Marshalltown Community School District

Digital Learning Plan

May 2019

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Introduction

Digital learning is learning that is supported by digital tools and resources. Examples of digital learning include online learning, blended learning, adaptive assessment solutions, and open educational resources. The focus of digital learning begins and ends with the learning experience of the student. That experience starts with the instructional practices a teacher uses in the classroom. Digital tools and resources should be a part of the tools available to teachers to support their instructional practice. As Michael Fullan (2017) eloquently stated, pedagogy is the driver and technology is the accelerator. A teacher's instructional practices are enhanced and learning is transformed when digital learning is used to support, or accelerate, those practices.

Since 2014, Marshalltown has been providing Chromebooks to students throughout the district, and beginning in the 2019 school year will have Chromebooks at a one to one ratio for all students in grades Kindergarten through 12, with preschool having one device per two students. Previously, there were only computer labs available in each school that students could visit at a prescribed time. The improvement of access to devices and digital content has been an important beginning to a digital conversion process. As access has expanded, Marshalltown has deeply embraced digital learning and, as a whole, is beginning to realize the payoff from the investment. The Marshalltown plan is built upon the Iowa Digital Learning Plan, which is built upon the National Ed Technology Plan (NETP). The framework of the NETP consists of five different aspects of educational technology: Leadership, Teaching, Learning, Assessment, and Infrastructure. The Iowa plan starts with and builds upon the NETP by providing the Iowa context for digital learning and demonstrating the different aspects of digital learning and, ultimately, the digital learning vision for Iowa. The Marshalltown plan focuses on using technology to transform learning experiences with the goal of providing greater equity and accessibility for all learners.

MCSD has completed this digital learning plan to support these goals in the 2017-2023 District's Strategic Plan:

- Include the needed resources to ensure innovative and best use of technology tools for student learning;
- Research, adopt and implement research-based high-quality digital programs to support curriculum and instruction;
- Renew its focus on further enhancing Science, Technology, Engineering and Math (STEM) educational opportunities and experiences for all students.

EQUITY AND ACCESSIBILITY

Equity in education means increasing all students' access to educational opportunities with a focus on closing achievement gaps and removing barriers that students face based on their race, ethnicity, or national origin; sex; sexual orientation or gender identity or expression; disability; English language ability; religion; socioeconomic status; or geographical location.

Accessibility refers to the design of apps, devices, materials, and environments that support and enable access to content and educational activities for all learners. In addition to enabling students with disabilities to use content and participate in activities, the concepts also apply to accommodating the individual learning needs of all students. Technology can support accessibility through embedded assistance, for example, text-to-speech,

audio and digital text formats of instructional materials, programs that differentiate instruction, adaptive testing, built in accommodations, and assistive technology.

Section I: Leadership

Current Reality

- School board
    - The Marshalltown Community School Board of Directors supports and utilizes technology within their roles. Directors use district Chromebooks, communicate and share via the Google suite including Google Calendar, and utilize BoardDocs as their primary vehicle for board meeting agendas and minutes. Board members actively participate in learning opportunities offered in MCSD, by the Iowa Department of Education, by the Iowa Association of School Boards, and the Iowa School Finance Leadership Consortium.
    - Additionally, the board reviews board policies to guide technology use as well as monitors and approves budgets that support the growth and maintenance of technology utilization in MCSD
- District leadership
    - District leadership includes the superintendent,director of instruction, director of student services, director of human resources, director of technology, director of communications, director of business services, director of transportation, director of food service, and director of buildings and grounds. All of these leaders support technology in their roles through the active use, modeling, and support of technological processes to increase efficiency and improve outcomes related to the strategic action plan.
    - Departments within MCSD, including Food & Nutrition, Buildings & Grounds, Business Office, Communications, Human Resources, Transportation, and Technology continually strive to obtain digital tools to best support the day-to-day operations as well as tools that will improve long-term outcomes and products
- Building leadership
    - Building leadership includes all lead principals and associate principals. These individuals carry a dual role of supervising and promoting technological advances for teachers and staff while supervising and advocating for technological integration for students.
    - These individuals must strive to learn the digital advances the new curriculum and assessments present as well as ensure safety and security of the students and staff who are using them and the protection of the equipment itself.
- TLC
    - Teacher Leadership and Compensation (TLC) includes district level curriculum and professional development leaders and instructional coaches at each school. These teacher leaders carry an important task in MCSD to continually promote the integration of technology tools within content to promote student engagement and increase student achievement. Using a tool like the Instructional Practices Inventory-Technology (IPI-T) helps staff like TLC assess the impact on student engagement.
    - These teacher leaders, themselves, must be the pioneers of digital platform, apps, and multimedia tools that will support teachers, increase teacher leadership skills, help to promote a

systems level of access to materials, and craft professional learning for teachers that promotes equitable access for all student learners and teacher learners.

- Teachers
    - The majority of MCSD personnel are teachers. Teachers share a heavy burden of integrating technology at high levels in an ever increasing way. Teachers design lessons and learning opportunities that help students connect to grade level material as well as make connections across the internet to others around the world.
    - Additionally, teachers must leverage technology to collaborate and improve their personal practice through the use of dashboards like Edmentum, Canvas, and curriculum-based products, Google Suite tools, and social media within their own classroom. These practices connect students and most importantly connect our system to our community including parents and community members.
- Parents/Families
    - Currently, all parents access digital websites or platforms to learn more about the school district as well as about their individual student. This includes the MCSD website and Infinite Campus for attendance, food service, and student achievement results. Each school as well as many teachers, departments, and coaches utilize social media, too, as a way to inform and communicate in a two-way fashion with stakeholders. The most highly used platforms include Facebook, Twitter, Instagram, Remind, and Class Dojo.
- Students
    - Students are the end users in our system of digital learning in MCSD. Students have access to high-quality digital devices, digital platforms, and highly trained teachers and staff daily. Students then can take these learning experiences and help themselves grow as well as impact others through the world wide web.
    - Students have opportunities to learn about digital safety, digital security, and the future of computer science while at MCSD. Students truly are poised in our current reality to move onto careers or college as digitally competent individuals.

