Hybrid Course Setup Recommendations

Thank you for choosing me for your next event! I'm thankful for the opportunity to share what I know with your group. As you've chosen to host this program in a hybrid environment, I wanted to share some information about what I have found to be the optimum setup to successfully provide an equally engaging experience for your online learners as well as the in-person learners. I've taught many hybrid classes over the years, and I've found two things are necessary for the program – good technology and a good setup. Just so you know, I generally show up to the classroom an hour before the hybrid program to test the equipment and the setup so that you don't need to have anxiety about things working at the last minute.

Below are some recommendations based on my experiences.

Moderator
In addition to the equipment recommendations below, a successful hybrid class will require an active moderator during the full duration of the course. This moderator will manage the computer that the virtual audience will be connected to.

The moderator will be responsible for the following:

- Assisting learners with connection and technical support issues throughout the program

- Ensuring learners meet any regulatory requirements for continuing education, such as remaining on camera and instructor engagements.

- Moderating questions by chat and conveying those questions, if relevant, to the instructor

Equipment Provided By Instructor
I will be using my own MacBook Pro to ensure that all of my content is in one familiar and well-tested place. I have my own remote controller for slides and all necessary connectors for audio/video connection to the most common systems. I have HDMI, VGA, USB-C/B/A and 1/8 inch audio connections available.

Equipment Provided by Host

The following is a list of recommended equipment for the course host to have available in the classroom.

- Computer to Host Virtual Meeting Application

    o This is the computer that will run the Zoom (or other) software that connects your remote learners to the classroom. Ideally this would be a high performing computer that can handle inbound and outbound video, as well as possess the computing power necessary to run the necessary applications without lag.

- Internet

    o The computer hosting the virtual meeting and the instructor's laptop should both have a CAT5/6 network cable connected directly to the devices. This is especially true for the host computer. Wifi speeds are much slower and less reliable than when internet access is plugged in to the computer via the network cable.

- HDMI Control Devices

    o HDMI control devices, such as the Blackmagic ATEM (https://www.blackmagicdesign.com/products/atemmini) allows for multiple HDMI devices to be brought in from multiple sources (such as the instructor's laptop for slides and external video cameras of the instructor and/or audience). The video can then be controlled by the course moderator. Devices like the ATEM allow for cameras that could be pointed at the instructor and/or classroom to then be used as the "webcam" for the Zoom session and connects to the host computer via USB-C. Note that the ATEM is only beneficial if you have more than one incoming video device to utilize. As mentioned below, some mid-grade webcams have USB-C connectors and not HDMI.

    o In an ideal setting there will be an HDMI cable that goes from the instructor's laptop which will be used to display the slides, videos, etc…. The video signal will need a splitter. An HDMI cable will connect from the instructor's laptop to the splitter and then from the splitter to the host laptop for virtual students to see the slides and then second signal to the classroom TV/projector for the in-person students to see the slides.

- Cameras

  - A fundamental mistake made in many virtual classrooms is that a low-quality camera is used to project the classroom or instructor to the virtual students. Ideally a DSLR or mirrorless camera like the Sony a7iii would be used, but if you are not doing video regularly with your organization then it may be too much of an investment. The Meeting Owl 3 https://owllabs.com or Logitech Mevo https://www.mevo.com may be more affordable options.

  - The camera should be in the middle of the room at the eyelevel of your in-person learners.

  - Multiple cameras throughout the training area seem to be preferred by remote learners so that they get difference perspectives of the classroom, but that requires more equipment to ensure it works properly.

- Audio

  - The instructor will need a lavalier or countryman style microphone during the course. If the meeting room is small and amplification isn't needed in the room for the in-person learners to hear, then this audio setup can go straight into the audio-in port of the host computer to act as a microphone.

  - If audio amplification is needed in the classroom, then the host will need an audio splitter to take the signal from the mic and then send it both to the classroom audio system and direct to the host computer.

  - One of the biggest problems that virtual students face is poor sound quality. Using the low-end microphone of the host laptop or webcam is insufficient. Audio should go from the lavalier to the laptop to get the best audio quality.

  - An affordable and easy to use solution for this if is the Rode GO II microphone kit https://amzn.to/43sf1yn

- Lights

  - Another common complaint from virtual learners is that they cannot "see" the instructor on the camera. They often can see the instructor, but many meeting areas have lighting issues which are made worse when streamed through video. Having good lighting on the speaker is important.

  - Having a studio light or two in the classroom pointed at the instructor should help with this. An Apature light https://amzn.to/3Knt1Tx with diffuser https://amzn.to/3PTmFPa will likely help. Note that this is not essential, just a recommendation based on previous observations.

