

Hospitalized school kids use robot replacements in classroom

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(AP) -- Lying in his hospital room, on a mattress designed to protect his fragile skin, 13-year-old Achim Nurse poked his bandaged fingers at an orange button on what looked like a souped-up video game console.

Half a second later, in a social studies class discussing the Erie Canal, a 5-foot-tall steel-blue robot raised its hand.

"You have a question, Achim?" said the teacher.

Achim is using a pair of robots _ one, called "Mr. Spike," at his bedside, and its mate, "Mrs. Candy," in the classroom _ to keep up with his schoolwork and his friends for the months he will be bedridden at Blythedale Children's Hospital in Valhalla, just north of New York City.

The robot in the classroom, which displays a live picture of Achim, provides what its inventors call "telepresence": It gives the boy an actual presence in the classroom, recognized by teachers and classmates. It can move from class to class on its four-wheel base and even stop at the lockers for a between-periods chat.

"The robot literally is embraced by students in the classroom as though that is the medically fragile student," said Andrew Summa, national director of the robot project, which is in use at six other hospitals around the country. Achim's teacher, Bob Langerfield, said his other students had become used to the robot _ and were treating it as if it were Achim _ after just a few days.

The program, called PEBBLES (for Providing Education By Bringing Learning Environments to Students), has great potential for expansion, supporters say. It could keep suspended students connected to their classrooms, for example, or even help young prisoners. Summa says it also has promise as a tool in treating autism because it gives the patient control of the social environment.

"I don't know where it's going to go next, but it does have considerable potential," Summa said.

The robots work in pairs. The one at Achim's bedside displayed a live picture of the social studies classroom. Achim could see Langerfield, his desk, the board, a map of the United States and the clock. He could hear Langerfield saying, "From 1830 to 1860 New York City grew at an astounding rate."

The second robot was in the back of the classroom, its "face" (and autofocus camera) aimed at the teacher. Its display showed Achim in his bed.

"If he's looking out the window, the teacher will know it," said Jim Desimone, who is the traumatic brain injury coordinator at Blythedale and the school's "robot guy."

Using the buttons and a joystick on the control box, Achim could zoom in to read what was on the board; swivel the robot's head to see and talk to a classmate; raise the robot's hand; adjust the volume; or log out, if a nurse came to take him away for tests or physical therapy.

At one point, when the teacher wanted Achim to see something printed on a piece of paper, he held it up to the classroom robot's "face."

The robots also have scanners and printers so the patient can receive

whatever the teacher is handing out in class _ a fact sheet, a homework assignment, a test.

Achim, whose severe rash arose from a case of bacterial meningitis, said that when he was offered the use of Mr. Spike, "I was out of my mind, saying, 'A robot?' When I first saw it, it looked difficult."

But he picked up all the moves in 30 minutes, he said, and now finds it "cool" rather than strange.

"It's like a video game but the only thing is you have to go to school," he said.

"When you're in the hospital you're isolated, you're stuck here," said Desimone. "You don't have friends, you don't have anything except maybe a phone call from home. You fall behind at school. With this you have social interaction, which is a part of school. Yeah, we could have a teacher come into his hospital room and teach him, but that's not the same."

Each of the robots has a disk-shaped head, with a 15-inch screen showing the remote feed and a smaller screen that shows what the other robot is displaying.

The rod connecting the head to the trunk looks enough like a neck that the one in the Blythedale classroom had an ID card looped around it. The "shoulders" can hold up a T-shirt. The trunk slopes outward toward the 3-foot-by-3-foot wheelbase so the robot can fit under tables and desks. The bright orange plastic hand emerges from the trunk with a low whirr.

The robots aren't protected in class or in the hospital, and there has been no abuse, Desimone said.

"The kids see it as another kid, so they wouldn't pound on it," he said.

Blythedale has its own school, but that's rare and irrelevant to the use of the robots, which use wired or wireless Internet connections.

"You can have a child hospitalized in New York City and his classroom can be in New Zealand," Summa said. "We can connect any two points around the world."

The robot system was developed in Toronto by Telbotics Inc. with Ryerson University and the University of Toronto. It is managed in the U.S. by The Learning Collaborative Inc., under a federal grant. The 40 robots now in use are on loan to the hospitals, although Summa said they are available for sale at about \$70,000 a pair.

Summa said one student used a robot so fully that it joined the boy's classmates to sing a song at a school show. He said a child in the audience asked, "What's that thing up on stage?" to which a friend of the student replied, "That's no thing. That's Jimmy."

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