Digital Learning Plan 2018-23

Student Learning

High School District 214 | June, 2018
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Preface

Today’s learning environment goes beyond the traditional classroom. From the classroom and from home, students now have the ability to actively choose their educational options with the help of technology. Technology is not only a tool that facilitates students’ learning; it also adds excitement and interest to their curricula. By appropriately supporting High School District 214’s instructional strategies with technology, we will best position our students for increased learning opportunities as well as the development of the critical life and work skills necessary to be productive citizens in our global society.

One of the major goals of District 214 is to increase student academic achievement. Academic achievement is directly tied to equitable access to learning resources available to students, teachers and parents. Achievement gaps exist because opportunity gaps prevent some children from access to resources necessary to achieve at high levels. Technology can provide resources to increase student’s learning opportunities. We at D214 want to prepare our students for the future and enable them to be successful. The world we live in today requires students to have a functional knowledge of technology to be contributing members of society. We must provide our students with the tools, experiences and opportunities necessary to become critical thinkers with the ability to adapt to our constantly changing world.

Learning occurs at all levels throughout D214. Although our focus is always on the student, the ongoing professional development of our teachers, staff and administration must also be a priority, so that they can provide the best instructional opportunities to all students within the District. A large part of the best practices in today’s classrooms involves technology. Within the District and throughout the state, teachers are learning how to integrate technology into their classrooms. As we continue to integrate technology throughout our organization to meet the unique needs of our students, staff and community, we will develop our own best practices. As an organization, we will discover how technology can be used to transform the way teachers and students teach and learn from one another. From these collective experiences, we believe we will be uniquely positioned as the nation’s foremost leader in the use of technology to support the mission of public education, educating our students to be among the best citizens available to the community, employers and colleges.

Parent and community involvement is also a critical factor for student success. Parents’ roles are evolving with the use of technology. Through the use of the internet and access to District information systems, parents have new ways of communicating with teachers, administrators and the school board. We must use technology to provide parents with these additional opportunities to participate in their children’s academic progress and achievements.

Given the reliance we place on technology, we are developing a Digital Learning Plan that allows us to embrace technology and prepare our students for the future. This five-year plan represents the collective input of a multitude of people throughout D214, including teachers, principals, parents, staff and administrative personnel.

It is critical to understand the purpose of this plan. The plan will facilitate implementation of technology, in a strategic fashion, throughout the District to support improving student opportunities and enhancing their life and work skills. The Digital Learning Plan provides the roadmap for this process in direct support of instructional plans. The plan is not a guide for instruction. It does not tell teachers or administrators how to do their jobs, but rather provides tools that can be incorporated into instruction to enhance the learning environment and support the process for educating, providing appropriate funding and support for the acquisition and use of these tools.

Another important aspect of this Digital Learning Plan is creating an environment for students, teachers and staff that adheres to best practice standards of safety and security. The District’s technology infrastructure has become a vital aspect of everyday work, accountability and reporting. Technology provides tools to access information resources that support users in making data-based decisions with appropriate security, disaster recovery and backup. The Technology Services Department will proactively support District systems, information management and infrastructure.

We believe this plan will support our ongoing efforts to improve the D214 community. More importantly, this plan outlines exciting opportunities for D214 to continue to provide a quality education for learners of all ages.
Digital Learning Plan Analysis

To create this plan, Technology Services talked with industry experts, teachers, students and others to find out more about District 214’s technology needs and how the Digital Learning Plan can best facilitate student learning and growth. Following is some of the feedback we received that contributed to this plan.

Tom Ryan, Ph.D., CEO of the eLearn Institute, was invited to help facilitate a conversation about how technology can support a vision of learning.

Guiding questions were asked to gather feedback, including this main query: How does technology impact learning? Attendees were divided into three groups to answer from different perspectives.

Teacher perspective:
Classrooms don’t look the way they used to and are not confined to four walls. Because students have access to class information 24/7, teachers need to redesign their curricula. Teachers also need to prepare students to be responsible digital citizens. Instead of lecturing in a passive environment, teachers work side-by-side with students, encouraging them to be producers and creators. New teachers are not always prepared for this type of classroom, but are familiar with new technology.

Learner perspective:
Through technology, students now have access to authentic resources in place of textbooks. Instruction can be personalized so students are more able to create their own learning experiences with more choices and a more collaborative learning environment with teachers as facilitators. Through online resources, learning doesn’t stop at the end of the day and can continue outside of the classroom. By working online, students can get help from each other as well as from teachers.

At the same time, the online environment can offer distractions to learning and a potential for a different type of bullying. New digital tools can make it difficult to keep up and be more accessible, while cheating is also easier with online devices.

Content perspective:
Digital tools make it easy to immediately find definitions, take notes and highlight text. A learning management system provides ways to share content and provide accessibility. Textbooks do not have to be purchased. Plus, content can be customizable.

However, it can be hard to distinguish fact from fiction with online content. With so many different places to get content and so much information, learners may find it difficult to focus. Plus, concerns about cost can be a factor in deciding on different hardware.

Form follows function

If we redesign classrooms, we want to base those designs on what is being done in the room. School is about teaching and learning and can be defined as a building or as an environment. Often it’s about operations of the facility. Factors that impact education but are not necessarily best for academic achievement include:

- Attendance/seat time needs to be reported to the state.
- Budget.
- Physical space, size of classroom.
- State standards.
- Higher education — driven by college requirements.
- How students interact socially, using a phone or iPad instead of meeting in person.
- School in spring and fall.
- Class size: 28.
- Group-paced instruction.
- Length of school day.
- Six-to-eight-period days.
- Age-based grouping.
- School buses.

Finally, long-standing legacy practices tend not to be re-examined for their value-added contributions as education evolves. We’ve always done it that way so it continues.

Personalized Learning

The group also discussed the definition of personalized learning. Some examples cited include:

- Best techniques or tools for each student and the ability to change on the fly.
- Individual instruction based on student skills and goals and needs.
- Remove political and social constraints.
- Proficiency component that eliminates students being held back by peers — when you get it, you move on.
- Meeting each student where they are.
- Adding new skills and content based on each student’s passion.
- Drive forward in ways that the teacher didn’t intend.
- Classroom would have students at different levels of mastery.
- National Ed Tech — speaks of the pace of learning and the instructional approach for the needs of each learner.
- iNACOL — enabling students to have a voice and choice in what, how, when and where they learn.

Creative learning strategist Barbara Bray provided a description of personalization vs. differentiation vs. individualization: A personalized learning environment creates challenges. It allows relevancy of learning but increases the workload. Teachers need to know where students are at different times and need a wide variety of content to challenge each student. This changes the way we assess students.
Digital Learning Plan Mission

In order to support our students in a changing landscape of education, we will continuously explore new innovations in technology and support how technology cohesively exists within the varied curriculum to ensure our students are college, career and life ready, consistent with Redefining Ready!

This is in keeping with District 214’s main mission: Our primary mission is to help all students learn the skills, acquire the knowledge and develop the behaviors necessary for them to reach their full potential as citizens who can meet the challenges of a changing society.

Technology Services Core Values

The Digital Learning Plan will be guided by the Technology Services Department’s core values:

1. **Trust, respect and care for each other.** Trust is the result of commitments realized.
2. **Take pride in what we do.** Deliver the best product and service possible.
3. **Maintain true and real partnerships.** Great teaching and learning opportunities are built on positive relationships.
4. **Have fun.** Make work a fun place. If you love what you do, you don’t work a day in your life.
5. **Do more with less.** Find out where there are opportunities to reduce costs without sacrificing service.
6. **Hold yourself and others accountable.** Take responsibility for your work and hold your coworkers accountable for their role in projects.
7. **Be prepared and on time.** Commit to whatever you’re working on and do your best.
8. **Embrace and drive change.** Technology changes rapidly. Inspire others to accept change throughout the organization.
9. **Learn something new every day.** Lifelong learning depends on continuous improvement. Innovate and create new opportunities for our students and staff.

This plan is a living document. It will be updated often to reflect accomplishments, document progress and lessons learned, and project recommendations for the future.

Critical Areas

- **What key areas should be addressed with technology?**
  - These were prioritized by the group:
    - Research, exploration and innovation centers: 9
    - Digital content — create, curate OER, procure: 7
    - Digital literacy — cyberbully, fact vs. fiction, network culture, social media: 6
    - Learning modalities pedagogy — blended and online courses: 4
    - Life balance with technology for students, teachers, admins: 4
    - Infrastructure — network, devices, support, training: 3
    - Security and privacy — network and data security: 3
    - Assessment data on academic achievement, formative, summative and benchmark: 0
    - Learning management systems: 0

- **Other areas that should be considered in the next three to five years include:**
  - Internet of things: Devices working with each other without human interaction.
  - Digital content: Where are we going?
  - Evaluation of devices: Is the iPad the device to use? Do we need different devices for different sets of students?

