

Long Range Technology Plan Update Committee

Goal: Align Northwest ISD Long Range Technology Plan with the new district mission and vision



Background

Growth and Infrastructure: Northwest ISD was created on November 18, 1948 through the combination of school districts from Justin, Haslet, Rhome, and Roanoke. Newark school district was annexed in 1973 to add to what is now Northwest ISD. Northwest ISD is currently one of the fastest growing school districts in the state of Texas. The district is a member of the fast growth school coalition and is currently growing at a 5-7% rate each year. In the 2015-2016 school year the district grew ~1100 students. The district embraces the communities of Haslet, Justin, Newark, Rhome, Roanoke and Trophy Club, New Fairview, Aurora, Northlake, and Drop, along with portions of Southlake, Westlake, Flower Mound and Fort Worth. Reaching into Tarrant, Denton, and Wise counties, Northwest ISD encompasses approximately 234 square miles. The district operates 18 elementary schools (Pre-K through 5th Grade), six middle schools (grades 6-8), four high schools (grades 9-12), and one Special Programs Campus. The district serves approximately 23,000 students on 28 campuses. Prior to 1995, the district had not established an infrastructure for information sharing or technology integration. Hardware consisted of Telex 286 computers, donated by American Airlines. Currently the district has over 25,000 computers of which 18,000 are 1:1 Chromebooks in grades 3-12. In March 2004, construction began on a fiber-optic wide area network. Bond funds were used to complete this 2.25 million dollar wide area networking project. All district buildings were connected to the district Wide Area Network (WAN) via multiple fiber strands at a minimum speed of 1Gb. In 2015 NISD upgraded the district connection to each campus to a minimum of 10GB. Our three core sites are connected with 8 - 10GB links to allow for resiliency and business continuity.

Creating a New Vision for Public Education in Texas

In 2006, thirty-five public school superintendents came together as a community to create a new vision for public education in Texas. As the representatives of over 1.2 million students, they focused on examining the culture and structure needed in schools to meet the needs of learners in a more global environment. In 2008, the document titled *Creating a New Vision for Public Education in Texas** was published (p.12).

We believe that the new digital environment will have more impact on the generation and transmission of knowledge than anything since the invention of the printing press. Like the mid-fifteenth century scribes and monks who were suddenly confronted with new roles, leaders in public education must adapt to these new realities or face extinction. The current culture and structure that prevail in most schools will not meet the needs of these new “digital natives,” nor will they result in the improved learning opportunities and engaging experiences our students deserve.

The dialogue from this visioning committee resulted in a movement that inspired immediate responsive actions that led to a deeper integration of technology and ultimately a 1:1 initiative.

*Texas Association of School Administrators (2008). *Creating a new vision for public education in Texas: A work in progress for conversation and further development.* Austin, TX: Author.

Northwest ISD's Journey to 1:1

In 2009, the Northwest ISD community supported the growing technological needs to support the District's Mission and Vision. With the passing of the 2008 bond, the District was able create a 1:1 experience for all high school students in 2009. That experience was expanded to all secondary students the following academic school year. By recognizing that we live in a digital rather than analogue world, Northwest ISD students were given a device where they now had a world of information, resources and creative potential at their fingertips. In addition to providing access to a 1:1 device, the following improvements were also made:

- Rolled out the learning management system, Moodle, in order to provide centralized access to class resources
- Began upgrade of network equipment from 100MB to 1GB, installed 802.11b wireless in secondary buildings
- Expanded the Instructional Technology Department by adding a director and six instructional technologists

NISD approached a time for device refreshment. In 2012, a committee was established to identify what was needed out of a device. The purpose of the committee was not to choose the type of device, rather to identify the specific tasks and learning objectives students needed to perform with the device. Once these tasks were identified by the committee, a new device was selected and distributed to high school students in 2013 and middle school students in 2014.

In 2016, Northwest ISD began deploying Chromebooks as the student 1:1 device. The district funded devices for every child in grades 3-12. The first full year of this adoption was the 2017-2018 school year for all students 3-12.

