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Creating a Community of Inquiry in Online Library Instruction

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Abstract

According to the Community of Inquiry (CoI) model (Garrison, Anderson, and Archer, 2000), an enriching educational experience online in a collaborative learning environment requires three interdependent elements: social presence, teaching presence, and cognitive presence. Social presence provides interaction in the online environment that allows students to feel like they are in a supportive and open environment. Teaching presence refers not just to teacher-student interaction during the lesson or course duration, but also to a teacher's ability to design an effective learning environment. Cognitive presence in the CoI model is knowledge generated from collaborative interaction. This model has been well-studied in the literature, and has been shown to be a meaningful framework for course development. However, more exploration of CoI in relation to library distance instruction is needed. This paper describes the Community of Inquiry model and provides information about the three presences and how they can improve online educational environments.

Introduction

While online education provides many opportunities to interact and learn across distance and time, many students bemoan the fact that they do not have the personal connection they desire when learning online. In webinars, online training, and distance courses, learners may not feel that they are as involved or as invested in an educational community as they would if they were interacting with other learners and facilitators in a face-to-face environment. According to social constructivism, which maintains that learning occurs when students interact with each other (Pear & Crone-Todd, 2002), having isolated students is not conducive to learning. In addition to being harmful to learning, students who feel isolated are less likely to persist in online learning environments (Hart, 2012). Enter the Community of Inquiry model. According to the Community of Inquiry (CoI) model (Garrison, Anderson, & Archer, 2000), an enriching educational experience online in a collaborative learning environment requires three interdependent elements: social presence, teaching presence, and cognitive presence. This model has been well-studied in the literature (the article has been cited over 2900 times in Google Scholar), and has been shown to be a meaningful framework for course development. However, CoI has not been explored extensively in relationship to library instruction. Creating an online

learning environment that generates these three presences, according to the model, will allow learners to become engaged in the process of critical inquiry. This paper will explore the research on each of the presences and indicate how librarians can use this research to develop a more engaging online environment.

Cognitive Presence

The most important presence in the CoI model is the cognitive presence, though all the presences are intertwined. Cognitive presence occurs when learners are interacting together to construct meaning. Garrison and his co-researchers (2000) argue that digital media can allow for more critical and deep thinking through textual responses, as learners tend to think more before responding via text. Discussion boards and chat rooms are still used in online learning today, but other opportunities for co-constructing knowledge with peers have presented themselves in the current online environment. Cognitive presence can be seen through the process of critical inquiry, which includes four phases (Garrison et al., 2000). The first phase is a triggering event that creates a sense of unease due to a knowledge gap. This is followed by exploring, where learners gather information. The third step of critical inquiry is integration, where learners make connections between the ideas they have gathered and develop solutions. The fourth step is resolution, where the solutions or hypotheses are tested in the real world. Moving students through this critical inquiry process can be a challenge; most discussion board prompts that pose a single question to students do not allow for learners to move through the four stages of critical thinking (Darabi, Arrastia, Nelson, Cornille, & Liang, 2011). Even questions that provide students with structured ways to develop their critical thinking do not move students much beyond integration (Darabi et al., 2011). Instead, assigned debates and role playing can allow students to move into exploration and integration (Darabi et al., 2011). Instructors or facilitators need to be responsible for increasing the cognitive engagement of the students or participants online.

For library instruction, this could mean having students debate whether or not a resource should be used for an assignment after going over methods to evaluate information in a discussion board or in a chat room. Students should be assigned a position rather than allowed to choose on their own. This means that students must fully consider a position, perhaps not their own, and integrate the resources at hand to develop a strong argument. In role playing, students could represent various stakeholders who are trying to solve an authentic issue, and then use research to support their position. This can also be a method of having students consider issues of authority, as seen in the first frame of the new *Framework for Information Literacy for Higher Education*. Throughout this process, facilitation is necessary, but facilitators should allow students to explore their own ideas so that they may move through the critical inquiry process.

