



Introduction

In the spring of 2021, the Community Consolidated School District 46 Board of Education and administration adopted a five-year strategic plan that encompassed five main goal areas. Those areas include Communications, Finance, Facilities, Teaching & Learning, and Technology. The overall technology goal from the strategic plan is as follows: “Develop, review, and communicate a comprehensive Master Technology Plan on an annual basis which focuses on equitable and engaging technology-rich learning environments (both inside and outside of the classrooms) to serve our students, staff, and communities aligned with district goals.”

There are two main sections within the formal Master Technology Plan. Section one focuses on the Technology Integration with Teaching and Learning while section two focuses on Devices and Systems. There are also subsections within each of those areas. Those areas include

Classroom Technology, Student Technology, Staff Technology, Infrastructure, Cybersecurity and Communication. It should be noted that none of these areas are silos. That is to say, decisions and implementation in one of these areas have implications for the other areas. Likewise, the Technology Department considers all components of the Technology Plan in CCSD 46 as a means to support the teaching and learning goals of the district. Similarly, the Technology Goal is interconnected with the Finance, Facilities, and Communications goals of CCSD 46.

The Master Technology Plan will assist the CCSD 46 Technology Department in planning for and committing to a consistent refresh cycle for all hardware devices and software systems across the district. The plan will serve as a road map for the district administration, Technology Department, and Board of Education in an effort to focus on technology related priorities in the coming years.



Technology Integration with Teaching & Learning

In the recent past, CCSD 46 has focused on integrating technology into core classroom teaching and learning. On February 28, 2022, the Illinois State Board of Education shared a proposed draft version of new K-12 Computer Science standards. While these standards are very new, it is the expectation from ISBE that these standards will be implemented in the 2022-2023 school year. The Technology Department will continue to collaborate with the Teaching and Learning Department and the information specialists across the district in order to plan for the implementation of these new standards. It is anticipated that this work will begin in the spring of 2022 and continue throughout the 2022-2023 school year. Additional resources may be necessary in the coming months/years as we look to address these Computer Science standards. This may involve a revision to the courses offered in our district. This will be addressed in one of the Teaching and Learning goals: “Investigate options for new or revised course offerings, with emphasis on World Language, Dual Language, and Encore opportunities.”

As the Technology Department continues to collaborate with the Information Specialists and Media Specialists across the district, it is anticipated that further work in the next 5 years will be necessary to help modernize the spaces and practices. A portion of this focus will be on the shift away from traditional computer labs and toward more modern collaborative spaces. This work will include collaboration with the Teaching and Learning Department as well as Operations and Maintenance for long range facility planning.

Devices & Systems

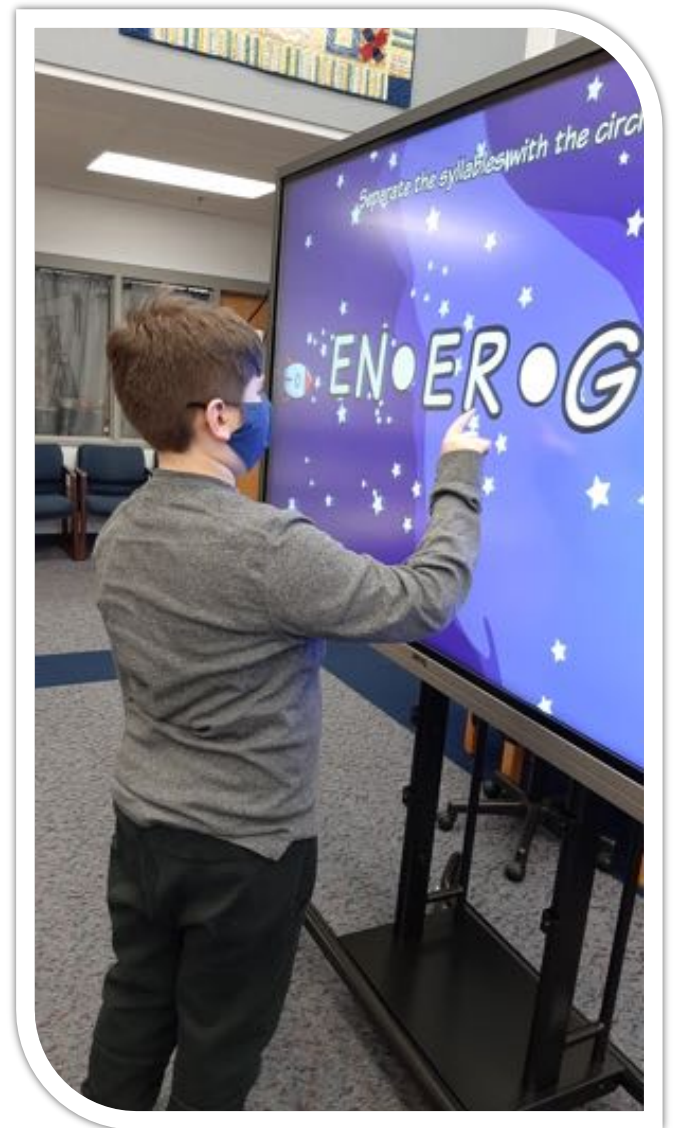
The devices, systems, and infrastructure of a school district exist to help support all other functions of the district. It is important that the hardware and software components are continually evaluated, properly maintained, and refreshed in order to ensure all students and staff across the district can successfully do what they need to do in working toward the shared mission and vision.

