Effects of Video Discussion Posts on Social Presence and Course Satisfaction

Ying Xiu[1] and Penny Thompson[2]
[1]University of Illinois Urbana-Champaign, Urbana, IL 61802, USA
[2]Oklahoma State University, Stillwater, OK 74078, USA
yxiu@illinois.edu
penny.thompson@okstate.edu
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Abstract: Video is a rich medium that conveys more social cues than text. Use of video in an online discussion forum therefore has the potential to increase social presence in online learning environments. This experimental study compared a group using video for a portion of the required discussion posts to a group using only text in an online undergraduate course. While there was a correlation between perceived social presence and satisfaction with the course, there were no significant differences in perceived social presence or course satisfaction between the two groups. Open-ended comments revealed a mix of positive and negative reactions to the use of video. This study highlights the need for continuing research on the use of video in online discussion forums to assess the benefits of video relative to its possible negative effect on "anytime, anywhere" flexibility.

Keywords: Video Discussion Posts, Student Perceptions, Social Presence, Course Satisfaction, Online Learning

1. Introduction

Asynchronous online discussions are popular activities in both formal and informal online learning environments since they offer interactivity with flexibility for students and teachers to communicate any time or anywhere (Kent, Laslo, and Rafaeli, 2016). One study showed that students engaged in discussion for an online course perceived a significantly higher level of social presence compared with students in the same course but with no discussion activities (Cho and Tobias, 2016). The risk of reliance on asynchronous discussion is that students can feel isolated if they perceive insufficient levels of interaction (Hung and Chou, 2015; Lee and Choi, 2010) and therefore be less satisfied with the course (Bolliger and Martindale, 2004). One way to address this problem of isolation is to foster social presence in the online classroom.

1.1 Social presence

Social presence is a component of the *Community of Inquiry* (CoI) framework (Garrison, Anderson, and Archer, 2000, 2010), which explains how critical thinking and learning can occur in asynchronous discussion forums. In these environments, learners are thought to experience three different types of presence. *Cognitive presence* is the "extent to which the participants...are able to construct meaning through sustained communication" (Garrison, Anderson, and Archer, 2000, p. 89). *Social presence* is the ability of participants to project their identities as real people and to perceive the other participants as real people (as opposed to disembodied text on the screen). Social presence supports cognitive presence by enabling learners to engage in meaningful dialogue centered on the course content. *Teaching presence* is the design and facilitation of the learning experience. While course design is primarily the role of the instructor, the facilitation aspect of teaching presence can be shared between instructor and learners.

Social presence in online learning is important for at least two reasons. First, it supports learners' subjective level of satisfaction and perceived learning in a course. Richardson, Maeda, Lv, and Caskurlu (2017) performed a meta-analysis over 25 studies that investigated the relationship between social presence and either perceived learning or satisfaction in higher education online courses. They found that students' perceived level of social presence was a significant predictor of perceived learning in the course moderated by the course length, discipline area, and course audience, and that perceived learning was also positively correlated with students' course satisfaction. Swan and Shih (2005) surveyed 51 graduate students in an online course, and found that "students who perceived high social presence in the online discussions also believed they learned more from it than did students perceiving low social presence" (p. 127). These students also attributed some of their learning to exposure to multiple perspective as they read their classmates' contributions.

A second, and arguably more important, reason that social presence is important in online learning environments is that it supports cognitive presence and is therefore an important first step in promoting critical thinking, and ultimately, learning. Garrison, Cleveland-Innes and Fung (2010) used structural equation modeling to explore the relationships between the three types of presence, and found that teaching presence had a direct relationship with both social and cognitive presence, but also that social presence acted as "a mediating variable between teaching and cognitive presence" (p. 35). This finding confirmed previous findings by Shea and Bidjerano（2009), who found that participants' comfort level with the online discussions, an element of social presence, correlated with cognitive presence. Although both of these studies identified teaching presence as the strongest predictor of cognitive presence, social presence nevertheless had an important mediating role.

In face-to-face environments, "a key aspect of establishing social presence...is visual cues" (Garrison, Anderson, and Archer, 2000, p. 95), but participants in text-based online environments need to find other ways of achieving social presence. Swan (2002), for example, found that students in asynchronous online discussions used immediacy behaviors such as including emoticons in posts, disclosing personal information, and addressing classmates by name. Walther (1992) suggested that speakers might use explicit verbal cues when nonverbal communication was not possible, such as typing "I agree" when listeners know the speaker cannot see them nod their heads.

