

## Chapter 14

# Improving the Quality of Online Learning Environments: The Value of an Online Specific Design Model

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### **ABSTRACT**

*In spite of the numerous changes in technology in the past decades, designers continue to utilize traditional instructional design models as a foundation for designing teaching and learning materials, which may not be suited for the design and development of online learning environments. A study was conducted to investigate the characteristics of an online-specific design model called Proactive Design for Learning (PD4L) (Sims, 2012; Sims & Jones, 2003) and its ability to address limitations of traditional design models. The study was conducted to examine in what ways the PD4L model would contribute to enhance the quality of online learning. Based on this research, this chapter will be able to provide readers with ideas on the ways the elements of an online specific model can serve as design guidelines, a framework or “a set of guiding principles” (Sims, 2011) for designers and developers to create quality teaching and learning environments.*

### **INTRODUCTION**

Instructional design (ID) emerged during World War II to meet the training needs of soldiers for the military services (Allen 2006; Reiser, 2001; Seels & Glasgow, 1998). Since then, a range of instructional design models have evolved for use by the instructional design professional (Gustafson & Branch, 2002; The Herridge Group, 2004; Seels & Glasgow, 1998). Gentry (1994) concisely defined an Instructional Design (ID) model as a graphical illustration of a systematic approach that is designed to ensure that the development of instruction is efficient and effective. According to Gustafson and Branch (2002), “Models help us conceptualize representations of reality. A model is a simple representation of more complex forms, processes, and functions of physical phenomena or ideas” (p. 21).

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## ***Improving the Quality of Online Learning Environments***

Models can provide guidance on various instructional factors, theories, strategies, or approaches that ID professionals can use to develop meaningful learning and teaching environments. Some of the popular instructional models are Gagné's (1977) instructional design theory model, Dick and Carey's (Dick, 1996) system approach model, Gentry's (1994) instructional product development and management model (IPDM), and Seels and Glasgow's (1998) ISD Model II. Although teaching and learning environments have significantly changed in the past two decades, mostly due to technological changes, traditional models have continued to be used as a foundation for designing teaching and learning materials despite the changes in technology.

Traditional ID models were developed before the emergence of interactive technology, collaboration, and communication. Conversely, these changes in technology have produced ongoing issues with the quality of online learning. In fact, Abdelaziz (2012) questioned that because learning environments are now more non-linear, can design models support web-based instruction in order to support lifelong learning? Other critical questions have been raised about these traditional ID models by the experts and professionals in the field such as whether the models are flexible (Gayeski, 1998); whether they continue to be relevant or compatible with the current learning environments (Häkkinen, 2002); whether all instructional design models have the same value (Barneveld, 2013); and whether traditional models are successfully used to build eLearning (The Herridge Group, 2004).

It seems the models that designers in the field have been using are not adequately taking into account the contemporary learning environment. To continue to improve the quality of online learning, there is a need for contemporary models, one of which, the Proactive Design for Learning, or PD4L (Sims, 2012), claims to specifically focus on online learning. The PD4L model was created to offer an effective and efficient process for enabling the implementation of meaningful online learning environments. Sims (2012) argued that the PD4L model consists of necessary elements that improve the design, development, and delivery of online learning environments. However, the extent to which the specific elements of the PD4L model enhance the design, development, and delivery of online learning requires evaluation and validation.

The purpose of this chapter is to present readers with a research study for ways elements of an online specific model can serve as tools or guidelines in designing effective, quality online learning teaching, and learning environments. Additionally, this chapter also addresses some limitations of the traditional design models for the design of online learning with discussion provided around instructional design models and importance of models, learning theories and importance of learning theories, characteristics of traditional ID models, various instructional design models, insights into characteristics of contemporary learning environments, and suggestions for designing effective online based on literature reviews.

## **BACKGROUND**

Instructional design models have been significant in education (Andrews & Goodson, 1991) with many valuable purposes in designing instruction. Throughout the instructional design process, an ID model provides methods and implications to design instruction and also aids visualizing the learning-teaching problems (İsman, 2011). In addition, instructional design models are grounded in learning theories and various theories support distinct perspectives with regard to how learning occurs. Learning theories offer instructional designers substantiated instructional strategies and techniques for assisting in the learning process, while also providing a basis for selecting strategies (Ertmer & Newby, 1993). According to

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