Future Goals and Recommendations

- Establish clear strategic planning connections with the Iowa Department of Education, Central Rivers Area Education Agency, local universities and community colleges, and how they relate to and are supported by technology to improve learning.
    - *MCSD will invite and include representatives from external organizations to join existing internal committees including the Secondary Technology Committee, the PLTW Advisory Team, the Competency Based Education/Personalized Learning Committee*
- Develop an internal system of identifying, growing, and supporting teacher leaders from the classroom level to promote technology integration to support future ready efforts for students and staff
    - *Continue to support and require current teacher leaders to incorporate technology integration into coaching cycles*
    - *Develop a menu of online classes that teachers can access which form a pathway to earning a digital teacher badge*

- Explore funding models and plans for sustainable technology purchases and leverage openly licensed content or open educational resources (OER) while paying special attention to eliminating those resources and tasks that can be made obsolete by technology.
    - *Include OER as an option in all PK-12 resource adoption processes*
    - *Continue to seek and apply for grants and funding streams to further grow tools and resources*
- Develop clear communities of practice for education leaders at all levels that act as a hub for setting vision, understanding research, and sharing practices.
    - *Share current MCSD Digital Learning Plan at quarterly Leadership Team meetings to encourage vision work as well as provide an opportunity to share relevant research and/or practices*

Iowa-Specific Recommendations

- Advocate for policy ensuring equitable and affordable access to broadband for students and teachers at all levels of Iowa's education system.
    - Continue to communicate to local legislators about prioritizing needs in broadband for the community of Marshalltown as well as MCSD
- When planning local or participating in statewide initiatives, ensure explicit connections are made to digital learning from the outset and are embedded within action plans.
    - Utilize digital learning resources and tools in all strategic plan work including statewide initiatives

Section II: Teaching - Teaching with Technology

Current Reality

- Through the use of technology, teachers are now integrated into the world-wide classroom. While teachers may work as members of a local PLC (Professional Learning Communities), they are also part of a larger collaboration of professionals, when it comes to personalized educational experiences for students. These experiences can include, but are not limited to, virtual field trips to museums and towns that are on the other side of the globe without leaving Marshalltown, augmented reality learning experiences, and real world cultural experiences. Students are now able to talk to experts through technology and receive feedback on project based learning experiences that were not possible previously. Technology has changed education and our district's teaching style to include personalization and differentiation.
- Integration is an integral part of teaching with technology. Research has shown that teacher quality has the greatest impact on the learning of students.[1] Furthermore, effective technology integration starts with the teacher. Technology integration is more than simply including a technology tool in a lesson. Effective technology integration starts with the appropriate pedagogical strategies and incorporates a technology tool which blends and enhances that supports the needs of the learning goal.[2] Thus, the marriage of these two components results in the academic achievement of all the students in the classroom through personalization and giving an equitable playing field.
- As Marshalltown becomes a 21st Century personalized learning space for students, there is a greater emphasis on using technology in the classroom. Teachers currently use technology in multiple ways. There are many resources specifically used by teachers to improve the efficiency of teachers in the classroom. In the many cases, students also uses these resources, but teachers are the ones who depend on these resources for classroom effectiveness. These resources include, but are not limited to, learning management systems, e-textbooks, and e-learning tools. All of these resources enable teachers to provide personalized learning activities for students.
- The importance of teaching through 21st Century resources is that MCSD must provide educators with professional learning experiences powered by technology to increase their digital literacy and enable them to create compelling learning activities that improve learning and teaching. Teaching with personalization for each student needs to be the focus as teachers integrate technology to a high degree in their classrooms. MCSD has begun using online platforms to deliver professional development to teachers.

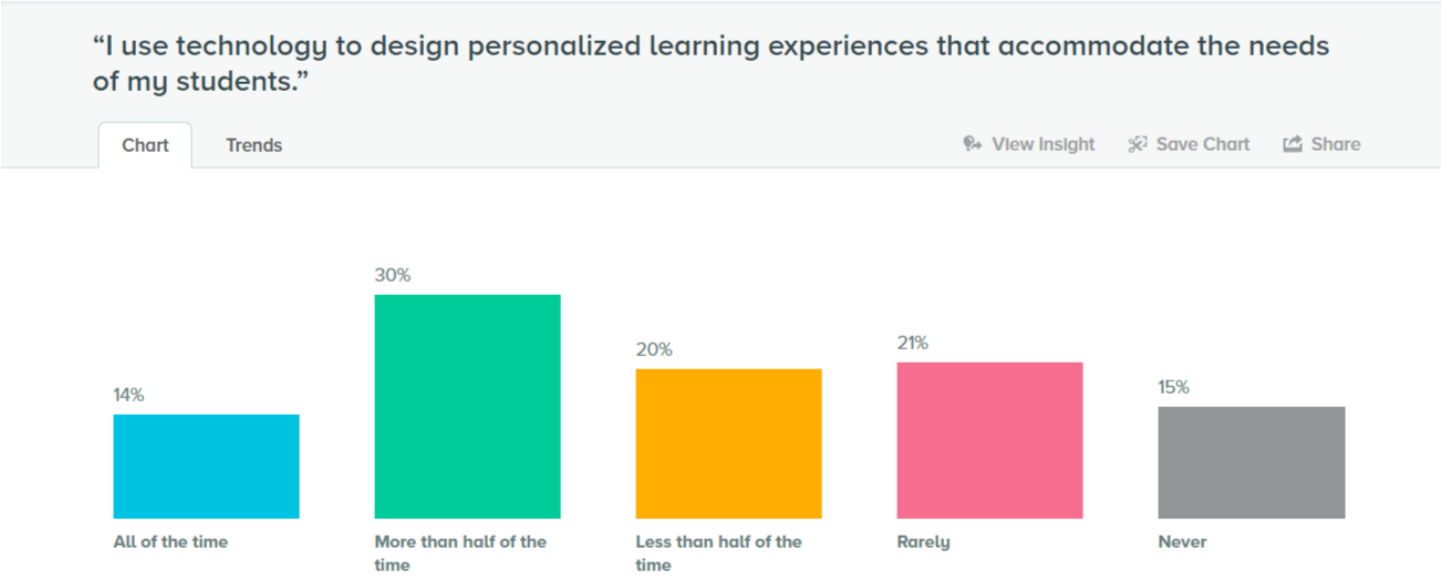
Future Goals and Recommendations

- Teachers need ongoing and just-in-time experiences using technology integration in their specific content areas through professional development (PD) with technology tools that are provided by the

[1] Hattie, John A.C. *Visible Learning for Teachers: Maximizing Impact on Learning*. Routledge, 2012.
[2] Kolb, Liz. *Learning First, Technology Second: the Educator's Guide to Designing Authentic Lessons*. International Society for Technology in Education, 2017.