1.2 Video as a Learning Media

With the increased availability of easy-to-use software for creating video, however, some level of non-verbal communication can be added back into the online learning environment, even in asynchronous courses. Compared to text, video discussion is a richer medium that can engage students, promote social presence, and provide new ways for online interaction (Kinskey, Miller, Hauck, and Manderfeld, 2018). Daft and Lengel (1986) defined media richness as "the ability of information to change understanding within a time interval" (p. 560). They explain further by saying

> *Communication transactions that can overcome different frames of reference or clarify ambiguous issues to change understanding in a timely manner are considered rich. Communications that require a long time to enable understanding or that cannot overcome different perspectives are lower in richness* (p. 560)

Differences in media richness are due to "the medium's capacity for immediate feedback, the number of cues and channels utilized, personalization, and language variety" (p. 560). Written communication is therefore lower in media richness than face-to-face communication, but video, which uses both visual and auditory channels, could fall in between text and face-to-face communication. Rich media are better suited to facilitating communication when tasks are *equivocal*, meaning they have "multiple and possibly conflicting interpretations of the available information (Dennis and Kinney, 1998, p. 257). The video format also provides students more opportunities to communicate, as students found it was not easy to express themselves fully in a purely written format (Arend, 2009). In an educational setting, the use of rich media has been shown to be beneficial students' learning experience (Oregon, McCoy, and Carmon-Johnson, 2018; Saunders and Hutt, 2015).

1.3 Video, Social Presence, and Course Satisfaction

Research on the use of rich media in asynchronous online courses includes exploration of the use of audio and video by students and by instructors. Research on instructor use of rich media has focused on the use of audio or video files for delivering instructor feedback. For example, Ice, Curtis, Phillips, and Wells (2007) explored student course satisfaction and perceived learning with text versus audio feedback from the instructor. They found that students preferred the audio feedback, saying it enhanced their sense of community and perceptions that the instructor cared about them. Borup, West, and Thomas (2015) also compared the use of video versus text for providing instructor feedback on student projects. They found that both students and instructors preferred text feedback because they found it more efficient. However, students perceived the video feedback as more supportive, while instructors felt their style when giving feedback via video was more "conversational" (p. 178). These studies show the potential of rich media to create a sense of social presence from the instructor.

Some studies have also found rich media to be valuable for student-to-student online communication. Borup, West, and Graham (2012) studied three classrooms where video (hosted on YouTube or Voicethread) was used for communication, though only one of the three used the video for communication between students. Qualitative data showed that students felt the rich media enhanced instructor social presence and, to a lesser

degree, student social presence. Hew and Cheung (2012) compared the use of audio files to text for online discussion in a blended university course. While they found no significant differences in the quantity or quality of posts between the two conditions, data from open-ended questions revealed that students appreciated the opportunity to hear their classmates' vocal inflection and thought the audio posts enhanced community and the sense of interacting with real people. These studies suggest that rich media can enhance social presence between students.

While these studies demonstrate the promise of video discussion posts to promote social presence, there is a need for further studies to confirm these early findings and provide quantitative data to complement these primarily qualitative studies. This study used a quantitative measure of perceived social presence to compare the use of video versus text for discussion posts in a fully-online asynchronous undergraduate course, named Applications of Media and Technology. Because meaningful interactions can help to combat isolation and have a significant influence on social presence, academic performance (Joksimović, et al., 2015), and satisfaction in online courses (Bolliger and Martindale, 2004), this study also measured students' course satisfaction.

The course satisfaction measure was based on a questionnaire created by Lee, et al. (2011), who explored the relationship between course satisfaction and the support students received from peers as well as from instructors. The following three hypotheses were tested:
H1. Perceived social presence will have a positive correlation with course satisfaction.
H2. Students who use video for a portion of their required discussion board posts will report higher social presence than students who use only text-based discussion posts.
H3. Students who use video for a portion of their required discussion board posts will report higher course satisfaction than students who use only text-based discussion posts.

In addition, the researchers sought to explore students' qualitative perceptions of the use of video for asynchronous online discussion.

2. Methods

2.1 Participants

Participants in this study were undergraduate students at a public university in the Midwest enrolled in a fully online course on applications of media and technology. Demographic information about the participants can be found in Table 1.