- TVs/Projectors

  - Most meeting rooms have evolved to having large, high-definition televisions placed on the wall behind the speaker so that the in-person learners can see the slides/videos or other media assets used by the speaker during their presentation. If using a projector, the lumans must be greater than 3500 for students to see and it should be displayed on a white projector screen. Web cameras pickup a lot of "noise" when pointed on a TV or Projector screen. It's better to have a direct feed from the instructor's laptop to the virtual classroom software as mentioned before. Streaming the slides from the project screen rarely works well for virtual learners.

  - A second TV of greater than 65 inches should be in the back of the room for the instructor to be able to see the virtual learners as well. Instructors may forget about virtual learners or miss the body-language indicators necessary to engage learners if the speaker cannot see them. Having this monitor with the Zoom (or other application) panels in front of the speaker will make it much easier for the speaker to engage those learners just as we do the in-person learners.

Room Setup

Having the right equipment is important, but placement in the room is necessary to ensure the optimum engagement can be reached. Another common complaint from virtual learners is that the instructor moves out of camera view during lectures. (I am a very active instructor and move a lot). I would recommend the use of Gaffer's Tape, which has low adhesive qualities, to be placed on the floor as markers where the instructor must stand to ensure he or she remain in the video camera's frame. Gaffer's Tape is very affordable https://amzn.to/3JZ6kVg.

When possible the A/V equipment shouldn't be seen by virtual learners, as it serves as a distraction, but it is unavoidable for in-person learners. Using wire covers and limiting messy wiring will be important to in-person learners who may be easily distracted.

Below is an overhead example of the suggested placement of the equipment and in-person learners for a hybrid environment.
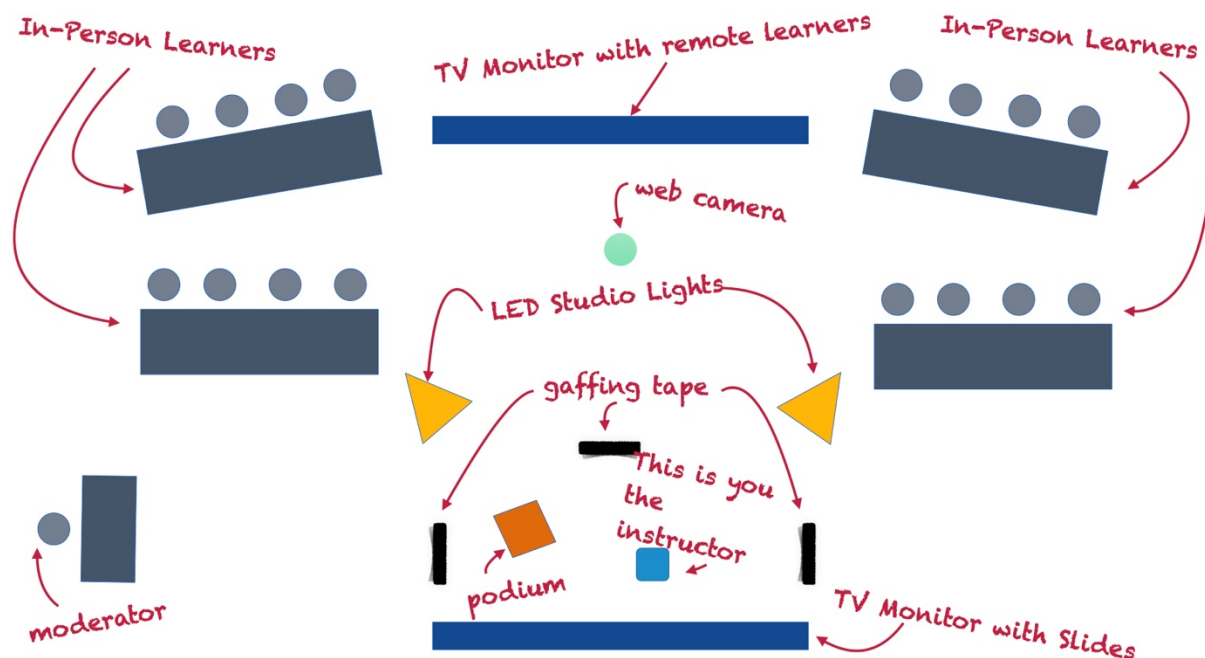
Wrap-Up

I know that this seems like a lot of work and investment into a classroom, but virtual learner and in-person learning seem to be equalizing in necessity and popularity among adult learners. It is likely that we will be hosting a lot more hybrid meetings and learning opportunities in a hybrid fashion in the future. Not making the necessary investment may mean a loss of revenue is learners have a bad experience and do not return for your learning opportunity and or recommend that others do not.

Investing the right setup, personnel and equipment seems to be a necessity in the modern world of adult learning.

If you have any questions you can always reach out to me and I'll do what I can to help!

~Matthew