



The History of Education Technology in Kentucky Schools

Kentucky Department of EDUCATION

Technology Assistance Team

A Technology Assistance team was established in every geographic region of the state consisting of a KETS Engineer (KE) and an instructional leader. This team played a crucial role in establishing the awesome customer relationship that KDE has with districts today.

Student Technology Leadership Program (STLP)

First in the nation to establish and provide a spotlight for students using technology to learn or help their school/community

Model Districts Selected

Eight model sites, strategically located across the state, selected to demonstrate how KETS would bring life to the vision of the Kentucky Education Reform Act (KERA)

First KDE Website

Created to provide enhanced communications to schools, districts, parents, researchers, other organizations and the general public

KETS Standardized on Ethernet

Adopted the Ethernet networking standard over Token Ring as the primary standard for school and district technology networks due to Ethernet components being much more affordable

Federal E-rate Program

Kentucky was the best-positioned state in the nation to take advantage of this new federal funding opportunity because of the state and district education technology plans and existing statewide education technology contracts for eligible components. Kentucky schools have received over \$545 million for telecommunication lines, Internet access and networking components since 1998 and remains among the top states in the nation in E-rate funds received. State level E-rate reimbursements funnel to districts as KETS offers of assistance (where they are matched 1:1) to support district eligible E-rate services thus creating a unique 3 to 4 bang for the dollar that assist districts' purchase of other instructional technologies.

Internet Safety and Security Measures (SB230)

Internet content safety measures for every school

KETS Phase 1 Completion

Provided a basic set of administrative and instructional education technology tools for every K-12 classroom, school and district office

2001-2006 KETS Master Plan for Education Technology

The 2001 Master Plan kicked off Phase 2 of the KETS, building on the basic EdTech toolset and focusing on the ongoing costs of maintaining and incremental replacement, the people costs needed, and the concept and value of shared services.

Instructional Device Upgrade (IDU)

Legislators appropriated \$50m to replace aging student and teacher workstations.

Kentucky Information Highway (Version 2)

Provided increased high-speed data and Internet capacity for every school and school district office

First KY EdTech Leaders Webcast

Scott County Schools hosted KETS leadership for the first district EdTech leaders webcast. This is a monthly event that has continued for the past 11 years.

1992

Birth of Kentucky Education Technology Systems (KETS)

A direct result of the 1990 Kentucky Education Reform Act (KERA), KETS ensured basic and equitable anytime, anywhere, always-on access to instructional and administrative education technology services for all students, teachers and administrators.

1st Master Plan for Education Technology

The first Master Plan addressed instructional challenges of the 90's and beyond, as educators prepared Kentucky schools for the great changes to come as the world entered into the digital age.

First Microsoft Mail Implementation

First in the nation to have email capabilities for all students, teachers and administrators

Rollout of District Administrative System

First in the nation to provide a local area network, Internet and office productivity software to every district · Shelby County schools were the first pilot site in 1994-1995.

Every School District Connected to the Internet

First in the nation to connect all school districts to the internet via high-speed network connections provided by the first Kentucky Information Highway Contract (KIH 1)

1995

MUNIS a Common Financial System for Every District

First in the nation to provide those applications deemed most critical: Accounts Payable, Personnel, Payroll, Budget, General Ledger and Purchasing

1997

Statewide Student Information System

First in the nation to implement a common statewide student information system

Statewide KETS Service Desk

First in the nation to provide dedicated education technical assistance to all school districts

Kentucky Virtual High School Launch

Every Kentuckian seeking high school level coursework provided opportunity to enroll in for-credit, enrichment or college preparatory classes taught by Kentucky certified teachers and receive credit from their local high school; courses delivered online to schools, homes and other places with Internet access available anytime and anywhere--meeting the needs of students

2000

Statewide Identity Management Service

First in the nation to provide enterprise directory services to all schools and districts allowing secure access to the Internet and web-based instructional material

Statewide Software Update System

Provided a uniform and timely method to download and distribute Microsoft software and security updates for all K-12 Windows workstations and servers

2004

Statewide Antivirus System

Provided antivirus licensing and management services for every district and school including all K-12 Windows and Apple computers and servers

2005

First Statewide STLP Championship at Rupp Arena

Started as statewide celebration and competition of student technology use-- By 2017, attendance has grown to 14,000.

