

# Chapter 9

## Traditional and Emerging Instructional Design Models

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### **ABSTRACT**

*The purpose of this chapter is to introduce both traditional and emerging pedagogies and instructional design models, as well as instructional design frameworks. A brief history of instructional system design is provided. In order for faculty to craft the best possible courses for their students, they must be aware of these theories to provide a comprehensive, student-centered, holistic experience in both the classroom and in online learning. Most faculty are experts in their field, but are not experts in pedagogy or instructional design. This chapter is intended as an introductory chapter for faculty to educate them on these theories and their practical use.*

### **INTRODUCTION**

Instructional design was first used in the United States during World War II. During this time, the whole country was mobilized, and most recruits did not have the technical skills to create effective weapons and aircraft. Recruits needed critical thinking skills related to war time strategies to minimize troop losses. In addition, the military needed to be able to train the troops very quickly. Experts, such as Robert Gagne, influenced the way these accelerated training materials were developed by creating processes based on theories of learning and human behavior. After the war was over, these scientists continued to work on instructional problems, and applied the theories and techniques that were used to train soldiers in the war in the civilian workplace. By the 1950s-1960s, instructional design principles gained

DOI: 10.4018/978-1-6684-8208-7.ch009

### *Traditional and Emerging Instructional Design Models*

traction in education with the creation of Bloom's taxonomy (Reiser, 2001). Many of the traditional models developed during this period are widely used today. However, because of the educational technologies that became available in the late 20<sup>th</sup> and early 21<sup>st</sup> centuries, additional instructional design models emerged. The purpose of this chapter is to briefly discuss educational theory and pedagogy behind instructional design, instructional design frameworks, and traditional as well as emerging instructional design models. This chapter is written at the novice level for a target audience of educators and instructional design students who are not familiar with the different methods of instructional design that can be used in both online and face-to-face education.

## **THEORETICAL BASIS OF INSTRUCTIONAL DESIGN**

How can learning be defined? Educational theories continue to grow and change. Socrates first defined learning as gaining self-knowledge; learners must realize they do not know everything. He defined several theories in the learning process: theory of value, theory of knowledge, and theory of human nature. In the theory of value, learners must gain skills in discriminating what knowledge is important. In the theory of knowledge, learners must have definitional knowledge (facts lower-level learning) in order to engage in philosophical discussions (higher-level learning). The last is the theory of human nature which is internal aspects of the learner. The learner must choose to learn, and choose knowledge rather than ignorance (Burgess, 2022). However, learning cannot be attained by force. Socrates' theories of learning set the groundwork for centuries of education where the teacher was the deliverer of knowledge and the learner was the recipient.

Skinner (1950) defined learning as a change in behavior. In 1973, Malcolm Knowles defined learning as gaining knowledge and expertise in his study of adult learners (Knowles, 1980). In other words, learning should have meaning and purpose. More recent theorists in various fields still find these definitions lacking. In 2013, DeHouwer et al. proposed that current definitions of learning which are behavioral, ontogenetic adaptation, and mechanistic do not truly define this construct. They propose that for learning to occur, there must be a change in behavior, a regularity in environment (such as experience or the classroom), and a causal relationship between the environment and the change in behavior. They note learning is cognitive, adaptive and physical in regards to brain chemistry. Doyle (2023) calls it a change in the brain and notes "learning has not occurred unless students can recall the information when they need it...later in the course or in future activities" (p. 4). Throughout time, these different perspectives and theories of learning led to the creation of pedagogies.

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