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## School computers a tool for cancer research

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Times Leader • News Writer

Computers in the Caldwell County school system are now being used for more than school instruction — they are playing an instrumental role in the fight against cancer.

Approximately 70 classroom computers, some from each school in the system, are being utilized by University of Louisville researchers after school hours to aid in the analysis of potential new drug therapies for cancer treatment.

The program is part of a statewide initiative led by Dataseam, a Louisville-based company founded by Princeton native and Caldwell County High School graduate Brian Gupton, in partnership with the Caldwell County Board of Education and the James Graham Brown Cancer Center at the University of Louisville.

“The human genome project has allowed the identification of important new targets for cancer therapies,” said Dr. Donald Miller, director of the cancer center. “This project will help find these new drugs, which will likely be more effective and less toxic than those now available.”

Since the middle of the month, researchers have used the Dataseam technology and county school computers after hours to remotely screen molecular structures useful in structure-based drug design, where drugs are created to target specific proteins identified as key proteins in tumor growth.

The team hopes to increase the effects of those cancer-fighting drugs and reduce the negative side effects commonly associated with cancer treatments.

The screening process, though, requires time-intensive computer analysis, a time-intensive process for one computer.

For 70 computers, like those used in Caldwell County schools, that time requirement is slashed.

“Using the school’s computers enabled us to do twice the amount of work in the same amount of time,” said Dr. John Trent, a leading researcher at the cancer center. “This will definitely help us develop life-saving drugs and treatments faster.”

Dataseam representatives have worked with the cancer center and other university researchers, as well as officials from the county school district, private companies and state officials during the past two years to understand how best to implement the program.

The Kentucky Dataseam Initiative “brings inexpensive supercomputing power to research efforts in the state by putting school computers that are 60–80 percent underutilized to work for a statewide benefit,” said Gupton. “Everybody wins.”

Pat Fralick, director of technology

for the county school district, said Gupton contacted her about a year ago with the idea.

“It sounded exciting to me at the time,” she said, “and the technology continues to advance at a rate that made it even more possible or plausible for that to happen.”

The project did not require new equipment for those 70 Macintosh computers, but some upgrades were necessary, Fralick said.

Systems engineer Rocky Sears and computer technician Brian Chastain worked with Dataseam to prepare those computers for the project.

The district has more than 700 computers at its disposal. About 500 could conceivably be utilized for the cancer center project, Fralick said.

The 70 selected are among the district’s most up-to-date.

“The fastest results would need to come from newer computers,” she said.

The pilot project is anticipated to be complete in late summer. At that time, the decision will be made whether to continue with making the districts’ computers available for future research, she said.

Teachers and school board members have both supported the project, one which Fralick hoped will continue, both in Caldwell County and other K–12 schools in Kentucky.

School Superintendent Bob Rogers said he was proud the school system could partner with the state’s major universities on the project.

“If we can be a small part of helping find a cure for cancer while giving our students an opportunity to learn about research, this project’s benefits will be immeasurable,” he said.

Representatives from the cancer center and the university are scheduled to visit the school system and discuss their research before the end of the school year.