The group discussed developing a mission statement for the plan for technology supporting teaching and learning with a focus on innovation.

After review of this information, it has been identified that student learning has changed in the digitally connected world. How can we, as a district, continue to foster a change that disrupts the traditional school setting? The District will continue to evaluate ways for students to learn with differentiated methods. Pilots are currently in place for blended learning, personalized learning and an Early College Center.
Purpose and Goals of the Plan

The Digital Learning Plan is a comprehensive document that sets a long-term District 214 technology vision for the purpose of supporting the achievement and success of students, staff and community members. This plan coordinates and aligns the technology efforts of all of the District’s key functional areas, provides a description of the District’s organizationwide information technology infrastructure, and outlines and prioritizes critical technology initiatives.

Technology is an essential component of D214’s overall instructional and operational strategy. However, it alone cannot address all of the challenges faced by our District. It is the function of this plan to support District goals with appropriate technology and not to duplicate or replace functions within the District. This Digital Learning Plan describes how technology can be implemented over the next five years to support current and future instructional and administrative activities.

This Digital Learning Plan Is…

• An outline of D214’s technology vision for the next five years in line with District goals.
• A plan that coordinates and aligns the technology efforts among all of D214’s key functional areas.
• A plan that provides a description of D214’s future organizationwide IT infrastructure environment.
• A plan that outlines and prioritizes critical technology initiatives.
• A living document that must be reviewed, reassessed and revised each year as the organization’s objectives and strategies evolve.
• A plan that identifies long-term technology capital needs and integrates with the District’s Capital Plan.
• A plan that designs the long-term data environment in the District.

This Digital Learning Plan Is Not…

• A guide for instruction.
• An instructional strategy plan.
• A plan that tells teachers or administrators how or what to teach.
• An in-depth review of every functional area and program.

In the same fashion, this document exists to support our current instructional strategies. It does not dictate how and what should be taught to students or staff. Instead, it can be considered a roadmap that will provide direction for our technology efforts aligned with our instructional strategies.

The following table presents what the Digital Learning Plan is and is not with the hope of setting realistic expectations.
The new plan focuses on supporting Redefining Ready!, Harper Promise, Career Pathways and other instructional programs to continually improve student achievement and offer D214 students real-life experiences and opportunities to be college, career and life ready.

Three main areas were identified for the focus of the new plan:

1. **Research, exploration and innovation centers.**
   The District is planning to launch a new program after re-evaluating the Education Technology Replacement and Investigation Program (ETRIP), which ran from 2010 to 2015. ETRIP was established to identify and evaluate new innovations with technology. This led the District to implement iPads for every student and help transform teaching and learning in the classroom. The new program will build on ETRIP to reignite the innovation process.

2. **Digital content: Create, curate Open Education Resources (OER), procure.**
   As the District moved to technology devices for teachers and students, digital content has been purchased. This has created some challenges as each publisher creates apps or web content in their own formats. There are currently no standards for publishers to adhere to for delivery of digital content, either online or through apps. In addition, each publisher has established a different process for uploading rosters and assigning ebooks to students. This has created a complex system for accessing different materials in different formats and methods. The Instructional Materials and Media Program (IMMP) committee, with representatives from Teaching and Learning and Technology, is evaluating new digital content, which includes purchased and Open Education Resources (OER).

3. **Digital literacy: Cyberbullying, fact vs. fiction, network culture, social media.**
   The District is putting a renewed focus on improving digital literacy for our students. It introduced a digital literacy course on the Schoology Learning Management System to provide a uniform process for the induction of students into a digital learning environment. Freshmen students are required to complete the course, which includes instruction on how to use their iPads as well as on digital citizenship and digital literacy. These students are restricted from downloading any apps until successful completion of the course. The program will continue to be evaluated and refined for each subsequent school year.

**District 214 Redefining Ready!**

Redefining Ready! is a national initiative launched by the AASA, the School Superintendents Association, to introduce new research-based metrics to more appropriately assess that students are college ready, career ready and life ready.

"Our students are more than a score."

The initiative is a response to dismal college and career readiness scores, reported by standardized test makers, that fail to portray a comprehensive picture of student potential.

Our nation’s high schools provide students with rigorous academic programs, personalized and career-specific learning experiences, and social and emotional skills that prepare them to be global citizens in an ever-changing world.

Students learn in a variety of ways. They should be able to demonstrate readiness in a variety of ways.

The new readiness indicators, developed from research by world-class organizations, more accurately reflect the educational landscape of the 21st century. Multiple metrics include Advanced Placement courses, Algebra II, early college credits, industry credentials, attendance and community service, among others.

**College Ready Indicators**

Students are college ready if they meet either the following academic or standardized testing benchmarks:

- **GPA 2.8 out of 4.0 and one or more of the following benchmarks:**
  - Advanced Placement exam (3+).
  - Advanced Placement course (A, B or C).
  - Dual credit college English and/or math (A, B or C).
  - College developmental/remedial English and/or math (A, B or C).
  - Algebra II (A, B or C).
  - International Baccalaureate Exam (4+).

- **College Readiness Placement Assessment** (standardized test benchmarks minimum score)
  - SAT exam: Math, 530 | Reading and writing, 480.
  - ACT exam: English, 18 | Reading, 22 | Science, 23 | Math, 22.

Additional factors that contribute to college success include: earning As, Bs and Cs; Free Application for Federal Student Aid (FAFSA) completion; enrollment in a Career Pathway course sequence; college academic advising; participation in college-bound bridge programs; senior-year math class; and completion of a math class after Algebra II.
**Career Ready Indicators**

Students are career ready if they have identified a career interest and meet two of the following behavioral and experiential benchmarks. In addition, students entering the military after graduation must meet the passing scores on the Armed Services Vocational Aptitude Battery (ASVAB) for each branch of the military.

- **Career Cluster Identified two or more of the following benchmarks:**
  - 90% attendance.
  - 25 hours of community service.
  - Workplace learning experience.
  - Industry credential.
  - Dual-credit Career Pathway course.
  - Two or more organized co-curricular activities.

**Technology Leadership**

Technology is one piece of many that support the District’s core mission of student learning. The following graph depicts student learning as the primary focus and its many supports. All technology in the District, whether in the classroom or administrative offices, exists to enhance and support student learning.

In implementing this ongoing digital learning plan, the technology team will adhere to the following to deliver systems that are in line with the District’s goals and policies.

- **Leadership and Vision:** The executive team works together to develop a shared vision with all stakeholders for effective and strategic technology use.

- **Strategic Planning:** School system leaders utilize their high-level view of the school system to identify the steps needed to transform the digital vision into a long-range plan, complete with specific goals, governance, objectives and action plans.

- **Ethics and Policies:** The school system leadership team models responsible decision-making and manages the creation, implementation and enforcement of policies related to the social, legal and ethical issues linked to technology use throughout the school system.

**Pedagogy & Technology**

Throughout the shift to a full 1:1 school district, District 214 has maintained that the integration of technology must be both authentic and connected to — not the driver behind — student learning. Without a doubt, technology is a tool with the capability to transform and redefine learning. However, technology alone does not have the capacity to determine what actually needs to be learned — that is the role of the educator. Once the learning objectives of a unit or course have been articulated, both educators and students can seek to reimagine possibilities for learning by embedding technology in their lessons.

Technology integration clearly connects to District 214’s Redefining Ready! goals. Educators continually explore uses of technology that will prepare our students for success in an ever-changing global economy. Technology is used to foster 21st century skills: collaboration, teamwork, critical thinking, communication and problem-solving.

The following shows the technology plan for critical District areas, including how technology will assist the area and the District, what technology is needed and the plan for implementing it.

**Assistive Technology**

**Analysis:** Under the Individuals with Disabilities Education Act (IDEA) Amendments of 1997, the team that develops an individual education program (IEP) for a child must consider whether the child requires assistive technology devices and services. Assistive technology services directly work with a student with a disability in the selection, acquisition or use of an assistive technology device. An assistive technology device is any item, piece of equipment or product system that is used to increase, maintain or improve functional capabilities of a student with a disability.

**Goal:** Provide our students with the necessary assistive technology tools to improve their functional capabilities.

**Strategy:** iPads will continue to be used to access curricula for students with disabilities. With numerous new apps coming out every day, our students will benefit from apps that focus on accessibility. It has become easier than ever to experiment with apps and tools on iPads.
A Schoology site has been created and will continue to be updated to offer teachers information and steps on how to access different options for student accessibility.

Each school will be visited to review assistive technology options and tools, as well as providing educational support personnel (ESPs) with training.

