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Investigating factors that influence social presence and learning outcomes in distance higher education

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ABSTRACT

There are many factors that influence distance learning especially in higher education where collaborative and communicative discourse is necessary for pursuing knowledge. Social presence, among other factors, is an important concept to be facilitated, developed and sustained in distance higher education as it promotes and supports discourse based learning. This study examines the relationship among demographic and other variables, social presence and learning satisfaction. Results showed demographic variables, such as gender, online learning experience and work status were not significant factors in terms of influencing on either social presence or learning satisfaction. While media integration and instructor's quality teaching were significant predictors of both social presence and learning satisfaction, interactivity among participants was a predictor of social presence but not of learning satisfaction. Along with the study findings, some implications were discussed for online learning practitioners in higher education setting.

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1. Introduction

Learning can occur anywhere and anytime, even when and where students are apart from their instructor and peer students. Recent technological developments make distance education all possible and encourage more people to become engaged in learning, especially adults. Adults otherwise would not be able to continue their learning due to the possible barriers such as family or professional responsibility to walk in the traditional classroom. According to National Center for Education Statistics (NCES, 2008), 67% of students surveyed for the factors as affecting their distance education decisions mentioned that distance education provides access to college for those who otherwise would not have access. Flexibility of course schedule (68%), more available courses (46%) and increase of student enrollment (45%) followed as other factors.

In school year 2006–07 over 12 million students in US reported were enrolled in college-level credit-granting distance education courses (NCES, 2008). The number of institutions which offered college-level credit-granting online courses reached as many as 2700. The courses include various modes of distance education courses including pure online as well as hybrid/blended online courses. The number would increase if students in non-credit courses had been included. In Korea, the enrollment rate in cyber universities indicates that there has been 25% annual increase since 2001 when first 9 cyber universities were approved to open. Today, a total of 19 cyber universities deliver all the courses 100% online degree programs with over 86 thousands of students enrolled as of 2010 (Korean Ministry of Education, Science and Technology, 2010).

As this upward tendency common in higher education is expected to continue around the world, more concern has been given to how to deliver online courses. Quality has begun to matter more (Nachmias, 2002). The retention rate of overall online courses is still low compared to the one of face-to-face instruction (Doherty, 2006; Simpson, 2004), which directly indicates 'academic non-success' (Diaz, 2002) and ineffectiveness of school programs (Rovai, 2003). A lack of social interaction is playing a significant role in such shortcomings. Online learners complain of the psychological distance they have to overcome (Dickey, 2004). Isolation, disconnectedness and loneliness they feel hinder them from engaging in the class activities (Rovai & Wighting, 2005) and as a result they lose their academic interest and motivation to continue to study, leaving only minimum number who completes the course (Russo & Benson, 2005).

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'Education is social practice' (Laffey & Lin, 2006; Shea, Fredericks, Pickett, Pelz, & Swan, 2001). Social constructivism provided an idea for effective and successful learning by facilitating consistent social interaction among students and their instructor. Because cognitive learning does not occur separately from affective learning (Delfino & Manca, 2007), social dimension in class also provides an impetus to form a sound learning community where students develop social bonds which support their academic success. Although social dimension has been emphasized in face-to-face settings with the development of proper instructional design, it just started gaining attention in online learning. There should be more attention, considering that there are limited visual and communicative signals and cues in online classrooms (Muirhead, 2000). There also need to be more studies that explore with the relationship between social factors and students' cognitive learning as well as overall learning success and the effect on design and development of online courses (Jolivette, 2006).

Social presence is a concept which can be used to examine the quality of social interaction in online learning environment. Social presence was first introduced by Short, Williams, and Christie (1976) and defined as 'the degree of salience of the other person in the interaction and the consequent salience of interpersonal relationships' (p.65). While Gunawardena (1995) regarded social presence as the extent by which others are 'being real' in a mediated environment, others defined it as the level of perception or feeling of affective and psychological accessibility (Biocca, Harms, & Gregg, 2001) or affective connectedness (Tu & McIsaac, 2002). Meanwhile Rourke, Anderson, Garrison, and Archer (2001) defined it as 'the ability of learners to project themselves socially and emotionally in a community of inquiry' (p. 53). 'Community of inquiry' is the framework wherein the instructor and learners are engaged in the interaction of social, technological and pedagogical processes to pursue the construction of collaborative knowledge (Garrison, Anderson, & Archer, 2000; Rourke et al., 2001; Shea & Bidjerano, 2009). Kim (2010), based on analysis of the collected definitions, regarded social presence as not limited to recognition of others' being but extended to include the specific awareness of relations among the members and the degree of proximity and affiliation formed through it.