Table 1: Participants Demographics

	Total (N=57)	**Text Group (N=28)**	**Video Group (N=29)**
Age	25.67 (8.54)	24.21 (6.16)	27.07 (10.25)
Gender	49.1% F 50.9% M	46.4% F 53.6% M	51.7% F 48.3% M
Class	1.8% Freshmen 22.8% Sophomore 38.6% Junior 35.1% Senior	3.6% Freshmen 17.9% Sophomore 39.3% Junior 35.7% Senior	27.6% Sophomore 37.9% Junior 34.5% Senior
Previous Online Experience	10.5% First-timer 15.8% Second-timer 73.7% Third-time or more	7.1% First-timer 17.9% Second-timer 75% Third-time or more	13.8% First-timer 13.8% Second-timer 72.4% Third-time or more

2.2 Context

The course was offered by the College of Education but was targeted towards students pursuing careers outside the K-12 classroom. The course introduced a variety of digital technology tools, such as asynchronous and synchronous communication software, multimedia production tools, and social media, then asked students to develop basic skills in using the tools. Before each Sunday, students were required to post discussions regarding the media or tools that were being introduced during the week. Students were also required to post links to their completed projects as well as their reflections on using the tool and the usefulness of the tool in their future careers.

The course was taught by the first author, who at the time was a Ph.D. student in an educational technology program, and supervised by the second author, a faculty member in the same program. Data was collected over four semesters, with no major changes to the course structure or content overall.

2.3 Materials

Students who consented to participate in the study completed an online questionnaire asking about their perceived social presence and course satisfaction. The social presence portion consisted of 10 questions adapted from Gunawardena and Zittle (1997). The scale in its original form had strong internal consistency of 0.88 (Gunawardena and Zittle, 1997). The original questionnaire was retained to the greatest extent possible, but some items, such as questions about usage and attitude towards computer-mediated communication, were dropped, as they were not directly related to the research questions. The wording of some questions was modified as required to fit the context of the study environment. For example, the question "I felt comfortable introducing myself on GlobalEd" from the original questionnaire was changed to "I felt comfortable introducing myself in this online course" for the current study. The course satisfaction portion of the questionnaire consisted of five questions adapted from Lee, et al. (2011). Both social presence and course satisfaction were measured using a 5-point Likert-type scale, where "1" was strongly disagree and "5" was strongly agree. The questionnaire also included demographic questions and two open-ended questions: "What do you think about having video-posts instead of text-posts to interact on the discussion board?" and "How could this course support your learning better?"

3. Procedure

Data collection took place over four 16-week semesters from fall 2015 to spring 2017. Students enrolled in the course were randomly placed in one of two equal groups (8 - 12 students per group) using the group feature of the Brightspace (D2L) learning management system. The two groups were presented with the same content and assignments, but completed their discussion posts within their groups, with no interactions between the groups. During the first eight weeks of the semester, one group was assigned to complete their weekly discussion posts using text only, while the other group was required to do three of the eight weekly posts by creating a video, hosting it online (e.g., using YouTube), and posting the video link to the discussion board. In order to make sure all students had similar experiences with the course, the assignments were switched at mid-semester, so the original control group was required to complete video posts and the original experimental group reverted to text. At the end of the first eight-week data collection period, all students received an email with a link to the survey, which also contained the consent form. Thus, while all students in the class received the same instruction, only students who consented were included in the research.

Average social presence and course satisfaction scores were calculated for each participant by computing the mean of their responses for each scale, thereby retaining the original five-point scale. The data were explored using descriptive statistics, and the bivariate correlation between social presence and course satisfaction was examined. T-tests were used to test the hypothesized effects of video discussion posts on perceived social presence and course satisfaction. In addition, item-level comparisons within each scale were explored. Responses to the open-ended questions were examined to gain insight into students' opinions of the video posting requirement.

Data were first analyzed to see if they met the assumptions for parametric statistical tests. Shapiro-Wilk tests showed that scores on the social presence and course satisfaction scales were normally distributed in both groups at $\alpha = 0.01$. However, when exploring the data item-by-item, none of the scale items were normally distributed. Therefore, t-tests and Pearson correlation tests were used to explore relationships related to the overall social presence and course satisfaction scales, but non-parametric Mann-Whitney U tests were used to compare the two groups on individual scale items. For between-group comparisons, data from the first half of the semester were analyzed. Paired t-tests were also used to examine any changes in social presence or course satisfaction as the semester progressed.

4. Findings

4.1 Relationship of Social Presence and Course Satisfaction

The Pearson correlation test indicated that social presence had a significant positive relationship with course satisfaction in both the video group, rs (28) = .875, p < 0.001, and the text group, rs (29) = .727, p < 0.001. Thus, H1 was supported.

