Technology Plan

Nelson County School District

Bardstown, Kentucky



[http://nelson.kyschools.us](http://www.education.ky.gov/)

Creation Date: January 12, 2015

Plan Start Date: July 1, 2015

Plan Expiration Date: June 30, 2016

Acknowledgments

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| --- | --- | --- |
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| Additional District Contributors  Anthony Orr – Superintendent |  |  |

**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, Technology Planning Team, 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.

Once the plan is in a rough draft form:

* Members of the Technology Planning Team are brought in to the discussion, and appropriate additions are made.
* The CIO brings the document to the Board Meeting in March for approval.
* The Chief Information Officer continues to review the plan during the school year.

**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. Many teachers are using services such as OneDrive, and Google Apps for Education, Edmodo, etc. to enhance the collaborative nature of course projects. We have a free space for teachers to create their own classroom web sites, and many teachers have been trained and are using this resource. Several teachers and schools are using social media web sites to communicate with parents and students.

All computer labs have been refreshed with the N-Computing solution instead of individual desktop computers. All student workstations in classrooms have been replaced with the N-Computing solution. This has not only increased the speed and ease of use for students and teachers throughout the district, but has lessened the maintenance load on the technology staff.

Some of the goals from the current year plan have not been met, or even approached. We have not yet implemented the Digital Driver’s License program, and the CIO/TIS has not been able to visit every school building in the district on a three week rotating basis.

We installed WiFi at the Area Technology Center and the Early Learning Center, and are applying for funds to upgrade or replace the existing wireless infrastructure throughout the district.

The bandwidth connection speed to the internet has been increased to 500 MB. This change, along with workstation refresh, has helped relieve some frustrations in the district. We have hit the 500 MB ceiling a couple of times since the upgrade, but it has not yet been a problem for us.

We have implemented a Process Map for the purchase of new technology in the school system that is helping to “standardize” the equipment that we use in the Nelson County Schools, however, this will be a long process. This will continue to be an area of focus for our district.

There is still a need to create a Wiki or Blog that teachers may access and find out what other teachers in the district are doing with technology.

We must promote and train teachers to utilize web sites that can be used to create online content for their students.

As always, we must also work more at helping teachers learn how to use technology to more easily communicate with parents and students.

**Current Technology and Resources**

Data collected from the 2014 Technology Readiness Survey reflects the Nelson County Schools ADA enrollment of 4,336 and a total of 1,399 instructional devices.

* 755 student devices
  + The TRS does not reflect current numbers. We have over 1400 chromebooks in the school system, and about 900 student workstations that are NComputing L300’s
* 501 teacher/administrator devices
* 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.
* 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.
* 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.
* Approximately 95% of the classrooms include a projection system that the teachers use on a daily basis.
* There are over 1400 Chromebooks in the district that provide for mobile labs in all schools but the Early Learning Center.
* Administrators and Instructional Coaches have laptops that provide mobility and constant access to the district resources.
* The CIO/TIS provides training for teachers during and after school to help teachers use technology to enhance the learning experience for students.
* Many schools have Smart Boards and/or interactive projection systems that provide a rich learning environment on a constant basis within the classroom.
* 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.

**Goal 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

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| Project/Activity | Project Outcome | Indicator | Timeline | Person(s) Responsible | Funding Source |
| 6th grade and 9th grade students will be trained to be responsible and knowledgeable digital citizens. | Students will understand how to be responsible digital citizens. | By the end of September, 80% of 6th grade and 9th grade students will have successfully completed training. | August, 2015-ongoing | Site Based Councils, Library Media Specialists, Classroom teachers, Principals, Instructional Coaches, and Directors of Instruction | Software should be free |
| Develop a community driven blog on the Nelson County web site for the purposes of sharing teaching strategies. | Teachers will be able to empower students to become digital citizens. | Blog is constantly being added to on a weekly basis as a living communication forum | Plan to implement for the 2015-2016 school year. | Nelson County Technology Department facilitate; teachers and administrators contribute resources. |  |

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 not doing a very good job of educating our students in the area of Digital Citizenship. Our plan is to implement Digital Citizenship Training in order to teach students and teachers about digital citizenship and how it affects our lives daily.

**Goal 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

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| Project Activity | Project Outcome | Indicator | Timeline | Person(s) Responsible | Funding Source |
| Install WiFi hotspots in communities that are in need (New Hope, Boston area, etc.) | More families will have access to high speed internet. | Clarity survey results | School year 15-16 | CIO, Director of Technology, Superintendent | District funds/possibly Erate |

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.

