

Fort Leavenworth building 96 high-tech classrooms

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FORT LEAVENWORTH, Kan. – State-of-the-art features will make the classrooms of the new Lewis and Clark training facility one of the premier military learning centers in the world, according to experts from the U.S. Army Command and General Staff College at Fort Leavenworth, Kan.

Construction of the facility was 50 percent complete in December, and U.S. Army Corps of Engineers project managers say the project is on budget and on schedule.

Bill Gross, project manager for CGSC, said the classroom construction uses a unique system. Technology set for use in the Lewis and Clark building is first tested in a model classroom in the CGSC's Eisenhower Building.

Once used in the Eisenhower Building, the school moves the concepts to an under-construction test classroom in the Lewis and Clark Center. If it works there, it is then planned for the 96 classrooms in the center.

"The whole idea is to catch things early, to bring it in here and, once it is proven, expand it to the other 96 classrooms," Gross said in the test classroom. "When you have nearly 100 classrooms, every dollar you spend is multiplied by 100."

Lynn Rolf, director of educational technology for the CGSC, is an expert

on the design, and explained many of its features.

"We work in what we call 'staff groups' of 16," Rolf said. "The staff groups are split into smaller groups of four officers. If we give the small groups an assignment, they can move the desks to reconfigure the classroom – each small group will have its own white board and full access to its computers."

The computers also have access to the full battle-command network, so these officers are seeing some of the collaborative tools they'll see after graduation, Rolf said.

He demonstrated how two disks can pivot together to create a single module for four officers.

Rolf said each classroom is 30-by-30 feet, and one wall of each is removable, allowing two classes to work together.

Innovations in the classroom don't end with computers. All of the room's functions can be controlled through a single, notebook-sized remote control.

"On a typical day, say the first class is history. The students are here, but the instructor hasn't arrived yet. The students can be watching the day's news on the television screens at the front of the room," Rolf said.

He said when the instructor arrives, he can, with a touch on the remote, switch from the current events to documentary video on a player concealed in a service closet at the rear of the room.

Cameras, permanently installed in the front, rear and ceiling of each room, allow video-teleconferencing. The ceiling camera focuses on a fixed area of the instructor's desk, where the instructor can place a book, map or photograph which is then digitally displayed on the monitors at the front of the classroom.

"What we're trying to do is provide real-time, just-in-time relevant information for the students to discuss," Rolf said.

Gross said some innovations, such as a large video screens in the classrooms, are obvious. Others are more subtle.

"Those are cable trays," he said, indicating mesh troughs above an unfinished ceiling. "When they pull cables for computers or communications now, they just drape them above the ceiling, or run them through conduits. These trays make it easier to get to the cables to repair them or replace them when they need it."

They're underneath the raised floors in the classrooms too, and you can run new cable a lot faster than in an old-fashioned classroom."

Rolf said interested parties from several colleges and universities have toured the Lewis and Clark construction site seeking ideas.

"We're trying to set the standard for classroom design," he said.

"Everyone who has visited here has left saying, 'How much does it cost?' 'How many can I get?'" Rolf said.

The answer? The computers and assorted electronic equipment for each classroom cost about \$78,000.

"It's hard to estimate because the computers aren't purchased yet. We're not going to buy computers and have them sit around on a shelf, when we buy we're getting the newest available," Rolf said.

The innovative design of the Lewis and Clark center extends to more than its classroom design. Its structure is made using a proprietary welded framework called "Sideplate."

Dave Manka, resident engineer for the Fort Leavenworth Field Office for the U.S. Army Corps of Engineers, said the Sideplate technology prevents collapse.

"It's been used before, in earthquake zones, but this is the first time it's been used for reasons of building security," he said. "It's designed so that, if there's a failure in one area, the rest of the structure will support itself."

He said installing the Sideplate system is somewhat labor intensive.

"On some of these welds, it can take a person all day long to finish one weld."

Manka said the \$106 million construction project is on schedule, and is set for completion in December.

The Lewis and Clark Center will replace Bell Hall, a 1958 classroom structure, slated for removal in 2008.

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