Many researchers have studied social presence in many different fields for various reasons. These include, but not limited to, promoting positive perception of e-customers on online products (Cyr, Hassanein, Head, & Ivanov, 2007; Gefen & Straub, 2004; Kim & Park, 2007), to promoting computer-human interaction (Lee & Nass, 2003) and so on. Social presence became a subject in regards to learning focusing more on human-human interaction. Considering the importance of social constructivism based learning, social presence can be a mechanism to understand how students develop closeness among them and sustain strong and healthy sense of group to form a learning community. Even though social presence is recognized as a subject that should be facilitated, developed and sustained for promoting learning, there has not been enough research done in the field of education. Empirical studies on this subject need to be performed (Jiang & Ting, 2000; Reio & Crim, 2006).

The purpose of this study was to use empirical data, to investigate how social presence and learning satisfaction are related to demographic variables and other variables such as media integration, quality of instruction and interactivity and what the relationship between social presence and learning satisfaction is. There has not been enough research evidence to show how social presence is developed in regards to promoting successful learning. Therefore this study intended to examine the effects of those variables on social presence and learning satisfaction. In addition, while social presence has a positive correlation with learning outcomes, the debates on whether social presence causes a direct increase in learning outcomes has not yet been solved. Swan and Shea (2005) asserted a need for additional research on the relationship between social presence and student learning. For the purpose of making an inquiry into the relationship between social presence and learning satisfaction, this study looked into the possible causal relationship of these variables.

2. Literature review and research hypotheses

According to previous studies, the levels of social presence and learning outcomes vary by gender. Rovai and Baker (2005) reported different learning experience between genders showing that female students found online learning more social and more beneficial and learned more than male students. Another study found that female students tend to be more active in social and interactive behaviors, sending more interactive messages than males (Barrett & Lally, 1999). Based on those findings, this study proposed that social presence and learning outcomes vary by gender.

Online learning experience has also been reported to have close relationship with social presence and learning satisfaction. In their report that compared social presence in different modes, Hostetter and Busch (2006) posited those students who had taken more online courses tended to perceive social presence in more positive way, while there was no difference found in social presence between students of online and those of face-to-face courses. It is assumed because they have experienced the processes of online courses, those students with prior online learning experiences are able to develop or keep a certain level of their social presence and overall satisfaction of the course. In the meantime, because new students have higher expectations in terms of input and support that they would get from instructor than veteran students (Brown, 2001), the former tend to be more discouraged when those expectations are not met. Accordingly, this study proposed that students' online learning experiences as measured by the number of online semester(s) previously taken is positively related to their perception of social presence and learning satisfaction.

Work status is another variable that influences students' learning experience. It may be assumed that students who have full time jobs might have less time for learning in an absolute comparison with those who either have part time jobs or are full time students. Therefore it is hypothesized that students who have full time jobs experience less social presence as well as less learning satisfaction. Based on the literature reviewed in regards to gender, online learning experience and work status, the following hypotheses were proposed:

H1a. Gender, the number of online semester(s) enrolled and work status are positively related to students' level of social presence.

H1b. Gender, the number of online semester(s) enrolled and work status are positively related to students' level of learning satisfaction. Short et al. (1976), the originators of social presence theory, argued that social presence is different depending on the kind of communication medium and ranked face-to-face communication with high social presence where as computer-based communication had comparably low social presence. However, their argument that inherent characteristics of communication system determine the level of social presence and learning satisfaction cannot be totally consented and it was questioned by many other researchers. Some researchers (e.g., Gunawardena, 1995; Perse, Burton, Lears, Kovner, & Sen, 1992; Tu, 2002) found that the quality of communication could be perceived differently even in same mediated and could be perceived even more in CMC (computer mediated communication) than in face-to-face settings even though the former has limited signals and cues to deliver communication compared with the latter.

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