Student Services will continue to partner with Technology Services to provide the best tools to support our students’ varying needs. Moreover, we will continue to partner on ways to streamline IEP and Section 504 information so that our teachers can easily access student information and other staff can more easily coordinate services, such as transportation.

**Blended Learning**

**Analysis:** In preparation for the implementation of a blended learning pilot, District 214 administrators and teachers attended the iNACOL symposium and visited with schools that have successful blended learning programs.

Teachers interested in delivering blended learning met as a group to discuss the model and talk about procedures. All blended courses begin each semester fully face-to-face in a traditional setting. The creation of a flex/release schedule is determined by each teacher.

The blended learning initiative began at the start of the 2016-17 school year with 10 blended courses offered across the District. The courses represented a wide range of subjects and grade levels, and there is at least one blended learning course at each of the six comprehensive high schools. Toward the end of that school year, blended learning teachers met to discuss their experiences and share progress and best practices. Students and staff were surveyed at the end of the school year on their experiences with blended learning.

**Between 80% and 85% of students:**
- Were very satisfied with their blended learning course.
- Wanted to take a blended learning class again.
- Felt that the schedule allowed them to manage their time better.
- Felt better prepared for college.

Overall, students reported being highly engaged in their blended course. The majority of teachers and students felt that the quality and quantity of student-teacher interaction and student-student interaction were very effective. The quantity and quality of technology use was better, and the ability to get help and get homework done was higher. Many students did feel like there was more homework in their blended learning course than with a traditional course.

**Goal:** Evaluate the effectiveness of the blended learning pilot in D214 schools.

**Strategy:** Each school has had a pilot of blended learning for the past two years. Teachers in the pilot will continue to meet to provide data and strategy to assess validity of the process. Data will be provided to determine if an expansion is viable to better serve our students.

The Professional Learning Department will continue to support this initiative by offering a course through the Internal University on Blended Learning. The graduate course is open to all teachers and explores the blended learning model and strategies for implementation.

**Career and Technical Education (CTE)**

**Career Pathways Tools and Resources**

**Analysis:** A number of tools, resources and solutions are being developed or investigated for acquisition or have been acquired to support Career Pathway efforts, Redefining Ready! and Harper Promise, among other programs. Some of these tools are parent/student/community-facing while others are primarily used in logistics support.

**Goal:** Provide technical guidance and support for all applications and tools to enhance Career Pathways, Redefining Ready! and Harper Promise.

**Strategy:** Involve the technology staff in early stages of tool and resource creation and identification, as appropriate, to provide input and address integration of solutions into our infrastructure. This will include:
- Coding and programming support in development, integration and modification of tools, as appropriate.
- Providing software troubleshooting, maintenance and licensing support

**Examples of these solutions include, but are not limited to:**
- GradLeaders/CSO Research: Career Discovery online tool to facilitate internship processes.
- Mentor Matching Engine: Career Discovery online tool to facilitate virtual mentorships.
- Career Cruising.
- Tableau career cluster planning tool.
Career Pathways Hardware Support

**Analysis:** Courses within existing career programs of study require the use of laptop or desktop computers as part of the core functionality and related learning objectives of the course. Even as computer lab use is reduced as iPads support the needs of many traditional classes, the need for technology in many Career Pathway courses is actually increasing, both in number and complexity, in order to keep up with 21st century demands and the requirements of our Career Pathway/Redefining Ready! model. Examples include Project Lead the Way (PLTW) engineering, computer programming, computer networking, robotics, media and graphic arts.

**Goal:** Provide desktop/laptop support for Career Pathway programs.

**Strategy:** Technology will provide collaborative consultation, input and support to identify appropriate equipment to purchase following Teaching and Learning requests for input on appropriate models based on needs and published specs. Technology will evaluate these requests to make sure they work with our infrastructure and can be supported.

Specialized Technology

**Analysis:** Some courses within existing career programs of study require technology other than laptops, desktops and iPads as part of core functionality and related learning objectives of the course. Examples include engineering and manufacturing equipment (CNC mills, lathes, routers and plasma cutters), 3D printers, plotters and industry printers, robotic systems, servers and digital storage solutions, auto scanners and equipment, camera and editing equipment, and monitors and display devices.

**Goal:** Identify support needs of specialized technology for Career Pathway programs.

**Strategy:** Support the integration and networking of devices into existing technology infrastructure as needed. This includes software and hardware troubleshooting, support and maintenance, as appropriate.

Summer School Program

**Analysis:** To run an effective summer school program that utilizes our current technology-rich curriculum, it is critical for every enrolled student to have an iPad and for support to be available. Individual specialized programs and assignments will need access to computer labs and special applications.

**Goal:** Provide computer and iPad support for summer school.

**Strategy:** Provide iPads to all summer school students with distribution efforts supported in an easy and effective manner. This includes:
- Working with the summer school coordinator to identify needs for summer school.
- Identifying computer lab needs at summer school sites, including additional temporary resources (e.g., laptop carts) as needed.
- Providing tech support for summer school staff and students.

Dual Credit Program Support

**Analysis:** Dual credit opportunities for students have dramatically expanded in support of Redefining Ready! D214 currently works with nine post-secondary partners in the dual credit space, each with slightly different requirements for application, fees and reporting.

**Goal:** Support dual credit opportunities for students by providing technology solutions to better serve registration and track results.

**Strategy:** Program technology solutions to simplify the dual credit process, both for families and staff (District and buildings).

- Potential opportunities include:
  - Fee payment system.
  - Application, rostering and reporting tools and portals.
  - Integrated system for all dual credit functionality.

IT Pathways Support

**Analysis:** Our IT Pathway (coding, networking and cybersecurity) is one of our primary focus areas in the Career Pathway model. Students in this Pathway engage in relevant curricular and extracurricular learning experiences to develop their interests, skills and decision-making abilities related to IT. Students also engage with industry partners in career-related and work-based learning opportunities, including career speakers, site visits, internships and industry problem-based learning opportunities. We are currently pursuing the development of a youth apprenticeship in cybersecurity.

**Goal:** Support the IT Pathways program with practice and procedures that allow students to successfully learn in classroom environments while also addressing the technology needs of the District.

**Strategy:** Allow students to work and operate on real networks to develop skills and decision-making around IT while mitigating the risks such work may pose to District networks. This includes:
- Industry partner recruitment for support of IT Pathway activities (internships, problem-based learning, speakers, etc.).
- Integration of students with D214 technology operations to support IT Pathway activities (internships, problem-based learning, speakers, etc.).
- Investigation of a Career Pathway leading into D214 technology operations.
**Content and Curriculum Access**

**Analysis:** As the District advances to a more digital curriculum, a problem has been identified with the inconsistencies of accessing and rostering students. Each publisher has defined its own system and processes for uploading rosters and accessing digital content. Some publishers have a separate server for sending rosters. Some support secure uploads through the SFTP protocol, while others do not. Sending student information to publishers through unsecured channels is inherently a security risk for school districts.

Some publishers also support nightly uploads to keep rosters up-to-date for students who move into or out of a course. Others only allow a single roster upload. Subsequent changes have to be done manually by either a teacher or a staff member. There is no consistency among publishers to make this process easy for school districts.

It has become very challenging for teachers and students when they have to use different methods to access different titles. For example, some can be accessed through a web browser while others are available through an iOS app. Add to this the need for different logins for each system, and it becomes difficult to keep track of all the moving pieces.

Publishers aren’t moving fast enough to keep up with the digital transition taking place. They are still trying to figure out the integration and delivery method of content.

IMS Global has laid the groundwork with input from the K12 community to create the OneRoster version 1.0 framework that was introduced in June 2015. The OneRoster standard consists of seven CSV files — organizations, users, courses, classes, enrollments, academic sessions and demographics. IMS has also created the OneRoster server, which uses the REST (representational state transfer) API (application programming interface). The main idea behind the OneRoster server is to upload one set of CSV files and then the publishers process them nightly — a type of “one-stop shop” for uploading and processing roster files.

While publishers have been announcing their support for the OneRoster standard, they are not fully supporting both components. Districts have experienced support of the CSV files through an upload to only the publishers’ site. What’s missing is the CSV file uploads to the OneRoster server, the one-stop shop.

Then there is the challenge of students and teachers having to use multiple logins based on the requirements of each publisher. Some publishers require a unique login to access content from their systems. This creates complexity when districts are expected to upload roster files with user names and passwords. Some publishers are integrating a single sign-on with learning management systems, while others allow an identity provider using a district’s active directory or other authentication system. Some publishers won’t allow a bulk upload without using single sign-on. It is becoming very difficult for school districts to keep track of these multiple systems.

**Goal 1:** Review and evaluate the OneRoster framework (https://www.imsglobal.org/activity/oneroosterlis) for rostering students and digital content.

