Chapter 2.10
Functional Relevance and Online Instructional Design

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ABSTRACT

Online instruction will more likely be effective if it fits with, and is perceived by, students as being functionally relevant for their education, work, or other personal contexts. Existing practice may emphasize an ad hoc approach to online design by being pragmatic and somewhat unsystematic. It is proposed that using a functional relevance perspective, as described in this chapter, is more likely to have designers and online learners attain a greater advantage in using the capacity of the Internet to support teaching and learning. This chapter introduces the concept of functional relevance and identifies some of the underlying theories. Discussions are made on how the concept of functional relevance can be used as a conceptual framework to identify and to drive decision-making processes that occur during the design and development of instruction.

CHAPTER OBJECTIVES

The reader will be able to:

1. Understand the meaning of—and conceptual foundation for—functional relevance
2. Apply functional relevance as a conceptual framework to clarify and drive decision-making processes during the design and development of online instruction
3. Recognize how general guidelines from this chapter may be applied to the design of online instruction

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4. Understand how a functional relevance perspective can aid designers to:
    - Decide whether particular theories or research findings might improve some aspects of their instruction
    - Identify those situations where social presence might constitute an area that merits careful study and possible important modifications in the online instruction, and
    - Consider which learner attributes may be most relevant for the instruction being designed and to discern how those particular attributes may warrant additional instructions of modification of the online instruction

INTRODUCTION

The proliferation of Internet use in general and online learning in particular has dramatically changed the landscape in K-16 education (DuCharme-Hansen & Dupin-Bryant, 2005; Salpeter, 2003). Fernback (2003) pointed out that Web-based instructional delivery has allowed educators to experiment with flexible, innovative, and progressive learning techniques that "permit students to contribute the learning process in new and active way" (p. 28). Although the idea of delivering instruction online has been heralded by teachers, administrators, parents, and students, doing so effectively takes more than a mere shift in modalities (DuCharme-Hansen & Dupin-Bryant, 2005). Recently, there has been a concerted effort among educators to create a successful online learning environment through *design* (Lim, Plucker, & Nowak, 2001). For example, DuCharme-Hansen and Dupin-Bryant's model of distance education planning and Jones, Harmon and Lowther's (2002) framework for online instructional implementation reflect the efforts in that direction.

Several important issues in online instructional design involve pedagogy and theoretical orientation. These issues include deciding whether: (a) an existing or a new pedagogical or instructional approach would be appropriate for learning; (b) someone's research findings are likely to "fit" with teaching and learning; and (c) using a new pedagogical approach or new research findings might cause a change in the design of teaching. Some instructors respond to these issues by using an ad hoc approach to online design. This is to say that often they take a pragmatic but unsystematic approach, which usually, in the end, fails to take advantage of the capacity of the Internet for teaching and learning. An alternative position is taken by some who propose that online practice should be grounded in theory through a systematic application of evidence-based strategies (Wilson, 1999). With this position, what is important is the congruence between practice and theory, rather than selection of a correct theory (Bednar, Cunningham, Duffy, & Perry, 1992; Wilson, 1999). An example of congruence is the inclusion of scaffolding strategies in constructivist-based instruction, or the use of prescriptive strategies associated with cognitive theory that aid encoding and retrieval of information (Wilson, 1999).

All this reflection still leaves the designer uninformed on how to proceed. Wilson (1999) suggested a problem or practitioner-centered approach in which theory plays a supporting but non-limiting role. Jonassen (1999) suggested that a designer possess the skills to include multiple perspectives, such as the inclusion of objectivist and constructivist views. Miller and Miller (2000) suggested five variables that need to be considered by a designer of online instruction: (a) theoretical orientation of the instructor and of the students; (b) learning goals, either explicit or implicit; (c) nature of the content, such as well or ill-structured subject matter; (d) learner characteristics including cognitive and motivational characteristics; and (e) technological capabilities including available