For students to move into the final stage, resolution, scaffolded or, perhaps a more precise word, facilitated discussion was required in a study of online undergraduate students (Darabi et al., 2011). Trained student facilitators were used in the study, who moved the conversation toward a consensus in developing a solution to a problem (Darabi et al., 2011). Those librarians holding a webinar in many of the standard collaboration software could break up their participants into small groups, assign a leader, and ask that the participants use the information presented in the webinar to create a lesson plan or complete some other collaborative

activity. Whether the discussion is facilitated by an instructor or peer, the importance of teaching presence is clear in this learning activity.

Naturally, cognitive presence does not occur only in the discussion boards. Online educators should create other learning tasks that ensure that students can appropriately engage with the course content. However, there should not be such a focus on content itself (lectures, tutorials, readings, and other forms of direct information sharing) that students believe that their role in the course is to consume information passively (Garrison & Anderson, 2003). The opportunity to share knowledge and understanding is an important aspect of the CoI framework (Garrison & Anderson, 2003). If there is an assessment piece of the instruction, this should not focus on recall, but on the application of understanding in authentic situations so that students can move through the practical inquiry process.

Student interaction does not guarantee cognitive engagement. To encourage deep learning, teacher facilitation, direct instruction, and reflective assignments can be necessary (Garrison & Cleveland-Innes, 2005). In one study, two courses with high levels of student interaction did not lead to high levels of deep learning, but one with low student-student interaction and high levels of teacher involvement and assignments did lead to deep learning (Garrison & Cleveland-Innes, 2005). Thus, teaching presence, either through peer leaders or the instructor themselves, may be necessary to move learners through the critical thinking process.

Teaching Presence

To create teaching presence, instructors must cross the transactional distance, the psychological and physical space, that is inherent in teaching online (Moore, 1993). Teaching presence, according to Garrison et al. (2000), consists of instructional design, direct instruction, and facilitation of learning. Instructional design includes setting deadlines, setting up the curriculum and learning outcomes, and using the technology in a productive way (Anderson, Rourke, Garrison, & Archer, 2001). Direct instruction means delivering content, providing information from a variety of resources, summarizing salient points in a discussion, and providing assessment and feedback (Anderson et al., 2001). To facilitate learning, instructors should encourage participation in course discussions, enable consensus-reaching, and identify where students may disagree to encourage a continued discussion (Anderson et al., 2001). In a study of students at a college and university, facilitation of discussion was ranked highest by the university students as leading to their success in an online course (Kupczynski, Ice, Wiesenmayer, & McCluskey, 2010). The college students listed feedback as the most important factor for their success (Kupczynski et al., 2010). In another study that surveyed students from 32 colleges, directed facilitation through both moderating and encouraging student discussions and providing direct instruction contributed significantly to the perception of being in a learning community and of learning (Shea, Li, & Pickett, 2006). Research has shown that teaching presence and social presence are predictors of perceived cognitive presence (Shea & Bidjerano, 2009). Additionally, teaching presence predicates perceived social presence (Shea & Bidjerano, 2009). Thus, teaching presence is essential in creating both higher-order thinking and a feeling of being a part of a community.

Ensuring that students feel the presence of an instructor or facilitator can sometimes be difficult. In a webinar, direct instruction and discussion facilitation can be an easy method of

ensuring that participants feel that the instructor is involved and that they are learning as a community; these actions have the greatest impact on perceived teaching presence (Shea et al., 2006). However, in asynchronous learning, this can be more challenging. In a study of adult students, students appreciated an instructor's ability to engage the higher order thinking skills of the students (Kupczynski et al., 2010). Therefore, those providing online training, webinars, and courses for adult students should make sure to challenge the participants by encourage analysis, critical thinking, and evaluation. In a study of adults in an online training program, student satisfaction was most closely linked to direct instruction, then facilitating discourse, then instructional design – but all aspects of teaching presence were correlated with student satisfaction (Miller, Hahs-Vaughn, & Zygouris-Coe, 2014). Thus, while direct instruction is important, instructors should make sure that they have a well-designed session, course, or tutorial, and that they facilitate any discussions that engage their learners.