2006



2017

The People Side of Education Technology

First in the nation study and tool that addressed the people side of K-12 education technology.

Infinite Campus Migration to the Cloud

Partnered with Infinite Campus to add security, improve efficiency and reduce statewide costs by leveraging a private cloud environment for the Kentucky Student Information System.

School Cloud Firewall

First in the nation to implement a complete cloud based firewall security service for every school district.

William T. Nallia Award

KDE received the William T. Nallia award from the Kentucky Association of School Administrators that reflects a spirit of innovation and cutting-edge leadership while bringing higher levels of success to all children.

Successful Pilot of Future KY K-12 voice/telephone communications via the cloud by KDE the agency, KSB and KSD.

EdScoop's EdTech Heroes Award

KDE received the EdTech Heroes Award as one of the top 25 states making a difference in "EdTech Heroes: 25 State Leaders Making a Difference," a project that highlights states that demonstrate innovative practices and leadership in harnessing technology to support education.

Largest Statewide MUNIS Disaster Recovery Test

Successful completion of first statewide disaster recovery test of cloud-based KY K-12 financial services (MUNIS) used by all school districts.

KY K-12 Online Testing – High School End of Course

Highly successful first, large-scale "field test" of online testing in KY K-12. A total of 131,442 test sessions were administered to 97,747 students representing 169 school districts. This included end of course assessments for grades 9 through 12 in biology, Algebra II and English II.

KDE's KY K-12 EdTech presentation to US Congress committee in Washington DC; KY K-12 is the pioneer and overall national leader in most aspects of K-12 education technology

KDE was chosen by Chief Counsel of State School Officers (CCSSO) to present KY K-12 EdTech successes over the past 25 years and to represent the other 49 states on recommended approaches to K-12 cybersecurity.

Statewide KETS Service Desk Reaches Milestone of Service

Reached major milestone of 250,000 service requests by our in-house, dedicated education technical assistance team to all school districts.

2018 – 2024 KETS Master Plan for Education Technology
This next phase of the Master Plan builds upon the successes of the previous plans back to 1992 and includes items KY K-12 continues to do well, areas to improve upon and new items to be integrated. The studies, research, standards, governance and technology needs for the state and districts that play a critical role in executing the Master Plan are also identified.

KY K-12 Email Upgrade/Transition to Microsoft/Google Email

Based upon feedback from KY K-12 district EdTech leaders, students and teachers, added Gmail as a KY K-12 product standard to our existing KY K-12 e-mail standard of Microsoft Office 365 e-mail for a better experience using Microsoft's Education tools and Google's G-Suite. Two-thirds of districts chose to upgrade to the current version/design of Microsoft Office 365 and one-third of the districts chose to transition to Google's Gmail.

PBS Learning Media Launch

Created a new partnership between KET and PBS bringing more than 100k standards-aligned video resources free to Kentucky school districts.

Data Visualization Tools

Enhanced the overall value and intuitiveness of the Student Information System (Infinite Campus) through use of interactive data visualizations created in Tableau to provide school and district administrators easier access to real-time actionable data.

2018

2019

Federal E-rate Rebate Program Maximized

\$50M applied for by KY K-12 for federal E-rate eligible products and service, which could lead up to \$120M in KY K-12 edtech buying power.

KY K-12 Online Testing – High School K-PREP

Large scale online summative K-PREP testing success of 180,000 tests for 90,000 of KY high school students that goes beyond the 2018 EOC test.

School Safety (SB1) Anonymous Reporting Tools for Schools

Voice and digital anonymous reporting tools mandated in 2019 school safety legislation (SB1) are in place.

