

Chapter XXIX  
Transitioning from  
Face-to-Face to Online  
Instruction:  
How to Increase Presence and  
Cognitive/Social Interaction in an  
Online Information Security Risk  
Assessment Class

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**ABSTRACT**

*This article briefly reviews two important goals in online education: interaction and presence. These are important goals in online education because they are linked to learning and motivation to learn. The article provides guidelines and an extended example of how to design an online course in information security in a manner that will enhance interaction and presence. This article's contribution is to provide guidelines with a corresponding extended and concrete example for those who are tasked with designing and delivering online courses. Although the guidelines and example were targeted to the field of information security, they can be readily adopted by other disciplines.*

## **INTRODUCTION**

Although online education can offer convenience and flexibility for learners, it is not without challenges. Frequently, online education is no more than instructor notes and lecture materials posted on a Web site, perhaps with some required discussion. Much online instruction is designed, developed, and delivered without careful consideration of foundational instructional design principles. Research has shown that online courses that lack substantive and meaningful interaction, coupled with a sense of presence (feeling as though belonging in a virtual environment), contribute to a sense of isolation, unsatisfying learning experiences, and high dropout rates (Aragon, 2003; Bennett, Priest, & Macpherson, 1999; Glickman, 2003; Moore & Kearsley, 1996). The goal of this article is to provide a set of online course design guidelines based on research findings and best practices to enhance interaction and sense of presence, which are two critical factors that impact learning and motivation to learn in online courses (Moore, 1992; 1993; Muirhead, 1999; Richardson & Swan, 2003). Finally, an example is provided for applying the guidelines to transition a face-to-face class to an online class, using an information security risk assessment class. In order for these guidelines to make sense, we start with a brief discussion of interaction and presence.

### **Interaction**

Moore (1989) identified three major types of interaction: a) learner-content, b) learner-instructor, and c) learner-learner. Learner-content interaction refers to the amount of substantive interaction occurring between the learner(s) and the content. Content could be in the form of text, radio, television, and/or audiotape. Participant interaction (learner-learner and learner-instructor) refers to the engagement of the learners and instructor in the learning and teaching process. It also refers to dialogue between and/or among different

participants in online learning environments. Thus, interaction is more than a communication exchange; interaction occurs when objects, actions, and events mutually influence one another (Wagner, 1994). Instructional interaction is meaningful communication that challenges learners' thinking, shapes the acquisition of knowledge in meaningful ways, and changes learners, moving them toward achieving their goals. Effective interaction is not necessarily more interaction, rather it is interaction resulting in learners thinking in new and more profound ways. While the literature and research confirmed the importance of interaction in the learning process (Muirhead, 2001), online learners frequently do not interact at sufficient levels and/or in substantive ways with the instructor or other learners in online courses. The lack of appropriate and deep interactions is a common inadequacy of current online courses (Bennett et al., 1999).

### **Presence**

Closely related to interaction is the concept of presence. From the learner's perspective, presence is the "sense of being in and belonging in a course and the ability to interact with other students and an instructor although physical contact is not available" (Shin, 2002, p. 22). Presence also refers to the "involvement, warmth, and immediacy" (Danchak, Walther, & Swan, 2001, p. 1) learners experience during communication and interaction with others in the online learning environment. According to Picard (1997), an online course that conveys affective or emotional information to learners will lead to a higher sense of social presence and interaction. Leh (2001) found lack of interaction, originally due to lack of physical and face-to-face contact, in online learning environments leads to a sense of isolation (or lack of social presence). On the other side, an appropriate level of interaction promotes a better sense of social presence (Rovai, 2001). Research also has shown social presence is positively re-

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