Taking Student Learning from 1 to World

[1:World](#) represents the ratio of one learner to a world of information, resources and creative potential. In 2015, the Northwest ISD technology division launched the website 1:World to create a partnership with the community on how technology and our 1:1 program impacts student learning.

NISD educators and district leaders understand that leveraging technology, both in the classroom and at home, provides the opportunity for students to become progressively active learners, problem solvers and creative thinkers. Through 1:World, Northwest ISD aims to unite all of our stakeholders in a partnership supporting the advancement of student achievement. Students, parents, educators and community can find FAQs, student device information, acceptable use information, and other resources related to technology in the teaching and learning environment. In addition, the NISD technology division shares resources, relevant information, and educational trends via the 1:World blog that is released periodically to meet the needs of our stakeholders. Some of the topics include information about our learning management system, Open DNS options for at home filtering, and Google Apps for Education. Additional blog postings are released to match current education trends and community feedback.

Dynamic Learning Environment

Northwest ISD believes that effective technology integration must happen across the curriculum in ways that deepen and enhance the learning process. In particular, it must elevate the curriculum to expand perspective, provide seamless access to instructional materials and level the field. As we move forward to build an environment where curriculum and technology integrate seamlessly, we hold the values outlined in the New Vision for Public Education in Texas* (p.13).

We hold that:

- The technologies that make this new digital world possible must be viewed as opportunities and tools that can help us in educating and socializing the young both in and outside the school.
- The virtual social network connected and tech-savvy generation will not tolerate the one-size-fits-all mass production structures that limit learning to particular times and places and conventions.
- The potential of learning anywhere, anytime, “any path, any pace” must be embraced. Future learning will be a combination of learning at school, virtual learning, learning at home, and in the community.
- Schools must reach out to those who would educate at home or in small networks and welcome their involvement in the school community.
- Virtual learning should become the norm in every community to meet the needs of students who prefer such an environment.
- The secondary school credit system should be expanded beyond school walls so that any place/any time learning, including virtual learning, are equally valued and supported.
- We (families, schools, churches, youth organizations, etc.) cannot control access to information by the young and recognize that once existing boundaries no longer exist.
- Children and youth need role models and adult guidance and connections even more than in the pre-digital era, but the role of adults is different; becoming one that is more about facilitating understanding, raising questions, and designing engaging tasks that produce learning rather than lecturing and instructing.
- School leaders, including board members, must work to bring the public into conversations that are needed not just to support these transformations but to help shape them and create ownership.

*Texas Association of School Administrators (2008). Creating a new vision for public education in Texas: A work in progress for conversation and further development. Austin, TX: Author.

2018 Mission and Vision Strategic Framework and update

Our Core Beliefs

Kids come first.

Continuous learning is essential to prepare for college and career opportunities.

Each student's success is the shared responsibility of students, families, schools, and communities.

Environment is influenced by learning.

Our Vision

Northwest ISD empowers learners and leaders to positively impact the world.

Our Mission

Northwest ISD, in collaboration with students, families, communities, and global partners, will engage in a culture of learning that prepares all students to confidently navigate their future.

Strategic Goals

Goal 1

Students will achieve success through meaningful learning experiences, innovative pathways, and personalized opportunities.

Goal 2

Northwest ISD will recruit, value, and retain an exceptional staff to create a rewarding learning environment.

Goal 3

Northwest ISD will create and foster an environment where all stakeholders are engaged in the transformational work of the NISD family.

Recognitions and Awards

- Common Sense Media National Certification 2017 - 2018
- Common Sense Media National Certification 2016 - 2017
- Digital School Districts Survey - NSBA & Center for Digital Learning 5th Place Large District Category 2017
- Digital School Districts Survey - NSBA & Center for Digital Learning 5th Place Large District Category 2016
- Digital School Districts Survey - NSBA & Center for Digital Learning 5th Place Large District Category 2015
- Consortium of School Networking (CoSN) 2015 Team Award Honorable Mention
- Texas CTO Council (CoSN Texas) 2015 Team Award Recipient
- Consortium of School Networking (CoSN) 2014 Team Award Honorable Mention
- Digital School Districts Survey - NSBA & Center for Digital Learning 7th Place Large District Category 2014
- Digital School Districts Survey - NSBA & Center for Digital Learning 5th Place Large District Category 2013
- Digital School Districts Survey - NSBA & Center for Digital Learning 7th Place Large District Category 2012
- District Excellence Award for Digital Learning - AASA 2011

