

## KENTUCKY SCHOOL UPDATES

# TECHNOLOGY AND EDUCATION

## THE BASICS OF THE LAW

### *Kentucky Education Technology System (KETS)*

- **Technology tools** are used to enhance the learning experience for all children and prepare them to be competitive in the workforce or higher education. These technology tools include student and teacher computers, classroom printers, networks that connect technology devices together within the school and to the world, the Internet, student and teacher e-mail, productivity software for students (word processing, databases, spreadsheets, presentation), other instructional software (specific academic subjects, simulation, and modeling), and administrative software (student, teacher, administrator, school and district data for strategic decision making), telephones in the classroom, classroom video and television, remote access from home to school technology services and resources during school and after school hours, Kentucky Instructional Data System, Individual Learning Plans, Internet 2, Kentucky Virtual Library, Kentucky Virtual High School, and Kentucky Virtual University.
- The **KETS Master Plan vision** supports achieving proficiency for all Kentucky students by ensuring ease and equity of access to technology, building district capacity (student technology leadership programs, technology resource teachers), preparing students to use technology to become independent life-long learners, preparing teachers and administrators to use technology to raise student achievement, and equipping Kentucky's children to work in the Information Age. It also envisions schools as community learning centers for adult students who want to access the Kentucky Virtual University or who need retraining for another occupation through courses offered by Workforce Development. The driving force behind the Master Plan is ensuring that students' classroom performance and their preparedness for higher education, military and workforce is kept at the forefront of any educational initiative. Kentucky's technology system is focused on teaching, learning, productivity, student work, communications, decision-making and leadership.
- The Kentucky Board of Education adopted plans for technology beginning in 1992. The **2007-2012 Master Plan for Technology** identifies what has been accomplished and lists priorities for the coming years and the resources needed. It addresses four major areas of emphasis that build upon an existing solid foundation. They include the following:
  1. Anytime, Anywhere, Always On Differentiated Teaching and Learning
  2. Data Driven Decision Making for Teachers and Administrators
  3. Capacity Building and Enhancement of Staff and Resources
  4. Efficiency and Governance

## RESULTS

### Standards

- **Student Technology Standards.** Included in a revised version of The Program of Studies, adopted by the Kentucky Board of Education in April 2006 are student technology standards. These standards follow national standards established by the International Standards for Technology in Educations' (ISTE) National Education Technology Standards, the International Technology Education Association (ITEA), 21<sup>st</sup> Century Skills and the American Association of School Librarians/Association for Educational Communications and Technology. The three general areas of study are:
  1. Information, Communication and Productivity
  2. Safety and Ethical/Social Issues
  3. Research, Inquiry/Problem Solving and Innovation

Performance Indicators for student technology standards have also been developed.

- The Department of Education is working to determine the best methods to both **integrate and evaluate the use of technology in all content areas** in the Program of Studies, the Core Content and eventually in Kentucky's assessment program.
- The Education Professional Standards Board (EPSB) has adopted the **comprehensive teacher technology standards** for both new and experienced teachers. The standards define performance criteria for teacher evaluation and planning for professional growth. Adoption of this technology standard has changed the way teacher preparation programs at the state's colleges of education are preparing teachers.
- Kentucky was one of the first three states to participate in the development of national **administrator technology standards**, published in November 2001. Technology Standards for School Administrators have been adopted by the Education Professional Standards Board.
- **Standards for the purchase of technology** have been established and the state must bid for technology equipment to get the best price and services. This ensures equity across the state for districts that do not have strong buying power or are in rural locations. State and district funds can only be used for equipment that meets KETS standards and is on KETS contracts.

### Implementation

- The implementation of the Kentucky Education Technology System (KETS) began in 1992 with a Master Plan focused on providing local school districts with a core set of technology tools to enhance teaching and learning and to collect data (finance, enrollment, attendance, etc.) to inform local, district, and state level decision making. The plan was updated in 1998, in 2001, and again for 2007 reporting on progress and

establishing priorities and resources needed for full implementation. With input from students, university admissions staff, district teachers, technology resource teachers, state agency leadership and the business community, the 2007-2012 Master Plan under development provides a solid course for current and future technology implementation and comprehensive support for the goals of schools, districts and state agencies.

