DESIGNING SYNCHRONOUS ONLINE INTERACTIONS AND DISCUSSIONS

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With increased improvements to technology for online teaching, synchronous instruction continues to grow. Increasing student interaction has been an important component to enhance a sense of community in online learning and improve student satisfaction. There is a paucity of research on how to effectively manage online interaction and increase student engagement during synchronous sessions. Three instructors draw on their online teaching experience and discuss how they maximize student interaction during synchronous online discussions according to elements of a community of inquiry.

Keywords: higher education; e-learning; web-conferencing, learning design

ONLINE INSTRUCTION

Online instruction can be implemented using asynchronous or synchronous methods or a combination of both. Asynchronous instruction involves online interaction that is delayed and does not require simultaneous participation. Communication can occur through discussion forums where participants post messages and upload content. Synchronous instruction occurs in real-time, using web-based technology. Synchronous communication platforms (e.g. Adobe Connect) have multiple collaboration features including video and audio conferencing, a chat box, polling features, and a white board, to name a few. There is a predominant focus in the

literature on asynchronous communication strategies (Tallent-Runnels et al., 2006) and courses taught fully using web-conferencing software (Bower, 2016; Clark & Mayer, 2011); however, there is limited research about how instructors use real-time communications to increase interactivity during live online discussions (Park & Bonk, 2007).

Technologies used in online learning can offer interactivity in multiple modalities (Anderson, 2008; Bower, 2016). However, one complaint of synchronous delivery garnered from surveys of student satisfaction is a lack of interaction (McBrien, Cheng, & Jones, 2009; Park & Bonk, 2007). Researchers argue learning designs that enable interactions and online learner participation are necessary to enhance learning (Bower, 2016; Hrastinski, 2009). In other words, designing an interactive and participatory online learning environment is important for fostering positive learning experiences. Increasing student engagement through student-centred approaches can improve a sense of community by providing opportunities for sharing ideas, receiving helpful feedback, improving critical thinking and engaging in tasks involving co-construction (Bower, 2016; Park & Bonk, 2007; Young & Bruce, 2011).

In this paper, three instructors draw upon their online teaching experiences, corroborated by the literature, to explain how they maximize student interaction during synchronous online discussions. The instructors meet with students for synchronous sessions approximately three times during the course for one or two hour sessions as a supplement to the asynchronous learning activities. The practices described are informed by the community of inquiry model (Garrison, Anderson & Archer, 2000). The three interdependent elements: teaching, cognitive, and social presence (Akyol & Garrison, 2008) are used as a lens to describe the teaching strategies used by the instructors during live online discussions. By discussing teaching strategies according to each element, the instructors demonstrate how synchronous instruction

can be utilized to promote a sense of community and how further study in this area would be valuable.

ENHANCING STUDENT ENGAGEMENT

Teaching Presence

Teaching presence is the perceived role of the instructor in designing, facilitating and delivering the course (Akyol & Garrison, 2008) and is seen as an essential element of developing a sense of community (Garrison, 2007). Components include the learning design, the learning climate, and communication, such as facilitating discourse.

One way for the instructor to develop online presence is to provide visual support. If students in a virtual classroom are not able to see the instructor or their classmates' nonverbal behaviours and cues, the interaction can lack response, contributing to a feeling of psychological distance (McInnerney & Roberts, 2004; Young & Bruce, 2011). To reduce the feeling of distance, the instructor may use the webcam during the session and encourage students to use theirs as well. Despite the advances in web-conferencing technologies and improved access from remote areas, it might not be feasible to use the webcam for the entire session due to audio and video delays or drops in transmission. The instructor may select opportunities where the web cam can be turned on for a short time, such as the first few minutes of the class to provide visual introductions. Features such as the emotion icons or the chat box can also be used to provide immediate responses to the speaker and as a way to reduce the psychological distance between participants.

Another way to establish teaching presence is to discuss the learning climate and share expectations for social interaction during large and small group discussion. Setting the stage can occur at the start of the course, but it can also be done at the start of a class or prior to a group

discussion. Depending on the format of the class and learning intentions, the instructor might have different expectations for interactions during group discussions. For instance, the instructor might want students to use the microphone during a large group, teacher-led discussion instead of the chat box. Research has found students experience confusion about dividing their attention between the microphone discussion and the chat box (Clark & Mayer, 2011; McBrien et al., 2009). Before the discussion takes place, the instructor may remind students to use the raise hand icon as a method to request the microphone. If the chat box is being used by students during a more collaborative and student-centred discussion, the instructor might enlarge the text box. Alternatively, the instructor can encourage microphone use and seek information or clarification by asking the student to take over the microphone and to elaborate on a comment made in the chat box. Whether the interaction is teacher-led or student-centred, it is important for instructors to establish clear guidelines for using the communication tools, especially when meeting in a web-conferencing system only a few times during a course.