Kentucky Educator Certification and Ethics System RFI

Request for Information (RFI) is in place to begin transition for the aging, unsupported systems with a single, modern, cloud-based solution.

Updated KY K-12 Internet Services Capabilities for all 173 KY K-12 Districts

Using a different approach, upgrade/replace the aged electronics in each of the 173 KY K-12 Internet hub sites in school districts, which help all KY K-12 schools better connect to the existing KDE provided fibered on-ramp service to the Internet (aka, KIH3).

2019 Making IT Happen Award

KETS leaders recognized for multiple years with the International Society for Technology in Education (ISTE) award honoring outstanding educators and leaders who demonstrate extraordinary commitment, leadership, courage and persistence in improving digital learning opportunities for students - (2009, 2011-2013, 2015, 2016, 2018 and 2019).

New KY K-12 School Report Card (SRC) Suite

Introduced a new SRC having four components, with the primary focus of providing data that KY K-12 students and parents are most interested in seeing/knowing. The SRC is conveniently accessible through a mobile app and provides data that is easily understood by the average person. The card includes a near real-time portal for students and parents to securely access their current daily info (e.g., grades, academic assignments, class schedule, and attendance) and publicly accessible annual snapshots of school and district-level data.

First Academic Standards for Computer Science

Adoption by KY Board of Education and approved by legislature. Marks the first time academic standards for computer science have been developed and redefines Computer Science education in Kentucky. Technology Competencies as Minimum Graduation Requirement Beginning for students entering high school in the fall of 2020, graduation requirements include the ability to demonstrate performance-based technology competencies.

Computer Science & IT Academy Launch

Creation of a joint venture with OET and CTE to support rigorous computer science professional learning for teachers as well as teacher and student course support in the demonstration of computer science standards and industry certification exam vouchers in ALL computer science courses and pathways.

Statewide Creation and Expansion of Digital Learning Coach Network

With further commitment to the OET/ KETS' People Side of K-12 EdTech study, districts across the state began identifying Digital Learning Coaches (DLC) to provide support to administrators, teachers, students and parents and KDE launched the first ever statewide DLC support network. Their focus is to assist teachers in maximizing the effective use of technology for learning, differentiating instruction, and providing rigorous, relevant and engaging learning experiences for all students. Digital Learning Coaches provide a vital, real-time professional learning role for district-by-district customized digital learning experiences design, digital workflows, digital relationships, digital collaboration and student-design digital products (all of which are tied to remote and distance learning). Due to the strength and quickly proven value of this network prior to a global pandemic, district leaders are swiftly tapping more learning leaders to join the KY K-12 DLC Network.

Library Media Statewide Leadership Selected

Kentucky becomes one of only a handful of states to establish a dedicated Library Media leadership role. This new role will continue to push Kentucky K-12 public schools to nation leading boundaries and set new expectations for the role of library media leadership, instructional technologies, literacy, and learning.

Record Setting STLP Growth

The 2019 STLP journey began with 1800 STLP school team projects and close to 60,000 KY K-12 STLP students competing in November and December. Student participation in regional events grew beyond capacity and at such a high rate, a 9th STLP regional event was added to accommodate the increased participation in the nation's best and largest Student Technology Leadership Program.

2019

Kentucky Conducts the Largest and Most Successful K-12 Online Assessment in Kentucky History

KY once again broke new ground completing by far the most successful and largest "Field Test" to date of the KY K-12 online summative testing initiative and distinguishing KY from the nearby states that had failed.

The numbers speak for themselves with 771,767 tests completed by 390,373 students across 3rd-8th and 10th-11th grades, and 172 KY school districts with near zero issues. No other state has come close to experiencing this level of success with deploying online testing for their K-12 students.