**Strategy:** Verify publishers have their titles available in the One Roster portal. Implement the OneRoster framework.

**Goal 2:** Review and evaluate single sign-on solutions.

**Strategy:** Review single sign-on providers and select one with the most tools to help students and teachers access digital content with the click of a button, without having to log in to many different applications with different login credentials.

**Early College Center**

**Analysis:** The honors program, housed at District 214’s new Early College Center, provides an opportunity for students to take an eight-week course every quarter as well as a self-paced math course, guided by a District 214 teacher, and simultaneously earn high school and college credit.

The Early College Center is open to District 214 seniors with the demonstrated ability to work independently and succeed in college-level work. Selection for this program is based on student interest, academic readiness and a counselor recommendation.

**Goal:** Provide District 214 seniors the opportunity to participate in a new honors program starting this fall to earn up to 16 early college credits in an online partnership with Arizona State University.

**Strategy:** Offer online courses, including College Algebra, English Composition, Intro to Solar Systems, Macroeconomics and Social Science. Partner with Arizona State University to offer District 214 students a reduced tuition rate, helping families save money for college.

![Image of students working in a group]
As technology changes along with teaching and learning, the District is embarking on another evaluation of devices. This will determine if different sets of students — e.g., AP, Special Ed or other cohorts — will benefit from using a different tool. Other school districts, for example, offer iPads for grades K through 6 and then provide a laptop, Chromebook or other device for grades 7 to 8 or 9 to 12.

**Goal:** Determine if there is a better learning tool that will benefit different groups of students.

**Strategy:** Test three different devices in a pilot program running 12 to 18 months. The devices include Chromebooks, MacBook Airs and Microsoft Surface Pro 4s. Each device has its own set of qualities.

A total of 18 Chromebooks, Microsoft Surface Pros and MacBook Airs were purchased. Each school will receive three of each device and assign three students to each device. Teachers will be involved in the testing to determine educational value and to address instructional practices.

**Communication Plan:**
- Juniors will receive a message on Schoology and through SchoolMessenger about the program.
- All juniors will be invited to apply via a Google form application to be considered for the pilot. The deadline for applications is 3 p.m. Friday, Oct. 20, 2018.
- Participating juniors will be asked to turn in an agreement signed by them and their parent or guardian.
- Teachers will be notified if any of their students have been selected for the pilot.

**Pilot Participation:**
- Participating students will be placed in a Schoology course for ongoing discussion and feedback on their findings and experiences using the various devices.
- Focus groups will be conducted at each school quarterly.
- Surveys will be sent to participating students, parents and teachers who have pilot students enrolled in their classes.

**Desired Outcomes for Pilot:**
- Qualitative feedback from students on note-taking, organization, productivity and overall achievement.
- Feedback on device stability, longevity and usability.
- Understanding of device management and support.
- Feedback on the availability of educational resources on various computing platforms.
- Feedback on overall satisfaction and comfort level with the device.
- Feedback toward next steps and a possible future pilot program for teachers.
Online Learning

Analysis: Online learning provides access to quality learning for our students so they are prepared to work in a global connected world. We provide courses, professional development, tools, resources and content to support students, teachers and administrators in the online learning environment. Our students will be prepared for the workplace so they will be able to create, contribute, collaborate, collect information and apply it as needed.

Goal: Provide all students, teachers and administrators with technology tools to facilitate their work in teaching and learning in the global society.

Strategy:
- Provide a learning management system (LMS).
- Provide tools and resources to support the LMS.
- Provide a tool to host synchronous activities.
- Provide quality courses.
- Provide professional development for teachers and administrators on online pedagogy, web tools and instructional design.
- Provide multimedia support.
- Provide information on models of current and evolving e-learning trends.

Fostering a Culture of Innovation

Analysis: The Reimaging Learning Program (RLP) is being established in the 2018-19 school year to align the District with the Redefining Ready! program by implementing new technology tools and applications. Proposals for new technology can be made by building administrators, divisions and departments to Technology Services at any time during the school year.

The new Reimagine Learning Program is designed to promote innovation in learning through a process guided by teachers and students and shared with District administration.

Goal: Promote innovation by experimenting with different tools and new applications through a process guided by teachers and students and shared with District administration.

Strategy: Establish a proposal plan and provide funding that will allow for the purchase and introduction of new technology throughout the school year. Promote the successful introduction of new technology and its progress in furthering the RLP.

Focus Group Session No. 1 Summary
Computing Device Pilot results have been compiled from the first evaluation with students providing their feedback.

Testing period: Feb. 21-30, 2018

MacBook Air:
- Good battery life.
- Easy access to Schoology, difficult to work with Notability.
- No learning curve.
- Accessing online texts is easy.
- Still using iPad for Notability/Schoology and some digital text apps.
- Cannot annotate PDFs.
- Lack of access to AirPlay has not been a problem.
- Great for typing — junior year requires more typing.
- Reading is more difficult than on the iPad; the screen is further away and doesn’t fold over.

Chromebook:
- Good battery life.
- Easy access to Schoology, difficult to work with Notability.
- No learning curve.
- Still using iPad for Notability/Schoology and some digital text apps.
- Annotating PDFs is very difficult with options from the Chrome store.
- Lack of access to AirPlay has not been a problem.
- Great for typing — junior year requires more typing.
- Reading is more difficult than on the iPad; the screen is further away and doesn’t fold over.

Surface Pro 4:
- Good battery life.
- Easy access to Schoology, easy to annotate in OneNote.
- Training provided by Microsoft helped with learning curve; some would like additional training now that they have used the device and this has been scheduled.
- Annotating docs, screenshots, etc., is easy.
- Lack of access to AirPlay has not been a problem.
- Great for typing — junior year requires more typing.
- The 2-in-1 tablet and laptop got good reviews and offers flexibility; the pen is very useful with shortcuts and functionality.
Criteria for selection would include demonstrated alignment with Redefining Ready!, one or more of the Career Pathways, Harper Promise or another District goal. A demonstrated interest among teaching staff and students who will be served by the innovation should be clearly presented. In order to ensure accurate evaluation of the innovation, the proposal should demonstrate:

- Expected student results and assessment strategies, with baseline data for the specific instructional outcomes being targeted.
- Expected advantages and assessment strategies with status information for the outcome being targeted.
- Strategies for tracking both professional development and adequacy of technical support to ensure that participants are focused on desired tasks to increase optimal results.

**Proposal Plan:**

1. Proposals from Building administrators, divisions, and departments interested in investigating a specific application or technology tool can submit a proposal at any time during the school year.
2. Proposals should be reviewed by the API, TLF and TSS at the building and signed by the principal before submission to the director of Technology Services.
3. Once the proposal is received, the director of Technology Services will review the proposal with the API, TLF and TSS to assure the application or tool will work with the District’s infrastructure and be able to be supported long term.
4. The RLP proposal will be scheduled on the agenda for the next available Forest View Planning Team meeting.
5. The person submitting the proposal will be invited to present to the Forest View Planning Team. If they are not available, another representative from the building, division or department is invited in their place.
6. The Forest View Planning Team will make a determination if the proposal is approved and to what extent.
7. After approval, the director of Technology Services will work with the leaders of the RLP proposal to order the instructional software, hardware or other tools for the pilot.

A budget of $7,500 a year per will be set aside for each school to participate. The funds can be pooled together to form a larger innovative pilot. For example, if multiple schools wanted to explore an innovation and the cost is $20,000, up to $7,500 per school can be pooled together by the participating buildings.

In addition, those whose proposals are adopted will be required to:

- Promote the technology or program at the school each month through regular updates at A-Team meetings and PLCs.
- Share through PLCs across the District.
- Get students involved with sharing successes and how the innovation is shaping their learning.
- Regularly promote and share on social media with the hashtags #214Learns and #214Ready.
- Create a portfolio to share assessment results.
- Showcase results at end of the year with other peer innovators. Students are encouraged to participate.

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**Learning Spaces**

**Analysis:** When it comes to learning spaces, considerations are given to architectural design, safety and a highly conducive learning environment for students. Our priority is consistent with one common goal: to create flexibility in the classrooms and break away from the traditional room with rows of desks and chairs.

**Goal:** Create flexible classroom spaces that are conducive to a more collaborative and less structured learning environment in alignment with the Danielson Model to support teacher and student needs.

