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Tech tools reshaping the classroom

Teachers make use of innovations; county schools continue computer upgrades by Danny Jacobs | Staff Writer

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When Carol Dowling began supervising the computer lab at Cresthaven Elementary School 18 years ago, she had a few early-version Apple computers at her disposal.

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Today, students are using the 24 modern computers to make PowerPoint presentations for class projects.

"Very rarely do I have to show them things more than once," Dowling said of her students.

"Sometimes they show me better ways to do things than I taught them."

Technology's fingerprints are all over curricula and classrooms at county schools, providing new methods of instruction in all subject areas. Educators — most of whom now file grades electronically - say any problems with technology are worth the trouble because of the possibilities to engage students of all ages.

"It is an area where a lot of students struggling academically can benefit," said Michael Durso, principal at Springbrook High School. "It's a nice hook for students not as academically motivated."

The Montgomery County Public Schools system has one computer for every five students, spokesman Brian Edwards said. The national average was one computer for every 3.8 students in 2005, according to a report last year from the National Center for Education Statistics.

The pervasiveness of computers and technology in the classroom has developed in the last five years, said Sherwin Collette, chief technology officer for MCPS. As more sophisticated equipment came into the hands of teachers adept at using it, the role of technology changed from supplemental to essential in lesson plans.

"It was used more as a tool than as a deeply integrated part of instruction as it is today," Collette said.

The catalyst for the change, educators said, has been the technological savvy of students, which increases every year.



Charles E. Shoemaker/The Gazette

Fifth-grader Colin Creagan and third-grader Emily Keegan sit with Carol Dowling, media assistant and computer lab supervisor at Cresthaven Elementary School in Silver Spring. Dowling and instructors include computer use in lesson plans.



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"Kids are coming to us in many respects as digital natives," Collette said. "They are already connected."

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So schools, in turn, try to mimic during class time what students do in their free time. William H. Farquhar Middle School, for example, has LCD projectors and Internet-connected televisions in classrooms to parallel instant messaging and video games, Principal Scott Murphy said.

Farquhar, along with other middle schools, will be experimenting this year with hand-held electronic devices students can use to respond to questions asked by teachers, Murphy said.

"Technology such as this can engage kids no matter what," he said.

Farquhar is also introducing SMART Boards, interactive whiteboards that function as computers. The whiteboards have already been installed at Paint Branch High School, which also replaced 550 of its approximately 700 computers over the summer. The new machines are all connected to high-speed Internet, said Brian Eichenlaub, the school's signature coordinator.

Eichenlaub oversees the school's award-winning Web site, which currently features an interactive narration of a cat dissection and daily streaming video of the morning announcements.

"It's been a way for students to keep their parents informed as to what's going on at school," Eichenlaub said.

Parents and teachers also use Edline, an online program that allows classroom-to-home communication about grades, upcoming assignments and academic issues. All high schools and middle schools use Edline, with a date for elementary schools to join not yet determined, according to MCPS.

The widening reach of technology has created some problems for teachers and administrators.

Dowling explains the concept of plagiarism to her students at Cresthaven, a particular issue among elementary school students who may unknowingly copy material from the Internet. At Paint Branch, English teachers scan electronically submitted papers through a computer program that checks for plagiarized passages, Eichenlaub said.

And while schools may be wired, some students return home at the end of the day to a place without the latest technology, if they have a computer at all.

"The challenge is for schools to bridge that gap," said Durso, who once stopped a teacher assigning homework that required students to use a color printer.

Even as technology in the classroom becomes more prevalent, schools will attempt to reach students and families that may trail behind. Despite Paint Branch's multimedia Web site, Eichenlaub said he keeps the design simple so homes with dial-up connections can access it.

A survey of the Farquhar community found 95 percent of its families are connected to the Internet, Murphy said, but he still reminds his staff to reach out to all parents with "old-school" methods such as phone calls and in-person meetings.

The school system works with county government agencies, including the public libraries, to ensure students have computer access outside of school, Collette said, adding MCPS hopes to enter more partnerships for community technology areas in the county.

In the future, Collette sees technology in the classroom becoming more efficient and effective, able to help a class and an individual at the same time while offering the teacher useful feedback.

Educators interviewed for this story envisioned wireless classrooms where students could carry around laptop computers instead of textbooks, where lessons could be uploaded on students' iPods.

But all agreed that simply using the latest gadgets in classrooms would never guarantee a better learning experience.

"Technology won't make a marginal teacher a good teacher, but it could make a good teacher better," Durso said.

Eichenlaub agreed. "Computers can't take the place of good teachers," he said.

Tech rules in schools



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Some of Montgomery County Public Schools' regulations on technology:

Portable communication devices

Secondary school students (middle and high school) can carry portable communication devices (any device carried, worn or stored by a student to receive or communicate messages) on MCPS property and at school-sponsored activities provided the device is "turned off and out of sight" during instructional hours.

Text messages or photographs sent on MCPS property featuring illegal, profane, indecent or obscene materials are prohibited, as are any transmissions that constitute an invasion of privacy or violate MCPS rules about academic integrity.

Elementary school students are not permitted to possess or use devices on campus during the school day, unless a principal approves a written request from a parent or guardian.

Devices can be used on MCPS buses "as long as they do not impact the safe operation of the school bus."

Punishments include confiscation of devices, loss of privileges, detention or a maximum suspension of 10 days.

Computers within the schools

All computer facilities, networks and other technology resources on Montgomery County public school property must be used for educational purposes.

All users are prohibited from knowingly accessing or attempting to access inappropriate material (text, graphics, photos, video or sound inconsistent with MCPS' mission) harmful to students or staff (text, graphics, photos, video or sound depicting nudity, sexual acts or content lacking "serious literary, artistic, political or scientific value as to students").

Prohibited on MCPS computers:

Unauthorized e-mail, instant messaging or chat rooms

Using language, pictures or other material that is obscene, vulgar, abusive or otherwise harmful for students

Making harassing statements

Introducing viruses or worms on the computer

Permitting others to use a personal MCPS e-mail address, account or password

Posting on the Internet "personally identifiable information or false information" about students or staff

Punishments include a loss of privileges, restitution, suspension, expulsion or criminal prosecution

Sources: Montgomery County Public Schools, regulations IGT-RA and COG-RA

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