Technology Plan for Digital Learning
2016 - 2019

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Technology Plan for Digital Learning 2016-2019

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Introduction

Preserving the status quo is, almost by definition, an inherent part of the mission of an organization. Schools, like most institutions, have built-in and resilient mechanisms for thwarting innovation. Our education infrastructure is a massive institution involving hundreds of organizations and millions of people. Moving it from the 18th century through the Information Age is an innovation of monumental proportions. We must recognize that this change is not a product but a complex process. If the process is to yield substantive change, it must be managed throughout its three phases - planning, implementation and ongoing management. Over time, if the process works, a mutual adaptation occurs.

During the planning phases, a strategic vision should be developed and the problems to be solved with technology defined. To be successful, the vision must integrate educational goals, human resources and technology. The vision must be implemented from the classroom upward, because teachers have a de facto veto power over what happens in their domain. They must be brought into the process.

The vision articulated in the plan should demonstrate how the technology will be used to engage students, enabling them to solve problems, think critically, communicate and collaborate effectively in the global community.

The primary tasks of the initial phase are to integrate the human and technical aspects of technology-related education, to forge new roles, and to establish authority and accountability to support the new shift in both instructional and organizational processes.

The task of ongoing management is to maintain and support the new system as efficiently as possible. The majority of costs for both human and technology resources occur in this institutionalization phase. The implementation process will function well only if at each stage there are linkages between the educational problem to be solved and the changes in organization. At the same time, technical and organizational changes must be integrated under leadership with vision.

This plan addresses problems identified by the staff that could be abbreviated through the use of technology, and it offers new goals for achieving desired outcomes.

With all plans there becomes a real need at some point to adjust to the changes that occur in the immediate environment. We believe the administration and teaching staff of the school district are capable of implementing the plan and making appropriate updates when necessary.

We believe this plan is the blueprint for moving our students through the 21st century, as we seek to Inspire, Engage, Innovate.
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Executive Summary

The Voorhees Township School District has evolved as an organization that recognizes the benefits of providing technology-based initiatives, and it continues to demonstrate a high level of commitment in the implementation of a successful and comprehensive educational technology program. In both instructional and administrative settings, the appropriate selection and configuration of software and hardware resources has truly enhanced the quality of the teaching/learning process and the communication and management of related information.

The district’s educational technology mission statement reflects a perception characteristic of the educational community in Voorhees Township that the integration of technology in all academic content areas, the development of information, media and technology literacy skills, and the establishment of a foundation for life-long learning are critical contributors in the success our overall educational program. With the Framework for 21st Century Learning at its focus, all other areas included in this plan provide the support structures required for the district as an organization to be successful in accomplishing its mission.

Instructional Mission Statement

Strive to meet the unique needs of all stakeholders by providing comprehensive, innovative, and creative instructional programs that prepare lifelong learners to succeed in an ever-changing global society.

Vision: Defining the Future School Environment

Although the prediction of future events in any arena generally may be considered to be a bold or risky endeavor, in these times of public scrutiny of educational institutions and traditional practices, changing family structures and economic unrest, the crystal ball is cloudy. Furthermore, attempting to envision the precise impact that emerging technologies may have on the school environment and society may be futile, when the simple act of predicting what these technologies might be is so difficult.

We live in a world where change has become the constant. As a result, the world as we knew it even as little as ten years ago, no longer exists. Hard as it may be to accept, ten years from now, today's world will have recreated itself many times over.

By evaluating the available research, examining current trends in society, education and technology, and factoring in local environmental variables as can best be anticipated a potential future scenario may be crafted. The importance of this allows the school district to position itself to arrive somewhere close to this scenario in the long run, by planning and implementing
initiatives which meet more immediate needs and serve as prerequisites to achieving long term goals.

The identification of knowledge and skills that today’s students need for the future has evolved into several trends reshaping the structure of public education in our nation. Some common threads running through proposed reforms, such as the blending of content knowledge, specific skills, expertise and literacies, will continue to impact the Voorhees Township School District and serve to shape the overall educational environment. Personalized digital learning approaches, such as redesigning classrooms and teaching methods, effectively using technology, are needed to ensure that all students have the opportunity to achieve master of the skills and knowledge that will prepare them for college and careers. These include thinking critically, using knowledge and information to solve complex problems, communicating effectively, learning how to learn, and developing academic mindsets. Required change will affect not only the school district’s instructional program, but also the ways in which it operates, manages people and information, and communicates.

Designed instructional activities will increasingly require student-computer ratios of 4:1, 2:1 and 1:1, necessitating that a varying number of appropriately equipped computer workstations be available in each classroom for constant student use. This includes use of emerging products such as portable handheld devices and special-purpose information appliances, whether they belong to the school district or are personally owned by students themselves, leveraging wireless technology to provide flexible mobility. Innovative instructional schedules, methodologies and classroom management strategies will be employed in all curriculum content areas, allowing students to routinely use technology in their pursuit of knowledge and the development of required skills.