**Strategy:** Remodel rooms to meet the needs of the digital learner, with Building Operations and Technology Services working together to develop the classrooms of the future. This includes:

- Add floor-to-ceiling whiteboards in newly constructed or renovated classrooms.
- Make rooms appeal to any subject area and to be universal.
- Create seating solutions that can be reconfigured daily to meet the needs of any class activity, i.e., furniture on casters that are adjustable to allow easy movement and rearrangement within a learning space; dry erase surfaces for writing and collaborating.
- Consider bringing in more natural light as classrooms and spaces are renovated. Interior rooms without windows will get windows along the top corridor wall to allow natural sunlight from outside windows in the room across the hall.
- Prioritize safety and security as rooms are renovated.
- Keep teacher workspaces modernized with technology tools for presentation and digital classroom activities. A padded seat and a rolling file cabinet will allow students to sit next to the teacher’s work area when students need additional assistance.
- Mount TVs on the perimeter of several dedicated learning spaces to allow students to collaborate and share each other’s work in groups.
- Add new and existing technology tools to renovated rooms: projectors, Apple TVs, projector automation controls, wireless and hardwired access, interactive panels and other tools and systems to enhance teaching and learning.
Strategy: Prioritize the following professional development opportunities:

**Innovative structures and services:**
- Participatory decision-making.
- Planning for continuous quality improvement.
- Professional learning community implementation.

**Positive relationships:**
- Nonviolent crisis intervention.
- Conflict resolution.
- Supervision and coaching.

**Engaged learning:**
- Multicultural awareness, curriculum planning and instruction.
- Technology integration.
- Learning styles, multiple intelligences, brain research.
- Differentiating instruction in mixed-ability classrooms.
- Performance-based instruction and assessment.
- Teaching in extended-time blocks.
- Integrated and interdisciplinary curriculum.
- Cooperative learning.
- Reading improvement.
- Writing improvement.
- Critical and creative thinking skills and processes.
- School-to-work/life and career planning.
- Reading and writing across the content areas.
- Social emotional learning.
- Problem-based learning.
- Content-specific strategies and practices.
- Data-driven instructional design and delivery.
- Assessment literacy.

**Multi-Year Academic Planner**

*Analysis:* The Multi-Year Academic Planner (MYAP) on the Infinite Campus portal was developed to help students and parents develop a four-year academic plan. This powerful tool allows students to view and plan their high school curriculum to meet their academic, career and college goals.

**MYAP allows students to:**
- Do long-term academic planning to meet their college and career goals.
- Map out their curriculum over several years to meet graduation requirements.
- Plan courses to meet different honors diploma requirements.
- Save and change the plan throughout the student’s high school career to meet their changing career and college goals.

**Goal:** Set up MYAP accurately to be ready for implementation in August 2018.

**Strategy:**
- Work with Teaching, Learning and counselors to review score groups to align with Advanced Placement, Honors and General Education score groups and the D214 grading scale.
- Set up planning rule relationships between courses across years and for a single year.
- Confirm each program contains: credit requirements, course requirements, test requirements, compound requirements and GPA requirements.
- Train counselors on use of MYAP.
- Work with Teaching and Learning on training materials to share with parents and students.
- Roll out MYAP in August 2018.

**Professional Learning**

*Analysis:* The Department of Professional Learning's primary mission is to promote the continuous improvement of District staff and increase student achievement. To do this, all members need to plan and actively participate in a variety of experiences that will lead to continued professional growth and renewal.

**Goal:**
- Plan for training needed to meet school, District and staff professional goals.
- Disseminate professional resources.
- Support professional growth.
- Evaluate the effectiveness of staff professional learning activities and programs.
- Design, conduct and facilitate Professional Learning Activities.
- Facilitate the new Teacher, Mentor and Induction program.

**Internal University**

*Analysis:* Internal University offers D214 staff quality graduate-level professional learning with a focus on the student and the classroom. All of our courses are taught by District 214 staff members who are expert practitioners in their field, who are committed to continuous improvement, and who have been approved as adjunct faculty by Quincy University. Through a partnership with Quincy, teachers can earn transcripted graduate credit for course completion. Traditional pedagogical practices are taught along with technology integration methodologies. Teaching With the iPad course 1 and 2 were both a catalyst for the success of the 1:1 iPad program.

Using technology for professional learning offers the possibility of improving current processes, expanding the learning environment, and improving learning designs and results. New possibilities for improved learning now exist that were not available before. To avoid being an empty promise, technology must be part of a comprehensive professional learning system, aligned to the Standards for Professional Learning and implemented within a cycle of continuous improvement.
**Goal:** Encourage and assist our teachers in continuing their learning through the Internal University, which offers courses focused on educational technology, literacy, lesson design, social emotional learning and challenged learners. Through a partnership with Quincy, teachers can earn transcripted graduate credit for course completion.

**Some examples of courses taught include:**
- Applying SEL Techniques in the Classroom
- Blended Learning
- Building a Digital Curriculum
- Coding Across the Curriculum
- Differentiated Instruction
- Lead, Learn & Build Community with Social Media
- Principles of Instructional Design
- Teaching in a Digital Classroom
- Teaching Students of Poverty
- Teaching Using an iPad
- Technology Integration in the World Language Classroom
- The Highly Engaged Classroom
- Utilizing Career Pathways to Assist in the Classroom

**Strategy:** Offer reimbursement for Internal University courses while adopting the same enrollment process used for all other graduate courses. To enroll, staff members must:
- Register and pay for the course through ProTraxx.
- Enter the course on a graduate study plan through ProTraxx.
- Receive approval notification from Professional Learning.
- Submit for reimbursement during the three-week reimbursement window.

Reimbursement for Internal University courses follows the same procedure as any other graduate class. The cost will be $275 per credit hour. Certified staff will be reimbursed $250 for each Internal University credit hour, making the out-of-pocket expense for a two-hour class $50. Administrators and ESPs are welcome to take courses through Internal University and will be reimbursed according to their contractual guidelines.

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**Professional Learning Communities**

**Analysis:** In order to best prepare students to be 214Ready, educators need to be lifelong learners themselves. Professional Learning Communities (PLCs) in District 214 are one way that teachers are supported in continual collaborative professional learning. The PLC structure enhances the integration of technology by giving teachers in both course-alike and interdisciplinary teams time to meet regularly to share their practices. In recent years the opportunity to collaborate in PLCs across schools has been enhanced by using technologies such as Google Hangout, Periscope and Zoom. Teachers now have the opportunity to collaborate in cross-district PLCs and have routine virtual conversations to learn from one another. Through these conversations, teachers work collaboratively to authentically embed technology in their instructional and assessment design.

**Goal:** Foster and support Professional Learning Communities such as the Collab Lab at Elk Grove High School and Peer Observation Groups.

**Strategy:** Support each school’s community of learners, both staff and students, who collaborate to transform learning across District 214 and beyond. Responding to the learning needs of both staff and students, teacher leaders will facilitate one-on-one, small-group and buildingwide learning experiences. These experiences include instructional coaching, lesson studies, learning labs, lesson demos, book chats and Peer Observation Groups.

They will connect in-person daily in classrooms and collaboration spaces and routinely connect virtually with colleagues in other schools via Periscope and Google Hangout.

Teachers will curate and share their learning experiences and resources via Twitter and blogs to multiply learning and expand learning networks beyond classroom and school walls.

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**Discovery Education Cohort**

**Analysis:** Discovery Education and Quincy University are partnering with District 214 to create systematic and sustainable change throughout all classrooms through the delivery of a nine-semester-hour cohort program.

**Goal:** Transform teaching and learning through innovative partnerships with districts, states and like-minded organizations worldwide.
Strategy: Achieve this goal through Discovery Education’s leveraging of its extensive experience in providing comprehensive technology solutions through research-based professional development, robust digital content and immersive community engagements that have proven successful in positively impacting students. It does this by:

- Accelerating academic achievement and student engagement through instructional excellence.
- Fueling research-based, differentiated instructional practices across all classrooms through collaboration, inquiry and a culture of continuous improvement.
- Transforming a culture of teaching and learning through a focus on best practices in instruction as well as college and career readiness.
- Igniting a consistent, sustainable, inquiry-based approach to instruction.

Teaching and Learning Facilitators

Analysis: The Teaching and Learning Facilitator (TLF) is an instructional leader who is responsible for fostering professional growth in all instructional areas including technology integration and best practices. This person works with building administrators to support professional learning and school and District initiatives. The Teaching and Learning Facilitator works closely with the Professional Learning Department.

Goal: Promote continued instructional excellence through the induction, mentoring and coaching of licensed staff.

Strategy: Provide mentoring and education for teachers during a two-year program.

Year 2 Program – Mentors:

Required components:
- Three hours: Collaborate on the coaching cycle with TLF and mentee.
  - Hold initial meeting with mentee.
  - Support mentee throughout the cycle, as needed.
  - Hold follow-up meeting.
- Submit payroll claim form to TLF once cycle/meetings are complete.

Optional component:
- Two hours: Two cognitive coaching sessions with mentee. These sessions should support the mentee’s reflection on the instructional coaching experience and be documented with Collaborative Assessment Log (CALS).
- Submit CALs/payroll claim forms.

