget's theory has led to an enormous amount of research to test his ideas.

Explanation: Scientific theories depend on research evidence to demonstrate whether the theory is right or wrong. As you will see in the following pages, Piaget's ideas have led to a large number of research studies, such as Donaldson's 'naughty teddy study' and Hughes' 'policeman doll study'. These studies didn't fully support Piaget but they help us adjust aspects of his theory.

The testability of his theory is a good thing because if we can test his ideas, we can be more certain if the theory is correct or whether it needs some refining.

Real-world application

Point: One strength is that Piaget's ideas about how children learn by forming their own mental representation of the world have influenced classroom teaching.

Explanation: Since Piaget's ideas became popular in the 1960s, the old-fashioned classroom, in which children sat silently in rows copying from the board, has been replaced by activity-oriented classrooms in which children actively engage in tasks that allow them to construct their own understandings of the curriculum.

This is something we will look at more fully on pages 76–77.

EXTRA: The sample

Point: One weakness is that Piaget's research involved middle-class European children.

Explanation: Piaget developed his theory from research studies he conducted where he lived – in Switzerland. The children were from European academic families who valued academic abilities. In other cultures and social classes, greater value may be placed on, for example, a more basic level of concrete operations (i.e. making things rather than thinking about abstract ideas). Therefore his theory may not be universally applicable.

What is meant by ...

Accommodation A form of learning that takes place when we acquire new information that changes our understanding of a topic to the extent that we need to form one or more new schemas to deal with the new understanding.

Assimilation A form of learning that takes place when we acquire new information or a more advanced understanding of an object, person or idea. The new information does not radically change our understanding of the topic.

Schema A mental framework of beliefs and expectations that influence cognitive processing. We are born with some schemas but they develop in complexity with experience of the world.

Jean Piaget (1896–1980)

Piaget is probably the best-known psychologist after Sigmund Freud. He was born in Switzerland and wanted to be a biologist – as a teenager he became an expert on molluscs.

In his 20s he worked on some of the first IQ tests and noticed that children of a similar age tended to make the same *kind* of errors. This led him to his theory of cognitive development – he realised that the way children think changes as they get older.

THINK LINK



The role of language

In Chapter 6 you will learn about Piaget's views about language. This is an important part of his theory because he believed that we learn schemas first and then learn the words to express our schemas/thoughts.

Apply it – concept Maggie's insect schema

Read the item below and then answer the question that follows.

Maggie is playing in the garden and correctly identifies a fly that lands on a tulip. Her mum then quickly corrects her when she identifies a wasp as another fly.

Maggie gets confused as she says that wasps can fly and make a buzzing sound so why do they have a different name? Maggie's mum says it is because wasps have yellow on them and so are slightly different.

Maggie then sees a yellow plane in the sky and says 'wasp'. Maggie's mum says no, this is a plane as it is a machine, a lot bigger and carries people in the sky.

Question

Use your knowledge of psychology to explain the role that assimilation and accommodation play in Maggie's learning in this scenario. [3 marks]

Study tip

Application

When answering application questions, underline key phrases in the text you are given (scenario) and then mention these phrases in your answer. Remember to link your answer to the scenario as well as showing your psychological knowledge.

1. Distinguish between the processes of assimilation and accommodation. [3 marks]
2. Explain how accommodation might occur when a child recognises that a small fluttering creature is not a bird, but is told it is a butterfly. [3 marks]
3. Describe and evaluate Piaget's theory of cognitive development. [9 marks]