Classroom Technology

Teachers and staff continue to rely on classroom displays to present information to students in meaningful and engaging ways.

The classroom display technology in classrooms including SMART Boards and projectors are at or near the end of their useful life. This information is evident from professional observations, the needs assessment data, and helpdesk requests for failing equipment, as well as inventory data showing the ages of the devices and equipment. Current issues include inconsistent interactivity with SMART Boards, poor audio quality, poor video quality (resolution, brightness, etc). The needs assessment data from the fall of 2021 included many questions focused specifically on classroom displays. This data was then analyzed by the newly formed Technology Planning and Design Team. Based on current needs, the classroom display portion of the comprehensive Master Technology Plan is one of the most urgent components of the overall Technology Goal for the district.

The administration and the Technology Department continue to plan for options that will meet the needs of our students and teachers today and into the future while remaining fiscally responsible. It is important to replace existing projectors and SMART Boards with a solution that will provide increased functionality, increase student engagement, and address the current problems that teachers are experiencing.



Throughout the winter of 2021-2022 each school has had the opportunity to pilot a 75" BenQ interactive flat panel. The Technology Department has gathered feedback throughout the pilot. The feedback has been overwhelmingly positive. Additionally, the Information Specialists and technology team had a virtual site visit with a neighboring district to hear about their recent roll out of 150+ BenQ interactive flat panels. Also in recent weeks, the team had an opportunity to take part in a virtual demonstration from representatives from SMART Technologies. The features and pricing of the BenQ interactive flat panel have been extensively compared with the comparable SMART model.

Based on the feedback from our district pilot, information gathered from a neighboring district, as well as financial considerations, the Technology Department was excited to recommend the purchase of BenQ Interactive Flat Panels for all classrooms during the summer of 2022. At the February 16, 2022 Board of Education meeting, the Board of Education voted to approve the purchase of 329 BenQ Interactive Flat Panels. Additional work that the technology team continues to focus on is the logistics of installation and roll out of all panels as well as the necessary professional development planning.

With the addition of the new interactive flat panels in all classrooms, the district will begin transitioning away from a reliance on classroom desktop

computers. Instead the focus will be on using the built in features of the flat panels as well as the numerous other devices in the classrooms including document camera, teacher laptop, classroom Chromebook, etc. Additionally, all student Chromebooks have the ability to connect to the interactive flat panels.

The district is also transitioning away from traditional computer labs. With the commitment to providing each student and each staff member with a device, traditional computer labs are no longer needed. It is expected that the district will provide a small number of updated desktop computers in each school learning center. These devices will be used to help support some projects and unique needs that cannot be accomplished with a student Chromebook.



Student Technology

CCSD 46 has committed to providing a device for every student. This 1:1 Chromebook initiative was approved by the Board of Education in 2019 for 3rd through 8th grade students. During the pandemic, the district was able to continue the roll out of Chromebooks to all K-8 students.