Community Engagement and Outreach

Communications

Analysis: The D214 community encompasses more than 250,000 people. They entrust the District to provide a quality education to their children who attend our schools. They want to know that their tax dollars are being used effectively and responsibly. This is one of the main reasons why it’s critical to share effective, transparent and innovative two-way communication and public engagement initiatives with the community at large.

Goal: Work to share the successes and stories of our District through effective and innovative two-way communication and public engagement initiatives. More broadly, through these efforts and in partnership with the community, the Community Engagement and Outreach Department will continue to empower a positive dialogue about public education at the local, regional and national levels.

Strategy: Use these vehicles to share the D214 story:

D214 E-newsletter Community Engagement: Community Engagement and Outreach will launch a high-level e-newsletter beginning in the 2018-19 school year that highlights District 214 stories, student and staff achievements, news placements and Board of Education meetings. This monthly e-newsletter will replace Board Buzz and News to Know.

Redefining Ready! blog: The 214Ready blog highlights the ways our staff is preparing students for postsecondary success. The blog posts feature stories on District programs, students, staff and alumni, and ties back to the Redefining Ready! indicators. The intended audience is primarily staff. The blog is supported by Squarespace.

News to Know: News to Know is a monthly recap of stories that mention or highlight District 214. Education-related stories are also included. The recap is supported by Constant Contact.

Social media presence and focus: District 214 is on Facebook, Twitter and Instagram. Social media posts are tailored to each channel’s audience with a focus on showing our stakeholders what public education in District 214 looks like and celebrating student, staff and alumni achievements.
Adult and Community Education

Analysis: Adult and Community Education are vital to the fabric of our communities. They serve thousands of residents each year through innovative programming and partnerships and aim to engage all learners and improve the quality of life for individuals and families in our region. Community Education is an educational philosophy that extends learning beyond the restrictions of age and the traditional school day, with the belief that our student body is potentially everyone who lives or works in our area.

Community Education is an educational philosophy that extends learning beyond the restrictions of age and the traditional school day...

Goal: Work with individuals, local agencies, businesses and organizations of all types interested in becoming active partners in addressing communitywide issues. We will build learning communities that, in turn, improve the quality of life for everyone.

Strategy:
- Offer a wide variety of challenging Continuing Education classes.
- Offer affordable and convenient Cultural and Performing Arts programs.
- Offer exciting educational day trips and worldwide travel.
- Offer ESL, ABE, GED and Family Literacy classes.
- Offer citizenship prep services.
- Offer one-to-one literacy tutoring.
- Offer intergenerational and older adult programs.
- Provide unified customer information views from data across the following CEO/CE customer touch points on or with customer-facing apps through a communal database:
  - Continuing Education: Include legacy static FileMaker Pro (FMP) data import and School Community Ed Registration data extracts via an Application Programming Interface.
  - Cultural Performing Arts: Implement Eventbrite for purchases and provide attendee export reports.
  - Community Education Travel systems and processes: Replace the aging and unsupported FileMaker app.
    - Ensure the existing features and processes are replicated on the new platform.
    - Ensure the new platform provides online purchase, payment and possibly pay-over-time features.
    - Migrate legacy data to the new platform.
    - Review commercially available application options: FareHarbor, Bookeo, ZOZI Advance and Checkfront.

District 214 Education Foundation

Analysis: The District 214 Education Foundation, expanded from the initial Community Education Foundation in 2005, supports student success, innovation and lifelong learning districtwide beyond the limitations of conventional funding for public education. The Foundation, with oversight from a 19-member Board of Trustees, works with individuals, corporations and organizations to forge partnerships and build resources for success. The Foundation has amassed more than $200,000 in scholarships in the last two years; distributed $40,000 in teacher grants toward innovation in the last year; and annually puts a priority on first-generation students and students in need, funding first-generation students and their parents on college visits, and funding $15,000 to $20,000 in Advanced Placement tests for students who can’t afford them, empowering $250,000 or more in early college credits.

In a time when one in four of our students lives in poverty, the Foundation looks for every opportunity to position every learner for success. The Foundation separately encompasses the Alumni Council, a group of more than 25 District 214 graduates who meet quarterly to strategize opportunities to engage and re-engage District alumni around future student success. The group executes one or two significant events every year, in addition to smaller opportunities (tours, etc.) The Alumni Council has its own leadership (co-chairs, secretary, treasurer).

Goal: Work with our Board, donors, staff, parents, alumni, community members and businesses and organizations to identify key areas of support in line with the District and Foundation mission; build a major gifts program that supports Career Pathways and other programs; engage and re-engage alumni; enhance community understanding of and participation in the Foundation’s mission and work; grow the annual fund to support staff requests and other funding needs; and enhance the Board of Trustees toward a diversified group of ambassadors. We believe the best way to build stronger schools and communities is to come together with the recognition that we are part of something greater than ourselves and can make a difference.

Strategy: Target these key strategic goals to guide the next three years:
- Identify and support District needs and build corresponding funding priorities.
- Grow the major gifts program to include namings, sponsorships and planned giving.
- Build the alumni program toward increased engagement and giving.
- Enhance community and staff knowledge of and participation in the Foundation.
- Build committees, strategies and stewardship to increase and retain donors.
- Grow the annual fund to accommodate increased demands for unrestricted funding.
- Enhance Board recruitment and training toward a robust group of ambassadors.
The Foundation will use these technology vehicles as part of the effort to meet these goals:

**Foundation microsite:** The microsite, launched in fall 2017 at www.214foundation.org, operates on the Squarespace platform and is meant to be the primary front-facing marketing opportunity, with a bold call to action, easy online giving, an online donor wall and information on upcoming events — with opportunities to register and sponsor through the platform. This platform works well and is managed by Foundation staff and interns with some CEO assistance. Previously, we operated off the District page and required assistance from the District web staff.

**District 214 alumni Facebook page:** The Facebook page is the only social media presence dedicated to District 214 alumni. It is used for promoting alumni events, sharing news alumni may be interested in and executing alumni-specific social media campaigns. We also use it to share general information about the Foundation. It is managed by alumni volunteers.  
*Note:* Foundation-specific social media items are shared through the District’s Twitter account and Facebook account as well, with no specific Foundation accounts launched on social media.

**District 214 alumni LinkedIn group:** This is in the exploration phase, with a Foundation volunteer mocking up a proposal for how it would function. We believe, based on the median age of our alumni, that it would be an ideal option for communication, but need to ensure we have a strategy in place for how the platform would be used, what information we’d share, etc.

**Alumni database and e-blasts:** This is an opt-in option through our Foundation website that allows alumni to share their information for our own use in promoting events. We use this contact information both to identify potential major donors and to blast — via the CEO Constant Contact platform — alumni e-news items on a one-off basis depending on the campaign.

**GiftWorks customer relationship management platform:** The Foundation uses this to store information on donors, prospective donors and alumni. It is maintained and used by Foundation staff on a near-daily basis to process payments and acknowledgements and to look up notes and information on donors with whom we are building relationships. It requires no District support; most support is handled directly through GiftWorks.

**Giving Tuesday and other digital campaigns:** We run several campaigns completely digitally, using videos posted to YouTube and other social media to advertise the campaign and then the JotForm platform to gather donor data and online contributions through credit cards. We are able within our platforms to use PayPal and Stripe, and process recurring credit card donations.

**EdBacker software:** This is an online giving platform similar to GoFundMe that is targeted to education. The Foundation purchases this software and provides all guidance and ownership, but it is open to our individual schools to build online giving campaigns, approved through the Foundation, which then are advertised by the schools themselves using social media and email. Support and maintenance are handled by EdBacker support and not by the District.

**Scholarship software:** We currently are examining, in partnership with Teaching and Learning, opportunities for scholarship software that will streamline our application and selection process and put everything, from awarding the money to reviewing applications, online. Our top contenders are SurveyMonkey Apply and AwardSpring. Both are in review. Again, oversight of this would be handled through T&L and the Foundation, with support from the platform itself.

We additionally have about a dozen iPads, which we keep in the Foundation office, for use at events where we need to process credit card payments remotely, allow individuals to sign up digitally for the alumni database, or bid on silent auction items using a digital platform.

We also have two laptops issued to Foundation staff. Support for all tech needs, software installations, etc., are handled through Helpdesk tickets using our District staff.

### Website Redesign

**Analysis:** The District’s website is the main focus for the community. It offers a vast amount of information to provide parents, students and the community an opportunity to see the many great things taking place. It also helps them make informed decisions to move into the D214 area so their children can attend our schools.

The website should be refreshed every three to five years and be kept up-to-date regularly. The D214 and school websites are required to be ADA-compliant with a new set of standards that came out in 2017.

**Goal:** Refresh the D214 website with intuitive navigation that highlights the academic successes of the District. D214 websites will also meet new ADA guidelines for accessibility.

