Technology Plan

Nelson County School District
Bardstown, Kentucky



http://nelson.kyschools.us

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Acknowledgments

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District Technology Staff

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School Technology Coordinators

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Margaret Pozgay – Bloomfield Middle School
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Elizabeth Crowe - Cox's Creek Elementary School
Charlie Cantrill – Area Technology Center
Donna McGhee – Foster Heights Elementary School
Kathy Jones - Nelson County High School
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Melissa Case – Thomas Nelson High School

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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 "BYOD" wireless network. Teachers have increased the use of Google Apps for Education (GAFE), and we are utilizing online tools more than ever. Many teachers are using classroom web pages, Google Classroom, Blogger, and other resources that make learning available 24/7 for our students. 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 16-17 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 at Nelson County High School. Every classroom at NCHS now has an "Extreme" wireless access point, and all of the computer switches have been replaced. The solution has worked so well, that we have applied for federal funds to help replace the entire wireless system district wide.

The Web Content Management Filter has been replaced with a "LightSpeed" device that has fine tuned the filtering solution to better protect all of our faculty and students from malicious software and inappropriate web content.

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.

Approximately 30 teachers have passed exams to become Level 2 Google Certified Educators. Those faculty members will be the "Go-to" people in each building for all questions about GAFE.

The CIO is developing a schedule to visit every school at least once a month for an entire day, during PLC meetings. The goal is to hear what the teachers are doing and offer support/answer questions they have.

Current Technology and Resources

The Technology Readiness Survey from 2014-2015 school year shows:

- 2,701 student devices
    - The TRS does not reflect current numbers. We have over 1900 chromebooks in the school system, and about 900 student workstations that are NComputing L300's
    - There are also special ed iPads and other equipment that brings the total of student devices to over 3,000.
- 417 teacher/administrator devices
    - This number does not change much from year to year, but that simply shows the emphasis is on the students.
- Approximately 86% of our students have internet connectivity in the home.

Other statistics:

- All but 3 of the current buildings utilize VOIP for the phone system. Old Kentucky Home Middle School, Cox's Creek Elementary, and the Nelson County Area Technology Center use the old POTS lines.
    - The Area Technology Center will be receiving a Hosted VoIP solution for the phone system
- 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 a BYOD network; however, the density of the wireless access points is lacking.
- 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.
- 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 favor as more schools purchase more Chromebooks
- Approximately 20% of all classrooms include student response systems that allow teachers and students to see immediate feedback from formative assessments. This also allows teachers to modify their lessons "on the fly" in order to best serve the students' needs.
- 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 OneCall Now to communicate important information to families.

Current Achievements Summary

Results from the Clarity Survey, late fall, 2015

Future Ready Statement 1:

54% of all students are taught on a regular basis to act respectfully online. That is an increase of 11% (the goal was 65%, an increase of 26%)
71% of all students say they are taught how to respond to online bullying. That is an increase of 5% (the goal was 75%, an increase of 9%)
54% of teachers indicate that they write reviews, blog, or comment online on a regular basis. That is an increase of 19% (the goal was 50%, an increase of 15%)

Future Ready Statement 2:

The internet access for students, while away from school, has stayed almost constant at approximately 84% to 86%. We have not installed Wifi hotspots in communities as originally thought, because of the difficulties with providing an appropriate filtering solution for the hotspots. We will also look into parking wifi enabled buses in the communities.

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 13%. (the goal was 10% increase)
69% of all teachers say that the quality of school-sponsored technology PD was average or above average. That is a decrease of 7%. (the goal was 10% increase)
This is not the quality that we would hope for in school-sponsored technology PD. It is, however, 10 points higher than the non-school-sponsored PD.
The school visits originally planned have not taken place. The hope is to visit schools during PLC meetings.

Future Ready Statement 4:

Teachers report that 81% of all students have access to quality computers more than 50% of the time. That is an increase of 7%. (The goal was 6% increase)

Future Ready Statement 5:

28% of the teachers say they ask students to collaborate online at least monthly. That is an increase of 12%. (The goal was 26% increase)
60% of the students indicate that teachers ask them to collaborate online.
More than 400,000 files have been shared in the last 4 years.
186 teachers have set up a Google Classroom.

Future Ready Statement 6:

28% of our teachers indicate they post course materials online at least monthly. That is an increase of 12% (The goal was 40%, an increase of 26%)
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:

62% of teachers say they participate in non-school-sponsored professional learning. That is an increase of 17%. (That is 2% more than the goal.)
59% of teachers say that the quality of the non-school-sponsored professional learning is above average.

