

> Technology Based Learning University of Bradford

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The University of Bradford is a modern University committed to 'Making Knowledge Work', part of this commitment involves the continuous investment in world class teaching and learning environments and facilities across the University.

The Brief

As with Universities across the UK, the development of Team Based Learning environments is high on Bradford's strategic plan, as these student-centred rooms not only provide a visible wow factor, but also:

- Provides a more inclusive and engaging learning environment that enhances the student experience
- Stimulates deeper subject and concept understanding through problem-based learning
- Underpins higher academic achievements
- Makes a better use of space
- Develops real employability skills; problem solving, team work and critical thinking

The University of Bradford, aware of the educational, academic, and inclusive learning benefits of team based learning, wanted to build a room capable of providing technology integration that would take technology enhanced active learning to the next level. This required an integration of furniture with technology that hadn't previously existed.

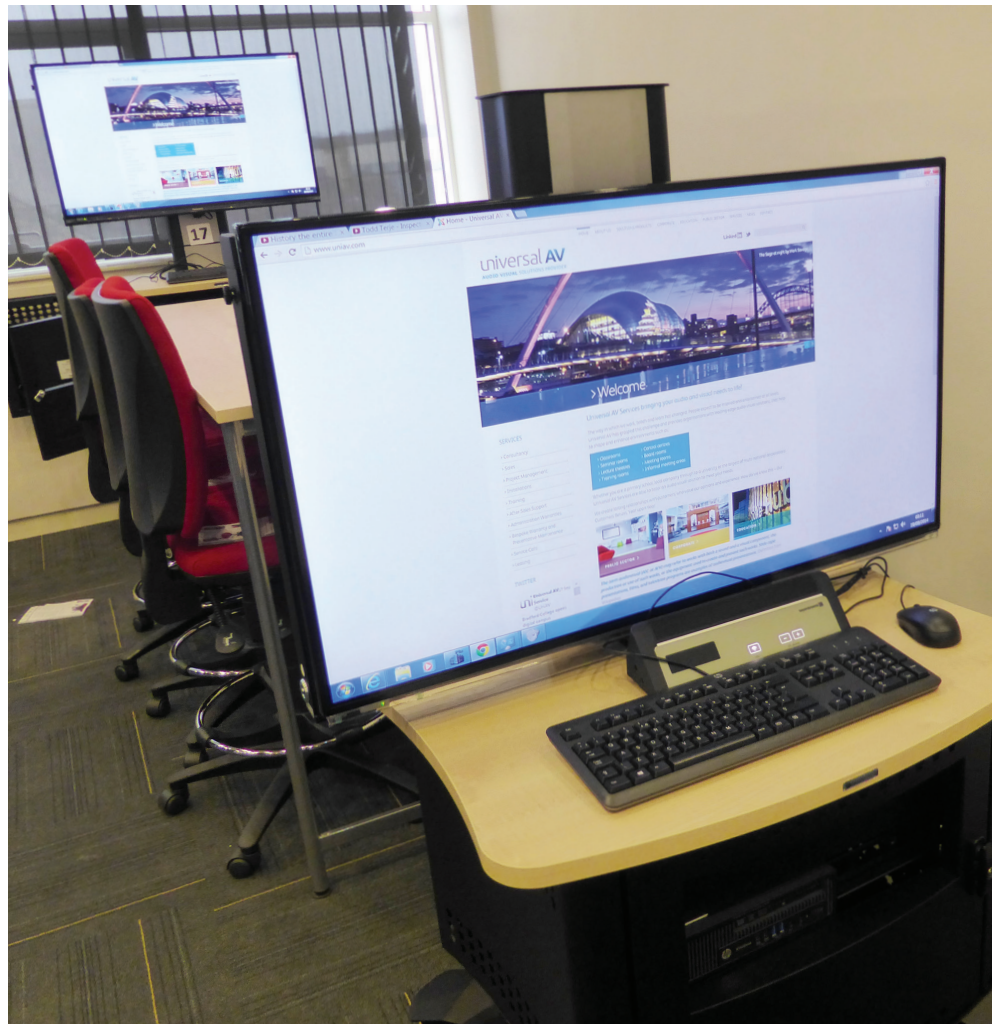
The Requirement

The concept of team based learning was to be rolled out in The School of Life Sciences. A space was allocated that would accommodate 18 tables, providing places for exactly half of their first year undergraduate intake of 216 Pharmacy students.

Each stations requirements would be an internet-enabled computer with a Smart Podium™ interactive display mounted on an adjustable arm, allowing individual teams to work in a larger format with their own content. The content must also be viewable and audible at the teaching station, and streamed to every team table should the teaching staff choose to broadcast it in order to promote the benefits of learning that develops through peer-based sessions.

The teaching station would need to host a computer, DVD player, Visualiser, and connection for an additional laptop. All devices had to be able to be shown on every table's display. Finally, a microphone was needed on each table, allowing the team to speak either privately to the teaching station, or to the whole class.

These precise requirements required a great deal of technical expertise to achieve, as the control and access had to be transparent to students and lecturers. If at any point the lecturers or students became concerned with how the



technology functioned, then the quality of the learning would be affected.