- School districts must match state funds dollar-for-dollar to receive state monies. Since 1992 all districts have been able to match the KETS offers of assistance, resulting in the following:
  - ✓ There is one computer for every four students in all districts in Kentucky no matter what the economic status of the community. However 75 percent of those workstations need to be replaced because of their age (six years or older), the limitations they have in running modern instructional applications, and the low reliability due to their vulnerability to viruses and frequent breakdowns.
  - ✓ 100 percent of classrooms are connected by a network internally and externally to the world; however, a majority of these connections are slow speed and need to be upgraded.
  - ✓ 100 percent of teachers have a networked compute ; however, the majority of the computers are now outdated and in need of replacement.
  - ✓ 100 percent of classrooms have the capability to receive broadcasts from KET.
  - ✓ 100 percent of schools have a phone system installed capable of serving every classroom.
  - ✓ 100 percent of principals and teachers have e-mail accounts created for them.
  - ✓ 100 percent of schools and districts are using MUNIS, a standard system for student and school data and financial management, resulting in increased consistency and accuracy of data and reduced training needs for educators moving between schools or districts.
  - ✓ Every student and teacher workstation connected to the network has access to a wide variety of instructional Internet Web sites, the Kentucky Virtual Library, productivity software, instructional software, administrative software, the Kentucky Virtual High School, Kentucky Virtual University and Encyclomedia (available only to educators.)
- **Ease and equity of access** is an underlying theme of KETS. Low- and high-income districts in Kentucky have equal access to technology funds, equal access to quality of service, and equal buying power.
- Every school district and every school has a **technology coordinator**. The Kentucky Board of Education also encourages districts to have dedicated **technology resource teachers (TRT)** who can work with teachers on technology use in the curriculum. TRTs are able to go into classrooms and work one-on-one with teachers to demonstrate use of technology in lessons plans. New policies allow districts to use state technology funds to provide this form of job-embedded professional development.

- The **Student Technology Leadership Program™ (STLP)** was initiated in 1994 and is currently in place in over 1,000 schools. It is a school-based program allowing students to apply their technology skills to solve school and community problems. (See research report below.)

STLP has added a State Championship. Schools may attend this event in the spring. Schools can register students to compete in products, services, performance and projects categories in order to demonstrate what they know and can do with technology. The best technology achievement is recognized in the annual awards program. The first year of the State Championship more than 2400 students participated representing 231 schools and 84 districts.

- A May 2004 report for the Kentucky Department of Education by Gartner found that:
  - ✓ Kentucky has significantly improved placement of technology in Kentucky schools;
  - ✓ Kentucky schools perform above average and sometimes in the top schools in the country in terms of student teacher access and use of technology
  - ✓ Kentucky has made significant strides in adopting forward-looking management strategies that have saved the state millions of dollars in technology management, maintenance and support
  - ✓ Kentucky’s Office of Education Technology operates at a higher efficiency than most similar organizations in most technology areas.
- According to *Education Week’s Technology Counts 2006*, Kentucky is in the top ten states and received an overall grade of B based on an average score in three categories. Kentucky received an A in capacity to use technology, an A-minus in use of technology and a C for access to technology. These categories were evaluated in order to assign an overall state grade for technology leadership. On a national level most state’s performance is average with the typical state receiving a C-plus, and majority of the states falling somewhere between a C-plus and a C-minus.
- In September 2002, a national report entitled “The Digital Disconnect: The Widening Gap Between Internet-savvy Students and Their School” evaluated the school Internet use in instruction through the eyes of students. Students stated they are becoming frustrated that the principals and teachers in the school system have not yet modernized their teaching approach fast enough to sufficiently take full advantage of electronic educational resources in the classroom. This included access and use of Internet web sites and electronic communication tools (e.g., student email). The study stated “Educators have a choice: Either quickly adapt, or they will be dragged into a new learning environment.”
- Key findings from the study (<http://www.pewinternet.org/reports/index.asp>) include the following: Internet-savvy students rely on the Internet to help them do their schoolwork—and for good reason. Students told us they complete their schoolwork more quickly; they are less likely to get stymied by material they don’t understand; their papers

and projects are more likely to draw upon up-to-date sources and state-of-the-art knowledge; and, they are better at juggling their school assignments and extracurricular activities when they use the Internet. In essence, they told us that the Internet helps them navigate their way through school and spend more time learning in depth about what is most important to them personally.

- According to the Kentucky Long-Term Policy Research Center's study, "Kentucky High School Students and Their Future Education Plans," Kentucky's investment in education technology in public schools, which has been a component of KERA from its inception, seems to be reaping rewards as far as students' facility with software is concerned. Of course, given the rate at which computers have spread to homes across Kentucky and the rest of America, many students would be learning these skills even if schools had nothing more than antiquated typewriting equipment. Yet these survey results suggest students are learning many key skills in schools, and that schools can help close the digital divide that may exist between homes that can afford computer equipment and Internet services and those that cannot.
- **Full funding of the KETS Master Plan** - KDE annually calculates the amount it will take to minimally operate, maintain, and incrementally replace existing technology investments while also acquiring new and emerging technology in the districts. This is referred to as unmet need. This annual state-wide unmet need is approximately \$122 million. This total is divided by the state-wide Average Daily Attendance (ADA) to determine each district's unmet need on a per student basis. In spite of the substantial financial investment by federal, state, and local entities, full funding fell short by \$300 million during the previous six years. Therefore there remains a total unmet need of approximately \$422 million.
- The 2006 legislature budgeted \$19.5 million for KETS in 2007 and 2008. In addition, they provided \$50 million in bonds over the next two years for replacement of outdated workstations in schools. Approximately \$29 million was made available over the next two years for the next generation high-speed education telecommunications network, Kentucky Education Network (KEN). KEN will connect all K-12 public school districts and improve the capacity of the Education Cabinet agencies. Approximately \$10 million in bonds was allotted to provide a next generation functionally-robust and modern system to ensure the efficient collection and management of student information, including a unique student identifier, at the school, district and state levels. Approximately \$10 million in State School Facility Construction Funds for new construction or renovations. These funds can go towards (1) internal wiring of voice, video, and data lines within the school, (2) phone systems, and (3) video projectors or televisions. Finally, \$5 million in coal severance funds was made available to coal producing counties through for technology projects, for grid computing, and for additional KETS Offers of Assistance in the 59 qualifying counties.