Cognitive Presence

Cognitive presence is the "exploration, construction, resolution and confirmation of understanding through collaboration and reflection in a community of inquiry" (Garrison, 2007, p. 65). Creating a community where open communication is the norm and the group has an opportunity to interact and collaborate is key. During synchronous session discussions, instructors can encourage open and exploratory interactions and collaboration by establishing the expectation that there may be no right or wrong answers, problems may remain unresolved, and groups may not achieve consensus.

Four key indicators of cognitive presence include a sense of puzzlement, information exchange, connecting ideas, and applying new ideas (Akyol & Garrison, 2008, p. 4). These indicators may

be enacted in a four-step process that includes a triggering event, followed by an exploration, integration and resolution/application (Akyol & Garrison, 2008; Alavi & Taghizadeh, 2013). To achieve this, structured collaboration is important (Akyol & Garrison, 2011). It is not enough to simply encourage interaction. Instead, students benefit from intentional and meaningful interactions designed according to specific learning intentions. To encourage collaboration, an instructor might use breakout rooms to move students into smaller groupings. Establishing expectations about what to do in the breakout room is important during interactive teacher-led activities, as is assigning a specific amount of time for a particular task. In order to prevent losing valuable time in a breakout session, the instructor may assign specific roles, such as facilitating the discussion; ensuring the task is completed before the allotted time has expired; and reporting back during a large group debrief. By assigning each student a facilitation role in a small breakout session, the instructor encourages cognitive presence by establishing an expectation for leadership and active participation.

It is important to note that research shows that of the four phases of cognitive presence, resolution can be difficult to achieve (Akyol & Garrison, 2008, Alavi & Taghizadeh, 2013; Vaughan & Garrison, 2005) particularly when meeting in real-time only a few times during the term. While it is important for instructors to be aware of the various stages in the process, it is also reasonable to expect students to engage in exploration and synthesis of information without necessarily expecting students to apply new learnings immediately or reach a resolution.

Social Presence

Social presence is about establishing personal and purposeful relationships through effective communication, open communication and group cohesion (Garrison, 2007). As the learning community develops, social presence shifts over time in an online course and can also be

influenced by other factors, such as gender, type of task, and timing of the course within a program (Swan & Shih, 2005). All three instructors work with students assigned to cohorts who begin the program by meeting face-to-face for on-campus summer courses and then register for common online courses throughout each year. The challenge for instructors is to continue building on the social presence developed during the early stages of the program.

Synchronous sessions can be used to design interactions for deep learning experiences and for nurturing the community of inquiry (Bower, 2016; Garrison et al., 2000). Social presence can be established through effective communications occurring as a large group, during small group breakout discussions or through individual instructor-student interactions. Synchronous discussions can be useful for promoting social interaction when group identity and collaboration can be fostered.

In synchronous teacher-led discussions, the instructor may pose questions and students may respond using the multi-modal features in the web-based conferencing system. Wang (2005) found that effective questioning during instructor-led discussions promoted student participation by encouraging sharing and debating. However, there is a paucity of research or literature discussing effective strategies for facilitating quality dialogue (Falloon, 2011; Rockinson-Szapkiw & Walker, 2009). Designing for learning in online environments needs to incorporate use of divergent-thinking, open-ended questions, as well as guidance for students to feel safe sharing critical insights and expressing ideas. Poll tools can also be used to ask students to simultaneously respond to questions and as a way for the instructor to quickly gauge levels of student understanding. Other web-based tools (e.g. white board, discussion note pod; audio, chat, etc.) can also be used to invite students to contribute real-time input during synchronous sessions and provide students with feedback. Bower (2016) found student-centred activity led to increased

student contributions. Regardless of the tool used, it is important to establish a learning climate with risk-free expression, coupled with effective questioning skills to promote knowledge building and active participation in synchronous discussions.

Effective teaching practices are important in online learning environments as they are in face-to-face learning spaces. Teachers are designers of learning (Friesen, 2009) and online learning environments also need to be intentionally designed to intellectually engage learners. Synchronous learning opportunities with online learners can be carefully designed as part of an effective learning community and instructors need adaptive competencies to design on-the-fly (Bower, 2016).

CONCLUSION

Recognizing there is no one-size fits all online learning architecture for all students and instructors, discussions are shifting from a singular focus on the technological tools or delivery systems to the intricacies and complexities of redesigns for learning and adaptive real-time designs. As such, there is a need to explore aspects of designs for learning, specifically how to design and adapt designs for increased multimodal interactions and collaboration.

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Brown, Schroeder, & Eaton

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