Asynchronous discussions, which can provide social presence, have been shown to lack in cognitive presence, as discussed above. If asynchronous discussions are used, a strong teaching presence is needed to be successful. The more the facilitator of asynchronous discussions interacts with learners, the more postings and interaction with each other the learners will have (Gilbert & Dabbagh, 2005). Without frequent interaction from instructors or facilitators in discussion boards, not only will students or participants feel abandoned, but they are also less likely to have discussions that move thinking and learning forward. Instead, without facilitator intervention, they will engage in “serial monologues” (Pawan, Paulus, Yalcin, & Chang, 2003). Librarians should model good discussion behavior by participating often, engaging with students and the course content, and employing higher-order thinking skills like synthesis, evaluation, and analysis. Suggestions from Garrison and Anderson (2003) include asking engaging questions, questioning the participants' ideas or questioning ideas from course content, highlighting important or challenging points brought up in the discussion, making connections, offering differing perspectives or information, and summarizing the discussion.

If teaching an online course or providing online training, librarians should make sure to provide feedback on the performance of their participants. While this may occur in a discussion thread, many instructors provide feedback individually to students through direct emails or messages. Some learning managements systems (LMS) allow instructors to provide audio feedback on assignments. Students find that audio feedback improves instructor immediacy and increases perceptions of teaching presence (Ice, Cutis, Phillips, & Wells, 2007; Oomen-Early, Bold, Wiginton, Gallien, & Anderson, 2008). Asynchronous video feedback on student performance has also been used by some instructors, and has been found to be beneficial to students for better understanding their performance, while also allowing them to feel that their instructor is a real person, improving social presence (Borup, J., West, R. E., & Graham, C. R., 2012). Additionally, giving feedback that is respectful and constructive will also increase perceived social presence (Garrison & Anderson, 2003).

Social Presence

Social presence includes “emotional expression, open communication, and group cohesion” (Garrison, Anderson, & Archer, 2000, p. 99). In providing emotional expression, students reveal their feelings to others about their learning experience (Garrison, Anderson, & Archer, 2000). Being respectful and kind to each other allows for open communication where

students are willing to participate and to share their ideas freely. When students can share their emotional responses, along with their intellectual contributions, students will feel like they are interacting with real individuals. Group cohesion indicates that students are committed to the group learning experience. In determining the learner-learner interactions (social presence) that contribute to students' sense of being in a learning community, 381 graduate students indicated that providing introductions, engaging in collaborative projects, sharing personal experiences, having discussions as a class, and sharing resources were all significant (Shackelford & Maxwell, 2012). Thus, there are multiple methods of creating student-student interactions.

In reviewing discussion board conversations among graduate students, Lee (2014) found that higher social presence was correlated to higher cognitive presence. However, the ratios of cognitive density, or the higher-order thinking, within the discussion board conversations were still low in both courses analyzed. Lee (2014) suggests that teaching presence is necessary to increase cognitive density, though her study did not address teaching presence. While others have claimed this as well (Joo, Lim, & Kim, 2011; Shea & Bidjerano, 2009), this claim warrants further investigation; Bernard et al. (2009) found that social presence (student-student interaction) has the biggest impact on academic achievement and that teaching presence (student-teacher interaction) has the lowest impact on academic achievement. While social presence can improve cognitive presence, students are not necessarily satisfied with the learning process just because they have a high level of interaction with other students (Joo, Lim, & Kim, 2011; Kim, Kwon, & Cho, 2011). Instead, teaching presence and the ease of using the online environment impacts student satisfaction with learning (Joo et al., 2011). Still, it seems that social presence, in conjunction with teaching presence, increases cognitive presence.