**Goal 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

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| Project Activity | Project Outcome | Indicator | Timeline | Person(s) Responsible | Funding Source |
| 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 sheets, evidence from lesson plans, assignments, and assessments. | 2015-2016 school year | Technology Integration Specialist |  |
| Visit each school in the district once every month during the school day and after school to provide 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 sheets, observation of classroom activities, evidence from lesson plans, assignments, and assessments. | 2015-2016 School year. | Chief Information Officer |  |
| Provide a shared, up-to-date list of opportunities for technology professional development | Teachers will be aware of opportunities outside of district to increase their technology literacy | Link on NC website sidebar | 2015-2016 School Year | TIS | Free |

Evaluation/Summary:

We currently provide Professional Development opportunities for teachers and staff. The popularity of the sessions is gaining ground. We must push to find ways to provide this professional development to teachers in a way that makes it very easy to attend. The web resource to show PD opportunities outside the school district can be put together pretty easily and will help inform.

**Goal 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

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| 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 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. | 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. | District Technology Systems Administrator | local (free) |
| Maintain a district website that will give teachers access to create a class web space for online agendas, assignments, announcements, etc. | Students have access to class resources 24/7 | Teacher constructed class web sites | 2014-2015 school year | 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% up time for all phone systems. | 2015-2016 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% up time. | 2015-2016 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.

**Goal 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

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| Project Activity | Project Outcome | Indicator | Timeline | Person(s) Responsible | Funding Source |
| Promote, train and encourage the use of Google Apps for Education and OneDrive. | 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 how to use personal devices within the district wireless network. | Students and teachers will be able to access information and activities that will extend and enhance daily classroom instruction. | Observation of student use during walk-through | Ongoing | Chief Information Officer, Faculty, and Administrators. | Local or free 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 Edmodo, 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 160,000 documents have been created, as well as more than 100,000 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 thru the use of Google Drive and OneDrive. There are approximately 1400 active users of Google Apps daily. Teachers are helping students use personal devices to enhance their own education and to take ownership with their own learning.

**Goal 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

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| Project Activity | Project Outcome | Indicator | Timeline | Person(s) Responsible | Funding Source |
| 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:

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

**Goal 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](http://www.mydistrict.org/FutureReady).

Action Plan

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| Project Activity | Project Outcome | Indicator | Timeline | Person(s) Responsible | Funding Source |
| Through the CKATC, Conference presentations, and other opportunities, the district will provide learning opportunities for Chromebooks, GAFE, and NComputing devices. | Other districts will be able to utilize resources that have had an impact on our learning environment. | Calls and visits from other school districts | 2015-16 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:**

Our school continues to be close to the bottom of the list in KY as far as per pupil spending. I am sure that districts throughout the state are struggling to deal with shrinking budgets. We try to ensure that we have a solid infrastructure and that we maintain service level agreements on mission critical equipment.

Requests for funding through the Schools and Library program, also known as e-rate, have been sought to ease the financial burden. 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 white boards, software development and much more, which has resulted in considerable cost avoidance to the district.

The NComputing solution that was purchased as a cost effective alternative to stand-alone desktops is working 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 need to think about what we need to do 3 or 4 years down the road. We need to think about wireless devices that are mobile rather than the typical computer lab set up.

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 a couple of years ago are still performing well, and we hope to keep them in good order for at least another 3 years. There are some teacher workstations that are 4 years old and we need to think about replacing them soon.

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**

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| --- | --- | --- | --- |
| Commodity Name | Commodity Code | 15-16 Budget | Comments |
| Student Instructional Device | 310-00-000 | $ 6,500.00 | Most of this is school building expense |
| Teacher/Administrator/Staff Devices | 310-00-001 | $ 60,000.00 | Refreshing laptops and teacher workstations. We also purchase and test new devices |
| Assistive/Adaptive Devices | 310-00-002 | $ 2,000.00 |  |
| Printing Services | 310-00-003 | $ 1,000.00 |  |
| Data Storage Hardware | 310-00-004 | $ 35,000.00 | New Server and SAN for Network storage |
| Internet Management Solutions | 310-00-007 | $ 2,000.00 | We do not know what this will cost us yet |
| Admin Software of Services | 310-00-008 | $ 1,000.00 |  |
| Instructional Digital Content | 310-00-009 | $ 26,000.00 | Microsoft EES Agreement |
| Classroom Hardware | 310-00-010 | $ 37,000.00 | Projectors, monitors, keyboards, mice, etc. |
| Voice Services and Hardware | 310-00-011 | $ 132,000.00 | Phone bill |
| Wiring (Voice, Data, Video) | 310-00-012 | $ 11,000.00 |  |
| Wired and Wireless Internet Services | 310-00-013 | $ 135,000.00 | Fiber between buildings, cables for wireless upgrade, switches for wireless upgrade, etc. |
| Maintenance | 310-00-015 | $ 20,000.00 | Extended service guarantee for the core and the VoIP phone system |
|  |  | $ 468,500.00 |  |

This budget is an estimate only. Some of the cost will only happen if we receive federal funding for a wireless upgrade to NCHS. The laptop refresh is essential for some of our devices. The teacher desktop refresh of those computers that are at least 5 years old should begin in the 15-16 school year so that we are not hit with a huge number later.