2020

2020

2020 Making IT Happen Award

KETS leaders recognized for multiple years with the International Society for Technology in Education (ISTE) award honoring outstanding educators and leaders who demonstrate extraordinary commitment, leadership, courage and persistence in improving digital learning opportunities for students - (2009, 2011-2013, 2015, 2016, 2018, 2019 and 2020).

All KY K-12 Schools Quickly Pivot to NTI

In response to a global pandemic and due to KY's nation leading digital readiness, 100% of Kentucky public schools quickly pivoted to implement plans for continuation of learning through the statewide Non-Traditional Instructional (NTI) time program with heavy digital connectedness and technology enabled services tied to digital, remote and distance learning. Digital learning and collaboration saw new heights in KY K-12, due to our nation leading digital readiness. Had we not been putting the right things in place for the past 25 years, there would have been no way that we could have pivoted to nearly 100% digital experience options in all 172 school districts overnight. KY K-12 is "the" pioneer and "the" national leader in most aspects of education technology. Therefore, KY K-12 is in a much better position and prepared for online, digital, distance, virtual and remote teaching and learning due to more cloud based services than the other 49 states. Because of NTI, KY was able to not only keep going but finish the school year versus shutting down way early like other states.

First Totally Virtual KBE Meeting

The Kentucky Board of Education (KBE), in an effort to practice social distancing, held its first ever virtual meeting using Microsoft Teams where every KDE staff member, KBE member and other presenters were physically at different locations. It was streamed live and accessible to the public on the Kentucky Department of Education's YouTube channel meeting all requirements of KY's open meetings law. Kentucky's successful implementation is either the first or one of the nation's first 100% virtual board meetings complying with all provisions of open meetings law. Our model quickly set an example that KY school districts, other KY state agencies and other states across the nation recognized and requested our assistance in replicating for their virtual board meeting needs.

STLP State Championship Quickly Pivots to 100% Virtual Competition Instead of Cancelling

In response to the global pandemic, STLP quickly pivoted to host a 100% virtual state championship experience. Student participation was higher than expected and demonstrations were judged by virtual panels and countless volunteers. The live broadcast awards show had thousands of viewers with a record social reach. The journey to KY K-12 STLP State Championship began with 1800 STLP school team projects and close to 60,000 KY K-12 STLP students competing in November and December at our 9 regional competitions throughout Kentucky.

First Statewide Staff Password Requirements

First in the nation to implement a uniform strong password baseline for 100% of staff accounts within all K-12 districts and the Kentucky Department of Education.

KDE First in KY State Government and One of the First In the Nation to Quickly Pivot to a 100%

Telework/Telecommuting Service

KDE staff and all 172 school districts made the fast mass quality transition to telecommuting, virtual meetings, distance digital learning, and virtual cloud operations services. However, had we not been putting the right things in place for the past 25 years, there would have been no way that we could have pivoted to nearly 100% virtual across an entire Department of Education and for all 172 school districts overnight. KY K-12 is "the" pioneer and "the" national leader in most aspects of education technology so KY K-12 is in a much better position and prepared in telecommuting, virtual operations, virtual resources, virtual meetings and cloud based services than the other 49 states since we've been doing all of these for over a decade. All 172 of our KY K-12 school districts are already connected by high speed, high quality, reliable fibered Internet service and all schools already have dense Wi-Fi within each school building. KY was the first state to have all of this in place for every school district throughout a state. All of this uniquely positioned KDE staff and our KY K-12 school districts to quickly transition and continue to provide services and instruction in light of the COVID-19 pandemic all while simultaneously further fortifying our already rock solid security posture.

KY K-12 School Report Card (SRC) is Recognized One of the Nation's Best

Kentucky's School Report Card provides students, parents, schools, districts and communities access to the data needed to evaluate performance, plan for the future and celebrate successes. Data Quality Campaign recognized Kentucky's SRC as one of the best in the nation.