Long Range Technology Plan Goal Development 2018-2023

- [Educator Preparation and Development](#)
- [Teaching and Learning](#)
- [Leadership, Administration and Instructional Support](#)
- [Infrastructure](#)
- [*Trusted Learning Environment*](#)
- [Profile of a Student Device](#)
- [Classroom Standards](#)

Educator Preparation and Development

Goal 1 Effective educators will apply digital literacy as they design, model, implement, and assess learning experiences to engage students and improve learning.

Objective 1.1 Provide embedded and differentiated technology training, both online and face-to-face, based on district and campus needs.

Strategies

- 1.1.1: All NISD educators complete the District Technology Proficiency. Ongoing updates are embedded as part of goal setting in 1.1.2.
- 1.1.2: Support educators throughout the TTESS goal setting process promoting the utilization of technology as a tool for increasing efficiency and improving instruction.
- 1.1.3: Provide training and support to enable virtual collaboration and meetings.
- 1.1.4: Provide training and brainstorm sessions so leaders can model the use of technology during staff meetings, professional learning communities, and campus and district trainings that will support the integration of technology into instruction.
- 1.1.5: Provide training and experiences a variety of platforms for educators to collaborate and share methods for meaningful technology integration across content areas.
- 1.1.6: Utilize survey data to develop and deliver personalized professional development.
- 1.1.7: Promote and point educators toward opportunities for webinars, online trainings and/or statewide trainings through district and campus social media outlets.
- 1.1.8: Provide ongoing training for the design of technology-based formative and summative assessments based on data and student need.

Objective 1.2 Provide educators with premier and appropriate tools and resources for the integration and implementation of technology.

Strategies

- 1.2.1: Create and maintain a resource to inform all NISD educators about district-funded instructional tools.
- 1.2.2: Create and maintain a resource to inform NISD educators about free tools available to them that have been district vetted.
- 1.2.3: Provide and maintain access to district and curriculum purchased and online resources (learning management system, data management system, content management system, etc.).
- 1.2.4: Provide products that enable mobile management of multiple classroom tasks (taking roll, showing work, annotating on screen, promoting student interaction, etc.) as needed by different age groups and disciplines.
- 1.2.5: Provide products that enable virtual collaboration and meetings and that provide the best experience reflective of district goals.
- 1.2.6: Provide teachers with various diagnostic tools for formative evaluation to monitor student

progress toward the mastery of instructional objectives.

Objective 1.3 Create a support system for educators that fosters purposeful integration and implementation of technology.

Strategies

- 1.3.1: Maintain adequate ratios of high-level instructional technology staff through a comprehensive vetting and hiring process, including a virtual and performance-based interview system.
- 1.3.2: Provide funds and opportunities to instructional technology staff to attend and participate in conferences, training, and /or leadership exercises to realize their personalized professional development plan that aligns with district, campus and teacher goals.
- 1.3.3: Update expectations and training for campus technology liaisons annually based on feedback to support campus instructional technology needs and district, campus, and teacher goals.
- 1.3.4: Maintain and enhance partnerships between instructional technologists, content specialists, curriculum writers and curriculum coordinators through participation in collaborative Professional Learning Communities, advising in writing of curriculum, and assisting in planning and facilitation of district staff development.

Teaching and Learning

Goal 2 Provide meaningful, relevant opportunities for all learners to engage in collaboration, communication, creativity, critical thinking, citizenship, and character in a digital space.

Objective 2.1 The district will strive to ensure that all learners achieve academic success in all curricular areas through the integration and [application of technology](#) as outlined by the Technology Texas Essential Knowledges and Skills (TEKS).