District. Teachers will continue to use the tools already developed through PD learning in Google Classroom. Technology should not be separate from content area learning, but should be used to transform and expand pre- and in-service learning as an integral part of teacher learning with the goal of personalization for every student in the Marshalltown Schools.
    - *100% of new hires will attend mentoring training which includes technology integration.*
    - *Increase the number of career teachers who have completed the online learning around Google Certified Education program.*
- Teachers have multiple technologies at their fingertips in MSCD schools. Consequently, there is a need for technology PD on an ongoing basis that is job embedded. Teachers need to observe exemplary personalized lessons and develop lessons that are personalized in their own classrooms. Furthermore, technology changes constantly and it should become a part of the District PD plan. There are many teacher leaders and instructional coaches who can facilitate such sessions. TLC instructional coaches can also provide just in time technology PD on an as needed basis to individual or small groups of teachers depending on the resources and needs in specific buildings. Teachers will also learn how to incorporate accessibility options or tools with all students to increase the level of personalization for students.
    - *There will be instructional technology PD for all instructional technology purchases provided at the time of procurement in an ongoing fashion.*
- Develop or identify interactive lessons, how-to videos, and learning opportunities for professional educators to enhance and develop their technological skill set in order to integrate technology into their lessons for the purpose of supporting and expanding of personalized learning. MCSD needs to continue to develop a skilled teaching force that is proficient in online and blended instruction. Our education system continues to see a marked increase in online learning opportunities and blended learning models in traditional skills. To meet the demand, school districts, classroom educators, and researchers need to come together to ensure practitioners have access to current information regarding research-supported practices and an understanding of the best use of emerging online technologies to support learning in online and blended spaces, and for the purposes of supporting and expanding personalize learning.
    - *Increase the number of teachers who are implementing personalized learning at high levels in their classrooms by using core elements, supplemental, and learning management systems to allow students to learn through their own place, space, and time.*
- Teachers need to learn how to plan for and evaluate their technology integration using technology integration frameworks such as the TPACK and SAMR models. Through the use of the Triple E framework rubric, teachers are able to identify whether their lessons meet the needs of the learning goal with appropriate pedagogical knowledge, and technology use. This is important to meeting the needs of personalization for all students.
    - *Teachers will self-evaluate their lessons on intermittent basis using the Triple E Framework.*
- Curriculum and Professional Development leaders will create a scope and sequence for digital literacy in grades K-12 including skills such as basic computer navigation and use, keyboarding, online safety and digital citizenship, and computer science.
    - *A digital literacy plan has been started, but more information and attention is needed to complete this work.*
- The graph below indicates that approximately 35% of certified staff believe that they rarely or never personalize instruction for their students. This has remained stagnant over the past two years.

- *This is expected to decrease through continued professional development in using technology for personalization of academic content for students.*



Clarity Survey 2019

Iowa-Specific Recommendations

- Develop differentiated professional development offerings for educators. By providing a menu of differentiated professional development offerings that include face-to-face, online, and blended options that can be personalized and tailored to educators' needs and assist with understanding the changing role of education.

Section III: Learning - Engaging and Empowering Learning through Technology

Current Reality

- Students are living and learning in a global society. As a result, learning takes place in this larger world. To support students in this learning takes a well-informed and digitally literate teacher as well as strong learning as a digital citizen. In order to meet this need, teachers and students will engage in digital citizenship lessons yearly using the recommendations of Common Sense Education. This organization provides Digital Citizenship lessons for grades K through 12. Common Sense Education provides lessons and activities that are built on one another. This ensures that each student receives the appropriate lessons at the right grade level and these lessons are scaffolded from Kindergarten through high school graduation. This is also vital for keeping the material fresh and updated with our changing global learning space.
- Students are being exposed to personalized computer science and coding instruction from grades PK through 4, and grade 8 through Project Lead the Way curriculum. Students in grades 9 through 12 have the opportunity to elect to take computer science courses.

Future Goals and Recommendations

- Students will use the technology to identify a problem in their community, research ways in which to solve that problem, discuss it with experts who are working on solving this problem, create a project to share with the community, and reflect on the learning process.
    - *All Miller students will create a project based learning product in at least two core content area classes.*
- Students will use technology to take virtual field trips and/or high quality virtual labs for work based learning for the purpose of deeper personalized learning. They will also access primary source databases for answers to research questions. They may even interact with classrooms across the globe which will provide different perspectives on the essential learning that they are experiencing.
    - *All students will participate in a virtual experience annually.*
- Direct instruction will be provided to elementary students in the area of keyboarding to develop skills and proficiency.
    - *All students will participate in keyboard instruction in third grade with teacher librarians*.
- Computer science and coding will be a part of the education experience of all students. All students going through our educational system will have exposure to computer science and can further pursue those career paths in high school.
    - *Students in grades 5 through 6 will have time allocated in their schedule to learn about computer science and develop coding skills that can be connected to content related activities.*
    - *Students in grade 8 will have this opportunity through Project Lead the Way curriculum.*

    - *Continued use of coding programming will occur in grades PK through 4, and in elective courses at the high school level.*
- Technology allows personal experiences with content that are engaging, accessible, and relevant.
    - *Accessibility options or tools will be available for all students and their academic support needs.*
    - *Students will have access to high-quality digital learning content that is robust, personalized and provide teachers with various ways to provide feedback.*
    - *They will also be multi-platform to enable students to access their learning anytime and anywhere.*

Section IV: Assessment

Current Reality

- Preschool students are assessed through an online assessment, Teaching Strategies GOLD. It is an authentic, ongoing, observation assessment that is based on the developmental continuum. It assesses social emotional, physical, language, cognitive, literacy and math objectives for development and learning.
- Students in K-8 have access to Lexia Core 5 and Lexia PowerUp to build skills for reading achievement. Performance data is available for teachers and administrators in real time. This data can be used to adjust instruction and reinforce skills with students.
- Students in PK-6 have access to ST Math to build skills in mathematics. There are imbedded pre- and post-tests for every objective in grades 2-6. Performance data is available for teachers and administrators in real time. This data can be used to adjust instruction and reinforce skills with students.
- Students in grades K-8 participate in FastBridge learning assessments for literacy (FAST CBM-R & aReading), math (aMath), and social emotional and academic risk (SAEBRS).
- K-8 teachers and coaches use the FAST data to determine students who need extra supports in the area of literacy, math, and social-emotional supports.
- Students in grades K-6 who do not meet literacy progress benchmarks are progress monitored weekly through the FastBridge system. Data from these assessments is used to monitor and adjust the supports provided to students.
- Clarity data from teachers in 2018 shows that 41% of teachers administer digital or online assessments to a majority of their students at least monthly. Also, 25% of teachers use technology to build and administer assessments that inform instructional practices.