Current standards in education show a Chromebook having a useful life of three years. CCSD 46 has planned a three year refresh cycle for all student devices.



The district will move towards a more consistent and predictable refresh cycle for student Chromebooks. Once fully implemented, the Technology Department intends to purchase Chromebooks for three grade levels each year. This will be a third of the district's student population. The district will purchase Chromebooks for students in kindergarten, 3rd, and 6th grades. Students in those grades will receive the new devices and will keep them for the three years. The table, below, illustrates the transition over the next two years to this new refresh cycle. As the table shows, this new refresh plan will begin in June of 2022 and will be fully implemented by June of 2024.

	June 2020	2021	2022	2023	2024	2025	2026
K	Lease Year 1	Lease Year 2	New Purchase Year 1	New Purchase Year 1	New Purchase Year 1	New Purchase Year 1	New Purchase Year 1
1	Lease Year 1	Lease Year 3	Lease Year 3	Purchased Year 2	Purchased Year 2	Purchased Year 2	Purchased Year 2
2	Lease Year 1	Lease Year 2	Lease Year 3	Purchased Year 3	Purchased Year 3	Purchased Year 3	Purchased Year 3
3	Original Lease Year 3	New Purchase Year 1	New Purchase Year 1	New Purchase Year 1	New Purchase Year 1	New Purchase Year 1	New Purchase Year 1
4	Original Lease Year 3	New Purchase Year 1	Purchased Year 2	Purchased Year 2	Purchased Year 2	Purchased Year 2	Purchased Year 2
5	Original Lease Year 3	New Purchase Year 1	Purchased Year 2	Purchased Year 3	Purchased Year 3	Purchased Year 3	Purchased Year 3
6	Original Lease Year 3	New Purchase Year 1	New Purchase Year 1	New Purchase Year 1	New Purchase Year 1	New Purchase Year 1	New Purchase Year 1
7	Original Lease Year 3	New Purchase Year 1	Purchased Year 2	Purchased Year 2	Purchased Year 2	Purchased Year 2	Purchased Year 2
8	Original Lease Year 3	New Purchase Year 1	Purchased Year 2	Purchased Year 3	Purchased Year 3	Purchased Year 3	Purchased Year 3

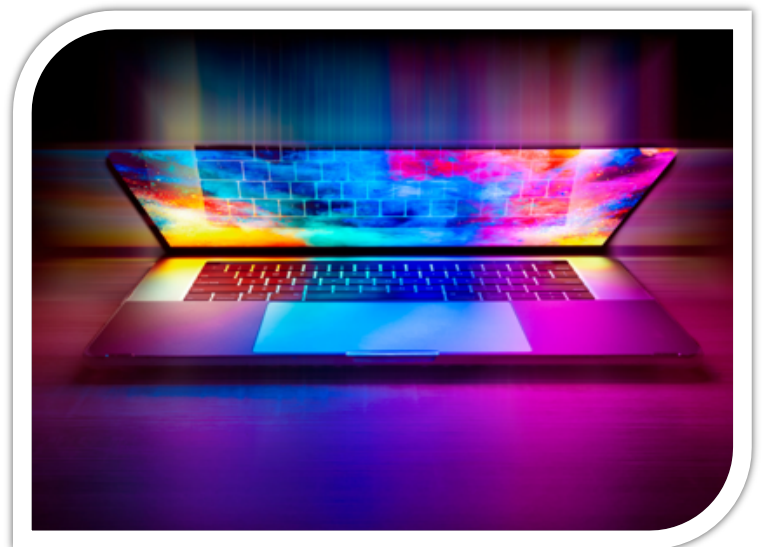
Staff Technology



A Technology Department's responsibility is to ensure that all staff members have the appropriate technology in order to be successful. Each certified staff member is currently provided with a MacBook Air laptop computer. Throughout the pandemic, an entry level Chromebook was also offered to certified staff as an additional teacher/classroom tool.

This teacher/classroom Chromebook has been used to support remote and blended teaching and learning. It has also been used as a loaner device for students who temporarily need a spare device at a moment's notice. Feedback from certified staff across the district has demonstrated the value that this additional Chromebook has brought to their instruction.

