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Cognitive Psychology

Cognitive psychology is a very vast area of study and can be defined as the study of all the mental processes like human consciousness, attention, memory, language, imagination, problem-solving ability, and more importantly perception. The research obtained by studying cognitive psychology is integrated into different disciplines like educational psychology, personality psychology, abnormal psychology and, etc. The term “cognition” relates to the processes involved in transforming, elaborating, storing and recovering the sensory inputs even in the absence of any external stimuli for instance hallucinations, etc. Thus, the term cognition can easily explain that every psychological phenomenon is a cognitive phenomenon (Neisser).

**History**

Researchers are always fascinated by the complexity of a human mind and the process associated with it. Even in ancient Greek times, many researchers focused a lot on studying the human mind. Plato in 387 BC considered the brain as a seat of all the mental processes occurring in humans. A famous philosopher Rene Descartes claimed that body and mind are two different entities causing a series of debate regarding the claim. In the 19th century, psychology was also considered as a scientific discipline. It was during this time that Paul Broca discovered a region of the frontal lobe in the brain that is responsible for all the motor functions that determine speech and Carl Wernicke discovered an area in a brain responsible for language comprehension. These two discoveries played a vital role in the field of cognitive psychology. In the early nineteens, behaviorism was considered as the only approach to psychology. However, in 1967 Ulric Neisser in his book mentioned the term cognitive psychology making it a widely used term in the field of psychology.

**Mental processes**

As mentioned above cognitive psychology is related to mental processes these processes include:

*Memory*

Memory is the most important function of the brain. It can be divided into two types that are short term memory and long term memory. Short term memory is also referred to as working memory. In cognitive psychology, most of the study is done on working memory.

**Working memory**

Working memory can be described as the capability to process information about everyday activities. However, these memories are short term, for instance, remembering a recipe of food while cooking.

**Long term memory**

 Long term memory can be categorized as procedural memory present in the subconscious level and requires a little conscious effort. It consists of stimulus-response information triggered through daily routines or any specific task. Accessing this memory is a bit tough depending upon the amount of knowledge and episodic memory. It is also known as the memory of autobiographical events.

*Attention*

Attention can be described as a state of awareness or an ability to concentrate. The human brain receives multiple auditory, visual, taste and tactile information however only a small part of this information is consciously handled by the brain and is handled through the attention process. The attentional system can be classified as endogenous control that is responsible for divided attention and conscious processing and exogenous control is responsible for pop up effects.

*Perception*

Perception can be described as the point of view of a person. It includes physical senses like touch, hearing, and smell, etc. For example, the way we see things does not determine how we perceive them because our brain tries to make sense of the stimuli that our eyes see. In the context of cognitive psychology, perception is explained based on how our mind interprets certain stimuli.

*Language*

After the Carl Wernicke discovery, many researchers are interested in the cognitive process that involves language. In context to cognitive psychology, the psychology of language can be described as the interrelation between linguistic factors and psychological aspects.

*Learning*

Learning helps an individual’s response to the environment they are living in. Cognitive psychologists analyze this information to understand the behavior and thought the process of an individual.

*Decision making*

The ability to make decisions and making judgments about any situation depends upon an individual’s perspective. Cognitive psychologists analyze these choices that help in understanding the failure of different schemes and models like reward and punishment schemes etc and also proposing new theories that would help in clinical pychology.

*Problem-solving*

According to the cognitive psychology, problem solving can be defined as the ability of an individual to pursue goals. Problem-solving depends upon a person’s memory, perception, and attention.

**Applications of cognitive psychology**

Cognitive psychology is a very broad field due to which there are many other fields of psychological studies that can be integrated with it. They are as follows:

*Abnormal psychology*

Abnormal behavior is defined as a behavior that is slightly disturbing causing distress to the people experiencing it. The cognitive model regarding abnormal behavior helps a lot in understanding the abnormal psychology. According to this model, the reason for abnormality is because of the faulty thoughts that any individual processes.

*Social psychology*

Social cognition is referred to as the subset of social psychology that focuses on the mental process involving the perception of the social world.

*Developmental psychology*

Many cognitive models are involved in understanding developmental psychology. One such model is Piaget’s theory of cognitive development that involves the nature and development of human intelligence.

*Educational psychology*

Many theories of education involve cognitive psychology. They are as follows:

**Metacognition**

It involves awareness regarding one’s own thought process that is related to educational psychology as self-monitoring is one of the key aspects to study the behavior of any student.

**Declarative and procedural knowledge**

Declarative and procedural knowledge are the two cognitive paradigms that facilitate educational psychology as it helps in understanding student’s ability to integrate declarative and procedural knowledge.

**Personality psychology**

A cognitive process like thinking and judging contributes a lot in understanding one’s personality. These processes form a base of personality psychology studies.

**Cognitive theories**

The three main cognitive theories are as follows:

*Piaget’s cognitive developmental theory*

This theory is also known as development theory. It was created by a Swiss psychologist named Jean Piaget. This theory explains how gradually human acquires knowledge and uses it. According to his theory, children have more cognitive abilities than adults and their thought process is also different as compared to adults. He developed four stages to understand children’s cognitive skills. These four stages of his model are the sensorimotor stage, the preoperational stage, the concrete operational stage, and the formal operational stage. He divided children into different age groups and analyze their cognitive skills. His theory helps a lot in educational psychology as it focusses more on self-monitoring ability (Piaget).

*Vygotsky’s sociocultural theory*

 Lev Vygotsky was a Russian psychologist and is also a psychological thinker. He presented a sociocultural theory in which he stated that in the development of cognitive development social interaction plays a vital role. He also believed that besides biological factors cultural and environmental factors also affect person’s perspective. According to him, the interactions children had played a direct role in their development. Social theory can be classified in to three areas the first one is zone of proximal development in which children mental functions are studied like how many tasks a child can do on his own and how a little help make them do more tasks, scaffolding includes the interaction between a child and an adult as children learn through interactions so a skilled person can help them in learning different skills. The last one is private speech that focuses on the conversation that children have with themselves (Jaramillo)

*Information processing theory*

According to this theory, the human brain is compared to the processor of a computer as both of them work in a certain sequence. The sequence is then processed and deliver the final result. Likewise, the information is collected through senses then it is encoded and then it is stored. However, the information can be retrieved when needed. Initially, the collective memory is stored in short term memory but after the encoding, it is saved in the long term memory (Simon).

**Strengths of cognitive psychology**

The strengths of cognitive psychology are as follows:

* Cognitive psychology has many practical applications.
* It integrates and facilitates other approaches in psychology like behaviorism and social learning theory etc.
* It involves experiments that help in a better understanding of one’s behavior and helps in testing different psychological theories.
* It helps in highlighting an individual thought process that was ignored by many behaviorists.

**Limitations of cognitive psychology**

Some of the weaknesses/ limitations of cognitive psychology are as follows:

* Cognitive psychology is based on controlled experiments. For instance, the participant's behavior is analyzed by creating certain situations.
* It is based on the cognitive process and does not consider certain biological and environmental factors like genes and personal experiences.

**Differences in cognitive psychology and cognitive science**

There is a very thin line between cognitive science and cognitive psychology that often people consider them the same. Cognitive psychology is applied psychology which helps in understanding the phenomena of psychology. Typically, cognitive psychologists are more focused on performing experiments that include human participants so that they can analyze how the human mind processes different situations and how the external environment affects it. The results of these experiments can help a lot in clinical psychology. On the other hand, cognitive science is a very vast field that links to neuroscience, philosophy, and linguistics, etc. It provides information that helps in cognitive psychology.

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