Chapter 5.20
The Impact of Individual Differences on Social Communication Pattern in Online Learning

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ABSTRACT

This chapter describes the college students' online social communication patterns and behavior with a focus on the impact of individual differences on learners' online communication. The study consisted of 27 college students who engaged in an online discussion over a period of fourteen weeks as part of requirements in an undergraduate educational technology course. The findings indicated that cognitive styles such as field dependence and field independence played a critical role in forming learners' online social communication. Based on social compensation theory and Witkin et al.'s theory of individual differences, the authors claimed that effective individual communication in an online community can be fostered through creating learning support, taking into considerations factors like cognitive styles, complementary personality, interest and motivation in the process of design. Suggestions for future online learning are made with an emphasis on creating an effective online community for learning.

INTRODUCTION

As an important aspect in online learning, online social communication has drawn attention of educators and researchers (Willing, 2007; Zheng & Ferris, 2007). With the increasing use of Web course tools (e.g., WebCT, Blackboard, Moodle,

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etc.), particularly the availability of social communication function in such tools as asynchronous and synchronous communication, educators and researchers have become interested in investigating variables and factors that influence learners' socially engaged activities in online learning (Cook & Smith, 2004; Weller, 2007). Following this line of research, researchers have identified social factors (see Dietz-Uhler & Bishop-Clark, 2005; McKenna, Green, & Gleason, 2002; Peter, Valkenburg, & Schouten, 2006; Sheeks & Birchmeier, 2007; Valkenburg & Peter, 2007) and individual factors (Anolli, Villani & Riva, 2005; Chak & Leung, 2004; Johnson & Johnson, 2006; Madell & Muncer, 2007) that have pronounced impact on learners' social communication and behavior in online learning. While there is a plethora of literature pertinent to the social and individual factors that influence online learning, little research has been done to explore learners' social communication patterns in online learning environment, particularly how individual factors such as cognitive styles affect the way learners communicate in web-based learning.

Research indicates that understanding learners' online social communication and behavior is crucial in successfully implementing effective online instructional strategies such as collaboration, group work, etc. (Johnson & Johnson, 2006; Weller, 2007). Online learning is substantiated through the activities of a virtual learning community. Since individual learners constitute the body of online learning communities, individual factors such as cognitive styles can play an important role in formulating the communication pattern and behavior of that community (Johnson & Johnson, 2006). This chapter offers a discussion on online learners' social communication patterns and behavior by (a) studying the differences between field dependent and field independent learners in online social communication; (b) identifying the correlation between cognitive styles and related factors in online learning including self-confidence, support, interest, motivation and so forth; and (c) analyzing learners' performance in online discussion. Discussion on research in online social communication and behavior will be made with guidelines for future studies.

COGNITIVE STYLES AND LEARNING

In the last half century learners' cognitive styles have been heavily studied; these studies encompass a wide range of topics: from brain hemisphere function (Samples, 1975; Springer & Deutch, 1985), to temperament (Gregorc, 1982), to impulsive/reflective cognitive tempo (Kagan, 1966), to field dependent and field independent theory (Witkin & Goodenough, 1977), just to name a few. In an early study Kirby (1979) provided a comprehensive summary of 19 cognitive styles and concluded that all learners learn differently. According to Chinien and Boutin (1992), cognitive styles refer to "the information processing habits representing the learners' typical mode of perceiving, thinking, problem solving, and remembering" (p. 303). They claimed that cognitive styles constitute important dimensions of individual differences among learners and have important implications for teaching and learning.

Differing from learning styles which describe the conditions (i.e., auditory, visual, haptic, etc.) under which we best learn, cognitive styles are about how we perceive and think (Lever-Duffy, McDonald, & Mizell, 2003). The construct of cognitive style has been considered as a consistent, stable variable in learning. Keefe (1982) stated that cognitive styles are "the cognitive, affective, and physiological traits that serve as relatively stable indicators of how learners perceive, interact with, and respond to the learning environment" (p. 1). This view is shared by Smith and Ragan (2005) who propose a framework of learners' characteristics in which cognitive styles are subsumed under the category of stable-differences. Unlike psychosocial factors and prior knowledge which change during learning, cognitive styles