Support staff, office staff, program assistants, operations and maintenance staff, administrators and all other employees continue to be provided with access to an appropriate device for their specific job related role. As the district is committed to providing a consistent refresh cycle for student devices, the district is also committed to providing a consistent refresh cycle for all staff devices. Following recommendations from manufacturers and industry experts, the district is committing to a four year refresh cycle for all staff Apple laptops. Additionally, staff members such as program assistants, who are assigned a Chromebook as their primary device, will be included in the three year refresh cycle that is consistent with student Chromebooks.





Cybersecurity

Community Consolidated School District 46 continues to prioritize the importance of digital safety and privacy for all students and staff. In the fall of 2021, Collective Liability Insurance Cooperative (CLIC), the district's insurance provider, shared new requirements regarding cybersecurity protections. The requirements focus on protecting the district's critical systems as well as all student and staff data. Part of the requirement from CLIC is to ensure proper training and protection for all end users as well as providing 24/7 network monitoring for unauthorized activity.

In February 2022, the Board of Education approved a one year contract with a managed cybersecurity partner, Forward Edge, to provide 24/7 network monitoring as well as many additional services to establish and maintain a secure digital environment for staff and students. At the time of publication of this Master Technology Plan, Forward Edge is in the process of completing a comprehensive evaluation of the CCSD 46 server hardware and software. At the completion of the evaluation, formal reports and recommendations will be shared with the Technology Department. Those recommendations will then be incorporated into future plans for both the infrastructure and cybersecurity improvements over the coming months and years.



Infrastructure

Network infrastructure primarily consists of the network hardware, software, and wiring that enables the district to provide high speed internet from an outside internet service provider to students and staff. The Technology Department will be proactive in planning for the ever changing Wi-Fi protocols and standards. Wi-Fi 6 is already being supported by our current student and staff devices. New Chromebooks and new laptops in the coming years will transition solely to Wi-Fi 6 standards, and therefore, it is imperative that the district's infrastructure be upgraded to meet these demands. It is expected that Wi-Fi 6 will provide a variety of benefits, including faster performance, faster throughput speeds, and less network congestion. As a component of this overall upgrade, the district will also expand wireless network capabilities to areas that may not currently have adequate coverage, such as outdoor classroom spaces across the district.

New devices such as new interactive flat panels, new HVAC equipment, and new safety and security enhancements (including door access, video surveillance, etc.) are being added to the district's network on an ongoing basis. All of these new pieces of technology along with all existing chromebooks, laptops, computers, copiers, etc. rely on a robust network connection to the outside world.

Upon the completion of a full network audit that is ongoing and will be completed in the early spring of 2022, the Technology Department will begin reviewing and implementing the recommended upgrades. The Technology Department may decide to partner with the recently chosen cybersecurity vendor and expand the scope to include all district network operations. This expanded partnership would allow the Technology Department to continue to focus on the necessary day to day operations while having an experienced team of experts to help guide and support with all infrastructure related discussions, planning, and implementations.

Safety & Security



As early as spring of 2022 and continuing into the fall of 2022, the Technology Department will collaborate with the Operations and Maintenance Department in conjunction with the district Safety and Security Committee to continue to update building and district communication systems. This includes but is not limited to two-way radio communications, phone systems, school intercoms, and security cameras.

Each of these current systems is past due for an upgrade in order to provide consistent and reliable communication. It is anticipated that some of the wiring updates that will be needed for these projects (phones, intercoms, security cameras) will be combined with the overall infrastructure upgrades that will be taking place. Ensuring consistent reliable communication methods for day-to-day use as well as in case of emergency situations is critical.

Finally, the Technology Department is planning to phase in new security camera systems with modern technology to replace outdated and unusable systems. Through this process, the district would prioritize the upper grade buildings. New security camera systems would provide the following benefits: improve emergency preparedness and response; decrease theft, mischief, vandalism, car theft, and potential threats; create safer environments for teachers and students; monitor and control school building access.

Conclusion

The CCSD 46 Technology Department is committed to providing a robust network infrastructure and consistently refreshing student and staff devices to enable all stakeholders to be successful in empowering learning, creating equity, and cultivating community. It is through proactive planning, ongoing collaboration and commitment, that CCSD 46 will continue to provide current technology related experiences that represent best practices in education.