Table 2: Social Presence and Course Satisfaction Scores

	Total Sample (N=57)	Text Group (N=28)	Video Group (N=29)
Social Presence Score	3.84 (.65)	3.72 (.68)	3.96 (.61)
Course Satisfaction Score	3.98 (.78)	3.81 (.83)	4.14 (.70)

4.2 Effect of Video Discussion Posts

There was no significant difference in students' social presence and course satisfaction scores between the video group and the text group. Therefore, H2 and H3 were not supported. However, the video group had slightly higher social presence (M = 3.96, SD = 0.62) and course satisfaction scores (M = 4.14, SD = 0.70) when compared with the text group. The text group had a mean social presence score of 3.72 (SD = 0.68) and a mean course satisfaction score of 3.81 (SD = 0.83).

As no significant differences were found in the overall social presence and course satisfaction scores, the researchers explored each item of the questionnaire individually. This analysis showed that two social presence items were significantly different at the .05 alpha level between the two groups. The video group (Mean Rank = 33.45) had a significantly higher score than the text group (Mean Rank = 24.39) on the scale item "the instructor created a feeling of online community", U = 535.00, z = 2.297, p = .022, r = .30. In addition, the video group (Mean Rank = 33.97) had a significantly higher score than the text group (Mean Rank = 23.86) on the scale item "the instructor facilitated discussion in the online course", U = 550.00, z = 2.622, p = .009, r = .35.

Table 3: Descriptive and Mann-Whitney U Test Statistics of Two Social Presence Items in First Half Semester

	Text Group (N=28)	Video Group (N=29)	Mann-Whitney U	Asymp. Sig. (2-tailed)
The instructor created a feeling of online community.	3.68 (1.06)	4.28 (.65)	535.00	.022
The instructor facilitated discussion in the online course.	3.86 (.71)	4.31 (.66)	550.00	.009

Although the remaining differences were not statistically significant, the video group had slightly higher scores on all scale items as well as the average social presence and average course satisfaction scores, see Table 4 and Table 5.

Table 4: Social Presence Comparison for Two Groups in First Half Semester

	Text (N=28) *M (SD)*	Video (N=29) *M (SD)*
Social Presence		
1. Online or web-based learning is an excellent medium for social interaction.	3.46 (1.04)	3.48 (.87)
2. I felt comfortable conversing through this text-based medium.	3.89 (.92)	3.93 (.92)
3. I felt comfortable introducing myself in this online course.	3.86 (1.15)	4.10 (.77)
4. The introduction enables me to form a sense of online community.	3.68 (.98)	3.69 (.93)
5. I felt comfortable participating in online discussions.	3.68 (1.02)	4.03 (.82)
6. The instructor created a feeling of online community.	3.68 (1.06)	4.28 (.65)
7. The instructor facilitated discussions in the online course.	3.86 (.71)	4.31 (.66)
8. I felt comfortable interacting with other participants in the online course.	3.82 (.82)	4.17 (.85)
9. I felt that my point of view was acknowledged by other participants in the online course.	3.75 (.75)	3.79 (.82)
10. I was able to form distinct individual impressions of some online course participants even though we communicated only via a text-based/ (video-based) medium.	3.54 (.92)	3.79 (1.01)
Calculated social presence score	*3.72 (.68)*	*3.96 (.62)*

Table 5: Course Satisfaction Comparison for Two Groups in First Half Semester

	Text (N=28) *M (SD)*	Video (N=29) *M (SD)*
Course Satisfaction		
1. This course increased my interests in the subject.	3.43 (1.14)	3.72 (.96)
2. I felt I achieved the objectives in this course.	3.93 (.86)	4.28 (.59)
3. I liked the course format (online).	3.86 (.89)	4.10 (1.01)
4. I felt comfortable in this course.	3.89 (.96)	4.24 (.74)
5. I would recommend this course to others.	3.93 (.98)	4.34 (.67)
Calculated course satisfaction score	*3.81 (.83)*	*4.14 (.70)*

4.3 Timing of Replies

Timing of replies refers to the length of time between the students' initial post and the first reply received. Those quantitative data were tracked by the learning management system. A difference was observed in the length of time it took students to reply to a video post compared to a text post. It took significantly less time (hours) to receive the first reply after an initial discussion post for the text-only group (M = 31.63, SD = 29.62) compared to the video group (M = 42.86, SD =36.15) conditions; t (91) = -1.70, p =0.04.