Next Generation Internet Bandwidth Upgrade for KY K-12 Schools

KDE staff and AT&T moved KY K-12 schools to a 200 Gbps Internet platform in May. This upgrade provides K-12 students and staff in Kentucky access to a very safe and reliable Internet experience to support direct or distance teaching and learning. The amount of computers in KY K-12 and KDE is 8 times larger than the rest of KY state government and all local county governments combined and thus it should be no surprise given KY is "the" national leader in cloud based computing that we use 20 times more Internet bandwidth than the rest of KY state government and local county governments combined. We know of no other educational entity, worldwide, that has this amount of quality, safe Internet resource to support teaching and learning.

Kentucky K-12 Further Commits to Computer Science Growth

Kentucky continues to lead surrounding states and the nation in its dedication to expanding access to Computer Science (CS) for all students. Kentucky supports more Girls Who Code (GWC) clubs and co-curricular groups than any other GWC partner. Kentucky is also one of 18 states with seven or more of the Nine Policies to Make Computer Science Foundational for all students. Not even California, who boasts industries of innovation in technology, has met as many statewide CS policies as Kentucky. KDE has added a statewide dedicated K-12 CS Lead to organize professional learning programs for teachers, meet the requirements of the newly signed Senate Bill 193 to report on CS implementation efforts annually, and ensure that Kentucky's graduates compete in the 21st Century workforce. This dedication to CS will not merely guarantee that Kentucky graduates compete in the job market but will also empower them to rout their competitors.

Online Registration Available for all KY Schools

Utilized CARES Act funds to make online registration (OLR) available statewide to help combat the COVID-19 pandemic and ease back-to-school challenges. OLR allows parents and guardians to enroll their child from home, allows staff to process enrollments from home, and eliminates many of the paper forms passed between parents and staff. Infinite Campus worked in partnership with KDE to roll out OLR Prime in an expedited 30-day approach for the 2020-2021 school year.

Kentucky Expands KY K12 Internet Safety Beyond the School Campus

In response to the COVID-19 global pandemic and due to KY's nation leading digital readiness, Kentucky became the first and only state to leverage Internet Safety technologies on behalf of all schools and districts by expanding the K-12 partnership with Lightspeed Systems to ensure that 100% of all students, teachers, and staff have safe and protected access to internet resources while at school or at home. This statewide implementation helps districts manage distance learning programs more efficiently while effectively meeting both state and federal requirements as a technology protection measure.

Academic Standards Finally Become Machine Readable and Interactive with Interoperability

Kentucky Academic Standards (KAS) are now available for import into Infinite Campus and other digital platforms. KDE partnered with IMS Global and Infinite Campus to import KAS to all districts in July 2020. This interactive digital companion can provide direct support and vital linkage for teachers utilizing features such as progress monitoring, standards-based assignments (grading), and lesson planning in IC.

2020

Revised Academic Standards for Technology

Kentucky again reaffirms the value of education technology to transform learning experiences through the adoption of revised Kentucky Academic Standards (KAS) for Technology. The adoption of 704 KAR 8:090 by the KY Board of Education was also approved by the legislature with an effective date of March 2, 2021. The KAS for Technology are required standards as they define the competencies that are tied to minimum graduation requirements, where all Kentucky graduates must demonstrate performance-based competencies in technology.

2021

2021

First Academic Standards for Library Media

For the first time ever, the Kentucky Board of Education (KBE) adopted and the legislature approved the Kentucky Academic Standards (KAS) for Library Media learning, 704 KAR 8:100, with an effective date of May 4, 2021. This marks the first time KAS for Library Media have been developed to further define the required learning standards when students are engaged through library media related learning. These standards are comprehensive and cross curricular as they fit into learning inside of other content areas. These new learning standards fit tightly into every school as every public school in Kentucky is required to have a library media center with a certified school library media leader.

The Year of 100% Virtual STLP

STLP responds to COVID-19 pandemic by shifting to an all digital format for an entire year. Thanks to years of foundational development, STLP was poised to take full advantage of district digital learning leadership, 1:1 initiatives, and KETS resources to overcome a pandemic to still provide relevant opportunities for students to participate. 100% of all STLP student-focused events/activities were successfully conducted virtually.

