



Uncertain Times Require Resilient Classrooms: DES Prepares Higher Education for Hybrid Teaching

Cameras that track movements and stream to an online learning platform. Learn how DES multimedia engineers are equipping classrooms to serve a concurrent online and in-person audience

Summer may be starting but the new academic year is right around the corner. DES is actively working with a number of higher education campuses to build classrooms well-equipped to serve an unpredictable landscape.

Our discussions with higher-ed administrators outlined these four assumptions: (1) COVID-19 will continue to impact normal operations until a vaccine is developed. (2) The surest mitigation of the pandemic is through social distancing. (3) Post-high school graduates most benefit from an in-person college education. (4) Pixelated, frozen webcam classes are simply not satisfactory options.

With these principles in mind, the DES multimedia team has designed plans for hybrid classrooms which can be used to augment the teaching environment. These are instructional spaces that can deliver optimal educational experiences to a dual audience - in-person and online for alternating class sessions.

The challenge for a hybrid classroom is providing an interpersonal experience for those seated in the classroom while delivering an immersive session for those online. Either the presenter is harnessed in front of a webcam, or else the online viewers are alienated.

Some hybrid classrooms are designed with a rear camera that tracks the professor's movements and streams video to the online platform. The tracking can be automated through a Bluetooth device clipped on to the professor; or else, the professor can control the camera through a remote that offers various placement options: podium, whiteboard or classroom. By having multiple camera angles, the professor can teach using natural movements to both audiences.

A caveat from these months of lockdown and remote instruction has been the importance of audio and visual quality for user experience. Muffled audio or pixelated video has added a layer of difficulty for online learners to connect with and to understand the instruction. While to some extent this is caused by network limitations, a large part of this is the quality of multimedia hardware. To be most effective, hybrid classrooms need be equipped with high resolution cameras and high-definition audio.

An additional option for the audio experience is to furnish the classroom with two mics - an instructor mic as well as a room ceiling mic that can pick up student questions. Otherwise, the instructor should be attentive to repeat any student questions for the online audience.

A further integration for the hybrid classroom is the networked tablet or interactive whiteboard. As the professor adds notations to the whiteboard, a click of the button shares the screen with the online platform and then reverts back to the streaming mode when completed.

Usability is key when designing a complex AV system. DES technicians work closely with key stakeholders to understand the required functionality of the hybrid system. A custom interface prompts the instructor with clear commands, so that technology is simply a vehicle to a caliber education.

How has COVID-19 impacted your communication needs? Please contact us to schedule a consultation. Our solution set for higher education extends from multimedia to cybersecurity and networks, as well as physical distancing hardware, such as plexiglass barriers, people counters and cameras. 