Over 625,000 documents created since we started using Google Apps for Education

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 2016-17 school year, the Nelson County Schools will increase the level of student knowledge and practice of good digital citizenship. Data gathered from the Clarity Survey in mid fall will show:

1. At least 65% of all students are taught on a regular basis to act respectfully online (increase of 16%)
2. At least 80% of all students are taught how to respond to online bullying (increase of 9%)

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.	Clarity Survey results.	August, 2015-ongoing	Site Based Councils, Library Media Specialists, Classroom teachers, Principals, Instructional Coaches, 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.	Clarity 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 improvements in educating our students in the area of Digital Citizenship. Our plan is to continue Digital Citizenship Training in order to teach students and teachers about digital citizenship and how it affects our lives daily. Employers are more often turning to social media to help them screen applicants. Students need to understand the impact of their social media activities.

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 86% to 90% in the fall of 2016.					
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 16-17	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 parking Wifi enabled buses in the communities that need connections the most.

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 2016-17 school year, as measured by the Clarity 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.	2016-2017 school year	Technology Integration Specialist	
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.	2016-2017 School year.	Chief Information Officer	

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.

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 the fall Clarity survey, At least 85% of all students will have access to quality computers more than 50% of the time. (Increase of 4%)					
Project Activity	Project Outcome	Indicator	Timeline	Person(s) Responsible	Funding Source
Maintain and **upgrade** 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 begins during 2015-16 school year and continues until all schools have been upgraded. (2016-2017)	District Technology Office	Local/USAC (Erate)
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)
Maintain a 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	CIO	Local

Install and/or maintain VoIP, Centrex, and mobile phone 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.	2016-2017 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.	2016-2017 school year.	District Network Administrator	Local and Federal funds.

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. Where we can improve is through upgrades to the wireless network and more rigorous training to keep teachers using class web sites or other online presence. NCHS wireless has already been upgraded, and has proven to be robust, dependable, and easy to use.

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 the Clarity 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. (Increase of 14%)
2. As evidenced by the CLarity survey, at least 60% of the teachers will use Google Classroom to help students use an online space (Google Drive) to store documents. (increase of 16%)

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	Chief Information Officer, 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	Chief Information Officer, Instructional Coaches, Principals, Etc.	Local - free
Encourage and instruct	Students and teachers will be	Observation of student use	Ongoing	Chief	Local or free

students and teachers how to use personal devices within the district wireless network.	able to access information and activities that will extend and enhance daily classroom instruction.	during walk-through		Information Officer, Faculty, and Administrators.	utilities
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 Google Apps in Education, OneDrive, etc., 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 Google Apps in Education for Nelson County Schools, over 650,000 documents have been created, as well as more than 400,000 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 the Clarity Survey, 45% of Students will have a good understanding of basic computer skills like sending email, creating a spreadsheet, etc.
2. During the 2015-2016 school year, Teachers will utilize an online presence that will allow students the ability to access digital content 24/7. According to the Clarity Survey, only 28% of our teachers indicate they post course materials online at least monthly. We need to increase this amount to at least 40% (an increase of 12%)

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 the Clarity 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.ht	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,	Compliance with #ReachHigher federal initiative.	Ongoing at TNHS, to be implemented at NCHS as soon as practical.	Counseling staff at high schools.	Free

ml	etc.				

Evaluation/Summary:
Currently, teachers are making progress towards a consistent online presence. Since the data shows that 86% 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, GAFE, 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	2016-17 school year	CIO, Director of Technology, 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 TNHS to see how they manage the school using Google Apps for Education. One of our assistant principals has presented at the 2015 KySTE Conference on Google Drive. Technology coordinators around the state have called our Director of Technology for advice about setting up NComputing labs for students.

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.

The NComputing solution that was purchased as a cost effective alternative to stand-alone desktops continues to do well for us. There are some examples of software that does not work with the solution, but all things considered, this is a good solution. We are planning to replace the NComputing workstations with some kind of mobile solution in the next 5 years.

Due to E-rate funding, we should be able to replace and upgrade the current wireless system district wide. If funding is approved, we will be able to implement a $770,000 project for under $300,00.

The virtual servers that were built over the last two 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 three years ago are still performing well, and we hope to keep them in good order for at least another 3 years. There are several laptops that are at least 6 years old and need to be replaced. We have begun to replace them with the new Surface Pro 4, just a few at a time.

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.

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	$12,000.00
VOIP Internet connection	$3,600.00
Fiber Connections	$14,600.00
Microsoft Licensing	$24,000.00
Phone system (windstream)	$15,000.00
L300 Replacements (Chrome cart purchases)	$92,000.00
Wireless-Switch upgrade (all schools except nchs)	$293,416.00
Phones for OKH, CC, ATC	$17,931.00
Projectors	$25,750.00
Wireless Controller and Core maintenance	$10,000.00
	$508,297.00

This budget is an estimate only. Some of the cost will only happen if we receive federal funding for a wireless upgrade for the district.