Technology Plan

Nelson County School District
Bardstown, Kentucky

http://nelson.kyschools.us

Creation Date: May 1, 2017
Plan Start Date: July 1, 2017
Plan Expiration Date: June 30, 2018

Acknowledgments

Executive Summary

Nelson County Schools believe that technology has the potential to transform student learning at higher levels, to individualize instruction, and to provide opportunities for continuous professional development by all staff.

We know that technology supports real-world learning, connects learners to experts and global communities, provides tools and resources to enhance learning, and enables students to utilize and analyze data for critical thinking and problem-solving. These skills are necessary to prepare our students for a highly competitive job market in a rapidly changing digital society.

Most importantly, we must continually expand opportunities for teachers to become a part of the digital world. By learning and teaching in online communities, to utilize data from assessment to accurately guide improvement of instruction, and to collaborate using technology and instructional leaders at every level. Technology is a necessary tool of administrative and support personnel for data collection and analysis at building, district, and state levels.

As we continue a digital transformation in our schools, it is recognized that as our needs and priorities change, modifications will be reflected in the technology plan as an effort of continuous progress towards that end.

Planning Process, Methodology, and Summary

The technology plan is revisited and revised on a yearly basis. Continuous dialogue occurs between the Chief Information Officer, Superintendent, Director of Technology, Instructional Coaches, School Technology Coordinators, Principals, and others to set specific goals for the district. These goals, taken from the Future Ready Pledge for education, drive the plans for the future of technology in the Nelson County Schools.

Current State:

- We have offered, and will continue to offer, 2 hour weekly training sessions for faculty to increase the level of technology awareness and expertise. Throughout the year, training is available and active in the classroom setting. The high schools and 2 middle schools have implemented the use of personal devices on the school owned wireless network. Teachers have increased the use of Google Apps for Education, now called G-Suite, and we are utilizing online tools more than ever. Many teachers are using classroom web pages, Blogger, and other resources that make learning available 24/7 for our students. All Teachers have been trained in the use of Google Classroom to assist with Non Traditional Instructional Days (NTI). Several teachers and schools are using social media sites to communicate with parents and students.
- All computer labs and student work stations are still utilizing the N-Computing solution instead of individual desktop computers. The workstations continue to be quick and reliable for the students. There are a few programs/apps that do not work properly on this solution, but the speed, ease of maintenance, and cost avoidance per workstation still far outweighs the few inconveniences.
- We are still struggling to implement the Digital Driver's License, and will continue to work towards full compliance in the 17-18 school year.
- As the school system utilizes Chromebooks more and more, the demand on the wireless system has grown. With the help of federal funding, we replaced the entire wireless system district wide. Every classroom in the Nelson County Schools now has an "Extreme" wireless access point, and all of the computer switches have been replaced. The current infrastructure is not holding us back anymore with the use of technology in the classroom.
- The Technology Purchase Request process is still being tweaked to meet the needs of the district, faculty, and students. Most requests are completed more quickly with the implementation of a Google Form instead of the traditional paper trail. Requests have been for more Chromebooks, large portable TVs, STEM lab equipment, etc.
- For the next school year, we have hired a Digital Learning Coach who will be able to concentrate on what the teachers and students are doing in the classroom with technology.

Current Technology and Resources

The Technology Readiness Survey from 2015-2016 school year shows:
- 3,318 student devices
  - 475 teacher/administrator devices
    - This number does not change much from year to year, but that simply shows the emphasis is on the students.
- Approximately 87% of our students have internet connectivity in the home.

Other statistics:
- All but 2 of the current buildings utilize VOIP for the phone system. Old Kentucky Home Middle School, and Cox's Creek Elementary use the old POTS lines.
  - The Area Technology Center will be received a Hosted VoIP solution for the phone system and the pilot has been wonderfully successful
- All Buildings are connected with a 1 Gigabyte Fiber connection that provides more than enough bandwidth for fast and clear communication within the school district.
- All school buildings and the central office are outfitted with a stable Wi-Fi system that serves district owned devices on the secure network, along with personal devices on the Nelson County Schools network. With a wireless access point in every classroom, the density of coverage is enough to handle all students connected to the network with Chromebooks.
- All of the computer labs are the N-Computing solution that provides student work stations at approximately 1/3 the cost of traditional student work stations. We have enough N-Computing devices to supply all computer labs in the district.
- One lab at each high school is being replaced with standalone computers that will take care of the higher demands of some of the software that some classes are using.
- All classrooms include a projection system that the teachers use on a daily basis.
- Administrator laptops that are between 5 and 7 years old have been replaced.
- The CIO/TIS provides training for teachers during and after school to help teachers use technology to enhance the learning experience for students.
- Some schools have Smart Boards and/or interactive projection systems that provide a rich learning environment on a constant basis within the classroom.
  - The SmartBoards are losing usefulness as more schools purchase more Chromebooks
- Several schools are using Social Media tools such as Twitter, Facebook, Word Press, Weebly, Remind.com, etc., to better communicate with students and parents about classroom activities, lessons, due dates, etc.
- Administration and Faculty utilize Infinite Campus Messenger to communicate important information to families.