Strategies

- 2.1.1: All learners will have on-demand access to an appropriate device(s) that allows them to demonstrate and showcase their learning in creative, diverse ways.
- 2.1.2: Provide tools and resources to meet the needs of all learners and learning styles.
- 2.1.3: Interpret and implement technology standards/skills grouped by grade-level.
- 2.1.4: Update and share easy to use resources that aligns technology application TEKS to the district goals and ISTE standards.
- 2.1.5: All students and parents will have access to and use a learning management system to accommodate anytime, anywhere learning that provides relevant course materials, interactive opportunities and support.
- 2.1.6: Skills are meaningfully designated in the scope and sequence.
- 2.1.7: Co-design and offer technology applications courses to meet curriculum and graduation requirements.

Objective 2.2 Ensure opportunities for demonstration of digital literacy skills through the development of communication, collaboration, critical thinking, creativity, citizenship, and character.

Strategies

- 2.2.1: Develop strategies to monitor and document progress of integration of technology into curriculum and instruction.
- 2.2.2: Educators will model digital literacy based on relevant research-based strategies.
- 2.2.3: Establish procedures and expectations to provide timely and relevant instruction for all learners in regard to digital citizenship and safety.
- 2.2.4: Collaboratively infuse district adopted social and emotional skills into the digital citizenship courses across all grade levels.
- 2.2.5: Students will showcase knowledge, skills, and talents acquired through a variety of authentic learning experiences via their personal ePortfolio linked to report cards and Home Access Center (HAC).
- 2.2.6: Students will use effective communication skills to present and connect to a real-world, global audience beyond the classroom walls at district events.
- 2.2.7: Students will have opportunities to collaborate both virtually and face-to-face. The district will continue to provide the most relevant tools for both virtual and face-to-face collaboration.

- 2.2.8: Learners will use information and communication technologies to collaborate, construct knowledge and provide solutions to real-world problems.
- 2.2.9: Promote ownership and personalization of learning through tools that enable and encourage student-centered instruction.
- 2.2.10: Instructional technologists will collaborate with teachers, curriculum coaches, and curriculum coordinators to create transformative learning experiences in order to provide a deeper understanding of concepts.
- 2.2.11: Instructional technologists will collaborate with teachers, curriculum coaches, and curriculum coordinators to create cross disciplinary experiences using digital tools.
- 2.2.12 Create a merged curriculum for digital citizenship and social emotional learning.

Leadership, Administration and Instructional Support

Goal 3 Provide a foundation of leadership, administration, and services that support exceptional teaching and learning through the integration of technology.

Objective 3.1 District and campus administrators will model and promote the appropriate use of technology.

Strategies

- 3.1.1: Model appropriate and effective use of technology by integrating technology into everyday interactions and fulfillment of duties.
- 3.1.2: Articulate the implementation of technology use in campus improvement plans in alignment with the district improvement plan.
- 3.1.3: Support the district's educator evaluation process (TTESS) that assesses the extent to which instructional strategies and curricular delivery integrate current and emerging technologies.
- 3.1.4: Review and communicate guidelines and regulations related to technology on an annual basis.
- 3.1.5: Communicate an expectation for all staff to collaborate in planning and developing digital-age learning and administrative experiences.
- 3.1.6: Provide opportunities for staff to attend professional learning that ensures technology proficiency.
- 3.1.7: Support the facilitation and participation in virtual professional learning communities and meetings.

Objective 3.2 Campus leaders (or designee) monitor the integration of technology into teaching and learning.

Strategies

- 3.2.1: Communicate and monitor district and campus expectations for use of technology.
- 3.2.2: Communicate and monitor district-wide expectations for the use of a standard learning management system.
- 3.2.3: Maintain the standard course framework for learning management system.
- 3.2.4: Monitor and provide ongoing feedback on the use of technology in instruction both in the classroom and digital environment.

Objective 3.3 District auxiliary staff will utilize digital tools and computing practices to ensure data safety and efficiency.

Strategies

- 3.3.1: Provide tools and training for appropriate use of digital communication and means of information sharing.
- 3.3.2: Conduct accountability training for digital materials and data security.

Objective 3.4 Provide ongoing resources to support data driven decisions on the purposeful integration of technology.

