

21st Century Learning Cognitive Development Theories

In this assignment I am going to explore a cognitive development theorist whilst describing and evaluating the ideas of one theorist who has explored cognitive development whilst using reflective observations to back up my findings. I have been given the option by my lecturer to explore the theories by the theorists Piaget, Vygotsky, Bruner and Howard Gardner; out of these individuals I have chosen to do my assignment on Jean Piaget.

Whilst doing research for this assignment I learned a range of learning theories, but in particular focused on cognitive learning theories and relating it to current education practices.

Although I have chosen to do my assignment on Piaget, I am going to give some background about the other theorists, firstly, Lev Vygotsky.

Vygotsky was a Soviet psychologist, the founder of the unfinished Marxist theory of human cultural and biosocial development. Born on 17th November 1896 in Belarus. Vygotsky's work has become the foundation base for many cognitive development theories in the past few decades, particularly one known as the social development theory. His theories suggest social interaction is key to a stress learning zone. He also believes community plays a core role in an individual's learning and argued "learning is a necessary and universal aspect of the process of developing culturally organised, specifically human psychological function" in simpler terms, social learning tends to come before social development.

Secondly, Jerome Seymour Bruner born on the 1st October 1915 in New York was an American psychologist who made a large amount of contributions carrying out many theories to human cognitive psychology and cognitive learning theory in educational psychology. He studied at Harvard University and went on to have a career as a senior research fellow at the New York University School of Law. Bruner is best known for the Constructivist Theory. A major theme in the theoretical framework of Bruner is that learning is an active process and they are learning constantly and it is an active process which learners gain on knowledge that they already have retained past on past knowledge they already have.

Bruner's theory is applied to teaching and learning by sticking to these structures:

1. Learning is an active process
2. Learners make appropriate decisions and postulate hypotheses and test their effectiveness

3. Learners use prior experience to fit new information into the pre-existing structures
4. Scaffolding is the process through which able peers or adults offer supports for learning,

Finally i'm going to talk about Howard Gardner. Howard Gardner born on the 11th July 1943 in Pennsylvania, United States, is an American Developmental psychologist and is the John H. and Elisabeth A. Hobbs `Research Professor of Cognition and Education at the Harvard Graduate School of Education at Harvard University. Gardner's theory is 'The theory of multiple intelligences'. The stages are visual-spatial intelligence, linguistic-verbal intelligence, logical-mathematical intelligence, bodily-kinesthetic intelligence, Musical Intelligence, Interpersonal Intelligence, Intrapersonal Intelligence and Naturalistic Intelligence.

Now to go more in depth with Piaget's theories; Jean Piaget was born in Neuchatel, Switzerland on the 9th August 1896. Piaget was a Swiss psychologist and genetic epistemologist and had strong findings and feelings on this theory of cognitive development and epistemological views, which together are called 'generic epistemology'.

Jean Piaget started his research very early on as he started showing interest in the natural sciences and placed great importance on the education of children, although focused mostly on early years.

Piaget's interests took him down the path of psychoanalysis, so to study this he spent a year in a boys only institution created by Alfred Binet who was someone Piaget himself thought very highly of, before enrolling to do a degree at University.

His career first started as he published his first research findings in a newspaper which was an article on an albino sparrow. Continuing on from his newspaper publishing he went to study Natural Sciences in the University of Neuchatel in 1918 and graduated with a Phd.

Whilst in his adolescence Piaget's work focused on natural sciences, but after getting married and having a young family of three children the focus changed as he started watching his children grow up and started to wonder how the brain absorbs information, so this was the beginning of his cognitive theorist journey.

Piaget's work has been indefinitely ongoing and changing for many years and still does to this day as Piaget believes children and adults think differently. His work within education started with Binet's intelligence test and his findings are still highly in favour in today's education system and he believes that for a child every experience and

interaction they go through in adolescence will have an impact on early childhood and how they learn. He learnt this by doing his own research of cognitive development.

To help understand the development of the cognitive learning theory Piaget classified the process stages as:

- Observing
- Reasoning
- Classifying
- Cateograising
- Attention
- Perception
- Interactivity

Piaget is convinced all these together play a major part in helping all learners absorb information efficiently and apply it to certain concepts throughout their life. For instance, if learners have short term attention span and can't concentrate properly in a classroom facility they are less likely to grasp the essence of what is being taught or demonstrated and what absorb the information which is being brought to their attention.

