

## Instructor Presence in HyFlex Learning Environments

### **Abstract**

HyFlex environments simultaneously combine face-to-face and online learning to offer students flexibility with how they participate. With the onset of COVID, HyFlex learning experiences have been widely offered. Using a multiple-case study approach, this research considered the perspectives of 5 instructors teaching an introductory undergraduate design-thinking course required for technology majors. Implications for HyFlex teaching and learning are included.

### **Background and Purpose**

HyFlex courses are “multi-modal,” that simultaneously “combine online and onground (classroom-based) students” into a single learning experience (Beatty, 2019, p. 6). Although HyFlex learning has gained attention in recent years (Beatty, 2007; Leijon, M., & Lundgren, 2019), the onset of the global pandemic sparked by COVID-19 has accelerated and expanded the adoption of HyFlex (Johnson et al., 2022). While previous research suggests that how an instructor facilitates learning and establishes presence in both online (Richardson et al., 2015) and face-to-face (Adnan, 2017) environments substantially influences an overall learning experience, limited research has examined meaningful instructor presence in HyFlex learning environments.

As the most cited framework, the Community of Inquiry (CoI) framework offers educators a way to “understand and productively shape students’ online experiences...The CoI framework summarizes the instructional, social, and cognitive processes through which productive online communities of inquiry are developed” (Shea et al., 2022, p. 148), through the consideration of three elements: cognitive presence (“the extent to which the participants in...a community of inquiry are able to construct meaning through sustained communication,” Garrison et al., 2000, p. 89), social presence (“the ability of participants in a community of inquiry to project themselves...as ‘real’ people,” Garrison et al., 2000, p. 94), and teaching presence (“the design, facilitation, and direction of cognitive and social processes for the purpose...worthwhile learning outcomes,” Anderson et al., 2001, p. 5).

Using the CoI Framework, the purpose of this research was to explore how CoI indicators are present in HyFlex environments and how instructor presence is established in HyFlex environments through course observations and instructor interviews. The following research questions were considered:

1. What indicators of the CoI framework are present in HyFlex courses?
2. How do HyFlex instructors incorporate instructor presence into their courses?

### **Method**

We used a multiple-case study research design to explore how instructors use CoI indicators in HyFlex environments and how they establish presence across a multimodal learning environment (Yin, 2014). Using this approach allowed us to complete a deep consideration of multiple perspectives regarding the approaches instructors use while facilitating learning in a HyFlex environment (Baxter & Jack, 2008; Yin, 2014). Each instructor represented a single case.

Participants included 5 instructors that taught an introductory undergraduate design-thinking course required for technology majors at a large midwestern public university during the fall of 2022. Each semester 15 or more sections of the course are offered, with approximately 30-40 students per section. Using a flipped classroom style, the course prompts learners to complete hands-on activities during class time and includes three projects focused on building students' design thinking processes. Participants' experience with teaching the course ranged from 1 to 7 times.

To investigate which CoI indicators were present in HyFlex courses and how instructor presence is formed, we considered two primary data sources: 1) semi-structured interviews with instructors regarding their use of CoI strategies and 2) multiple observations of recorded instructor facilitation of HyFlex class sessions throughout the semester. Interviews were conducted during the first half of the fall 2022 semester, with questions focused on prompting instructors to share specific strategies they used to facilitate teaching presence (e.g., What strategies did you use to communicate with students in the first classes of the semester related to the course using a HyFlex model?), social presence (e.g., How do you gain a sense of your students as real people and share your presence in your HyFlex classroom?), and cognitive presence (e.g., How do you pose problems for learners to consider in your HyFlex classroom?). As a part of course protocol, instructors recorded class sessions. After the completion of the semester, we examined three instances of facilitation for each instructor across the semester: one at the beginning of the semester, one in the middle of the semester, and one at the end of the semester. We targeted class sessions where there were remote students in attendance.

Using an established coding schema (Richardson et al., 2015), we created a codebook that included social presence, cognitive presence, and teaching presence indicators and then, used the codebook to analyze both observations and interview transcripts. While the goal was not to achieve an exhaustive analysis, this approach allowed us to identify examples of how instructors used the CoI indicators to facilitate HyFlex. Next, we created individual case studies for each instructor (Yin, 2014). Finally, to complete the cross-case synthesis, we compared instructors' experiences to identify patterns within and across cases (Yin, 2014).

### **Preliminary Results and Implications**

While data analysis for this research is ongoing, initial findings suggest that noticeable differences existed between novice and experienced instructors HyFlex presence, with experienced instructors more seamlessly and comfortably managing the technology required to simultaneously facilitate multiple modalities. While all courses used a similar HyFlex strategy, there was a wide variety in the technologies and activities used to incorporate face-to-face and remote students in the learning process. For instance, one instructor consistently used PowerPoint slides and screen sharing to maximize communications across dual modalities, while other instructors relied on verbal cues primarily, which may have made following along more difficult for remote students. Additionally, while all sections used Microsoft Teams as their primary facilitation tools, differences existed in how tool features were used across instructors to check-in with students and provide equitable learning experiences for different modalities (e.g., one instructor created a separate channel to prompt deeper discussion and support student collaboration). Overall, preliminary findings affirm that there are multiple ways to engage students in HyFlex learning environments and establish meaningful instructor presence. The

results of this study offer insight into how instructors establish presence in HyFlex environments. While previous research has examined CoI indicators in online settings, this study offers insight into how CoI indicators are used to facilitate learning in HyFlex environments.

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