Education critical thinking example

Technology, Development

Information Processing and Cognitive Theories 1950 – 1970
Information Processing and Cognitive Theories

The development and studies pertaining to information-processing and cognitive theories started to flourish between 1960s to 1970s, principles and theories prior to that period have shifted in terms of identifying how reading takes place. The perspectives of cognitive processing have provided a clear description that the underlying processes taking place in the human mind are inherited in the act of reading. The principles of cognitive processing framework are trying to explain that the unseen mind functions are engaged in more complicated mental activities. One of the models and theories such as information processing represents the primary perspectives of cognitive processing. It is regarded as the theory of learning that defines mental activities such as storage and retrieval and processing (Tracey & Morrow, 2012, p. 151). However, other theorists regarded information-processing as not a cognitive theory, but rather a framework that comprises several theories that shares the same core assumptions (Tracey & Morrow, 2012, p. 154).

One assumption explains that a mental process involves cognitive activities that are internally operating in to interpret symbolic representation of information. All types of information are coded as symbolic representations with particular structural properties. Therefore, anything that the mind perceives such as the words on this page, memories, abstract concepts, world events and intricate visual details are all representation of information. For example, when a person visits an art gallery and sees a painting. The

perceptual process encodes the new sensory information and the next process involves the mind creating an elaborate representation of the painting. The memory process will normally store the new information and retrieves the old information to construct a more comprehensive representation of the painting. This means that the principle behind the information and cognitive theories pertains to mental capacity to store sensory captured information and instantaneously retrieve related information from memory.

Several theories have shaped the research and reading instruction during 1960s to 1970s. One of the cognitive-processing model that emerged at that period is the Automatics information-processing model presented by LaBerge and Samuel in 1974 (Tracey & Morrow, 2012, p. 157). The theory was used as a fundamental framework in presenting reading models and methods until 1980s. It is composed of five major components such as phonological memory, visual memory, semantic memory, episodic memory and attention. The visual memory for example featured graphic inputs such as angles, curves and lines in identifying letters. Gough's model on the other hand was able to retain its usefulness due to the historical development of other theories pertaining to reading process. Wolf and Katzir-Cohen also employed the theories of information processing models in conceptualizing their research. Their fundamental perspective was derived from the theoretical component of information-processing. Researchers nowadays could also refer to the model as an example in order to allow understanding of reading process to occur (Tracey & Morrow, 2012, p. 184).

The emergence of information processing and cognitive theories between 1960s and 1970s is because of the development of computers that started in 1950s. The significant technological development had a significant influence to psychology. It is also being pointed out as the foundation of cognitive approach which eventually became one of modern psychology's dominant approaches. The principles and theories derived from cognitive approach took over behaviorism in the process. Computers became the new inspiration for educational psychologists and they used the context of computers as an analogy and metaphor in which the human mental process was being compared to that of a computer. Primarily, theories of cognitive approach were modeled out of the basic capacity of a computer such as coding, storing and retrieving information; the human mental process output on the other hand can be compared to a printed text or visual representations that can be interpreted by another mental process.

References

Tracey, D. H., & Morrow, L. M. (2012). Cognitive - Processing Perspectives. In Lenses on reading: An introduction to theories and models (2nd ed., pp. 151, 154, 157, 184). New York, USA: The Guilford Press.