4.4 Social Presence and Course Satisfaction Trend in Course

In 2016 Spring, 2016 Fall, and 2017 Spring semesters, students were asked to put in a self-generated 4 digit code (e.g. last 4 digit of their phone number) to anonymously match their middle semester survey and end of course survey. Twenty-nine matched records were obtained. A paired-samples t-test was conducted to compare students' average social presence score and average course satisfaction score between the mid-semester and end-of-semester surveys. Results showed that both their social presence and course satisfaction decreased in a way that was not statistically significant.

Table 6: Paired Samples Test for Social Presence and Course Satisfaction score

Paired Samples Test								
	Paired Differences					t	df	Sig. (2-tailed)
				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Social Presence Score in 1st survey – 2nd survey	.414	4.452	.827	-1.280	2.107	.500	28	.621
Course Satisfaction Score in 1st survey – 2nd survey	1.000	3.140	.583	-.194	2.194	1.715	28	.097

4.5 Responses to Open-Ended Questions

The authors coded the open-ended question responses into positive, neutral, and negative themes. The unit of analysis was a complete thought, which was generally two to three written sentences. Each unit was assigned one theme only. The researcher first coded the responses separately with an agreement of 81.25% at the code level. After discussion, a second round of coding was performed on the units that failed to reach an agreement in the first round. The final coding reached an agreement of 93.85%. Analysis of 65 open-ended comments revealed a variety of positive and negative opinions about the use of video for discussion posts. After removing the comments that did not reach an agreement between researchers, there are 44.26% positive comments, 42.62% neutral comments, and 13.11% negative comments. Negative comments centered around two areas: the practical difficulties of recording a video, and student discomfort with the medium. The video was perceived by some students as being cumbersome to create and inconsistent with the "any time, any place" nature of online courses. The following comments from students demonstrate this theme:

"I personally don't like it, it is hard for me to find quiet places to sit and video myself."

"I would much rather have text post just because it can be completed in any environment where as [sic] you need a quiet room and time to do a video."

"I prefer text posts instead of video posts since videos require a student to be at a quiet place. As a full time student, video posts became hard since I am usually in between classes and out. "

Other students expressed discomfort with video, saying, "I feel very self-conscious about them" and "I do not like talking to a camera and not seeing who I'm talking to on the other end. It makes me uncomfortable." Some students, however, described how they overcame their initial discomfort and grew to appreciate the video posts. For example, one participant said, "At first I was very uneasy with the video posts, but after I completed my first one, I thoroughly enjoyed it!"

Positive comments included appreciation of the learning opportunity, and comments consistent with increased social presence. Several students viewed the use of video as another opportunity to develop new skills. One student said, "I don't mind the video of myself. I think getting me out of my comfort zone is the hardest for me. I do not feel comfortable with the new technology, but that is why I am taking this class." Another said, "I was glad to get to see how to use this technology." Another student went beyond the technical skill of creating a video and said, "I like it, really teaches you how to work on presenting yourself to others with a brief speech relating to your assignment." Other comments suggested increased social presence from the use of video. For example, one student said the video "lets me put a face to the names of the other students," while another said, "I think it's good way to get to know my classmates better." One student said, "I believe it is a good way to get to know each other and enables me to feel more comfortable with the class." One student elaborated on the potential of increased presence to improve communication, saying

"video post is better than text posts because it allows people to see your body language and tone. There has been a lot of times throughout life where people misinterpret a text because they take it the way it wasn't meant to be taken because they can't physically see the other person's body language or tone being used."

5. Discussion

This study revealed a positive correlation between perceived social presence and course satisfaction, which is consistent with previous research (Horzum, 2017; Richardson, et al., 2017). The lack of any significant relationship between the use of rich media, in the form of video posts, and either social presence or course satisfaction was surprising. Although the video group did report higher levels of social presence and course satisfaction, the differences were not significant. It was possible that the small sample size of 57 was not sufficient to reflect a statistically significant impact of the video implementation. In addition, the short duration of the study (eight weeks) could be another reason that the video discussion did not have a large impact on students' perceptions. Finally, the video posts were required for only a portion of the discussion posts. This was a deliberate decision to avoid over-burdening students in a course that already required weekly multimedia or technology-rich projects, but it is possible that the effect would have been greater if video had been required for all discussion posts instead of only a portion of them.