Current Achievements Summary

Future Ready Statement 1:
56% of all students are taught on a regular basis to act respectfully online. That is an increase of 2%
70% of all students say they are taught how to respond to online bullying. That is a decrease of 1%
54% of teachers indicate that they write reviews, blog, or comment online on a regular basis. That is an increase of 0%

Future Ready Statement 2:
The internet access for students, while away from school, has stayed constant at approximately 87%.

Future Ready Statement 3:
39% of all teachers report that they spend 9 or more hours per year participating in school-sponsored PD. That is an increase of 0%.
76% of all teachers say that the quality of school-sponsored technology PD was average or above average. That is an increase of 3%.
This is not the quantity or quality that we would hope for in school-sponsored technology PD.

Future Ready Statement 4:
Teachers report that 78% of all students have access to quality computers more than 50% of the time. That is a decrease of 3%.

Future Ready Statement 5:
30% of the teachers say they ask students to collaborate online at least monthly. That is an increase of 2%.
72% of the students indicate that teachers ask them to collaborate online.
More than 800,000 files have been shared in the last 5 years. That doubles the count from last year!
There are approximately 350 active Google Classrooms. That is more than double from the last year!

Future Ready Statement 6:
37% of our teachers indicate they post course materials online at least monthly. That is an increase of 9%
Both Nelson County High School and Thomas Nelson High School provide links for access to online resources described in Statement 6. The Guidance Departments encourage the use of online resources.

Future Ready Statement 7:
66% of teachers say they participate in non-school-sponsored professional learning. That is an increase of 4%.
60% of teachers say that the quality of the non-school-sponsored professional learning is above average.
Over 900,000 documents created since we started using the G Suite

Future Ready Statement 1

Fostering and leading a culture of digital learning within our schools.

Future Ready district leadership teams work collaboratively to transform teaching and learning using the power of technology to help drive continuous improvement. We work together to protect student privacy and to teach students to become responsible, engaged, and contributing digital citizens.

Action Plan

Smart Goal					
During the 2017-18 school year, the Nelson County Schools will increase the level of student knowledge and practice of good digital citizenship. Data gathered from the Digital Driver's License or other Digital Citizenship curriculum in mid fall will show: 1. At least 65% of all students are taught on a regular basis to act respectfully online 2. At least 80% of all students are taught how to respond to online bullying					
Project/Activity	Project Outcome	Indicator	Timeline	Person(s) Responsible	Funding Source
Students will complete digital citizenship training.	Students will understand how to be responsible digital citizens.	Survey results.	August, 2015-ongoing	Library Media Specialists, Classroom teachers, Principals, Instructional Coaches, Digital Learning Coach, and Directors of Instruction	Software should be free
Smart Goal According to the Fall 2016 Clarity Survey, at least 60% of teachers will show that they have taught students how to share information about themselves online. This must not apply to teachers of students under 13 years old.					
Through the use of Blogger, Twitter, Facebook, and/or other online resources, teachers will model an appropriate online presence.	Students will understand the importance of appropriate use of social media.	Survey Results	August 2016 - ongoing	Teachers, Principals, Instructional Coaches	Free

Evaluation/Summary:
Currently, the school district relies mostly on teacher observation of student technology literacy goals. The Clarity survey that our teachers and students have taken indicate that we are making very small improvements in educating our students in the area of Digital Citizenship. Our hope is that with the addition of the Digital Learning Coach, we can find better ways to increase our students' awareness of best practices with their digital footprint.

Future Ready Statement 2

Helping schools and families transition to high-speed connectivity.

Future Ready districts conduct comprehensive diagnostic assessments of the district's technology infrastructure and develop a sustainable plan to ensure broadband classroom connectivity and wireless access. Future Ready districts work with community partners to leverage local, state, and federal resources to support home Internet access outside of traditional school hours.

