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Using VoiceThread to Facilitate Students' Engagement and Social Presence in Online Course Discussions

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Abstract: The purpose of this study is to investigate whether utilization of a CMC tool – VoiceThread – can help facilitate students' engagement and social presence in online course discussions. A comparative and analytical research on students' posting behaviors in two different online discussion settings was conducted. Although there was no significantly difference in the number of postings, participants generated more high-quality threads. And more social presence indicators were found when participants used VT for discussion.

Keywords: Online Discussion, Student Engagement, Social Presence

1. Introduction

Computer-mediated conferencing (CMC) has been included in more and more current online courses as an important part of instructional design (Moisey, Neu, & Clevelandinnes, 2008). Online discussion board is a widely-used CMC tool which allows individuals to communicate and interact with others in online environment (Pena-Shaff & Nicholls, 2004). As most online discussion boards are text-based, typing and writing skills are highly required. Students who are weak in basic computer skills or online writing experience may feel frustrated and may result in low engagement in interacting with other peers (Hew & Cheung, 2013). This study seeks to explore whether the use of a CMC tool can help promote students' engagement and social presence in online course discussions.

2. Literature Review

2.1 Online Discussion Board

Online discussion board is often utilized in both hybrid and fully online courses to offer a venue for students to openly communicate and build shared understanding, and for instructors to purposely facilitate the process (Noyelles, Zydney, & Chen, 2014). Its asynchronous and text-based features are favored by many online students, since they have sufficient time to raise questions, reflect, and respond others' postings (Yang, Yeh, & Wong, 2010).

2.2 Social Presence in Online Settings

Social presence was proposed by Short et al (1976), who defined that term as "the degree of awareness of another person in an interaction and the consequent appreciation of an interpersonal relationship" (Short, Wiliams, & Christie, 1976). In online settings, social presence refers to the degree of feeling emotionally connected to another intellectual through computer mediated communication (Sung & Mayer, 2012). Social presence has been found positively related to the development of an online learning community (Garrison, Anderson, & Archer, 2000), online

interaction patterns (Tu & McIsaac, 2002), and students' perceived learning and satisfaction (Richardson & Swan, 2003).

3. Method

3.1 Research Context and Participants

This study was conducted in a graduate-level online course at a public university in United States. This 12-week online course consists of five modules, each module contains two discussion activities and other course-related activities such as paper writing and artifact presentation. Before participating in the course discussions, students were provided required reading materials and some guiding questions in the first part of each module.

Participants were graduate students who were enrolled in this course and agreed to participate in this study. Ten students chose this course at the beginning whereas two of them dropped out in the middle of the course. Eight students approved to be involved in this study. Based on this condition and other confounding factors, six discussion activities in three modules were selected for this study. Discussions in the Module 1 and 3 were text-based, and Module 2 discussions were conducted using a CMC tool -- VoiceThread (VT). It is a multimedia slide show tool which allows online learners to read and create comments in text, audio and video formats. For research purpose, participants were suggested to use audio/video recording feature to create and reply the comments.

3.2 Instruments

To measure students' engagement and social presence, two metrics were employed and adapted to fit the purpose of this study. The first one was an online discussion metric proposed by Bliss and Lawrence (2004). The adapted metric below was used to measure the quantity and quality of students' posts.

Table 1

Online Discussion Engagement Metric (Adapted from Bliss and Lwarence, 2004)

	Average Number of Posts per participant	Average Length of Posts	Proportion of EVT Posts
Module 1 Discussion 1 (M1D1)			
Module 2 Discussion 2 (M2D2)			

*Note: EVT (Educationally Valuable Talk) post refers to the post that participants collaboratively display construction, critical engagement with ideas or key concepts, and build knowledge by reasoning, articulations, creativity and reflection (Uzuner, 2007).

Another instrument utilized was a scale for assessing social presence proposed by Rourke et al. (1999). The three categories of social presence: *affective*, *interactive*, and *cohesive* were adopted for coding.

4. Results

4.1 Engagement in Online Discussions

Table 2

Students' Engagement in the Course Discussions

	Average Number of Posts	Average Length of Posts	Proportion of EVT Posts

M1D1 (text)	4.25	206.24	79.41%
M1D2 (text)	4.63	243.89	83.78%
M2D1 (VT)	3.25	404.92	88.46%
M2D2 (VT)	2.25	398.89	88.89%
M3D1 (text)	3.63	241.07	86.21%
M3D2 (text)	2.00	248.63	81.25%

The average number of posts ranges from 2.00 posts/participant to 4.63 posts/participant. As the results shows in the table above, although participants created and replied more threads in the first two text-based discussions, they preferred to speak and share experiences to others and produce more contents when posting audio/video comments. And a slightly higher proportion of EVT posts were found when participants in VT discussions, which can be inferred that the use of VT can help generate more posts with high educational value.

4.2 Level of Social Presence

Table 3

Students' Social Presence in the Course Discussions

	Affective	Interactive	Cohesive	SPD
M1D1	43	98	69	29.95
M1D2	65	153	97	34.91
M2D1	83	157	167	38.66
M2D2	73	78	161	43.45
M3D1	31	88	84	29.04
M3D2	21	67	50	34.69

* Note: SPD (Social Presence Density) = (Affective + Interactive + Cohesive) / Total Number of Words in the Module Discussion * 1000

More affective and cohesive responses can be found in the form, which indicates that students had more expression of emotion and feelings and greater sense of group commitment when using VT. As the number of posts in each discussion are different, we applied SPD (a unit of social presence instances per 1000 words) to measure the extent of social presence behaviors in each discussion. Results shows a relative higher SPD in VT discussions compared to SPD in text-based discussions.

5. Discussion and Conclusion

Study findings demonstrate that utilization of the CMC tool – VoiceThread (VT) – has a positive effect on promoting students' engagement and social presence in online course discussions. Compared to discussions in text-based discussion board, although the number of postings did not increase in VT discussions, students produced more high-quality posts. In addition, more social presence indicators have been found when students applied VT's audio and video features to create and reply comments.

One limitation in this study is the rare number of participants, due to the low rate of enrollment and the emergence of drop-out event of this online course. More details that can reflect student engagement, such as proportion of follow-up threads, time to reply, should be explored in future study.

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