Digital Learning Coaches Exceed 550

A critical component of any successful digital learning initiative is the support provided by Digital Learning Coaches (DLC). Districts with these support structures in place are ready to collaboratively support digital learning strategies and workflows across grade levels, content areas and job classifications. Through the pandemic, districts realized the importance of these support roles, through the "People Side of K-12 EdTech in KY" and the network grew to exceed 550 DLCs -- a 285% growth.

Virtual Attendance Waiver

The Kentucky Board of Education (KBE) officially approved a waiver of 702 KAR 7:125, Pupil Attendance for full time enrolled virtual students, on May 18, 2021. Not only did this provide necessary flexibility for districts seeking to provide virtual learning options for the 2021-2022 school year but it officially reaffirmed the value of virtual learning and provided some necessary measures and assurances detailing the anatomy of high-quality online and virtual schools, programs and academies.

The Nation's Largest and Most Successful K-12 Online, High-Stakes Assessment Conducted Two Years in a Row

KY had back to back exceptional years with our K-12 Online Summative Testing initiative, setting new records by charging our way through yet another year by completing the largest testing cycle to date with stellar results returned exceptionally fast to teachers and school leaders. 1,228, 115 tests were completed in the Spring 2021 test window by students in 3rd through 11th grades across all 171 KY school districts with near zero issues. This includes additional online testing sessions from CTE, vocational and ACT. No other state has come close to experiencing this level of success with deploying online testing for their K-12 students.

Kentucky Becomes First and Only State to Provide Internet Safety and Protections for 100% of Schools to Meet New Federal Requirements

With the launch of new Emergency Connectivity federal funds for school districts (ECF), for the first time, the Federal Communications Commission (FCC) details a new requirement for CIPA (Children's Internet Protection Act) relating to every district-owned student device. This new requirement states that the CIPA technology protection measure applies to all student computers no matter where the student is located (anywhere, anytime, and always on). To date, almost 700K school and district devices are now loaded with a modern internet safety and protection tool and the ability to monitor and manage Internet usage for every district device. Kentucky K-12 becomes the first state nationally to have every school implement this new federal requirement for every student.

KySTE KY K-12 CIO Virtual Summit

OET, in conjunction with our Kentucky Society for Technology in Education (KySTE) partnership, held our first 100% virtual CIO Summit on April 20 continuing our annual summit for the 8th year. Attendance and participation were outstanding with 87% of our districts (140 unique districts along with KSB and KSD) joining virtually to engage in facilitator-led conversation on upcoming edtech topics/strategies/approaches to gain the experience, knowledge and wisdom of our chief information officers.

Campus Learning Available to All KY Schools

Expands tools available to align Kentucky Academic Standards to curriculum and enhance communication tools available to all students, remote and in-person. Provides interoperability solution to districts to link Infinite Campus to other Learning Management Systems, including Google Classroom. Other tools include: Curriculum Planner, Unit/Lesson Plan/Assignment Library, Quick Assessments, Standards Portfolio and Progress Monitor and Score analysis tools. CARES Act funding utilized to offer a premium product to all schools and districts beginning with the 2020-2021 school year.

KDE and Kentucky K-12 Not Only Survives but Thrives through Covid-19 Pandemic

KDE staff and the KY K-12 environment was uniquely poised to make the quick pivot to virtual meetings, distance digital learning, and virtual cloud operations services. KY K-12 is "the" pioneer and "the" national leader in most aspects of education technology so KY K-12 is and was in a much better position and prepared for telecommuting, virtual operations, virtual resources, virtual meetings and cloud based services than the other 49 states since we've been doing all of these for over a decade. This past year put an unprecedented load on all of our systems and major services, yet we thrived and did so while continuing to implement new projects, upgrade services, and provide connectivity and availability with 99.99% uptime.