

Utah Public Education Technology Standards 2011

The Mission of Public Education - Promises to Keep

Utah's public education system keeps its constitutional promise by:

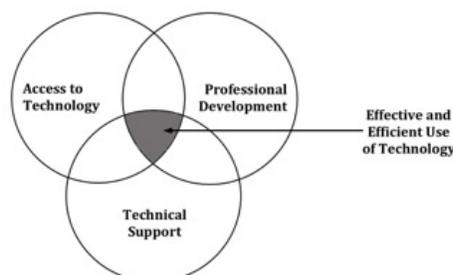
- Ensuring literacy and numeracy for all Utah children.
- Providing high quality instruction for all Utah children.
- Establishing curriculum with high standards and relevance for all Utah children.
- Requiring effective assessment to inform high quality instruction and accountability.

To achieve the mission of public education and to ensure that all Utah students graduate from high school college and career ready, Utah schools need to implement technology standards focused on future needs and opportunities. The Utah Public Education Technology Standards serves as a framework and guide for making strategic, local educational decisions that maximize student success through technology tools and resources. These standards guide policymakers and educators to assess and implement the conditions necessary for improving student learning with technology. All students, including students with disabilities, have access to technology and assistive technology, as needed, as part of the general curriculum. Educational and instructional decisions for students with disabilities should consider assistive technology access and use at school as well as in the home as part of the annual individualized educational program (IEP).

According to the legislative Auditor General's "Technology Success Depends on Interrelated Components" report number 2005-04, "for teachers and students to utilize technology in an efficient and effective manner and to fully take advantage of the benefits of using technology to improve the education of students, three components must be present." These are:

- Access to technology for educators, students, and parents, i.e., the hardware, software, and infrastructure.
- Professional development opportunities for educators, students, and parents in the use of the technology.
- On-going technical support to maintain the systems provided by public education.

The figure below provides a simplified diagram showing that all three components are necessary for technology to be used efficiently and effectively.



The legislative report further states “these three components must each be present, and they must each work together for technology in education to succeed. Where funding, policy review, and leadership are in place, schools and students benefit from the investment in educational technology.”

All participants in the public education system (educators, students, and parents) must be sufficiently trained on accessible and available technology to see a positive educational impact, such as an improvement in instruction, an increase in student time spent on-task, and an increase in student achievement. Again, all three components must be in place. One missing component will effectively stall the process, causing a disruption in the system-wide efforts. ”

By targeting the efficient and effective use of technology achieved by the three components, students will have opportunities that will increase their potential to be college and career ready as Utah achieves its promises to keep.

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Access to Technology

- Hardware:
 - Each student and educator has his or her own network enabled computing device capable of providing access to the school's technology resources. Computer/tablet/handheld devices and student/educator ratio is 1:1. Devices are age appropriate and are able to be taken home for further instruction and student work production, as appropriate.
 - Computer devices include accessibility features such as screen readers, assistive communication devices, high contrast ratio, specialized keyboards, etc. For devices that do not contain adequate accessibility features, additional assistive technology devices that allow students with disabilities full access are provided.
 - Digital projectors and audio amplification systems are in classrooms and meeting rooms.
 - Support devices such as webcams, document cameras, scanners, printers, etc. are in sufficient quantity for instruction and are physically located for optimal use.
 - All classrooms presentation systems are used routinely throughout the instructional hours.
 - The hardware and software evolves over time and may be student, family, or school provided but must be capable of providing requisite features and performance based on student instructional needs.
 - Mini labs with multimedia capable devices are available and accessible for use with all students.

- Software (instructional materials):
 - Protocol in order of preference for acquiring new software includes:
 1. Is the needed software available through freeware or open source?
 2. Is the needed software offered through a commercial purchase?
 3. Is there capacity for local development?
 - Robust productivity software and technology services including document management and collaboration systems are accessible through the World Wide Web.
 - Software is age appropriate.
 - Software meets the requirements of Section 508 of the Rehabilitation Act. For example, software is programmed to interact with available accessibility tools (e.g., screen reader) as needed for all students, including students with disabilities and special needs. Comparable alternative software programs are explored to meet student needs.
 - Software purchases include consideration of universal design for learning (UDL).
 - Digital learning resources (e.g., books, apps, simulations, web tools, etc.) are:
 - Accessible for all students.
 - Available electronically for all learning devices meeting the school's requisite hardware and software standards.