It is also possible that rich media really does not affect students' satisfaction with an online course. The goal of the rich media in this study was to enhance interaction between students, but some studies have found that interaction between students does not relate to satisfaction with the course (Hong, 2002; Sun, et al., 2008).

Yukselturk (2009) stated that different characteristics of learners, which include learners' motivation, previous education, experiences, and online learning readiness, are all important factors of learner's satisfaction. It was possible that students' satisfaction was influenced more strongly by factors not related to their interaction on the discussion board. For example, students may have perceived the requirement of recording and posting a video online to be burdensome (Thompson, Vogler, and Xiu, 2017). The perception that posting a video required extra work could also lead to a decreased course satisfaction. Some students commented on the difficulty of finding a quiet room in which to record the video, which detracted from the flexibility of online learning. In addition, the video post required students to reveal more personal traits, such as gender, appearance, or voice, than would be revealed in a text post. Some students may be uncomfortable revealing this additional information. Moreover, compared to video, it is easier to scan text posts for the main idea and then reply. Viewing a video post would require a quiet environment and a longer time committed to understand the information delivered through video. Cummins, et al. (2016), discovered that video discussions did not lead to a greater sense of community.

Concerning social presence, it is interesting that participants in the video group gave significantly higher ratings for the two scale items ("the instructor created a feeling of online community" and "the instructor facilitated discussion in the online course") associated with the instructor's actions in the course. It is possible that the richer social cues from the video posts gave students the impression that the discussion was more effectively facilitated, even though they did not perceive overall social presence as being higher. Given that formal and informal peer facilitators can contribute teaching presence (Anderson, et al., 2001), this rich interaction with peers through video may have contributed to students' feeling that the instructor was more engaged as well.

Participants' comments revealed mixed feelings about the use of video discussion posts, with positive comments about the richness of interaction and the value of learning to present themselves via video, balanced by concerns about its inherent logistical difficulties. Both creating and watching the video discussion posts required a quiet environment, and therefore detracted from the "any time, any place" nature of the online course. The lack of significant differences in perceived social presence and course satisfaction shown in this study highlights the importance of balancing benefits and risks when integrating technology into the learning environment. While this study was limited by its small sample size and the short duration of video use in the class, continuing research on the benefits of video discussion posts is needed to more effectively understand their relative contribution to online learning.

One area of future study is the influence of group size on social presence. The current study, which had a cumulative sample size of 57 from four semesters, resulted in active group sizes of five to ten for both the text and video discussions. Akcaoglu and Lee (2016) indicated that students perceived a higher level of social presence in terms of sociability and group cohesion when in a small size group of five rather than a whole class.

Further comparisons of small, medium, and large groups would add understanding of how group size affects perceived social presence when using different types of media for interaction.

6. Conclusion

This research explored the social presence and course satisfaction in an undergraduate online course. Results indicated that social presence had a significant positive relationship with course satisfaction in both groups, which is consistent with previous literature. This study revealed that the video group had non-significantly higher social presence and course satisfaction scores than the text group. Further analysis found that the video group students had a significantly higher score on "the instructor created a feeling of online community" and "the instructor facilitated discussion in the online course". It took students a significantly longer time to receive the first reply after an initial video post compared to an initial text post. Open-ended question comments emphasized the practical difficulties of recording a video and students' discomfort with the video medium. On the other hand, students do appreciate the extra learning opportunities along with creating a video post and the fact that creating video post could increase their social presence in an online course.

Although the findings from this study were inconclusive with respect to the influence of video discussion posts on perceived social presence, more research is needed to explore the potential of rich media to promote students' social presence and enhance the development of their learning outcomes (Joksimović, et al., 2015). Results of this study showed that some students are aware of the benefits of video discussion posts both as an opportunity for social connection online and as a way to develop technical and communication skills. At the same time, some students find it burdensome and inconsistent with the advantages of online learning. More research is needed to develop guidelines for the appropriate use of video posts. For example, it is possible that restricting video to lower stakes discussions, such as icebreakers, is sufficient for building social presence, since it can overcome the perceived distance between students and help put a face to a name. Providing guidelines for video length could also be helpful, as this would not only prompt students to present their ideas concisely but also make is easier for classmates to revisit the post (Thompson, Vogler, and Xiu, 2017). Meanwhile, the instructional team members, including the instructor, course designers, and teaching assistants, should be aware of the importance of providing sufficient scaffolding and in-time technical support, especially during students' first experience creating a video post.

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