Action Plan

SMART Goal					
Access to internet resources for students in or close to home will increase from 87% to 90% in the Spring of 2018					
Project Activity	Project Outcome	Indicator	Timeline	Person(s) Responsible	Funding Source
Install WiFi hotspots in communities that are in need (Howardstown, New Hope, Boston areas, etc.)	More families will have access to high speed internet.	Clarity survey results	School year 17-18	CIO, Director of Technology, Superintendent	District funds

Evaluation/Summary:

We want to deploy this solution in at least 3 areas of the county, however, we must come up with a way to filter the content so that the internet access is safe for teenagers and younger children. We also must check to make certain that we are not violating any Federal statutes that prevent us from providing wireless coverage beyond our school boundaries. We will also check into providing Wifi enabled buses for the students who are transported to and from the ATC to TNHS.

Future Ready Statement 3

Empowering educators with professional learning opportunities.

Future Ready districts strive to provide everyone with access to personalized learning opportunities and instructional experts that give teachers and leaders the individual support they need, when they need it. Future Ready districts provide tools to help teachers effectively leverage learning data to make better instructional decisions.

Action Plan

SMART Goal					
During the 2017-18 school year, as measured by a technology survey, teachers will report that time spent and the quality of time spent in school-sponsored technology professional Learning will increase at least 11% to 50%					
Project Activity	Project Outcome	Indicator	Timeline	Person(s) Responsible	Funding
Provide a weekly 2 hour Technology Professional Development session for teachers after school.	Teachers will learn how to more effectively utilize technology for and in their classrooms. Attending teachers will bring information and techniques back to their own building to train other teachers.	Google Form sign-in, evidence from lesson plans, assignments, and assessments.	2017-2018 school year	Digital Learning Coach	
Visit each school in the district once every month during PLC meetings and after school to provide short, but effective professional development with using technology as a tool to enhance learning.	Teachers will be able to more effectively utilize technology to provide seamless integration into daily lessons.	Google Form sign in, observation of classroom activities, evidence from lesson plans, assignments, and assessments.	2017-2018 School year.	Digital Learning Coach	

Evaluation/Summary:
We currently provide Professional Development opportunities for teachers and staff. The popularity of the sessions has fallen off this year. We must push to find ways to provide this professional development to teachers in a way that makes it very easy to attend. More opportunities to take Technology PD must be advertised to teachers through email and PLC meetings. The new Digital Learning Coach will be able to reach teachers more effectively than the CIO and will be able to make a bigger difference with our teachers and students.

Future Ready Statement 4

Accelerating progress toward universal access for all students to quality devices.

Future Ready districts work with necessary stakeholders to ensure that all students and educators across the district have regular access to devices for learning. Future Ready districts develop tools to support a robust infrastructure for managing and optimizing safe and effective use of technology, so students have opportunities to be active learners, creating and sharing content, not just consuming it.

Action Plan

SMART Goal During the 2015-16 school year, students will have access to technology during the school day in all grade levels. As reported by a Technology survey, At least 85% of all students will have access to quality computers more than 50% of the time.					
Project Activity	Project Outcome	Indicator	Timeline	Person(s) Responsible	Funding Source
Maintain a system that provides quality and reliable Wifi coverage for school owned and personal devices.	Students will be able to effectively utilize BYOD to enhance learning. Chromebooks will have reliable access to wireless anyplace in the district.	Minimal reports of dropped wireless coverage.	Upgrade has been complete and must be maintained.	Chief Information Officer	Local
Maintain Google Apps in Education for Nelson County Schools.	Teachers and students will be able to collaborate on large and small projects.	Google dashboard statistics.	2014-2015 School Year - ongoing	District Technology Systems Administrator	local (free)
Update the district website that gives teachers access to create a class web space for online agendas, assignments, etc.	Students have access to class resources 24/7	Teacher constructed class web sites	2014-2015 school year - ongoing	Digital Learning Coach	Local

Install and/or maintain VoIP, and Centrex, solutions throughout the district.	Through dependable communication, parents can be included more often in the learning process for their children.	At least 99% uptime for all phone systems.	2017-2018 school year.	District Network Administrator	Local and Federal funds.
Maintain fiber WAN between buildings	Through dependable WAN connections, Teachers, Administrators, and Students can easily and efficiently access materials for learning and assessing.	At least 99% uptime.	2017-2018 school year.	District Network Administrator	Local and Federal funds.
Maintain a user database in Active Directory, and Google Admin Console	With the creation and maintenance of these systems, students and teachers will have access to network resources.	At least 99% uptime.	2017-2018 school year	District Network Administrator	Local

Evaluation/Summary:

We currently maintain fiber connections between buildings, provide phone systems, manage a viable wireless network, and maintain the Google Apps for Education in the Nelson County Schools.