Strategies

- 3.4.1: Identify technological needs of campuses and departments using data tools such as prtq, solarwinds, goguardian, and brightbytes.
- 3.4.2: Allocate the use of Instructional Materials Allotment and Technology (IMAT) funds to purchase technology and digital instructional materials.
- 3.4.3: Develop a responsible and sustainable technology budget to meet the needs of all learners (5-year rolling forecast).
- 3.4.4: Ensure a viable technology plan is written and approved prior to applying for the federal E-Rate discount program.
- 3.4.5: Create business continuity plans that ensure critical technology can be recovered in a timely manner including electronic student records, instructional materials, financial and personnel records, and communication systems such as email and web pages.
- 3.4.6: Create a 5-year and 10-year Technology refresh forecast to be included in the Long Range Plan.

Objective 3.5 Foster a partnership with all educational stakeholders.

Strategies

- 3.5.1: Collaborate with partners from PreK-12, parents, students and community members to share resources and promote improvement.
- 3.5.2: Provide parents secure electronic access to student information.
- 3.5.3: Provide parental and community access to school facilities, library resources and appropriate data through technology.
- 3.5.4: Include community input within the planning and support for the integration of technology into teaching and learning.
- 3.5.5: Educate parents and community members in all areas of digital learning by posting to 1toworld blog, 1:World Twitter, and district communication.

Infrastructure

Goal 4 Provide an infrastructure that supports an anywhere, anytime learning environment for all.

Objective 4.1 Provide reliable and sustainable access.

Strategies

- 4.1.1: Implement the State Educational Technology Directors' Association recommendation of 1Gb internet capacity per 1000 students.
- 4.1.2: Implement building to building connectivity, including a fiber ring for resiliency.
- 4.1.3: Implement infrastructure within campuses including wired and wireless.
 - 4.1.3a: Maintain 10GB closet to closet bandwidth.
 - 4.1.3b: Implement CAT 6A/B cabling standards (plenum where appropriate).
 - 4.1.3c: Ensure all interconnections between closets and campuses utilize current standard fiber plant technology.
- 4.1.4: By 2019, implement a virtual desktop infrastructure that meets the needs for all learners.

Objective 4.2 Provide a platform for content delivery and access to technology resources for anywhere, anytime learning environment for all.

Strategies

- 4.2.1: Provide and maintain a comprehensive, standardized environment within our learning management system.
- 4.2.2: Provide and maintain anytime, anywhere access to a virtual desktop environment. Expand the Virtual Desktop Infrastructure (VDI) to support the needs for all learners.
- 4.2.3: Provide Children's Internet Protection Act compliant filtering for all Internet access.
- 4.2.4: Provide a comprehensive resource portal for parents that provides access to their child's data.
- 4.2.5: Provide access and delivery of applications.

Objective 4.3 Provide resources that meet Student Device Standards.

Strategies

- 4.3.1: Provide a 1:1 instructional device based on the Student Device Standards with a refresh rate of 3-5 years.
- 4.3.2: Provide an instructional device for teachers that aligns with the Profile of a Classroom standard with a refresh rate of 3-5 years.

- **Objective 4.4** Maintain a secure digital environment.

Strategies

- 4.4.1: Maintain relevant infrastructure protection based on National Institute of Standards and Technology (NIST) Framework.
- 4.4.2: Maintain cyber security solution based on required bandwidth.
- 4.4.3: Continue building an effective disaster recovery plan for core applications and services, including network, email, student resource systems, internal databases and test twice annually.
- 4.4.4: Continue partnering with other school districts to provide a resilient, shared resource plan which includes disaster recovery, network and internet resources.
- 4.4.5: Pursue the Trusted Learning Environment certification for district data security and staff training.
- 4.4.6: Maintain Data Sharing Agreements (DSA) with outside vendors and partners.
- 4.4.7: Approve outside vendor privacy policies and practices for alignment with NISD DSA standards.
- 4.4.8: Maintain a dedicated cyber security engineer position to monitor and implement the latest security measures.

- **Objective 4.5** Provide adequate staffing support.