Jean Piaget has a theory that children move through four different stages of mental development; he doesn't just focus on understanding how children gain knowledge but also on understanding the nature of intelligence.

Piaget's stages are:

- Sensorimotor Stage: (birth to 2 years)
- Preoperational Stage: Ages 2-7
- Concrete Operational Stage: Ages 7-11
- Formal Operational Stage: ages 12 and up

Piaget believes that children subconsciously take on an active role in the learning process, so implement that into today's schooling theories and gain an understanding of the importance of different perspectives on all learning theories and develop knowledge and skills.

Piaget was first trained as a biologist so this gives him a constructivist approach so as a result of this formed key 'Piagetian principles'. One of these is that a child's thought process is cognitively different from adults. As a result of this, Piaget structured his theories into developmental stages and introduced them into the education system.

The four stages of development:

- Sensorimotor stage. 0-2 years: imitation, memory and thought begin to be utilized

- Preoperational stage. 2-7 years: language development and recognising symbolic form
- Concrete operational stage. 7-11 years. Able to solve hands-on problems logically
- Formal operational stage. 11-15 years. Able to solve abstract problems in a logical fashion

Depending on the curriculum, theories can be learnt and taught in different ways, as long as it is taught with the correct principles and it directly applies to the essentials of the child's own development. He developed a theory of his methods of understanding children and whilst gathering information made note of the certain stages of development that allowed children to learn better. The main ages he saw children retaining information best and learning better was eighteen months, seven years old, and 11/12 years old. This information shows that no matter how smart any child is they are simply not able to understand how certain things work. For example, if you hide behind your hands in peek-a-boo a child thinks you've disappeared as they simply can't see you.

It has been tried and tested that Piaget's theory works in the classroom. For it to work most effectively in a classroom it is broken down into six steps:

- Use concrete props and visual aids whenever possible
- Make instructions relatively short, using actions as well as words
- Do not expect the students to consistently see the world from someone else's point of view
- Be sensitive to the possibility that students may have different meaning for the same word or different words for the same meaning
- Give hands on practice with skills that serve as building blocks for more complex skills like reading at higher stages
- Provide a wide range of experiences in order to build a foundation for concept learning and language

What is the cognitive development learning theory?

The cognitive development learning theory is the learning theory is the learning theory of an individual's cognitive development throughout their life. Piaget took his theory further by explaining that the human brain plays a critical part in helping understand new complex contexts. The theory focuses on how the human mind works while people learn and focuses primarily on how information is processed by the brain and how learning is processed into stored information.

Although Piaget's theories have been very beneficial, there have been some criticisms. A major one stems from the nature of the theory. It can be seen by other people who have researched it as inaccurate. Another researcher Weiten pointed out that Piaget might have underestimated the development of young children, others have pointed out that preoperational children may be less egocentric than Piaget believed.

When studying all these theorists there are some similarities between Piaget and Bruner, but an important difference is that in Bruner's theory the development of the learning processes is not something immovable, since although a certain stage can dominate in a concrete evolutionary moment, in fact all stages coexist in some way.

There are also some similarities and differences between Bruner and Piaget. Bruner states that what determines the level of intellectual development is the degree to which the child has received adequate instruction along with practice or experience. Because of this, the correct way to teach and explain, will allow a child to understand a general concept that at first is only understood by an adult. Although Bruner proposes stages of cognitive development, he does not see them as a representation of the different independent modes of thought at the different points of development such as Piaget.

It is important to understand the importance of different learning perspectives and theories as different theories provide a basic understanding of how everyone learns in life and is a good way to explain, describe, analyse and predict learning in our society. Having a learning theory in place helps us as a society makes more informed decisions around learning.

In conclusion in this assignment about cognitive development theories I have described and evaluated the ideas of Piaget and other theorists who have explored cognitive development whilst including reflective observations of this development in practice I introduced my assessment based on a funnel model.

In the main body of my assessment I have described the cognitive development learning theory of Jean Piaget and included how this theory relates to practice. I did this by demonstrating my knowledge of a range of learning theories and how they relate to current education. I also included an understanding of the importance of different perspectives of learning theories and finally, I discussed and evaluated how learning contexts facilitate the development and enhancement of knowledge and skills.

References

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