Future Goals and Recommendations

- Continue using the digital assessment tools, both curriculum and standardized, we have available, and also expand their use.
    - *Expand the use of digital assessments and Personal Math Trainer (PMT) available through the Go Math curriculum available to K-8 students.*
    - *Use data available in FAST to inform supports in the areas of literacy, mathematics and social emotional development.*
    - *Provide students with multiple digital assessment opportunities in the classroom that help prepare them to be successful in high stakes digital assessments.*
    - *Investigate the use of formative math assessments in FASTBridge to progress monitor students.*
    - *Consider how state assessment data in reading, English language arts, math, and science through the Iowa Statewide Assessment of Student Progress (ISASP) can be utilized to support instructional and curricular decisions in grades 3-11.*
    - *At the 7-12 grade level, continue to expand online systems like Canvas and Edmentum that permit high quality assessments that are course specific through materials adoption.*

- *Support and guide the implementation of Canvas at the 9-12 Buildings as a building-wide learning management system with built in assessment tools.*

Section V: Infrastructure

Iowa DLP Goals

Ubiquitous Connectivity

Reliable connectivity, like water and electricity, is foundational to creating an effective learning environment. Students and teachers cannot take advantage of the opportunities to connect and engage globally or leverage high-quality learning resources without consistent and reliable access to the internet. In addition, the U.S. Department of Education's Office for Civil Rights issued a Dear Colleague letter in October 2014 that included access to technology as an important component of equity of access within U.S. schools.

In 2013 the White House set a goal for 99 percent of students in the country to have internet access at a minimum of 100 megabits per second per 1,000 students, with a target speed of one gigabit per second by 2018. Efforts by federal, state, and local institutions in recent years have made huge strides toward this goal. The modernization of the E-rate program in 2014 provided billions of additional dollars to help districts improve the speed of and access to Internet connectivity. Future goals of the E-Rate Modernization Order include 1 Gbps Internet access per 1,000 users.

Powerful Learning Devices

Any effort to leverage the power of mobile learning devices and resources is dependent on access to high-speed connectivity. Selecting appropriate devices depends in large measure largely on the age of the students, their individual learning needs and the types of learning activities that will be ongoing in the classroom or after school program. Schools should provide students with appropriate learning devices. The U.S. Department of Education's Office of Educational Technology (OET) published Future Ready Schools: Building Technology Infrastructure for Learning in November 2014 to help schools and districts consider device purchases as well as other infrastructure concerns when building technology systems to support learning.

High-Quality Digital Learning Content

Schools and colleges need to ensure students have access to a variety of high-quality digital learning materials and resources to support their learning. The ability to curate and share digital learning content is an important component of a robust infrastructure for learning.

Responsible Use Policies (RUP)

Districts with internet connectivity and device access also should have policies in place to promote responsible use and protect student privacy. A RUP is a written agreement among parents, students, and school personnel that outlines the terms of responsible use and consequences for misuse. Effective RUPs create an opportunity to teach students, while in school, to become responsible digital citizens, which will help them thrive in a connected world.

RUPs traditionally cover topics such as expectations for how students will interact with one another in digital spaces, what resources students may or may not access with district-provided devices and over a school network, as well as standards for academic integrity when using technology for learning. These policies also can outline school and system agreements as to the use of student data and information. Typically, parents acknowledge that their child agrees to basic care and responsibility guidelines, and students sign a contract agreeing to follow rules governing use of the Internet and online conduct.

RUPs should be written in plain language that is easily accessible to students, parents, and district personnel. Technology also can assist in the easy translation of these policies into other languages, providing a bridge to communication that otherwise might leave some families disconnected. If policies and procedures for the use of devices are too strict, they often have unintended negative consequences, such as preventing access to legitimate educational resources.

Policies and procedures for device management, teaching responsible use, and safeguarding student privacy should be in place and understood by all members of the community prior to providing internet access or devices. Future Ready Schools: Building Technology Infrastructure for Learning, offers extensive guidance on how to prepare students to use the Internet, a school-provided or personal device at school, or a school-provided device at home appropriately.

In addition to internet access and device use, with the growing popularity of social media in learning, districts also should consider policies and guidelines for their safe and productive use in schools

Furthermore, as students become more exposed to numerous cyber-settings and cybertools, districts and schools should take steps to raise awareness and inform students, staff, and families about the variety of cyber-dangers that exist. And, take steps to teach students about responsible behavior and respectful treatment of others as part of a cyber safety training that also addresses cyberbullying.

Protections for Student Data and Privacy

The use of student data is crucial for personalized learning and continuous improvement. Acting as the stewards of student data presents educators with several responsibilities. School officials, families, and software developers have to be mindful of how data privacy, confidentiality, and security practices affect students. Schools and districts have an obligation to tell students and families what kind of student data the school or third parties (e.g., online educational service providers) are collecting and how the data can be used. As they plan, schools and other educational institutions should be certain that policies are in place regarding who has access to student data and that students and families understand their rights and responsibilities concerning data collection.

Device and Network Management

Many schools underestimate the importance of a plan for staffing and resources for ongoing monitoring, management, and maintenance of network infrastructure. We must ensure that student data are maintained in

secure systems that meet all applicable federal and state requirements concerning the protection of personally identifiable information. Key elements of an infrastructure plan should include the following:

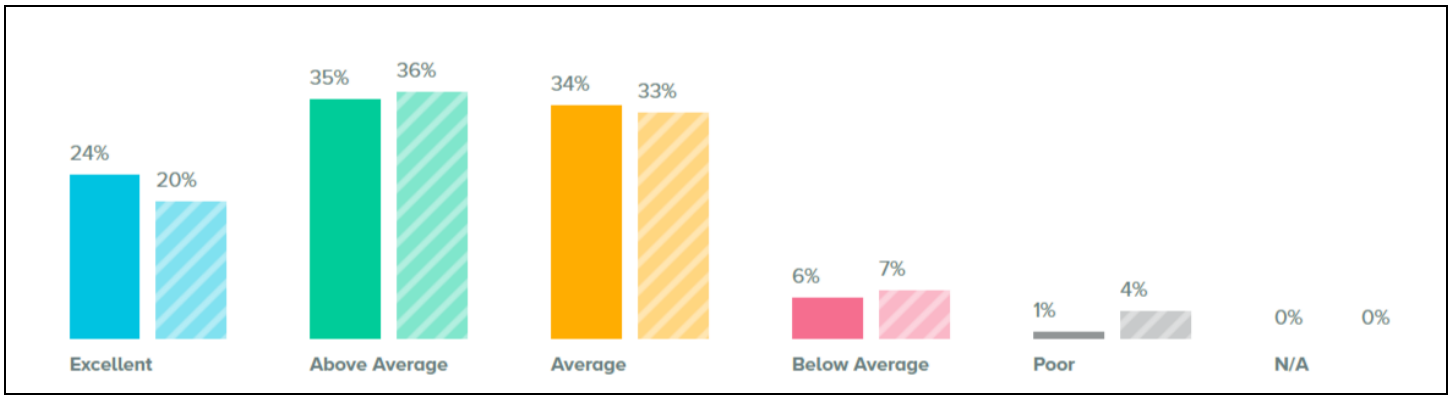
- Network management and monitoring
- User helpdesk and technological support
- Maintenance and upgrade of devices and equipment
- Insurance for devices
- Estimates of future demand and network capacity planning
- Licensing fees for digital learning content
- Firewall protection
- Content filtering
- Anti-virus and Anti-malware protection
- Security filtering
- Network redundancy
- Backup recovery plans
- User cybersecurity education
- Use of open standards to ensure interoperability with other learning network

