

## District turns bus into classroom

### PROJECT'S INTERNET HOOKUPS LET SHERIDAN KIDS RIDE AND STUDY

BY CYNTHIA HOWELL ARKANSAS DEMOCRAT-GAZETTE

Sheridan School District bus No. 46 sported a jaunty Christmas wreath on its front grille as driver Vera Launius steered the growling yellow monster over the narrow, curvy, patched and often unpaved roads of southeast Grant County.

Inside the bus, about 30 students - from the youngest of elementary pupils to high schoolers - were settled in for a bus ride of up to 90 minutes ending on Garden Seed Road near the unincorporated community of Grapevine.

A typical rural Arkansas school bus ride? No. Not anymore.

Secured to the bus ceiling above Launius' head was a small black box - a cellular router attached to rooftop antenna cables. That box, the cables and cellular service towers that dot the landscape made it possible for a handful of bus riders equipped with laptop computers to access the Internet to work on assignments in pre-algebra, algebra and Advanced Placement biology courses.

The students are taking those courses independent of their course load at school. Many others on board were engrossed in educational videos on Apple iPods.

The school bus - a mobile virtual classroom - is a key component of the new "Aspirnaut Initiative," a pilot project launched in April by Grapevine native and Vanderbilt University professor Billy Hudson in cooperation with his family, the university, the Sheridan district and the Grapevine Historical Society.

Aspirnauts, Hudson said, "are students who aspire, seek and achieve." The initiative is intended to turn long, idle bus rides into productive learning time in math and science, Hudson said.



Kori Davenport, 7, a second-grader at Sheridan Elementary is handed her iPod as soon as she boards the school bud for the trip home. Photo: Karen E. Segrave



Shayna Tanner, an eighth-grader at Sheridan Middle School, does homework with her laptop while riding the bus to her home in Grapevine.

The project also includes a satellite classroom and a teacher in Grapevine to provide afterschool help to those taking the online math and science courses. Summer and weekend trips to Vanderbilt in Nashville, Tenn., - making it possible for students to converse and work with pre-eminent scientists in their laboratories and classrooms - are another part of the initiative.

School districts across the country are experimenting with assigning laptops to students. The bus project and the Internet lessons are different because, in part, they not included in the regular school program, Hudson said. Instructional time is on the bus and in a satellite location - not at school. And he hopes that the Sheridan-Grapevine initiative will prove worthy of being replicated in other rural communities.



Ron Taylor, (left) and seventh-grader and Tyler McCullough, a 10th-grader at Sheridan work on class lessons via the internet on the bus headed home to Grapevine. Photo: Karen E. Segrave

In Arkansas alone, there is potential for making use of the time students spend on the bus. An average of 325,000 of the state's 452,000 public school students ride school buses that travel about 5,000 routes and 243,000 miles a day, according to Mike Simmons, the state's senior school bus transportation manager.

"At some point you hope that there is some part of this that can be transposed to many different places," said Hudson, a professor of medicine and biochemistry as well as director of the Center for Matrix Biology. "This is an experiment. It's not about Sheridan; it's about rural America."

## ON THE BUS

"This is algebra I. I'm taking notes on variables and expressions," seventh-grader Sierra Lites said as the Sheridan bus pulled out of a School District parking lot. "If we need help, we can contact our teachers at any time. We have instructors on the computer." Ethan Clement, an 11th-grader at Sheridan High School who wants to become a microbiologist, said that until she became involved in the Aspirnaut Initiative, it didn't dawn on her how much time she was losing.

"I've been riding the bus since I was in kindergarten, up to one-and-a-half hours each way," Ethan said. "Until this program, I never really thought about it. It was the daily routine. "But we were wasting time sitting here. This could be an opportunity for everyone. Why waste your time on the bus, looking out on the same road you've looked out at every day?"

Like Ethan, Zack Wilson, a 10th-grader, is taking online Advanced Placement biology. That's in addition to the two Advanced Placement courses he's taking at school.

Advanced Placement courses provide college-level material to high school students. The students can receive college credit for those courses by earning scores of 3, 4 or 5 on end-of-year Advanced Placement exams.

"It's challenging but it's not to the point where we don't understand it," Zack said about the online course. "Everything is laid out clearly. We get [displays] with the information we need to be learning. I'm working on nucleic acids so I can take the Chapter 3 test. We have a schedule we follow." Zack, who plays several musical instruments, is weighing careers in music and law.

