

Models of instructional design

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In the article, Reclaiming Instructional Design, Merrill et al. (1966) highlight the significant relationship between science of instruction and the technology of instructional design (ID). They argue that science and instructional design with the application and production of technology are closely associated with each other. They also highlight the role of instructional design in the development and improvement of the learning processes and outcomes since instructional design follows scientific bases and strategies found in the existing literature regarding technology and education.

The International Board of Standards for Training, Performance and Instruction (IBSTPI; 2003) provides code of ethical standards for instructional designers in order to ensure a good working environment and condition with the company and other people in the workplace. This paper presents the concepts, theories, and components of instructional design, including its relationship with the learning theories, and the tasks and skills required for instructional designers as they contribute to the positive outcome of learning with the use of technology.

Instructional design (ID) has been thought of as a variation or modification of the concept of educational technology which evolved in the United States in the 1950s (Peters, 1967). It is associated with modes of artistic production and it is considered as a mode of producing or developing instruction, specific means of cultural transmission, and a way of organizing learning processes in the educational arena (Dijkstra, Schott, Seel, & Tennyson, 1997, p. 27).

Instructional design, as perceived by Dijkstra et al. (1997, p. 28) is in some ways different from educational technology because: (1) it involves different learning cultures from different “ pedagogies” and sciences (Reigeluth, 1996); (2) “ it reaches beyond the isolated ‘ culture-free’ concepts by thoroughly analyzing the contexts into which the units are embedded (Jencks, 1975); and it integrates any of the different modes of production whose products are the outcome of open-ended structures that promote self-directed learning processes.

It is assumed that instructional design involves the conditions of learning should be appropriate to the learning outcomes, problem-solving, and assessment activities (Jonassen, 2004, p. 146). Instructional design differentiates instructional design process from the production process. According to Gentry (1994), designing instruction is more important for it involves the identification and development of objectives, activities and evaluation protocols to promote learning while production process focuses on the creation and design of the tangible products such as videotapes, posters, booklets, worksheets as the outcome of the overall instructional design.

Learning theories are often confused with Instructional design theories. However, the theory of learning can be differentiated from the instructional design theory in such a way that the former is descriptive – describes how learning occurs – while the latter offers direct guidance in effectively helping people in learning and development which may include cognitive, emotional, social, physical, and spiritual aspects (Reigeluth, 1983, p. 5).

Contemporary theory of learning holds the view that “ ideas have little, if any, meaning unless and until they are embedded in some authentic context” (Spiro et al., 1987 cited in Jonassen, 2004, p. 102). Instruction need to be clear, specific, and detailed in explaining particular contexts instead of teaching abstract rules and principles which are usually difficult to understand. This way, learning and understanding concepts would be easily retained, more generative and meaningful, and more broadly and more accurately be transferred.

Schema theory, like the theory of human development, is one of the learning theories. It suggests that “ new knowledge is acquired by accretion into an existing schema, by tuning that schema when minor inconsistencies emerge, and by restructuring that schema when major inconsistencies arise” (Rummelhart & Norman, 1978 cited in Reigeluth, 1983, p. 12). It means that the learner can better understand a concept when there is already an existing knowledge about a new concept.

On the other hand, Instructional design does not describe what goes on inside a learner's head when learning occurs. Instead, they describe specific events outside of the learner which can be more directly and easily applied in solving problems. An important characteristic of Instructional design theories is that they are design or goal oriented. ID theories are not like descriptive theories, which are used for prediction or for explanation (Reigeluth, 1983, p. 7).

Although instructional design theories are more effective, the theories of learning are still important in education since it is important for instructional designers to also know theories of learning and human development (Winn, <https://assignbuster.com/models-of-instructional-design/>

1997, p. 37) for they are the actually the foundation for understanding how Instructional design theory works to help educators invent new and efficient instructional methods (Reigeluth, 1983, p. 13; Dijkstra et al., 1997, pp. 55-56).

Two components of instructional design theories include (1) methods of instruction, those that are used in facilitating human learning and development, and (2) situations (those aspects of the context that do influence selection of methods) that determine whether those methods are to be used or not. This component proposes that “ one method may work best in one situation, while another may work best in a different situation” (Reigeluth, 1983, p. 8). ID methods are also considered componential because each of them has different components or features that can be used or done in different ways and in different time (Reigeluth, 1983, p. 10). It is therefore important to apply methods only when they are appropriate or needed in a particular instance.

Instructional designers are called to use deductive method of instruction by analyzing and sequencing concepts based on importance, complexity or specificity. They should also integrate and review concepts since elaboration and repetition can help them understand better the lessons to be learned (Reigeluth, 1983; Reigeluth & Darwazeh, 1982 cited in Dijkstra et al., 1997, p. 9). They are also required to repeat the process of decontextualization of the knowledge resource and recontextualization of the knowledge for the intended use (p. 24).

Modern classroom teachers, as instructional designers (Dick & Carey, 1978), should have at least a basic understanding of instructional media production

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in order to work effectively regardless of the extent or frequency of his/her participation (Brown, 2004, p. 265). Milheim & Osciak (2001, p. 355) contend that the instructional designers' task is to use various instructional methods to achieve their instructional goals. Howard Gardner's Theory of Multiple Intelligences (Gardner, 1993) may be considered when planning specific instructional activities and the traditional instructional strategies may be integrated to effectively cater to the different learning environments, resources, and students.

Zhang (2001) asserts that taking into considerations individual differences can make ID produce a desirable outcome. Thus, motivation and the recognition of psychological characteristics of each learner are also important. According to Winn (1987, pp. 39-41), instructional designers should focus their concentration on the mechanisms by means of which decisions are made instead of getting involved direct instructional decision-making. They are also required to use instructional strategies that mesh with cognitive theory and regularly track the students' learning condition in all aspects of development.

In conclusion, instructional design as a scientific process that involves the process and production of technology can be used to improve and develop learners to become more effective not only in understanding concepts but also in making-decisions logically, and applying things they have learned efficiently. Successful use and implementation of ID requires instructional designers' or teachers' capability to use teaching and assessment methods that are appropriate to the situation, time, resources, students' abilities and individual differences.

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