**Strategy:**

- Solicit feedback from administrators, teachers, students and community for a new design.
- Develop specifications for the new design.
- Send out an RFP to web design companies.
- Interview the top three companies that meet specifications.
- Select a web design company.
- Develop a project plan for migration and implementation.
- Roll out the new design in summer 2020.
### Research and Evaluation

#### Advanced Placement

**Analysis:** Advanced Placement (AP) course and exam participation has grown steadily in recent years. The District has exceeded its prior goal of 50 percent of all graduates earning a 3 or higher on an AP exam. At 53.8 percent, this is higher than the 51 percent of 2016. In 2017, more than two-thirds of graduating seniors had taken at least one AP course and 62.1 percent had taken a corresponding AP exam.

Prior to 2017, one of the primary instructional goals for District 214 was to increase AP course completion, exam participation and exam pass rates. It reflects a larger trend across the country in increased AP participation. This goal is now subsumed under the overall Redefining Ready! metrics; however, given the importance of AP, this report continues to provide a distinct presentation of the data. The integration of the AP curriculum increases course rigor, enhances student learning and performance, and translates into millions of dollars saved by students and their families every year in tuition for avoided college-level coursework. Success in AP coursework and exams also provides a launching pad to success after high school.

**Goal:** Support AP registration along with AP curriculum.

**Strategy:** Continue to program online AP registration programs that integrate with Infinite Campus and make it easy for students to register and for staff to keep track of progress. In addition, we will support the AP curriculum in digital format (ebooks) and other apps/programs on mobile devices.

#### Data Warehouse Support

**Analysis:** The District started using a data warehouse called Tableau two years ago. The warehouse allows mining of student information and other data to provide reports and visual representations on progress. The information is also used for accessing Redefining Ready!, Harper Promise and Career Pathways, and to help us determine where students need some assistance.

**Goal:** Keep up-to-date with versions of Tableau, with Technology Services working closely with Research and Evaluation to support their growing needs.

**Strategy:** Enable Technology Services to work closely with Research and Evaluation to determine the best stable version of Tableau to upgrade to on regular intervals. In addition, Technology Services will confirm daily that the nightly data sync with the Student Information System takes place to keep data current.

### Technology Infrastructure

#### Internet Connectivity

**Analysis:** The Federal Communication Commission (FCC) and the State Education Technology Directors Association (SETDA) have provided guidance on the amount of bandwidth required for school districts to support teaching and learning. The FCC’s short-term goal of 100 Mbps per 1,000 students and staff was recommended in 2016 with a long-term goal of 1,000 Mbps per 1,000 students and staff. With the increased demands of using mobile devices, cloud computing, software as a service, IP security cameras and the many other devices that now connect to the internet, a review of bandwidth utilization is required on a regular basis.

The graph below depicts the average amount of bandwidth used from March 16 to April 15, 2018. The District is using half of its available bandwidth, which means there is enough room for growth to support operations.

**Goal:** Each D214 school has a high-speed 10 Gbps fiber connection that connects into the District office to create the District’s wide area network (WAN). Two high-speed fiber internet connections to Comcast and Zayo provide an aggregate of 15 Gbps of internet access. Each internet connection provides failover and redundancy in the event one of the service providers is out.

**Strategy:** Continue to meet the long-term FCC and SETDA goals. Bandwidth will be reviewed on a daily and monthly basis using network monitoring tools already in use.

The District continues to use several network tools and standards to manage and assess the network performance, such as:

- Bandwidth monitoring and capacity planning tools.
- Anti-spam, anti-virus and anti-phishing tools.
- Tools to identify the type of bandwidth traffic on the network.
- Controls that prioritize the bandwidth available and the various types of traffic.
- Various network and equipment standards.
- Student and staff responsible use policies.
- Internet filtering.
- Remote desktop management tools.

**Funding:** E-rate funding will continue to be leveraged to support the internal WAN connections and for transport to the internet. The District currently receives 50% E-rate reimbursement.
Core Switching Refresh

Analysis: The switching infrastructure has been improved as the District started to pilot mobile devices. The equipment and wiring were upgraded to support the increased capacity and throughput needed to support Teaching and Learning and Operations. This included upgrading the local area network (LAN), the wide area network (WAN) and internet capacity. The switches are now 7 years old and ready for a refresh.

Goal: Replace all 250-plus switches in the next two years.

Strategy: Evaluate different vendor solutions to determine the most cost-effective switches that are interoperable with the rest of the backbone infrastructure. Replace switches in two to three schools per year, depending on budget.

Assets – Hardware

Analysis: The District currently has more than 3,500 pieces of technology equipment in each building. This includes iPads, laptops, desktop computers, wireless access points, Apple TVs, projectors, phones, network switches, printers, PA systems, security cameras, video distribution, software/hardware applications and local area and wide area network connectivity.

Classroom Technology
Apple TVs: 622
Assistive technology: 254
Desktop computers: 3,433
Digital cameras: 81
Document cameras: 368
Electronic whiteboards: 32
iPads: 13,785
IPTV encoders: 185
IPTV receivers: 839
Laptops: 2,239
LED clocks: 571
Multifunction printers: 194
Television monitors: 320
Uninterruptible power supplies: 134

Network Operations
Firewalls with intrusion prevention and intrusion detection systems: 3
Network switches: 250
Virtual servers: 145
Blade servers: 16
Storage area network: 2 filers with 122 terabytes of storage
Web filters: 4
Wireless access points: 1,037

Telecommunications
VoIP phones: 1,405
Voice gateways: 61
Cisco call managers: 3
Unified voicemail server: 1
Telephone lines: 2,586
Cell phones: 122

Security
IP security cameras: 910

Goal: Keep technology up-to-date and working properly with use of a hardware lifecycle plan. An effective way to keep computer technology current, a lifecycle plan calls for replacement of technology hardware at predetermined times.

Strategy: Review hardware replacement standards annually and replace as scheduled. Hardware replacement standards are reviewed each year by the TSS and TLF groups to have consistency and alignment: http://shortlinks.d214.org/hardware. Hardware will be replaced on the following schedule if adequate funding is available. The TSS and TLF groups will continue to work with teachers to determine if more cost-effective computing devices can be used to replace computer labs in the schools.

Hardware Replacement Schedule
• Teacher laptops: 5 years
• Desktop computers: 5-7 years
• Apple TVs: 3 years
• Students iPads: 4 years
• Network switches: 7 years
• Wireless access points: 5 years
• Virtual server operating systems: Upgraded 1 year after vendor releases a new operating system
• Firewalls: 3-5 years
• Web filters: 3-5 years
• Call managers: 4-5 years
• Uninterruptible power supply batteries: 3 years
• Cisco phones: As needed
• Multifunction printers: 5-7 years
• IP Security cameras: 5-7 years

Funding: The current technology budget will allocate $1,287,000 for iPad replacements each year, along with $200,000 to $300,000 for teacher laptop replacements. An additional $350,000 will be allocated for desktop computer replacements. Leasing will be leveraged to replace network switching infrastructure, storage area network, clocks and other specialized systems.

Assets – Software

Analysis: The following list shows the software that is used throughout District programs along with the number of licenses for each. Titles are categorized to reduce the length of the list. Each title within each category is reviewed each year to determine if it is still effective for instruction. The challenge is finding a cohesive way to evaluate these tools:
• Desktop publishing/graphics/music editing/video editing tools: 2,380
• Word processing/spreadsheet/presentation: 62,640
• Communication tools: 44,801
• Assessment: 43
• Webpage development: 896
• Utilities: 88,681
• Specialty apps: 104,843
• CTE software: 24,371
• Business office application: 800
• Learning management system: 14,000
• IOS apps: 142,324

**Goal:** Evaluate tools that capture usage and performance data to help make determinations on effectiveness. Tools that are not shown as highly used or effective for instruction will be reviewed each year to determine if they should be renewed.

**Strategy:** Investigate and implement a software inventory management solution.

### Cloud Computing

**Analysis:** The District currently has its own internal cloud computing infrastructure that was installed in 2012. The platform is built on Cisco blade servers, the NetApp storage area network and VMware virtualization platform. This has allowed the District to save almost $200,000 per year versus replacing 20% of the retired physical servers annually. The cloud infrastructure is aging at 5 years old and is at end-of-life by manufacturer guidelines. There are third-party companies that support end-of-life equipment. These companies have strategic partnerships with the manufacturer and buy off-lease equipment directly from them. The District will continue to leverage these party vendors to support the cloud infrastructure until further analysis is completed.

**Goal:** Determine if the District’s cloud infrastructure should stay on-premise, move off-premise, or take a hybrid approach with some on-premise and off-premise equipment.

