Review of Paradigm shifts in Designed Instruction from Behaviorism to Cognitivism to Constructivism.

The article is about the evolution of designed instruction theory through the earlier reliance on Behaviorism to Cognitivism to Constructivism. The author Peter A. Cooper writes that the Behaviorism theory looks towards the environmental factors of learning, and ignores the internal factors like the mind and thinking but these days; there is a shift in emphasis in instructional technology, from the external to the internal factors. The emphasis of Behaviorism is on the environmental factors while Instructional theories of Cognitivism and Constructivism include the internal factors in different ways. Cooper links these shifts in instructional theory from environmental to internal factors to changes in instruction design methodology, physical technology, and programming mechanisms for developing instruction. According to Cooper, design instruction is inherently linked to technology; therefore his paper tries to connect the designed instruction theories to technological paradigms.

In addition, behavioral based instruction creates task based, stimulus-response oriented learning. When this approach is integrated with technology, the learner becomes a passive bystander limited to technological participation that involves a limited task like pressing a return key. It then appears that the content in behavioral based instruction lends itself more to learner responses that can be categorized as right or wrong. Shifting away from this approach, Cognitivism accounts for more complexity in instruction and learners response. Cognitivism recognizes variety in learner interactions and responses, and adjusts the use of computer in learning accordingly.

However, there are challenges in trying to integrate the cognitive theory into the design of computer based instruction. There is a need to capture more data than just the learner response through an intelligent tutoring model that encodes knowledge rather than a computer based instruction that solely encodes instructional decisions based on knowledge. For the Cognitive theorist, the main focus of instruction is to replicate the knowledge structures and systems of the expert instructor in the mind of the learner.

Nevertheless, there is a shortcoming recognized in the behavioral and cognitive models; they both contain relatively little information about the learning topic. Cognitivism is also criticized by behaviorists for forming abstract structures that are assumed without validation. There is a need in cognitivism to account for more individual differences leading to more intuitive and more complex graphical user interfaces. Both behaviorism and cognitivism (objectivism) see reality as something external to the knower, with the mind acting as a processor of input. A third theory known as constructivism sees reality as the experience of the knower. In these ways, the article discusses the shifts in paradigm from the external to the internal views. The mind is emphasized in constructivism as the builder of symbols of knowledge.
Cooper, Peter A. Paradigm shifts in Designed Instruction From Behaviorism to Cognitivism to Constructivism. Educational Technology, May 1993. V. 61 33, ns (12-19).