Current Reality

Data in the Current Reality sections specific to Marshalltown Community School District has been gathered from Jan 1, 2018 to June 30, 2018 unless otherwise noted.

Ubiquitous Connectivity

Connectivity at school - In the Fall of 2019, internet speeds at MCSD were upgraded to support 5Gbps capacity in total bandwidth for the district. This nearly meets the goal of the E-Rate Modernization Order which suggests 1 Gbps of Internet access speed per 1,000 users. On a normal school day, the total Internet utilization for the district averages 800 Mbps which is well below 5Gbps. However, during times of high internet usage, such as testing, utilization has reached upwards of 30 percent. A majority of teachers report that MCSD's internet speed is average or above average.



Percentage of teachers reporting about quality Internet speed at school. MCSD is represented by solid colors. Iowa schools average in stripes.

Connectivity at Home - Students and teachers cannot take advantage of the opportunities to connect and engage globally or leverage high-quality learning resources without consistent and reliable access to the internet. According to our most current Clarity survey data, 90% of students report that they have wireless access to the internet at home while 10% report they have wired Internet access at home. Of the students that have wireless connectivity at home, 75% of them state they have a wireless router. Teachers report that 99% have wireless access at home and 1% report they have wired access to the Internet in their homes. Of the teachers that have wireless connectivity at home, 93% of them state they have a wireless router.

Powerful Learning Devices

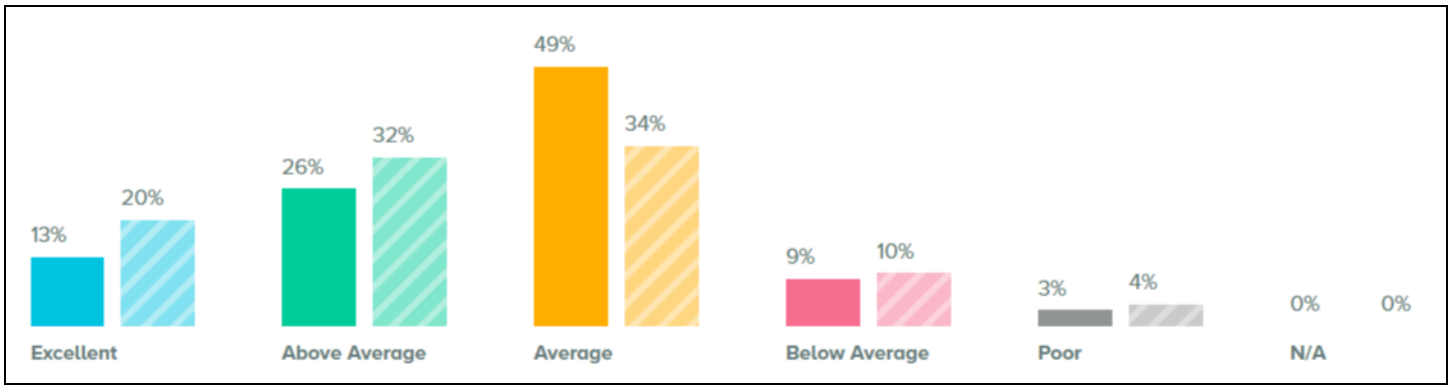
Mobile Device Deployment Summary - Marshalltown Community School District has made a significant investment in mobile devices for staff and students. Chromebooks have been issued at 1 to 1 ratio for students in grades 2-12. Pre-k and 1st grade students have touch Chromebooks distributed at 2 to 1 ratio; one Chromebook for every two students. Teachers have a mobile device issued to them which may be a laptop, Chromebook or tablet device.

In order to sustain quality powerful learning devices, the following replacement cycle for staff and Chromebooks has been developed:

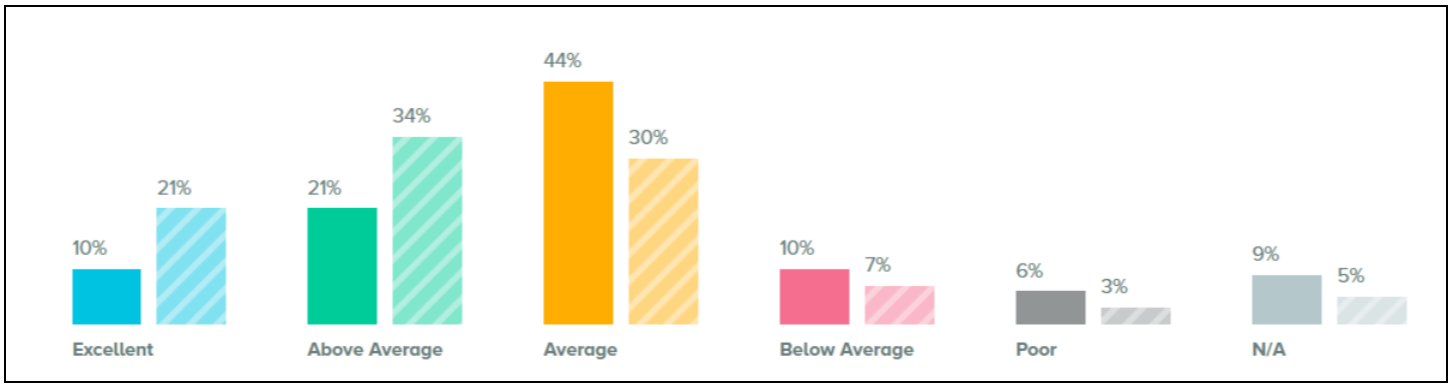
	teacher	pre-k	K	1	2	3	4	5	6	7	8	9	10	11	12
17-18															
18-19															
19-20															
20-21															
21-22															
22-23															
23-24															
24-25															