Future Ready Statement 5

Providing access to quality digital content.

Future Ready districts align, curate, create, and consistently improve digital materials and apps used in the support of learning. Future Ready districts use carefully selected high quality digital content that is aligned to college and career ready standards as an essential part of daily teaching and learning. Teachers are able to share, discover, and adapt openly-licensed materials and teaching plans.

Action Plan

SMART Goal
1. As evidenced by a technology survey, teachers will increase the frequency that they ask students to collaborate online with teachers and other students. The data will show that at least 40% of the teachers ask students for collaboration at least monthly. 2. As evidenced by a technology survey, at least 80% of the teachers will use Google Classroom to help students use an online space (Google Drive) to store documents.

Project Activity	Project Outcome	Indicator	Timeline	Person(s) Responsible	Funding Source
Promote, train and encourage the use of Google Apps for Education.	Students receive consistent and immediate feedback on assignments and assessments through online collaboration with teachers and other students.	Online, shared documents that show evidence of use. Graphs provided by Google Apps in Education will show amount of use and collaboration.	Ongoing	Digital Learning Coach, Instructional Coaches, Principals, Etc.	Local - free
Promote, train and encourage the use of Google Classroom.	Students have more opportunity for success in any subject with quick access to teachers and course materials.	Approximately 20% of the Teachers will set up and maintain at least one online course with students enrolled and active.	Ongoing	Digital Learning Coach, Instructional Coaches, Principals, Etc.	Local - free
Encourage and instruct students and teachers how to use personal devices	Students and teachers will be able to access information and activities that will extend and	Observation of student use during walk-through	Ongoing	Digital Learning Coach, Faculty, and	Local or free utilities

within the district wireless network.	enhance daily classroom instruction.			Administrators.	
Promote, encourage, and train students to use online based learning products for curriculum needs	Students will receive differentiated instruction and practice to master concepts and skills	Product-provided data	Ongoing	Teachers, Instructional Coaches, Principals, Etc	Various according to program

Evaluation/Summary:

With the use of products such as G Suite, we are increasing the use of integrated technology within the classroom. With help from the Superintendent, COO, CIO, DT, Principals, and Instructional Coaches, we are expanding classroom tools for teaching and learning. Teachers and students are using "cloud" computing to create and collaborate on new projects. Since the implementation of the G Suite for Nelson County Schools, over 900,000 documents have been created, as well as more than 800,000 collaborations between students and teachers. Professional Learning Communities are communicating more effectively with shared documents, and are able to access and process information, and work productively through the use of Google Drive. There are approximately 2500 active users of Google Apps daily in the Nelson County Schools. Teachers are helping students use personal devices to enhance their own education and to take ownership with their own learning.

Future Ready Statement 6

Offering digital tools to help students and families #ReachHigher.

Future Ready districts make digital resources available that help access expanded college, career, and citizenship opportunities. Future Ready districts promote ways to leverage technology to expand equity through digital activities such as completion of the FAFSA online, virtual counseling services, college scholarship search tools, and online advising access, all of which help to return America to the nation in the world with the highest college completion rate by 2020.

Action Plan

SMART Goal
1. According to a technology survey, 45% of Students will have a good understanding of basic computer skills; sending email, creating a spreadsheet, etc.   2. During the 2017-2018 school year, Teachers will utilize an online presence that will allow students the ability to access digital content 24/7. According to a technology Survey, 40% of our teachers will post course materials online at least monthly.

Project Activity	Project Outcome	Indicator	Timeline	Person(s) Responsible	Funding
Teachers will use Google Classroom and/or other Learning Management Systems with their classes.	Students will have 24/7 access to digital content for their classes.	Results from a technology survey	Ongoing.	Teachers	Free
Career and College Readiness Resource Link Page for each High School NCHS existing site: http://nchs.nelson.kyschools.us/media-center/student-resources TNHS Site: http://tnhsgenerals.weebly.com/college--career-center.html	Students and teachers will have access to information such as college scholarship and other funding sources, FAFSA, online career counseling sites, links to college and vocational institutions, assistance with letters of recommendation, etc.	Compliance with #ReachHigher federal initiative.	Ongoing at TNHS, to be implemented at NCHS as soon as practical.	Counseling staff at high schools.	Free

Evaluation/Summary:

Currently, teachers are making progress towards a consistent online presence. Since the data shows that 87% of our students have access to the internet at home, we must take even more advantage of posting online content.