Bradford realised that the success of their TBL room was ultimately reliant on the Audio Visual and IT to enable each student's participation. Bradford approached Universal AV, their incumbent Audio Visual integrator (NEUPC Framework), to design the Audio Visual infrastructure that would provide the room with the desired technical functionality.

The Solution

The solution Universal AV Services provided had to be flawless in its integration of furniture with technology to truly support new teaching methods for a class of up to 108 students. Based around Synergy collaborative tables from TOP-TEC, Universal AV Services designed and installed a fully inclusive technology-rich learning and teaching resource that supports the active participation of every student.

Whilst audio visual equipment technically enables such participation, designing a system to support large student numbers requires technical professionalism and an unequivocal understanding of the desired functionality.

Individual Solutions

Student Learning Station:

Synergy tables by TOP-TEC, are purposely designed to integrate technology that advances collaborative working, and were perfectly suited for Bradford's requirements to improve technology integration. Each table incorporated a team computer, securely contained beneath the table, the Smart Podium display on a flexible arm, and a Beyerdynamic MCS221 conference microphone and speaker.



Central Teaching Station:

This was constructed around a TOP-TEC Voyager lectern containing a central pc and other visual information sources that could be shared with individual teams or the whole class; DVD player and Visualiser.

Rather than using a single manufacturer, Universal AV chose 'best-in-class' equipment to 'invisibly' link the teaching station to each team table.

Over the Cat6 Infrastructure, Smart's Sync™ software would allow the teaching staff full control of the individual team displays. These could be viewed at the central station one at a time, any team display could be distributed to the whole class, and all displays could be 'black-screened' if the teacher required the direct attention of the whole class.

Although technically the system is complex, Universal AV created a simple push-button menu of operation for the Extron touch panel, making control of all functionality intuitive. And once installation was complete, Bradford insisted that all teaching staff using the room must undergo a short training session to familiarise themselves with the audio visual controls.

Project-managed by Bradford's AV-Services Manager, the installation during the summer of 2012 proceeded on-time and on-budget. His team also delivered the training to faculty staff in advance of the new academic year.



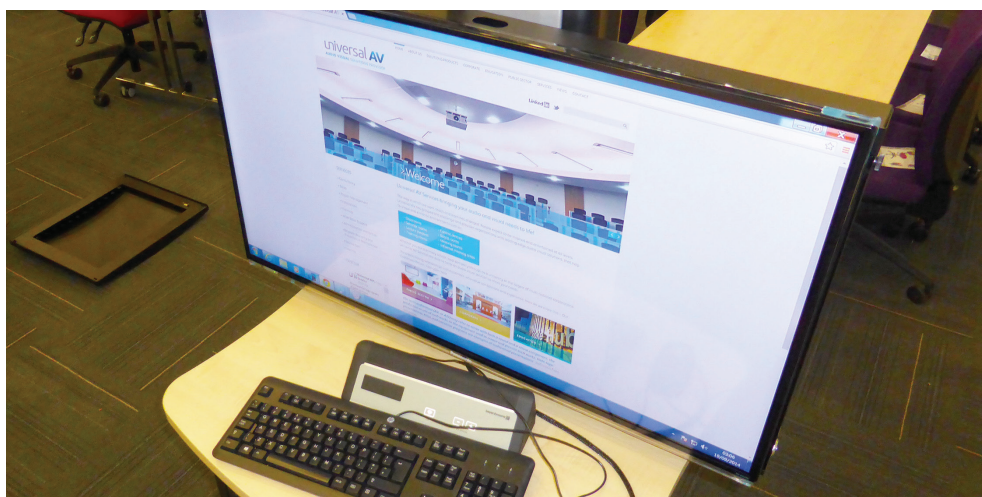
Results and The Future

Compared to lecture-based teaching, supported by new teaching material and instruction suited to the studio/workshop classes, students are now immersed in team and class discussions. Teachers move around the room to interact with each group, helping students directly with their learning where necessary. Teaching staff set the agenda, and the room provides students with the ability to work, learn and problem solve collaboratively.

The installation and teaching room has been hugely successful, with Bradford's first-year students - ultimately the customers, valuing their new learning experience so much that they have demanded a second TBL facility for their second year studies. During summer 2013, Bradford's School of Life Sciences installed a second virtually identical TBL room based around Synergy tables and Audio Visual excellence.

Student centred active team based learning is now recognised by most universities as the way forward for developing better learning and teaching strategies. Bradford's pioneering room is held up as the benchmark for successful TBL environments by many UK universities.

With the functionality and adaptability of TOP-TEC's Synergy tables and the technical excellence of Universal AV, the University of Bradford's technically proficient Team Based Learning room in its School of Life Sciences is an example of excellence that perfectly blends students, furniture and technology into an inspirational and highly effective learning environment.



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Quote

"It was clear from the start that technology would play an important role in the delivery of Team Based Learning and therefore, it was important the University engage with people who understand the benefits to be achieved through the latest technology advancements.

Universal AV were the chosen Integrator and showed through their expertise and knowledge once again they can deliver a first class solution on time and within budget".

David Beebe
AV Services Manager
University of Bradford