Green shaded cell indicates replacement year

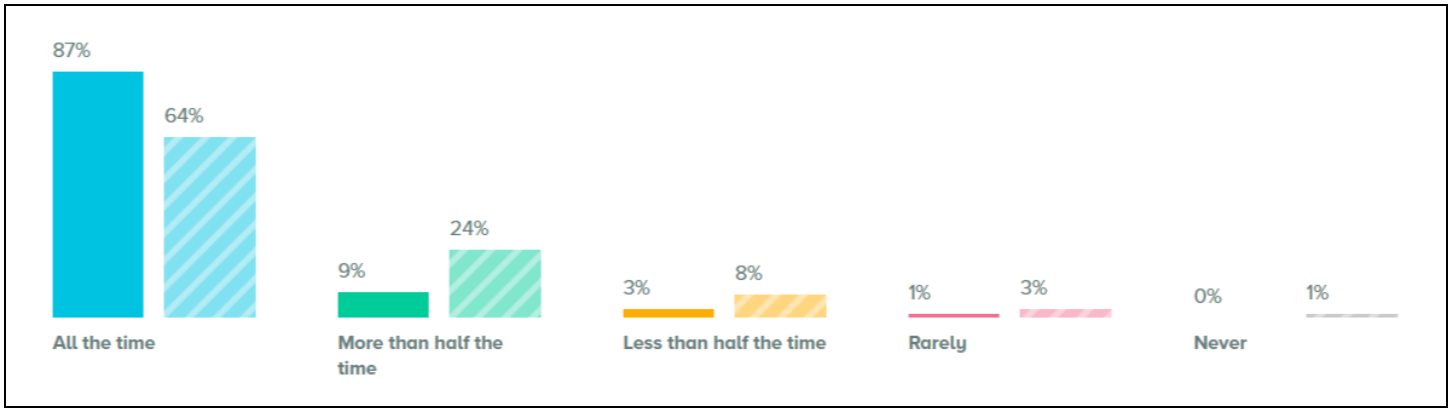
The following tables show data collected from teachers in regards to device access, availability and the quality of projectors and interactive whiteboards.



Teachers reporting that the quality of computers (desktop, mobile, and tablet) at school. MCSD is represented by solid colors. Iowa schools average in stripes.



Percentage of teachers reporting that the quality of LCD projectors or interactive whiteboards at school. MCSD is represented by solid colors. Iowa schools average in stripes.



Percentage of teachers report that they are able to obtain computers when they need them. MCSD is represented by solid colors. Iowa schools average in stripes.

Responsible Use Policies (RUP)

MCSD currently offers elementary and secondary versions of responsible use policies and procedures that are age appropriate, positively stated, and written in student and parent friendly language. These RUPs are available in English and Spanish languages.

Elementary RUP

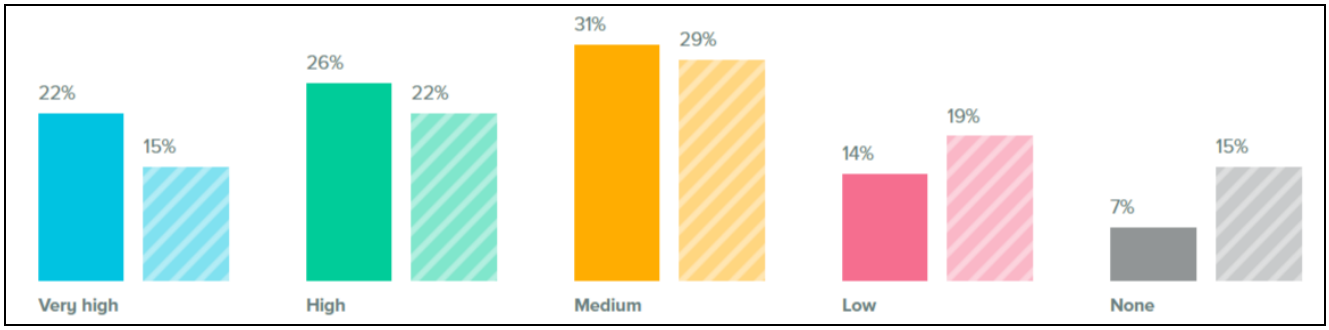
Secondary RUP

Chromebook Handbook

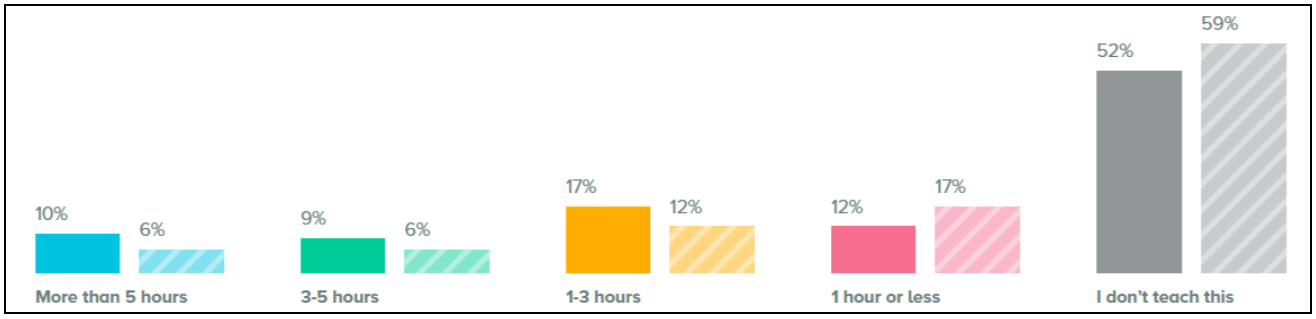
Students are becoming more exposed to online resources which require districts and schools to take steps to raise awareness and inform students, staff, and families about the variety of cyber-dangers that exist. Below are responses from teachers surveyed in regards to their knowledge and application of various cyber security and safety topics.

MCSD is represented by solid colors. Iowa schools average in stripes.