**Strategy:** Review Amazon Web Services, Microsoft Azure, ServerCentral, Unitrends and Google Cloud. The technology team will evaluate cost, reliability and security to determine if it’s more cost-effective to move District hardware off-premise, keep on-premise or take a hybrid approach with some services on-premise and others off-premise.

### Disaster Recovery

**Analysis:** The District replicates data from its Data Center at Forest View Education Center (FVEC) to Buffalo Grove High School (BGHS). There is a power-up sequence that dictates which systems will be brought back online first at BGHS in the event of a major disaster that makes FVEC nonoperational.

**Goal:** Determine if the District’s disaster recovery site should remain at BGHS or if it should be moved to the cloud.

**Strategy:** Review Amazon Web Services, Microsoft Azure, Google Cloud, Unitrends and ServerCentral in the upcoming years. The technology team will evaluate cost, reliability and security to determine if it’s feasible to keep the Disaster Recovery Center at BGHS or move it off-site to the cloud.

### Printing

**Analysis:** Printer usage throughout the District was analyzed in the 2014-15 school year. The analysis provided requisite information to develop a plan for consolidation. The analysis included black-and-white and color printers, fax machines and tabletop all-in-one multifunction machines. As a result, more than 400 printers and other devices were removed and replaced with multifunction printers over the following two years. Phase I resulted in a significant reduction in copies and stand-alone printers.

**Goal:** Continue to evaluate where a reduction in printers and fax machines makes sense to reduce the cost of hardware and printing.

**Strategy:** Evaluate opportunities for continued reductions in the second phase and yearly review of printing devices.
Telecommunications

Telephone Service Provider

Analysis: The District installed a Voice over Internet Protocol (VoIP) phone system in the 2005-06 school year. This saved the District between $400,000 and $425,000 in the first few years of operation and resulted in a return on investment within two-and-a-half years. AT&T has provided phone services to the District for many years through Primary Rate Interface lines. However, AT&T has not been offering enough competitive pricing to continue using its services. Money can be saved by using alternate providers of phone service.

In addition, external phone lines to telephone service providers called SIP lines are becoming more mature in the marketplace.

Goal: Identify cost savings with other telephone service providers while reviewing the maturity of SIP lines.

Strategy: Evaluate other phone service providers in the Chicago area to determine if savings can be realized with better local- and long-distance pricing packages. An additional review of SIP lines will take place to determine if they provide safety and pricing flexibility for the District.

VoIP Phone Refresh

Analysis: The District installed a Voice over Internet Protocol phone system in the 2005-06 school year that saved more than $400,000 per year. The phones have been in use since then and need to be replaced in order to keep up-to-date and supported with CallManager platform versions.

Goal: Replace all 1,405 VoIP phones in the next two years.

Strategy: Send out requests for proposals to get the best pricing on new VoIP phones. Replace phones at two to three schools per year, depending on budget.

Information Management

Electronic Time and Attendance

Analysis: The District has many paper processes for staff timekeeping. Central Maintenance and Food Service staff use time clocks with paper punch cards. Substitutes fill out white forms that are sent to the Payroll Department, and educational support personnel fill out a weekly sheet to confirm the time they worked.

Goal: Reduce the amount of paper and payroll costs associated with manually processing staff time by automating the timekeeping process and implementing an electronic time and attendance system that will integrate with the APECS Finance and Human Resource system. This will save numerous hours of staff time and create efficiencies by not having to touch so many pieces of paper for entry into the APECS Finance and Human Resource system.

Strategy: Create electronic systems for timekeeping. AESOP has been in use since the 2010-11 school year for absence reporting. The system is integrated with the APECS Finance and Human Resource system and has provided automation for absence reporting and reconciliation. Using AESOP’s Time and Attendance module, Central Maintenance, Food Service and substitute teachers will punch into an electronic time clock that will sync timekeeping with APECS. ESPs will keep a weekly electronic calendar that will be approved by their supervisor.

Custom Programming

Analysis: In order to support District operations with programs that connect parents and students to the District, Technology has developed a suite of applications since 2007. These unique programs were not commercially available at the time. In addition to these programs, a data warehouse was purchased to track student achievement with Redefining Ready!, Harper Promise and AP Testing, along with many other metrics. These custom programs have assisted parents, students and the District by streamlining registrations electronically. They have helped track where the District is making progress and where there can be improvement. The cost of custom programming has increased as technology moves at a fast pace.

Goal: Evaluate commercially available programs to replace existing custom programs. Using commercially available programs will reduce the cost of hiring consultant programmers. The savings generated can be shifted to other parts of the technology program.

Strategy: Review and purchase commercially available software packages to replace custom programmed in-house applications where applicable. Some of the programs to replace: Online Fall Registration, Online AP Test, ACT Test and SAT Test Prep, Summer School and Summer Camp Registration and Parent Teacher Conference Scheduler, among others.

Data Security and Privacy

Analysis: The District has an Information Security Policy and Incident Response Plan. This policy and plan is reviewed each year and adjustments made based on ever-changing technology threats. The following graphs represent the threats the District faces on a regular basis. Not only are there attempts to access systems, but phishing scams (used to trick people into providing confidential information) are also on the rise and represent another threat. Security means reliability and integrity of the operation, as well as keeping the door locked on data.
Helpdesk Support

Helpdesk Performance Solutions

Analysis: The Technology Services Department reviews Helpdesk reports to evaluate performance in its delivery of services to support the District’s mission. Measurements are based on data, which indicate the performance of each building. These indicators allow for trend analysis over time. The Technology Department uses these graphs to show progress and to set expectations.

The following graphs represent a snapshot number of tickets opened by location over a set period and how long tickets are open before being closed. The Tickets by Location graph provides a snapshot from Aug. 1 to Oct. 30, 2017. As you can see from the graph, the number of tickets open at each building is very close. If there were a large variance between locations, it would mean there is something that would need to be looked at a little closer — e.g., more breakdowns of a particular system or not enough staff to keep up with repairs.

Goal: Provide a safe, secure computing environment for staff and students, and protect the District’s data.

Strategy:
- Use anti-spam, anti-virus and anti-phishing tools.
- Review the Consortium of School Networking (CoSN) Cybersecurity Checklist to evaluate areas that need to be addressed.
- Review daily security logs.
- Hold monthly security team meetings to review areas that need to be addressed.
- Continue security awareness program.
- Subscribe to a threat mitigation service.
- Achieve CoSN’s Trusted Learning Environment (TLE) Seal. TLE is a mark of distinction for school systems, signaling that they have taken measurable steps to implement practices to help ensure the privacy of student data (http://trustedlearning.org/).
Goal: Provide the best levels of support as possible for our students, staff and community.

Strategy: Collect and analyze Helpdesk reports to measure and monitor performance. The Helpdesk monitors progress in the following areas to:
- Improve the Helpdesk’s ability to handle incidents and requests more efficiently.
- Improve Tier 1 Helpdesk incident resolution.
- Improve customer satisfaction.
- Reduce support costs by efficient use of resources and technology.

In addition, an annual survey will be given to the staff to seek input and help gauge where improvements can be made for our users.

Updating Helpdesk Solutions
Analysis: The District implemented a Helpdesk solution in the 2004-05 school year. Since then, it has provided a means for tracking tickets and assets. However, the Helpdesk company was purchased by a larger company a few years ago, and it hasn’t made any enhancements to the product. Now there are other products on the market that are automated and can streamline support and provide more functionality. For example, a staff member should be able to email a specific Helpdesk address about a problem, and the Helpdesk software should be able to automatically open a ticket and assign it to a technician.

Goal: Review different Helpdesk solutions that provide more functionality to serve our users.

Strategy:
- Develop a matrix of features to evaluate different products.
- Solicit feedback from local districts to determine which are the most used applications.
- Review different applications with the best features to support District operations.
- Select a new Helpdesk application.
- Develop a project plan for implementation.

Technology Services Professional Learning
Analysis: Over the years, the Technology Services Department has demonstrated the need for professional learning for staff to provide the best levels of support. The evolution into the digital age has taught us the increased importance of developing staff to maximize support and their potential for helping Teaching and Learning.

Goal: Provide ongoing professional learning activities for the various technology support personnel.

Strategy: For supervisors, engage in activities to enhance their leadership abilities and communication and team-building skills. For technicians and Helpdesk staff, participate in monthly meetings to share, collaborate, network and learn.

Technology Services Staffing
Analysis: Technology is changing at a rapid pace, so it’s increasingly important to keep up with changing technology skills and adjust staffing structures to meet the needs of the organization on a regular basis.

Goal: Review organizational chart, positions and overall Technology Services structure every two years. This will include evaluating technology staff per device and staff member.

Strategy: Make necessary organizational adjustments based on the review of support structure, Helpdesk reports, workloads and available budget. Review and adjust all job descriptions to meet the changing technology landscape to support the District effectively.