Chapter 13
Technology Readiness and Social Presence in Online Higher Education

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ABSTRACT
With the proliferation of technology-dependent social media, electronic connections between individuals and between groups are numerous. While technology facilitates these connections, researchers have not established the extent to which technology assures social connectedness within a community of inquiry in terms of student-teacher interaction. Given that social presence is a measure of the student-student and student-teacher interaction, measuring its perception by students within the framework of their familiarity with technology could determine its relationship to technology. Using the sub-constructs of social presence: affective expression, open communication, and group cohesion, and the technology readiness index, a regression analysis of a survey of 88 online higher education students found technology optimism, a sub-construct of technology readiness, significantly predicted social presence. The result implies that taking a learner’s attitude toward technology into consideration could help educational administrators provide a more meaningful and effective educational experience for learners within a community of inquiry.

INTRODUCTION
The focus of this chapter is an exploration into the relationship between technology readiness and social presence, measured by affective expression, open communication, group cohesion, in online higher education. The chapter will include an overview of the Community of Inquiry (CoI) framework, a concise description of each of the three elements, teaching presence, social presence, and cognitive presence, and an explanation of the CoI survey instrument and its sub-constructs. Additionally, the chapter will include a description of the technology readiness index (TRI) and its

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sub-constructs, the results of the investigation, implications for online education, and suggestions for future studies.

The following questions set the objectives of the exploration described in this chapter:

1. Does technology readiness predict social presence?
2. Do any of the four sub-constructs of technology readiness (optimism, innovativeness, comfort, or insecurity) predict social presence?

With nearly three billion people using the Internet as of May 2014 (Worldometers, 2014), most daily activities have an online connection. Today we can store, access, edit, and share our documents online from anywhere in the world. We can Skype™ from our Smartphones, read the latest news, know the exact latitude and longitude of our location, determine currency exchange rates, take the temperature of a sick child, count calories, upload an assignment for school, check a bank balance, turn on the furnace, read a book or have a book read, and much more. Within this technology-based social clime, education has made rapid strides in providing access to the world of knowledge. According to Allen and Seaman (2013), 6.7 million students in the United States enrolled in at least one online class in 2012 accounting for 32 percent of all students. A high number of students choosing to complete part of their academic requirements online give educational institutions the impetus to provide effective and efficient learning and teaching experiences for its students and faculty.

Student-student, student-teacher, and student-content interactions as originally categorized by Moore (1989) are the primary interactions in online learning and teaching. These interactions facilitate the teaching-learning process in the online environment (Anderson, 2008) in terms of their contribution to learning outcomes dependent on objective-driven and constructivist-based learning theories. For example, in a traditional setting where printed material is the principal source of knowledge, student-content interaction occurs when students engage in active reading and writing. They highlight, mark, underscore, or use some other method to identify text that is important for recall, subsequent analysis, critical thinking, clarification, cross-referencing, memorization, inclusion elsewhere, and other reasons. These activities are part of the process of acquiring knowledge and developing learning behaviors to demonstrate for purpose of assessment, knowledge, and skills that meet learning objectives in a particular course. In online learning, reading is primarily accessing electronic multi-media that include text, graphics, videos, audios, with facility to pause, rewind, and fast-forward within an environment. If the facility is available, students can markup the electronic files with overlays of graphics, text, audio, and videos and save for later reference. In addition, students can use readily available software utilities to capture selected sections of an electronic file for storage or for sharing with fellow students and instructors. This student-content interaction is dynamic and is becoming more platform independent with an expansion of a variety of features to support mobile devices.

While student-content interaction is individualized and personal, student-student and student-teacher interactions within an online classroom have boundaries defined by the virtual environment, the curriculum, and institutional norms. Learning Management Systems (LMS) provide the virtual environment within which are areas for students to socialize, engage in content-based discussions, upload assignments, add resources, and a variety of other activities. The LMS often chosen by educational institutions are from commercial vendors such as Blackboard™ or they use a proprietary design. Within a LMS, discourse-based learning takes place in the discussion forum or equivalent area. Ideally, instructors evaluate students’ discussion and related interactions in terms of both the initial response to a question
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