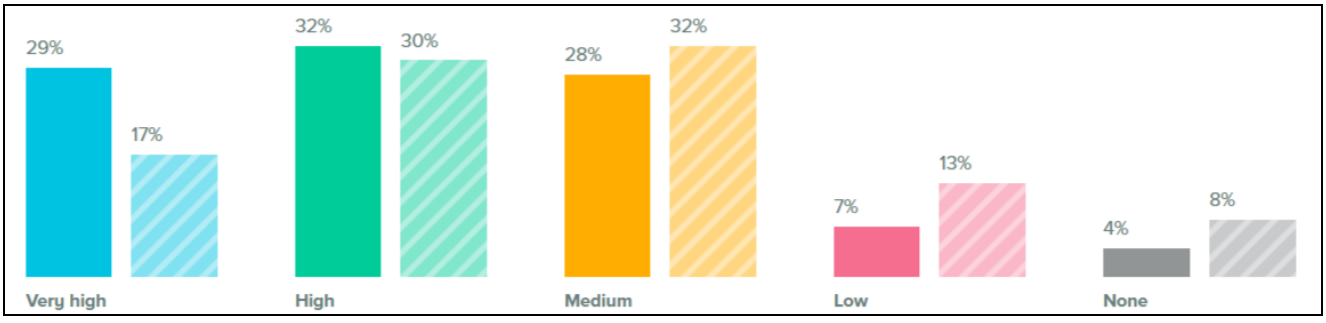
Teacher Knowledge of Creating an Online Presence



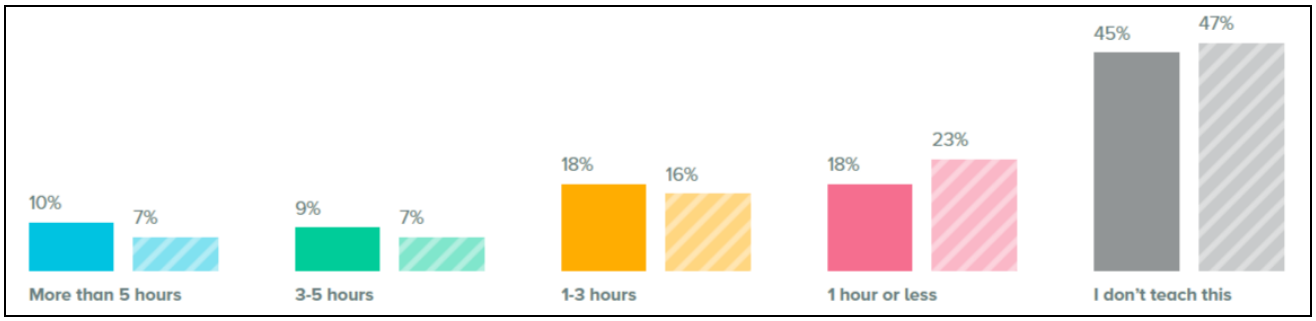
Time Spent per Year Teaching About Creating an Online Presence



Teacher Knowledge of Citing Online Resources

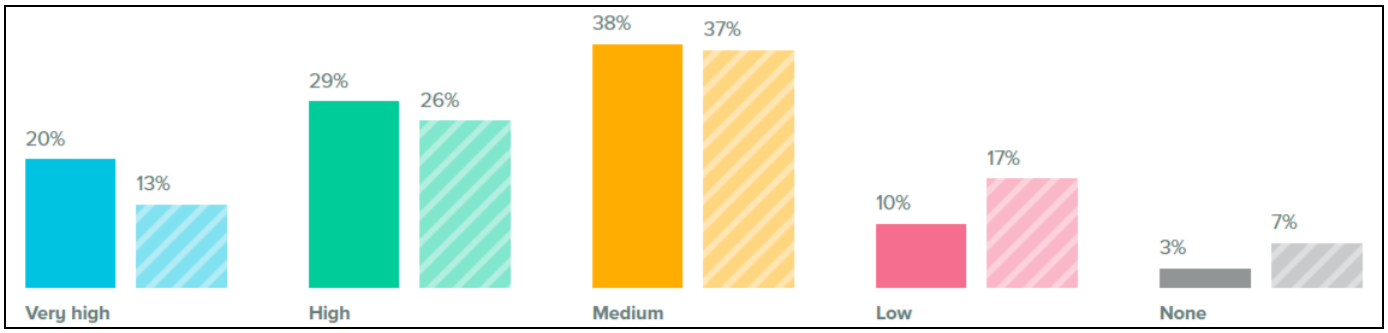


Time Spent per Year Teaching About Citing Online Resources

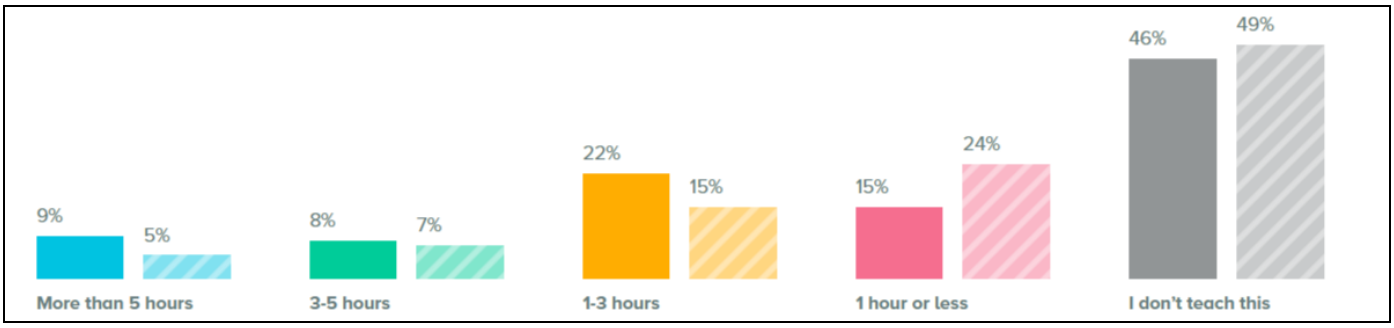


MCSD is represented by solid colors. Iowa schools average in stripes.

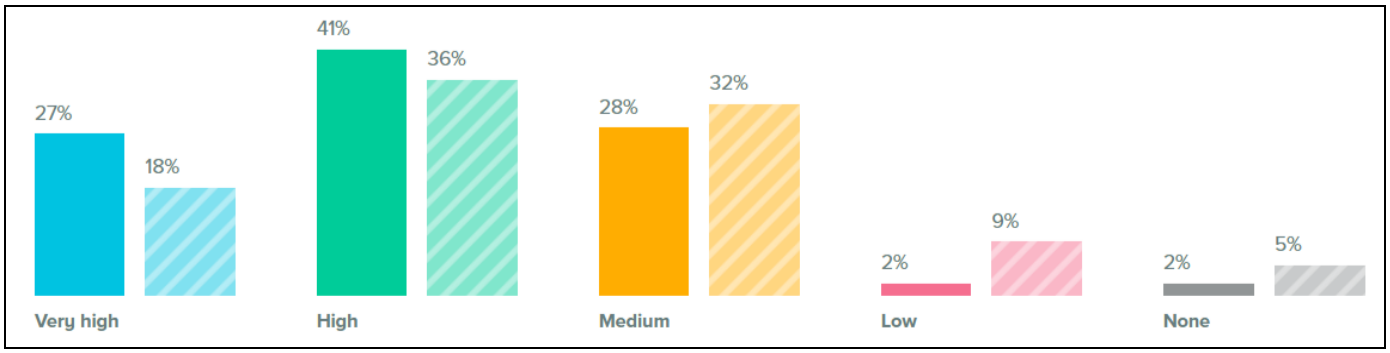
Teacher Knowledge of How to Recognize and Prevent Cyberbullying