Both Nelson County High School and Thomas Nelson High School provide links for access to online resources described in Statement 6. The Guidance Departments encourage the use of online resources

Future Ready Statement 7

Mentoring other districts and helping them transition to digital learning.

Future Ready districts work to design, implement, and share their technology plans. Future Ready districts join regional summits, participate in an online Connected Superintendents' community of practice, and publish their Future Ready technology plan at a site such as www.MyDistrict.org/FutureReady.

Action Plan

SMART Goal					
Teachers and students will both attend and present professional learning sessions for instructional technology within our district, region, state and country. Participation in non-school-sponsored professional learning should increase from 62% to at least 70%.					
Project Activity	Project Outcome	Indicator	Timeline	Person(s) Responsible	Funding Source
Through the CKATC, Conference presentations, and other opportunities, the district will participate in and provide learning opportunities for Chromebooks, G Sutie, NComputing devices, technology assisted classroom management, and other best practices for the classroom.	Other districts and our own staff and students will be able to utilize resources that have had an impact on our learning environment.	Calls and visits from other school districts, and registration records from conferences and training sessions	2017-18 school year	Digital Learning Coach, CIO, other staff as available	Local/free

Evaluation/Summary:
Our school district has already, and will continue to provide opportunities for other school districts to learn from our example. Several school districts have visited The Nelson County Schools to see how we manage the district using the G Suite. Our Digital Learning Coach will apply to present at KySTE, IsTE, and other conferences and summits around the country.

Budget Summary Narrative:

Requests for funding through the Schools and Library program, also known as e-rate, have been sought to ease the financial burden to our district. We continue to ask our vendors for competitive quotes on everyday technology purchases. We have a very knowledgeable staff and by utilizing their skills we have been able to support issues that arise from our phone system, network design, interactive whiteboards, software development and much more, which has resulted in considerable cost avoidance for the district.

We are doing an audit of the telephone lines and bills that we pay for the phone service. We should be able to save thousands of dollars a year after the audit has finished.

We should be able to replace the aging phone systems at Old Kentucky Home Middle School and Cox's Creek Elementary with a hosted VoIP solution. This solution should prove to be more reliable than the current systems in place.

The virtual servers that were built over the last several years have helped us to avoid costs with power consumption and hardware refresh. The servers that the VM's are using are getting old and will need to be replaced in the next 2 to 3 years.

As schools can afford it, they are purchasing Chromebooks to facilitate utilization of technology tools with instruction. We now have over 1400 Chromebooks in the district. I believe that we could have a virtual 1:1 type situation in each school within 5 years. I do not recommend that this solution includes students taking devices home as if they belong to the students.

The teacher workstations we purchased just four years ago are still performing well, and we hope to keep them in good order for at least another 2 years. We are going to give new life to the oldest of the teacher computers by replacing the small mechanical hard drives with very fast solid state drives. This will speed up the computer considerably and make more storage available to the teachers.

The Microsoft EES agreement (subscription) allows us to update all Microsoft products to the latest and greatest version at no extra cost. It also allows our students and employees to receive Microsoft Office for up to five home devices for free.

We have been able to install projectors as standard equipment in every classroom in the district, as well as replace many that are beyond end of life.

We wish to find a better solution for the teachers so that they can be more mobile in the classroom.

Whenever we have a great need for money for technology, our COO has been able to find ways to make it work for our teachers and staff. Of course, we would like to be able to have vast quantities of money available to us to push the envelope in educational technology, but we understand that funds are limited. I believe we are doing just about as much as we can with the money our school receives.

Estimated Budget

OKH, CC, ATC Phone System (after E-rate)	$16,000.00
VOIP Internet connection (after E-rate)	$6,000.00
Fiber Connections (after E-rate)	$14,600.00
Microsoft Licensing	$24,000.00
Phone system maintenance	$15,000.00
L300 Replacements (Chrome cart purchases)	$92,000.00
Standalone computer refresh	$50,000.00
Phones for OKH, CC	$17,931.00
Projectors	$25,750.00
Wireless Controller and Core maintenance	$10,000.00
Server Refresh	$20,000.00
Other software licensing	$20,000.00
	$311,281.00

This budget is an estimate only.