Annette Neely, Zack's mother and Sheridan Elementary School assistant principal, called the initiative a "wonderful program" and said her family is honored to participate in it. "For kids who ride the bus long periods I think this is so beneficial," Neely said. "I think it will help keep kids out of trouble. If they have something productive that they can be doing, I think it is wonderful."

## HIGH-TECH LESSONS

The online courses are offered through Aventa Learning Inc., based in Anthem, Ariz. The Aventa Learning system is set up so students can e-mail or call out-of-state teachers through the laptops. The system is also set up so that a student can view on their own laptop the computer screen of the teacher explaining a lesson, said Ann Kincl, the program's master teacher and Hudson's sister.



Ethan Clement an 11th-grader at Sheridan High School does classwork on the internet while riding the school bus home to Grapevine. Photo: Karen E. Segrave

Kincl is the retired coordinator of gifted education in the North Little Rock School District and one of the original developers of the Arkansas Governor's School, the summer program for gifted high school juniors. As part of the Aspirnaut Initiative, she selects and monitors the curriculum and identifies students to participate.

The students work on the buses and at home, if they have Internet access there. On Mondays and Thursdays, the 11 students taking online courses get off the bus at the Sardis Missionary Baptist Church, which is just about the only place to meet as a group in Grapevine.

Hudson said the community support and adult management are critical to the initiative. "Like with any system, you have to manage it," he said. "The teacher in the community turns out to be key in setting up and managing the time on the bus." Shelba Bradford, the president of the Grapevine Historical Society and Hudson's school mate in the former Grapevine School District, meets the students at the church, serves snacks, and checks on equipment and other needs.

Candace Wilson, a sixthgrade teacher at Sheridan Middle School, provides instructional assistance. The students use the time to work on their lessons, conduct science experiments and receive weekly progress reports.

"Students these days are so incredibly busy," Wilson said. "They are involved in so many activities. Their studies are pushed aside so they can do activities. Using the time on the bus is a great resource." A few students selected for the initiative have left, Wilson said.



Noah Walthal (top), a second-grader and Katelyn McConathy, a fourth-grader at Sheridan Elementary watch class podcasts on the bus headed home to Grapevine.

"The kids who have stuck with the program are collegeminded kids," she said. "They are looking at this as their opportunity to become better than the norm. This is something that is going to make them shine when they get ready for college. It's an opportunity for our kids to get a deeper education."

#### **INTERNET ON WHEELS**

The technology for the wireless Internet access on the bus is adapted from the kind used in recreational vehicles.

Charles Cutsforth is one of the founders and the chief technologist for Comprehensive Communications Systems Corp. in Palatine, Ill. The company is the provider of the Internet In Motion hardware for Internet users on wheels, including the Aspirnaut Initiative.

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"Professor Hudson was the first person who had a vision to do this [on school buses] and it is unique," Cutsforth said. "The whole concept is not getting off to a real fast start, but it's getting a lot of visibility and it's been very exciting to be part of it," he said.

"There's a lot of new ground to be broken here," he added. "It's probably not a wild prediction to say that five years from now it will be common to find something like this on school buses." The cost of the bus hardware is about the same as a good laptop - about \$1,500, Cutsforth said, and there is a monthly charge for cellular service.

In all, the annual budget for the initiative is about \$56,500. That includes about \$12,500 for the Internet access and \$10,500 for the online courses. Other expenses include the laptops and salaries for the different personnel involved in the project.

Donations to the Grapevine Historical Society pay for initiative employees' salaries. The laptops were supplied by Vanderbilt, and the Sheridan district has assisted with iPods and software costs. Hudson's wife, Dr. Julie Hudson, is seeking a U.S. Department of Education grant to help maintain the initiative and evaluate it in regard to student interest and achievement.

Billy Hudson said the initiative is coming together.

"Do we have challenges? You bet," he said. "It's all new. People at Vanderbilt want us to do something soon in Tennessee [and] I think we are going to have to open up something soon in Tennessee, but I want those kids in Arkansas to know that they are the first, and we are trying to perfect things there first."

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Cheyana Lites, a fifth-grader at Sheridan Elementary, watches an educational podcast while riding the bus to her home in Grant County.  
Photo: Karen E. Segrave