

Chapter 23

Instructional Design and Online Standards

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ABSTRACT

Online education has a foundation so that beneficial practices can leverage online environments effectively. Besides generic instructional design principles, models of good online instructional design are emerging. These practices and models are codified into online instructional design standards that provide research-based criteria that can be used to measure the degree to which such instructional designs meet those standards and can serve as guidelines of factors to consider when designing online instruction. This chapter provides an overview of instructional design as it applies to online teaching and learning. It also discusses how standards can help improve such instructional design in order to optimize student learning and achievement.

INTRODUCTION

Increasingly, curriculum is being provided in online learning environments. Learners can access a broader range of resources, and can communicate in various media. Time and space seem to have “collapsed.” These changes impact the educational experience – and how instruction is designed.

As models of online learning have changed over the decades, current instructors probably have not experienced these formats or have been trained in their design (Boettcher & Conrad, 2016). Furthermore, because of changing practice, online education has only now stabilized so that best practices and standards can be developed and employed.

To this end, this chapter provides an overview of instructional design as it applies to online teaching and learning and uses an autoethnographic case study to investigate how standards can help improve such instructional design in order to optimize student learning and achievement.

BACKGROUND

Instructional Design

Instructional design may be defined as a systematic process used to develop educational programs in a consistent, reliable manner. This reflective and iterative process generally involves aligned and congruent analysis, design, development, implementation, and evaluation (Reiser & Dempsey, 2014). More broadly, instructional design includes “a collection of activities to plan, implement, evaluate, and manage events and environments that are intended to facilitate learning and performance” (Spector & Ohrazda, 2004, p. 687).

Instructional design emerged from general systems theory, the intent of which was to apply the concept of interdependent system elements to efficiently train military and aerospace personnel. Education is conceptualized as a set of organized and regulated systems that need to deal with change: of students, academic disciplines, and contextual environments. To this construct, learners bring their past experiences, which reflect a complex network of concepts, and interact with the education system learner to process information that impacts their own existing networks. This instructional approach is now used in many higher education institutions and fits particularly well in online education. Using a systematic instructional design model has several benefits for instructors: it focuses on the learner, it supports effective instruction, it provides a systematic way to address learning problems, it fosters coordination among all the instructional components and stakeholders, and it facilitates diffusion and adaptation (Smith & Ragan, 2004).

Newer instruction design practices focus more on learner experiences to the point that learners co-construct knowledge. Reigeluth, Beatty, and Myers (2016) synthesized these practices into principles of learner-centered instructional design: attainment-based instruction rather than time-based, task-centered rather than content-centered, and personalized rather than standardized. These principles change the roles of learners, teachers and technology. Furthermore, it changes the nature of curriculum to focus more and relationships, critical thinking and action, and accomplishment.

Reigeluth and Dempsey (2018) asserted that almost all instructional design processes displayed the following characteristics: student-centered, goal-oriented, creative, focused on meaningful performance, assumed measurable outcomes that are reliable and valid, processes that are empirical and self-correcting iteratively, and collaborative.

Assessment

Assessment constitutes a core function of education. Instructors assess in order to get baseline information, diagnose needs, design and implement instruction, allocate resources, measure learning, determine success, and improve education. Assessment considers what is being assessed, who is assessing whom, and how assessment is conducted, analyzed, and acted upon. In general, practice, instructors typically look at learner performance relative to their ability and progress in comparison to others and to established criterion, such as performance indicators (Oosterhof, Conrad, & Ely, 2008). Ongoing assessment, not just at the pre-planning stage, but also during instructional implementation, enables instructors to make adjustments to the curriculum, resources, and delivery as well as provide feedback to learners so they can make adjustments to their own efforts (Richey, Klein, & Tracey, 2010).

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