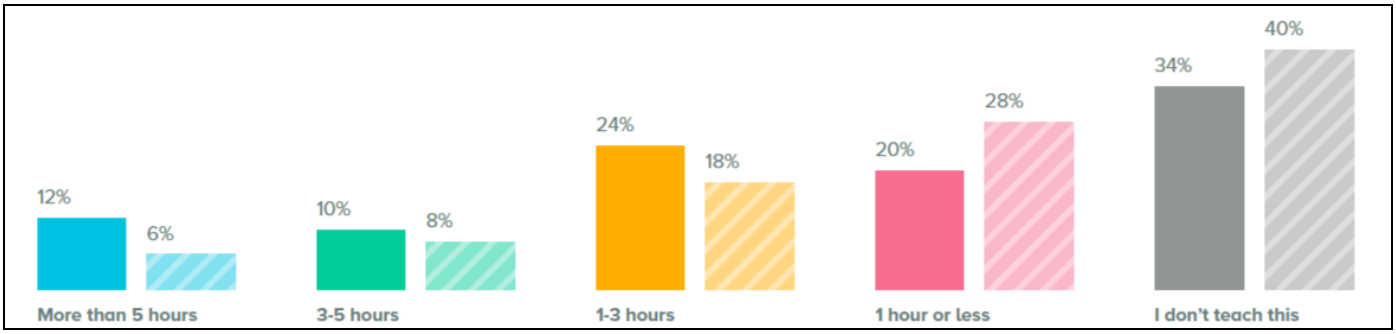
Time Spent per Year Teaching About Prevention of Cyberbullying



Teacher Knowledge of Online Safety



Time Spent per Year Teaching About Online Safety



Protections for Student Data and Privacy

The following are policies that have been adopted or are in the process of being adopted that address data privacy, confidentiality, and security practices of student data

- Policies
    - 506.1 Education Records Access
    - 506.2E1 Authorization for Releasing Student Directory Information
- Proposed policies new policies as of 2/18/2019
    - 712R - Technology and Data Security
    - 712R1 - Security Requirements of Third Party Vendors Regulation

Device and Network Management

MCSD leverages several software packages to support the secure and reliable operations of its infrastructure. For network management and monitoring, the software package PRTG is used. PRTG monitors and classifies system conditions like bandwidth usage or uptime and collects statistics from miscellaneous hosts such as switches, routers, servers and other devices and applications. Information gathered from PRTG and other networking system logs allow technology staff to plan for future demand on network bandwidth and capacity.

Supporting the investment that has been made into technology at MCSD is vital to the success of its staff and students. MCSD provides staff and students multiple ways to receive support for technical issues when they occur. Staff or students can consult with the building's Teacher Librarian for immediate support. The online trouble ticketing system Happy Fox is available for staff do directly enter their own support ticket at https://mcsd.happyfox.com/. Additionally, staff can call the technical support number at extension x7000 from a district phone.

Security and safety is of utmost importance when utilizing technology systems. MCSD leverages Cisco Firepower as the district's network firewall. Microsoft Security Essentials and Kaspersky Anti-Virus products are used to protect Windows workstations and servers against viruses. Content filtering is enabled by Cisco Firepower for local workstations and Go-Guardian for Chrome devices. Go-Guardian filters Internet content of students both at school and at home.

Reliance on technology increases as more digital hardware and software is used to educate the students of MCSD. In the event of a disaster, the Technology department must be able to resume operations as quickly as possible in a cost effective manner. To accomplish this goal, the Technology Department reviews a disaster recovery plan annually which can be viewed here:

Technology Disaster Recovery Plan

Future Goals and Recommendations

Ubiquitous Connectivity

- *Continue promotion of discounted Internet rates for students at home* - To extend student learning from classrooms to homes, Mediacom partners with the national non-profit, EveryoneOn, to provide affordable, high-speed internet service to students who qualify for the National School Lunch Program. Mediacom provides eligible families Internet access for $9.95 per month to receive download speeds of up to 10 Mbps and WiFi capability.
- *Investigate WiFi Hotspots for staff and students* - Sprint provides content filtered wifi hotspots geared towards student use. These devices could be deployed in small quantities at Marshalltown High School, Marshalltown Learning Academy, and Miller Middle School for checkout in the libraries. This would ensure that students have broadband access to the internet and adequate wireless connectivity while away from school while they are in a 4G coverage area. The number of hotspots purchased would be based on the demand for checkout.
- *Bus WiFi* - Investigating options for WIFI on school buses would provide ubiquitous connectivity while students are traveling to and from school or attending extra curricular activities.

Powerful Learning Devices

- *Expand 1:1 for all students* - While MCSD has made great strides in the previous years, preK - 1st grades would benefit from being deployed at a 1 to 1 ratio to improve student device access.
- *Computer replacement plan* - Teacher and staff desktop computers are in need of replacement. Drafting an annual replacement plan that fits within the district's budget is becoming a growing need as some desktops are reaching 8 years in age. Computer replacement models should be capable of multimedia content creation.
- *Projector replacement plan* - Similar to the district's staff computers, classroom projectors are starting to age. Some projectors in use in the classroom are up to 12 years old. Replacing classroom projectors at a regular rate, determined by the district's budget, will increase the projector's reliability and usability.

High-Quality Digital Learning Content

- Continue to provide access for all student to research tools
- Expanding access to multimedia creation tools for students and teachers
- Investigate OERs when available
- Adopt an LMS that allows access to content and facilitates communication and collaboration between staff and students.

Responsible Use Policies (RUP)

- Continue to expand options for cyber security and safety training for all staff and students. Training should cover topics for protections of student data and privacy.
- Translate Chromebook handbook into multiple languages
- Create and publish a list of systems that the district partners with that may be using student data.

Device and Network Management

- Implement redundant Internet providers to increase options for access during outages.
- Create a mirrored virtual infrastructure at a secondary site for server redundancy.
- Implement network device replacement plan. This would include network switching devices and wireless access points. Current devices are replaced on a regular basis using e-Rate funding.
- Investigate options to build redundancy into current fiber hub and spoke network design

Appendix- Outcome Metrics