## Information for the Public

- Parents and citizens can access school, district and state data from several state Web sites including:
  - The Kentucky Department of Education, <http://www.education.ky.gov>
  - The Council on Postsecondary Education, <http://cpe.ky.gov/>
- School performance data is also available on two national Web sites. Charts show comparisons to comparable schools, which are also listed on the site. Visit Just for the Kids at <http://www.just4kids.org> and Standard & Poors' at <http://www.schoolresults.org>.

## WHAT'S NEW?

- ✓ The Kentucky Department of Education will be using a unique student identifier number for each student to better track student data.
- ✓ KIDS - Kentucky is one of 14 states awarded a federal grant to develop and implement a statewide, longitudinal data system to make student, assessment, and financial data more readily available to [?? appropriate stakeholders in a horizontally integrated fashion.} The project, called **Kentucky Instructional Data System (KIDS)**, will support decision-making at all levels and will make reporting of the federal No Child Left Behind easier.
- ✓ **Individual Learning Plan (ILP)** replaces the Individual Graduation Plan (IGP) and is now available on the Internet. Kentucky 8<sup>th</sup> through 12<sup>th</sup> grade students can explore careers that match their skills and interests, create education plans, establish personal goals and revisit these as they progress through school, explore colleges and postsecondary opportunities, and collect personal information like assessment results, demographic information, and educational history.
- ✓ **Internet 2** is a research and development consortium led by over 200 U.S. universities working in partnership with industry and government to develop and deploy advanced network applications and technologies, accelerating the creation of tomorrow's Internet. What does this mean to education in Kentucky? It will enable, via high bandwidth and high performance, collaboration among researchers, instructors, students, and interactive access to information and resources in a way not possible on today's Internet.

## WHAT TO EXPECT

-  All school districts must submit a Technology Activity Report which summarizes their technology purchasing activities for a year. Each district must conduct technology planning which complies with the state master plan.
-  Teachers and administrators at the schools need to continue to emphasize **professional development** to learn more about the use of technology for educational purposes.

- ✎ District administrators continue to maximize the use of the computerized student, school and financial management data systems. This affects school council decisions, budgeting and purchasing.
- ✎ Expect ongoing changes in the KETS design and growth in utilization, recurring costs, and support needs.

## WHAT YOU CAN DO TO HELP

- ★ **Ask** questions to find out what is happening with technology in your school or school district:
  - ✓ What computer programs are used and what do students use computers for?
  - ✓ How many computers are available to students and how many hours do students work on them?
  - ✓ Are student workstations located in every classroom for use by all students in all subjects, or in computer labs limiting use to a few subject areas?
  - ✓ Does your child have frequent access to tools needed when they graduate (e-mail, Internet Web sites, MS Word, MS Excel, database products, presentation products)?
  - ✓ Is there a Student Technology Leadership Program in your school and how can students join?
  - ✓ Does your school have high-speed connections to the Internet and do all students have e-mail addresses and access? If not, why?
  - ✓ Does the school have a technology resource teacher who can work one-on-one to train teachers in use of technology tools for instruction?
  - ✓ How can you see or hear the electronic information available about your child while visiting the school, from home telephones, and from home computers? Where can you find information about your school and district?
  - ✓ Does the school allow the community to use their technology resources after school hours for the virtual university or other electronic learning opportunities? If not, why?
- ★ **Talk** with students about technology. Ask them how much time they spend on computers and how computers are used for learning in their school.
- ★ To learn more, **review** the district technology plan and comprehensive school improvement plans. Become active in your school's planning, and advocate for technology that is thoroughly integrated into the curriculum of your school by focusing on:
  - ✓ staff competencies and professional development for teachers and administrators\
  - ✓ integration of technology with learner outcomes and core content
  - ✓ role of technology in assisting students to achieve at higher levels

- ★ **Inform yourself and talk** with your legislators about technology needs in your school and district.
- ★ **Visit** the Kentucky Department of Education Web site to learn more about technology and consolidated planning. This site provides more information about up-to-date KETS negotiated prices and KETS standards. If you don't have access to a computer, try using one at a school or local public library.
- ★ If you have computer expertise, **volunteer** to tutor students, help develop the local district or school plan, or participate with the Student Technology Leadership Program.

### **FOR MORE INFORMATION, CONTACT**

- **Kentucky Department of Education, Office of Education Technology** at (502) 564-2020 ext. 0, or visit the Web site at <http://www.education.ky.gov/KDE/Default.htm>.
- **Prichard Committee for Academic Excellence**, P.O. Box 1658, Lexington, KY 40588-1658; (859) 233-9849 or (800) 928-2111; e-mail: [admin@prichardcommittee.org](mailto:admin@prichardcommittee.org) or visit the Web site at <http://www.prichardcommittee.org/>.

### **NOTES:**