

Engineers add to virtual trainers

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Assistant editor

The U.S. Army Engineer School at Fort Leonard Wood is responsible for training the Department of Defense's construction equipment operators. In the past, the large volume of students and a limited number of loaders meant students had long wait times before climbing into a loader cab.

Sept. 2, USAES opened up dozens of new seats for training, and it was done without buying millions of dollars in new loaders. The school did it with simulators.

The 30 new loader simulators at Training Area 244 help instructors increase the amount of time troops spend in training, and decrease new student anxiety by giving them a virtual environment where they can practice.

Before the official ribbon cutting at Bldg. 12512, the USAES' top officer encouraged the same people who created the loader simulators to look for new projects on the horizon.

"You ought to be able to take a look and see not only what is possible in the present — in terms of

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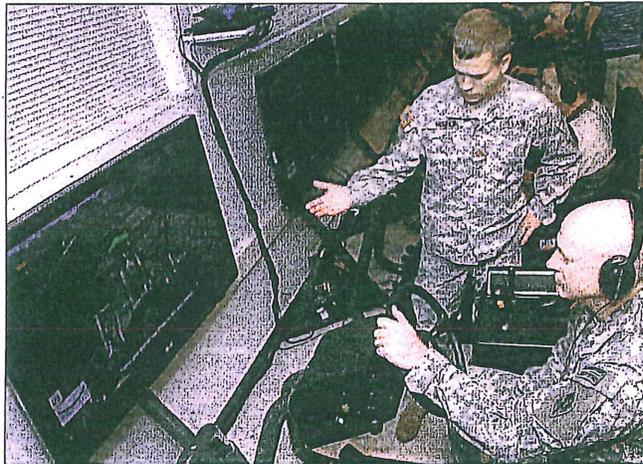
he's in the environment — he doesn't even see the person next to him."

"And then to be able to change that scenario so that it's the look and feel of Iraq, today, the look and feel of Afghanistan tomorrow — then it becomes a real combat multiplier," Watson said.

The virtual loaders are the second step in the Construction Engineer Branch's training plan and have many benefits, said Ronnie King, USAES, Construction Engineer Branch chief.

"We developed a crawl, walk and run training strategy where the students would learn to operate in this simulated environment where they are allowed to make mistakes, and we could regenerate that training, until that cognitive skill is set in their mind," King said.

"We've had a lot of students that



Brig. Gen. Bryan Watson, USAES commandant, takes the latest virtual construction trainer for a test run as Maj. Matthew McGrew, simulator support team, points out the unique training features of new loader simulator.

providing the right type of training for Soldiers to be more efficient in how we train them — but you ought to be able to take a look in here and see what the future might look like," said Brig. Gen. Bryan Watson,

USAES commandant.

"Where a student could come in here and not have to look at a screen, but have a set on, in which it looks like

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are very intimidated to be operating this equipment — they just graduated high school, some of them just got their driver's license so they don't have a lot of experience — now this has helped, not only to increase proficiency, but it has helped them overcome fears about operating equipment," King said.

The new additions also help save time and money.

"For every hour running the simulator we have no fuel and no maintenance costs, and if they damage a piece of equipment, it's in a simulated environment, and it's no harm no foul," King said.

A simulator costs about \$40,000; a real loader would cost \$200,000, King said.

The new additions have also



King

created a larger classroom.

"When we move outside our students operate in a 1:6 instructor to student ratio, with only three students operating the loader," King said. In simulation, it's a one to 30 ratio.

And the simulators are very realistic, King said.

"These simulators truly match — form, fit, feel and function — the actual piece of equipment. The simulations that you see loaded on this (computer) are the exact same tasks the Soldiers are going to learn to do outside," King said.

The new training location is the second step towards simulating all aspects of operator training.

"We actually started out with a partnership with the Caterpillar team to develop the HYEX (hydraulic excavator) simulator for us. It was a very low level simulation, but it opened the door for us on where to go within sims (simulators)," King



Brig. Gen. Bryan Watson, center, USAES commandant, cuts the ribbon on the new loader simulators at Training Area 244.

said. (See the Oct. 9, 2008, GUIDON article, "Engineer training goes virtual," by Robert Johnson.)

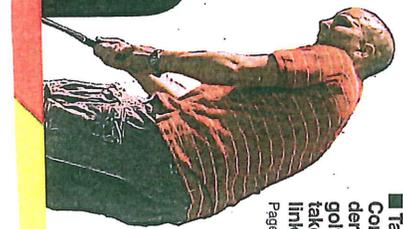
Plans are in the works to simulate most of the other aspects of construction engineer training, King said.

"This is really only the beginning for us, we are working on dozer, grader, scraper and other pieces of equipment to augment our fleet to align with this training strategy," King said.



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