PURE AV

Lancaster University's George Fox Lecture Theatre 1 features numerous inputs and outputs from tracking cameras and triple projection

rooms and specialised teaching areas, and will access informal learning areas to prepare group project work," says Crowe.

"The fact that teaching takes place in different room set-ups isn't new. The significant change is the ability of technology to join the different spaces together and create a more seamless experience for both academic and learner. Video and networked audio are used to bring together learning in the specialised teaching zones, such as the simulated hospital wards, and in the classroom-based teaching areas."

Other learning environments may need to be multi-functional and highly adaptable – as at Swansea University, which wanted to create spaces that could be accessible at all hours and for any purpose, from an engineering class or faculty workshop to a meeting of the students' union.

The solution was to create two collaborative learning spaces: a smaller room with four pods of five seats each, and a reconfigurable teaching space with 10 collaboration pods each seating six that could function as both a traditional PC lab and an active hybrid classroom.

These kinds of space are becoming increasingly popular in HE institutions.

At Swansea, every pod has a Sony Bravia display and Sony's Vision Exchange active learning solution, enabling students to bring their own devices and share content with the screen from a phone, tablet or laptop. The lecturer can share any of this content with the rest of the class via the main screen at the front of the room. For extra flexibility, specially designed tables allow the computer screens to fold down, creating an open space for collaborative team working.

According to Sony, the highly flexible space allows teachers and students to experiment with new styles of learning, and feedback from both staff and students has been very positive.

There is a whole smorgasbord of kit available to HE institutions, although they should perhaps be wary of piling their plates too high.

"We're seeing classrooms with interactive whiteboards, document cameras, multi-touch digital displays, projectors, microphones, and devices that allow them to interact with their digital learning environment," says Dave Kenworthy, director of digital services at CoSector – University of London. "However, this is highly dependent on the needs of the courses held in the classroom. Universities shouldn't seek to include every single piece of equipment simply because they can, but show evidence how it will help teachers and students to have a better learning experience."

BYOD support has become a given. "Students all bring their own client devices with them now and may have more than one," says McLeod. "In new lecture theatres we try to provide mains, USB and USBc charging for all the students, and high quality Wi-Fi is a must. Wireless connection devices are always provided due to the numerous different client device outputs."

In other settings, however, wireless may not be the most appropriate solution. "We've set up a couple of booths and rooms with wireless connectivity, but students hardly ever use it as they seem to prefer a cable connection," says Rodrigo Sanchez-Pizani, AV solutions architect lead at King's College London.

The importance of good audio, by contrast, is easy to overlook. "In recent years we received a series of complaints about a set of four rooms," says Sanchez-Pizani. "After some analysis we decided the main problem was the acoustics, so we added treatment and incorporated better speakers, and »

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Dundee University's 149-seat IT suite