- Networks:
 - School local area networks (LANS) have :
 - 24 hours a day/7 days a week availability for administration, teaching and learning to facilitate student-centered learning.
 - Adequate broadband bandwidth for accessing the Internet and technology-based learning resources (i.e., students have the ability to use the Internet in the classroom and on the surrounding campus).
 - At least 1GB connectivity through the wired network.
 - Wireless networks covering every classroom.
 - Simultaneous use of high-bandwidth resources, such as multimedia, communication and collaboration environments, and communities. For example: universal wireless @ 801.11N or better broadband.
 - The schools technology resources, when appropriate, are accessible via the Internet, at home throughout the community, and from most any geographic location.
 - Wide Area Network: Network capacity between schools, districts and state resources is robust, redundant and managed to handle the needed bandwidth to support administrator, teacher and student access from the classroom.
 - District/School technology support teams should provide proper filters to keep students safe; however, we should always be proactive in not restricting useful web-based tools.

- Interoperability of operational systems:
 - Customize to accommodate changes in legislation, rules and policy evolution.
 - Incorporate national data standards such as the Common Educational Data Standards (CEDS) as needed.
 - Incorporate SIF or some other data exchange standard to minimize redundant data and duplicate data entry.
 - Employ secure and industry standard databases.
 - Utilize private and public technology resources.
 - Produce reports or data extracts for state and federal reporting.
 - Provide intuitive web interfaces accessible for all users via mobile and other devices that meet minimum standards.
 - Provide real-time reporting.
 - Support single-sign-on portals to applications.

Professional Development

- Formal Professional Development Activities:
 - Regularly scheduled professional development for each educator, related service provider and paraprofessional includes electronic teaching tools, integrating technology in lesson plans/curriculum and reviewing and aligning student learning processes and needs to technology.
 - Professional development sessions are designed to support local school improvement initiatives, Utah Core Standards, and comply with the Utah Staff Development Guidelines.
 - Professional development is provided using technology and facilitating the reduction of required in-person meetings. Meeting participants receive training

- on alternate methods of participation (e.g., Skype, WebEx, interactive video conferencing, Connect 8).
 - Utah’s colleges of education require technology competencies for prospective teachers and administrators for graduation. Preservice educators are taught how to strengthen teaching and learning with technology and to make data-driven instructional decisions.
 - Professional development planning considers student and parent training needs.
- Mentoring:
 - Educator mentors evaluate the effective use of technology in their schools by:
 - Monitoring reflective practices such as annotated portfolios demonstrating a deepening understanding of student-centered learning.
 - Using data analysis to track learning and identify gaps and needs, and train teachers to differentiate instruction and determine appropriate technology adaptations based on findings.
 - Working with teachers to carefully apply technology-enhanced teaching strategies to deepen student understanding of curriculum concepts.
 - Supporting teachers in the effective use of technology by professional development in all curriculum areas.
 - Tracking teacher contacts and communication with parents.
- As a result of professional development, **Administrators:**
 - Understand and demonstrate commitment to classroom technology use through personal use, modeling, and financial support for strengthening instruction and productivity.
 - Provide leadership, disseminate technology policies, and facilitate the effective use of technology.
 - Develop and support a comprehensive technology plan, including clearly defined outcomes and continuum of ongoing professional development for their local education agency and schools.
 - Ensure staff and professional development includes and promotes appropriate technology integration.
 - Ensure that all written job descriptions specify the technology responsibilities of the position, in alignment with the school/district technology policy.
 - Monitor teacher qualification or endorsement as it relates to technology use.
 - Emphasize and promote parental involvement in technology for teaching and tracking learning.
 - Ensure each building has an on-site support structure for adequate allocation of personnel time to provide support, professional development, and use of technology by school personnel, students, and parents.
 - Evaluate teachers using the Utah Teacher Standards supporting the identification of quality teaching using technology and data for local evaluation protocols.
 - Develop a systematic process to evaluate all components of the technology plan used by district office and school staff. The components include, but are not limited to:

- Planning, budgeting, decision-making, delivery of technology services, and evaluating the impact on student achievement.
 - Both qualitative and quantitative measures across school environments of changes in student achievement.
 - Periodic review and adjustment.
- As a result of professional development, **Teachers:**
 - Ensure accessible instructional materials are used with all students.
 - Organize and oversee online class curriculum to address the instructional needs of all students.
 - Select age appropriate materials aligned with Utah curriculum standards.
 - Create and/or access relevant and engaging learning activities leveraging digital devices, digital resources, and digital communication networks.
 - Embed technology and digital resources to improve and strengthen delivery of the Utah Core Curriculum for all students.
 - Instruct students in appropriate-use guidelines for online content, software, etc.
 - Evaluate the effectiveness of selected technology and make adaptations as needed.
 - Remediate students' lack of technology skills as defined by the technology standards of the state core and implement appropriate interventions in their classrooms.
 - Utilize word processing, spreadsheets, graphics, presentation software, e-mail, Internet, data capture and analysis resources, and computer based assessment systems.
 - Adapt instructional materials and technology to meet needs of students with disabilities and special needs.
 - Use data capture and technology tools to track learning, identify gaps and needs, measure academic progress and achievement to inform instructional practice and report/communicate with appropriate school staff and parents.
- As a result of educator professional development, **Students:**
 - Explore various technological resources and advocate for their use to meet their educational and instructional needs in the classroom.
 - Use data and technology tools to track learning, identify gaps and needs, measure academic progress and achievement to inform their work.
 - Demonstrate technology proficiency as a requirement for student advancement and graduation.
 - Access various technological resources to complete instructional assignments.
 - Utilize word processing, spreadsheets, graphics, presentation software, e-mail, Internet research, hardware, assessment software, etc.
 - Plan for future technology use after high school completion/graduation.
 - Demonstrate digital citizenship:
 - All students acquire the knowledge and develop the behaviors necessary to be responsible digital citizens.
 - School disciplinary plans include consequences for inappropriate use of technology and/or internet. Consequences do not rely on removal of technology.

- Student knowledge includes appropriate use of technology, copyright, cyber-bullying, privacy, ethics, etc.
 - Students observe appropriate-use guidelines for online content, software, etc.
- As a result of educator professional development, **Parents** have access to:
 - Online curriculum pages with assignments, assessments, classroom policies, an e-mail address and other related information
 - Updated school and district website that is current and connected to critical educational information.
 - Educational information provided on site and over the network before, during and after school.
 - Training to utilize technology to assist their students with learning, review data, and communicate with school personnel.

Technical Support

- School/District policies and procedures are established for:
 - Downtime and repair standards.
 - Periodic maintenance and updates of hardware, software and network systems.
 - Sufficient qualified support personnel to regularly maintain systems and devices.
 - Hardware, technical resources and software are replaced and/or upgraded via planned schedules with no greater than a five year cycle.
 - Supporting 24 hours a day 7 days a week device use and access to classroom curriculum resources.
- Each district/school manages their wireless network to assure adequate bandwidth and network connections to all students and educators for their timely and reliable access to the education-centered network.
- Internet content is filtered to restrict exposure to inappropriate resources and is Children Internet Protection Act (CIPA) compliant.
- Major projects are thoroughly planned and executed to meet new policy and strategic learning objectives.
- Statewide network services providing economies of scale and equitable access for all schools and students are supported.
- Each district/school collects and manages data of sufficient quantity and quality to:
 - Make data-driven decisions at the classroom, school, LEA, and state levels.
 - Successfully manage daily instructional and other school programs and services.
 - Provide a complete record of all school activities, instructional and others
 - Comply with local, state and federal reporting mandates

Results of Effective and Efficient Use of Technology

- Online learning:
 - All high schools provide at least one required online class to students.
 - Students receive instruction on processes involved to successfully complete an online class.
 - Distance learning (such as remediation, specialized instruction, advanced placement instruction, and coursework not offered at local schools) is available for student use.
 - Online classes accommodate open entry/exit and self-paced instruction.

- Assessments:
 - Assessment access aligns with instructional delivery and curriculum access methodology. Students engage in adaptive computer-based activities prior to participation in adaptive computer-based assessments.
 - Assessments are designed to incorporate accommodations in alignment with Utah Assessment Accommodations Manual.
 - Assessment delivery systems are accessible, either independently or with the use of additional software/hardware support, to meet the needs of all students.
 - Assessment systems provide measurements on student proficiency and growth for educators, parents and students.
 - Assessments are delivered, scored and reported electronically.

- Instructional Resource Repository , which includes:
 - Connections to a clearinghouse of current research and best practices, including universal design for learning (UDL) strategies, that utilizes state and national resources currently available (e.g., National Center on Accessible Instructional Materials, aim.cast.org).
 - E-books, applications, simulations, web tools, web links, lesson plans, multimedia objects, etc.
 - Capability to provide lesson sharing, reviews and ratings, and educator collaboration and contribution.
 - Multiple core curriculum pacing guides correlated with available digital resources.

Please submit your feedback of the Technology Standards at <https://share.ehs.uen.org/techstandards>