THE EMERGENCE OF THE THREE MAIN THEORETICAL FRAMEWORKS OF EDUCATIONAL TECHNOLOGY

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The science of education has already had a long history of development. And along its endeavor is the emergence of several theoretical frameworks and philosophies. With the rippling effects of industrialization and digital advancement, the world of education has entered its globalization era a long time ago. Consequently, education had its own technological development intertwined with the development of pedagogical theories and philosophies through the passing time.

Basically, educational technology has been playing a major role in pedagogy since the time of the sophists and, perhaps more than ever, up until now with the modern facilitators. With a number of theories and philosophies already out there, these theoretical frameworks are conveniently grouped for educational technology into three: behaviorism, cognitivism, and constructivism. And normally, these three theoretical frameworks follows the same order, as far as their establishment in philosophical history is concerned.

Among the three, behaviorism is the first to emerge and gained popular acceptance. Change in behavior, under the conditions of systematical rewards and punishments, was seen effective in training. Because of the correlations observed between behavior and learning, behavioral change was then adapted as a parameter of learning. This was what it was believed in and pioneered by known behaviorist such as the likes of Ivan Pavlov, Edward Thorndike, Edward C. Tolman, and B.F. Skinner. But, society and technology, as it has always been, continued to change and evolve. In no time, as society started to liberate itself en route to the quest of more freedom and basic human rights, the once prevalent strict behaviorism was eventually tagged as conventional and inadequate. Thereupon, behaviorism practically became just an academic fraction of a more universal undertakings in pedagogy.

Part to be blamed for the decline of behaviorism is the emergence of cognitivism. The movement of philosophical changes was seen as significantly serious that it gained the mark of “cognitive revolution” in the timeline of science communities, especially in pedagogy and psychology. The cognitive psychology, pioneered by renowned psychologist such as Jean Piaget and Noam Chomsky, looked beyond behavior to explain and explore the science of learning. With this kind of learning concept that embraces more freedom in sensory and cognitive functions, computer and digital technology became even more involved in the delivery of instructions, the facilitation of learning, and memory retention. With the help of
cognitivism as a theoretical framework, the holistic approach in pedagogy and learning theories became more clearly defined and opened up for further studies and discoveries.

One of the explored concepts that followed after the acceptance of cognitivism is the third main theoretical framework known as constructivism. In fact, even Jean Piaget’s “Theory of Cognitive Development” was seen as a distinguished type of psychological constructivism in some reference materials. The striking difference, however, is that there is a more defined role for the learners in constructing their own meaning and learning. Because of this, the teacher becomes more of a facilitator that guides the learners in constructing their own knowledge through the learning process. This gave more reason for information and computer technology to be integrated throughout the learning process, so that the independently individualized pace of learning is effectively and responsibly managed. Because of the capability to include individuality in the learning instructions, it became more compatible with the diverse, yet inclusive, education system of the now digital world. As a result, this theoretical framework also widens learners’ perspectives of diversity and individuality which fosters respect for differences and the importance of team work. In general, educational technology and its constructivist framework brought forth a more refined educational system which is globally inclusive, learner-centered, and inquiry-based.

With such digital advances nowadays, educational technology is more equipped to facilitate learning; while digital applications and computer devices are being used more and more each day, not just by students alone, but by majority of the contemporary citizens. And the three main theoretical frameworks of educational technology (behaviorism, cognitivism, and constructivism) are now forever etched in pedagogy, which does not show a hint of slowing down so far. With the way things are going with the constructivist type of educational technology, who is one to say that it will forever remain just the three of them. After all, learners and facilitators alike should know by now that change and uncertainty could be the only constant things through space and time.

References:
https://en.m.wikipedia.org/wiki/Educational_technology