Asking the Right Questions E Malone, L Molgaard, K Hall, F Williams, D Wingert, A Beitz, T Molitor, & R Washabau

Designing an Active Learning Classroom for Veterinary Medicine University of Minnesota College of Veterinary Medicine with Elert & Associates and BWBR Architects

Goals

The UMN College of Veterinary Medicine wanted to transform existing space into an active learning classroom to support existing laboratory teaching and to encourage and facilitate active learning in other courses. The space had been used for student cubicles and microscope-based laboratories. The classroom needed to be able to hold at least 104 students and displaced classes had to be able to use the classroom in its redesign. The questions below helped us focus our needs and create the plans.

Questions

What will the room be used for?

Will it be a primary classroom (used for all classes regardless of content) or used for select classes (those with a particular need or learning design)? Will other groups be using the room e.g. continuing education, meeting groups?

How big are the groups that are likely to be using the room?

Any distance learning? Is remote access needed? What potential uses are the top priorities? Will the room be open for students at other times of the day?

What shape and size of tables?

Will the room be used for laboratory type experiments or discussion groups? What size groups are in use already? What are likely group dynamic issues? How many tables can actually fit in the room? How much space does each student need?

Wired or wireless?

Will the wires run above or below the tables?

What collaboration tools are needed?

Regular white boards? Active white boards? Other? What support will be needed for the next greatest thing?

How much flexibility is needed?

Do you need the room to be used by simultaneous groups? How much effort can or will be put into rearranging the room? If two groups share the space, who controls the monitors? Can you make the space work for smaller groups with minimal effort?

What would you change?

After visiting other classrooms, what would you do differently?

Each table has white board space along the wall, easily accessible for each group and readily viewed by others.

As active learning classrooms are not yet common place and are often imperfect, we used many different resources to design ours. Asking the right questions often led to breakthrough ideas This was a major, continuous communication process among the college administration, selected faculty, University Facilities Management, the architects and the builders. The more questions we asked and answered, the more comfortable everyone felt with the final product.

Aligning tables along the periphery was a "best fit" model for the number of tables needed and created central space for lab tables. This also put tables near white board space on walls.

No podium makes lecturing less feasible. The instructors station is on the inner wall of the west column (not visible in this diagram)

The table shape permits students to work with each other and have space between them and the table monitor. The "head" of the table is occupied by the screen.

> Viewing monitors are set at the end of each table, closest to the center of the room. This will tend to direct student attention toward the lab tables, the other tables and the instructional space.

> A second mirroring monitor is facing the center of the room, allowing the instructor to see what is being viewed at each table.

> > Tables were positioned to allow entry traffic to disperse as fast as possible.

Conclusions

Students bring their own devices to plug into the table monitor. Software will be used to push content to the rest of the room when needed.

> Student view from table in southwest corner. The white board would be behind the student; the monitor is readily visible at the end of the table and attention is directed toward the lab benches and overhead monitors.. Each student has a workspace of \sim 3'.

Tables are designed for 6 but can seat 7 if needed. Table width is 40", making it easy to hold conversations. Each student has xx space; sufficient to manage their microscope and papers.

> Most chairs are height adjustable to accommodate microscope work. Additional chairs will be stackable for easy storage

Lab benches are 4.5 ft x 12 ft and have drawers and cabinets to house specimens, supplies and microscopes. Space between tables improves traffic flow.

> The room was equipped with wireless networking. Added wired networking was cost prohibitive and deemed unnecessary.

The room can get chaotic and noisy.. We chose carpeting and other acoustic dampers combined with table and instructor microphones to allow full room discussions.

Load-bearing pillars can't be removed. They will house an eye wash+ sink at one and an instructor's station at the other.

Overhead 46" monitors in the center and corners of the room provide good sight lines for full classroom displays.