

Chapter 1.8

Instructional Design Methodologies

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ABSTRACT

Instructional design (ID) is the systematic process of planning events to facilitate learning. The ID process encompasses a set of interdependent phases including analysis of learners, contexts and goals, design of objectives, strategies and assessment tools, production of instructional materials, and evaluation of learner performance and overall instructional design effort. The system approach, developed in the 1950s and 1960s, is rooted in the military and business world and has dominated educational technology and educational development since the 1970s. Currently, there are more than 100 different ISD models, with almost all based on the generic ADDIE model. Other commonly known models include the Dick and Carey model, the R2D2 model, the ICARE model, and

the ASSURE model. These models share three major components: analysis, strategy development, and evaluation. This chapter identifies the different roles and responsibilities involved when developing a typical title and outlines the main steps in the development.

INTRODUCTION

Instructional design (ID) is the systematic process of planning events to facilitate learning. The ID process encompasses a set of interdependent phases including analysis of learners, contexts and goals, design of objectives, selection of strategies and assessment tools, production of instructional materials, and evaluation of learner performance and overall instructional design effort (Gagne, Briggs, & Wager, 1992).

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Instructional design models may be defined as the visualized representations of an instructional design process, showing the main elements or phases of the process and their relationships. The systems approach involves setting goals and objectives, analyzing resources, devising a plan of action, and continuous evaluation and modification of the program (Saettler, 1990). The system approach, developed in the 1950s and 1960s and rooted in the military and business world, has dominated educational technology and educational development since the 1970s.

Currently, there are more than 100 ISD models, but almost all are based on the generic ADDIE model. The more commonly known models are the Dick and Carey model, the ICARE model, and the ASSURE model. These models all share three major common characteristics: analysis, strategy development, and evaluation. This chapter identifies the different roles and responsibilities involved in developing a typical title and outlines the main steps in the development. This chapter also explores ID in terms of definitions, models, and usage.

INSTRUCTIONAL DESIGN, TECHNOLOGY, AND THEORY BACKGROUND

The following key ID terminologies (1996) are explained in “Definitions of Instructional Design”:

- The discipline of instructional design is a branch of knowledge concerned with research and theory about instructional strategies and the process for developing and implementing those strategies.
- Instructional development is the process of implementing the design plans.
- An instructional system is an arrangement of resources and procedures to promote

learning. Instructional design is the systematic process of developing instructional systems and instructional development is the process of implementing the system or plan.

- Instructional technology is the systematic application of theory and other organized knowledge to the task of instructional design and development.

The growth of instructional design is relatively brief when compared with more mature design fields such as architecture. Only during the last century have scholars conducted in-depth research into learning theories, instructional theories, and systematic approaches to instruction. Many researchers analyze how human learning is relevant for the design of educational material (Gros, Elen, Kerres, Merrienböer, & Spector, 1997; Reigeluth, 1999; Schneider, n.d.; Winn, 1997). ID theory provides guidance on the task of designing learning experiences. It also provides a bridge to learning theories and instructional theories. According to Reigeluth, “Instructional theory describes a variety of methods of instruction (different ways of facilitating human learning and development) and when to use—and not use—each of those methods” (Squire & Reigeluth, 2000).

Most researchers agree that instructional materials are concerned with electronic learning environments. Such an environment is a combined system involving tasks, stakeholders, courseware, etc., which is aimed at supporting learning processes. Learning takes place mostly in interaction between learners, courseware products, other tools, and to a lesser degree tutors (human or artificial) (Schneider, n.d.).

The discipline of instructional design concerns research and theory about instructional strategies. Theory background for teaching and learning are presented in the following section.

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