For instructors to best create an environment that allows for social presence, they may need to set guidelines or expectations of communication. Even in a webinar, if the leader makes it clear that the participants may ask questions, or, better yet, time permitting, includes an ice-breaker activity, this can increase social presence. Giving the opportunity for students or participants to discuss in small groups, either synchronously or asynchronously, can also increase social presence by encouraging collaboration and interaction. If teaching a class, permitting students to share information about themselves in a discussion board can allow students to feel like they are part of a learning community. Instructors can begin discussions that encourage students to brainstorm and reflect in a low-risk format to ease students into the community (Garrison & Vaughan, 2008). Garrison and Anderson (2003) suggest that instructors make sure to welcome participants, encourage participation, praise participants, be conversational, and urge participants to contact the instructor / facilitator if any issues arise. In attempting to create an online community, a facilitator can also ask participants to provide feedback on the facilitator's work and ideas (Neff, 2002). Allowing students to feel like they are a part of the construction of knowledge will improve group cohesion.

For those librarians leading webinars or online trainings, allowing participants to introduce themselves may not be possible. However, it is still important to have a feeling of interaction among the participants to generate a learning community experience. Including a Twitter hashtag to use during the webinar can increase social presence as students share information, assist each other with problems, or reflect on issues presented during a session. In

college courses, Twitter use has been linked to increased student engagement and grades (Hirsh, 2012; Junco, Heiberger, & Loken, 2011). However, it is important to note that in a study by Junco, Heiberger, and Loken (2011) instructors facilitated the Twitter discussion, leading to higher grades and engagement, so teaching presence was still important. The participants need to know that their ideas and views are being heard. Tweeting them back or bringing in their tweets into the webinar conversation can improve social presence.

Some web conferencing software, like Adobe Connect, allows users to engage with each other in a chat room. Breakout rooms used in these web conferences can encourage more student to student interaction, increasing social presence. Those who may feel uncomfortable participating in a larger group will be more likely to engage with their peers in a small group (Cornelius & Gordon, 2013). Participants placed into smaller breakout rooms can become more motivated, and instructors can also monitor and engage with participants at a more personalized level (Wang & Hsu, 2008). Moderators participating in and encouraging others to participate in the breakout rooms are important for their success (Banna, Grace Lin, Stewart, & Fialkowski, 2015). Learners should not feel abandoned in the breakout rooms, and facilitators moving from one breakout room to the next can help keep them on track.

Videoconferencing can also allow for participants to see each other as they interact. However, it is important to note that videoconferencing opportunities for groups does not always lead to increased student satisfaction (Giesbers, Rienties, Gijsselaers, Segers, & Tempelaar, 2009; Giesbers, Rienties, Tempelaar, & Gijsselaers, 2014; Skylar, 2009). This has been true for some continuing education for professionals as well (Buxton, 2014). Additionally, videoconferencing in a course does not necessarily result in higher learning achievement either when compared to asynchronous forums (Giesbers et al., 2014). However, not all studies support this, with a study of education students showing that students preferred the web conferencing and that students performed equally well after either instruction method (Skylar, 2009). Additionally, graduate students at one university rated synchronous, web conferencing lessons as having higher social presence and also being related to higher satisfaction (Moallem, 2015). If used, instructors and facilitators can make sure that there is a high level of interaction by ensuring that the technology works and that there is a backup plan in case of technology failure, introducing themselves, limiting student control of the learning environment until it is time for a student to present, allowing text chat, sharing resources, using breakout rooms, and seeking student participation (Martin, Parker, & Deale, 2012). All of these methods will increase perceived social, cognitive, and teaching presence.

Conclusion

Ultimately, the Community of Inquiry model ensures that instructors are meeting student needs in online learning environments. Instructors and facilitators cannot merely present content and expect student satisfaction and learning are occurring. Instructors must instead focus on the full learning experience for students that allows them to employ higher-order thinking, to interact with their peers, and to receive guidance from the instructor. By including cognitive, social, and teaching presence in online instruction, librarians can create a educational environment that engages students and promotes deep learning.

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