The Instructor's Studio (Source Room)

Room Size and Seating

The specific measurement of the instructor's studio is not as important as its function. As long as the instructor has enough space to walk and move around, the room does not need to be spacious. We do recommend, however, that it be equipped with an adjustable table or desk so that s/he has the choice to teach seating or standing. Close attention should be given to the physical needs and limitations of the instructor (i.e. the type of chair that is provided to the instructor).

Camera and Microphone

We highly recommend using a conference ready camera and microphone. Cameras that do auto tracking can be expensive but it is useful. At a minimum, it should be a PTZ (pan-tilt-zoom) camera and it should live stream at a resolution of at least 720p. The camera placement is also very important. We found that placing it between the two projection screens allows the students to see the instructor at an eye-level. For the microphone, avoid using a built-in mic and invest in an omnidirectional external mic instead. This way, the instructor's voice is picked up clearly regardless of if s/he sits, stands or paces around the room.

Projection and Screens

Use large displays to keep a decent resolution. Using two screens will ensure that the instructor clearly sees the students on one and what the students see on the other (i.e. the contents of the computer, virtual whiteboard).

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The students' immersive classroom (destination room)

Room Size and Seating

Students should be seated in a semicircle with no more than three rows to ensure that they can fit on one frame and not appear too far from the instructor. We do not prescribe a specific type of furniture as that should be a decision made with the faculty, staff, and the students' feedback.

Camera and Microphone

PTZ cameras that do audio-based or visual-based auto tracking can be expensive but they are especially useful when capturing the students. Tracking the student who is speaking, or zooming in up to 12X, allows the instructor to more closely see social cues such as facial expressions. Although PTZ cameras give the option for the instructor to manually control and zoom in on a student, having the camera automatically zoom in on

the speaker (auto tracking) gives the instructor the freedom to focus on teaching. In the least, the camera's default should be to capture all the seats on a wide angle.

Because lip reading and social cues such as facial expressions are not as apparent on camera as they are in person, clear audio is also very important in this modality. On the students' end, we recommend installing hanging microphones so that the audio comes in clearly regardless of where the student sits.

Projection and Screens

It is also important that the screens on the students' end is large. This will ensure that the quality and the resolution will project as clearly as possible. That is another reason we recommend a camera that streams at 720p in the least.

A note about this undertaking

It is imperative that the synchronous learning environment is taken into consideration with the guidance of the institution's internal networking group, a video conference administrator, and/or the Audio and Visual technician. It is by no means a small undertaking because of the many departments it touches; and the discussion and decisions should involve all stakeholders such as the Registrar's Office, Facilities, Office of Academic Affairs, and senior administrators to name a few.

By designing a synchronous learning environment with equity of experience in mind, students will not only have access to remote expertise, but they will also be in a single environment where the interactivity will be same across the board. Students will no longer feel like spectators but be part of a community of learners.