Strategies

- 4.5.1: Provide adequate staff levels to support:
 - 4.5.1a: Provide adequate campus technician ratios
 - 4.5.1b: Campus lead technician at 1 per high school
 - 4.5.1c: Provide help desk support based on call volume
 - 4.5.1d: Provide adequate engineering support
- 4.5.2: Implement single sign-on and identity management system.
- 4.5.3: Develop a student-based support program.
- 4.5.4: Develop and promote a self-help knowledge-based FAQ system.
- 4.5.5: Develop an informational forum for the community.

Trusted Learning Environment

Goal 5 Enhance our implementation of a trusted learning environment through improved district data security, physical security, and staff practices. ([TLE Framework](#))

Objective 5.1 Provide leadership practice of governance with all data.

Strategies

- 5.1.1: Manage and collaborate with stakeholders regarding the use and governance of data to inform instruction.

Objective 5.2 Implement business practices to vet privacy agreements.

Strategies

- 5.2.1: Establish acquisition vetting processes and contracts that, at a minimum, address applicable compliance laws while supporting innovation.
- 5.2.2: Utilize data sharing agreements and privacy agreements for all business systems that utilize external cloud resources.

Objective 5.3 Implement safe data security practices aligned to National Institute of Standards and Technology (NIST).

Strategies

- 5.3.1: Perform regular audits of data privacy and security practices and publicly detail these measures through accountability dashboards.
- 5.3.2: Maintain and update Data Security Agreement (DSA) with vendors to protect district information.
- 5.3.3: Establish NISD guidelines for cybersecurity aligned with NIST [Cybersecurity Framework](#)

Objective 5.4 Establish professional development practices to enhance data security and privacy.

Strategies

- 5.4.1: Require school staff to conduct privacy and security training and offer the instruction to all stakeholders.
- 5.4.2: Use tools and training to implement a strategic plan to educate staff on proper data security and practices.

Objective 5.5 Establish classroom practice for transparency in data practices.

Strategies

- 5.5.1: Implement educational procedures and processes to ensure transparency while advancing curricular goals.

Student Device Standards

A student device supports future-ready learning by providing access to relevant technologies, tools and resources for individualized instruction, while promoting student-driven learning. A student device allows for opportunities for self-sufficiency, digital responsibility and life-long learning by providing tools that cultivate choice and the Six Cs (communication, collaboration, creativity, critical thinking, character, and citizenship).

Requirements for Learning

- Allows seamless access to instructional materials and digital resources.
- Provides opportunities to collaborate both in and out of the classroom.
- Promotes innovative experiences that are challenging, relevant, and meaningful to the students' lives.
- Creates connections that expose learners to dynamic, real-world content that prepare them to thrive in a global society.

Requirements for Access to Instructional Resources

- Supports access to a learning management system for anytime, anywhere learning.
- Maintains an up-to-date environment that is compatible with digital resources.
- Utilizes a filter to ensure an appropriate online experience while providing access to rich educational sites.
- Access to Virtual Desktop Infrastructure (VDI) as a portal to provide a consistent user experience and accommodate more resource intensive software.

Requirements for the Device

- Ability to access resources for both offline and online use.
- All-day runtime to allow for uninterrupted use throughout the instructional day.
- Wireless connectivity support that meets or exceeds current standards.
- Mobile, durable device that withstands daily use.
- Meets the requirements of learners based on their developmental and instructional needs. Requirements may include a touch screen, built in keyboard, pointing device, camera and external connectivity.
- Allows for interconnectability with display devices and other smart devices.
- Built-in customization features that allow for a personalized experience to meet the diverse needs of an individual learner.
- Provides a screen size that meets or exceeds minimum state testing requirements.

Classroom Technology Standards

Northwest ISD students will achieve success through meaningful learning experiences, innovative pathways, and personalized opportunities. This section is designed to provide a set of classroom standards that aligned with the vision and mission of Northwest ISD.

Standard Functionality:

Classrooms

- Access to a student device at all times
- Staff and Student access to connect to projection device
- Robust network connectivity (802.11ac or better)
- Device sound projection (teacher and student)
- Access to power for charging
- Ability to video conference with remote sites
- Ability to integrate students from remote locations into the classroom
- Ability to annotate display
- Ability to display media
- Ability to digitally capture classroom instruction