

Cognitive theories 1989 to present critical thinking sample

[Education](#), [Learning](#)



Information Processing and Cognitive Theories 1989 to Present

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Although there are several different views about cognitive psychology, a few general principles exist that most of the cognitive theorists could agree with. First is the principle derived from the assumption of a limited capacity of our mental system, which means that the amount of information that the mental system can process is constrained in myriad ways. At a very specific point of the mental process, the flow of information is restricted in a bottleneck manner. The second principle involves a requirement of control mechanism to accommodate storage, processing, transformation, encoding, utilization and retrieval. Meaning, the mental system's capacity to process information is not always available all at the same time. There should be an executive function that will oversee and control the entire process. The third principle is based on the two-way flow of information; this is analogous to bottom-up processing, which refers the information gathered by the out senses. On the other hand the top-down processing referred to as the information stored in the memory, which involves in a dynamic process of constructing the meaning of the environment and its relation to all of us. The last principle is derived from the idea that the human organism genetically wired to organize and process information in different ways. In other words humans are biologically has the predisposition to process information.

Information processing and cognitive theories had immense impact on research and instruction in reading. The practical application of the theories

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would enable instructors to design instructional message both in visual and text that will maximize perception and increase attention of the learners. In terms scientific research on neuroscience, cognitive and information processing theories would revolutionize the future of education. The theories will be used to increase efficiency of diagnosing the children with special education needs. In addition new developments will also help researchers to study the effects of different intervention strategies on learners of varying abilities and age (Tracey & Morrow, 2012). Theorists believe that children learn from the actions. Therefore, their activities should be supported by their environment, which their learning environment should be made to encourage and initiate them to accomplish their own activities. Furthermore, instructions integrated to self-discovery play and activities should have adequate requisite characteristics derived from the modern information processing and cognitive theories. On the instructor's side, the impact of the modern theories is the creation of instructional strategies designed to make the learners become aware of the inconsistencies and conflicts of their thinking equilibration. In terms of classroom practices, the impact of modern theories is associated to assessing the learner's short and long-term memory, capabilities, perceptual abilities and executive control processes (Tracey & Morrow, 2012).

Modern information-processing and cognitive models also have significant implications on learning for diverse type of learners. For example, auditory learners prefer hearing auditory instructions than in text or visual materials. They learn faster from hearing lectures and their memory can easily process

information obtained verbally. Learners relying on text on the other hand learn best from reading text passages, written information and words. Lastly, kinesthetic learners are able to process information easier by connecting learning activities to reality such as role playing, simulations and hands-on practices. The implications of the modern theories to such learners are mostly directed to the instructors in choosing the best approach to address the needs of the learners. If the assumption about a particular group of learners is that they can cope up faster through verbal lectures; the instructor should apply the verbal approach in his classroom practices more often. Therefore, understanding the application of cognitive theories constitutes appropriate classroom practices derived from the principles that correspond to the learner's primary processor (Lutz & Huitt, 2003). Learning through technology also demonstrates the application of the modern cognitive theories. For example, interactive educational online instructions will be developed to specifically address the needs of specific type of learners.

References

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