Opportunities for student collaboration in project-based learning will exist both within and beyond the walls of the classroom, whether an isolated exchange, a social media interaction with one or more concurrent partners, a shared desktop presentation, an electronic field trip, or a scheduled videoconference-based class session. Every student will be able to communicate and share ideas and information with others in remote locations on a regular basis, from any classroom or from home using emerging social networking and other Cloud based tools. Text, images, voice, and video will be exchanged effortlessly and responsibly as students travel down new pathways, participate in virtual communities or visit electronic venues of information using vehicles of technology.

Most technology-based reference materials will be available and accessible in every classroom or on student personal devices in an on-demand fashion. Whether a full-length video, a live broadcast or real-time conference, a collection of sounds or images, or bodies of text, media libraries and communications links will provide the necessary instructional content. Accompanying metadata will allow for indexing and the performance of rapid searches. These information-rich environments will provide content that will be current, easy to locate, accessible and comprehensive. Remote access to resources will be made available for
independent learning, evening access and for homebound or traveling students, as well.

Although the teacher’s role will continue to move toward facilitator of learning in project-oriented activities, large group instruction will still be a vital instructional strategy. The sharing of information from these new information sources within or among classrooms, by both teachers and students, will be facilitated by the presence of large-screen displays, projection devices or collaborative digital whiteboards. Multimedia and collaborative tools will evolve and be easily customized to more effectively capture the interest of students, address their unique learning styles and engage them while they learn.

Teachers and administrators will continuously increase their utilization of technology to gather, manage and report information using the computers on their desk, or from any location using a portable computer, handheld or wearable device. Their ability to collaborate in the completion of tasks, locate and procure instructional and non-instructional resources, and share ideas will be enhanced significantly. The simplification of clerical or administrative-oriented tasks for staff helps to increase the amount of time available for instructional planning and leadership activities.

Teachers will be better able to exploit new lines of communication between the home and the school. Time factors require that parent-teacher relationships be maintained routinely with voicemail, e-mail, messaging, interactive web pages, and social media, to complement the traditional phone calls and face-to-face conferences. Face-to-face conferences may also be conducted between teachers and parents in remote locations via desktop videoconferencing, streaming video, or emerging virtual (simulated) environment technologies.

The school and district will demonstrate increased utilization of digital media in its efforts to provide the community with information. Secure parent access to student information related to attendance, assignments, grades, and discipline will provide comprehensive snapshots of student progress in a self-service format, while arrangements for automated notifications, alerts or subscription-based content using these resources may be used to provide real-time updates about relevant changes as they are made. Additional interactivity on all of our websites, social media, or integrated into mobile apps, will allow community members to respond to surveys, post comments or questions, or otherwise interact on important topics, providing valuable input into the decision-making process. Forms for student registration and other purposes may be available online for completion at parent convenience. Remote access to public meetings or events may be facilitated through live streaming media webcasts or chat sessions delivered securely over the Internet, with content from these proceedings available after the fact, on demand or by subscription, in the form of a podcast. These measures will help to ensure continuous exchange of important information between the home and school.

The bond between the school district and community shall also be enhanced through the provision of access to available technology resources. Adult education opportunities focusing on the development of technology skills will become more practical, while information and
communications systems will become more available to instructors of courses in other areas. Provisions shall be made so that use of online references, applications and communications systems may be afforded to community-based groups for organizational use. This will be accomplished by physically opening the available facilities for supervised use on-site, and by providing remote access to resources from the home or workplace.

Beyond consideration of the precise types of tools, operating system platforms and vehicles for connectivity that will be available, more from a conceptual standpoint, the district technology committee envisions the walls of the traditional school to be figuratively broken down as we proceed through the early years of the 21st century. As communications systems and information appliances evolve to the extent that digital information (i.e., data, voice and video) will converge and will be readily available at any location, opportunities to access, share, provide and expand knowledge will continue to reshape the structure of schools, the art of teaching and the means by which students learn.

The changing face of the technology-rich environment and the openness of communications delivery systems will increasingly, and unfortunately, continue to include many new risks for users related to their information, applications and equipment. Technology managers must continuously assess these threats, such as hackers, viruses, spam, and various forms of malware, and then provide security measures that may prevent and/or address the impact of attacks on both technology resources and their users. Technology users must be active participants in the protection of the resources they use with the guidance and support of technology managers. Caution also must be taken, with heightened awareness, concerning Cyber safety and the potential for risks users often take while interacting in social networking environments, on commerce sites, or in any circumstance when the exposure to inappropriate content and/or the sharing of personal information is involved.

Provisions for fault tolerance and disaster prevention/recovery will receive heightened emphasis as access to data, digital content and resources becomes more critical in the operations of all facets of the school district. This will also be more pronounced as the school district attempts to interpret and apply existing regulations for traditional analog information in its new digital formats, such as copyright, privacy, records retention and discovery issues.

Users, both students and staff, will all be held more accountable for their technology use behaviors related to threat prevention and management, digital content utilization, productivity during the workday, and interpersonal relationships. Establishment of clear policy, refocused staff development and instructional programs, and supervision will all contribute to emphasize the ethical and societal components of technology use.

Technological development often forces change, and change is uncomfortable. Mastering change created by technology requires the ability to work with discomfort. As we begin to understand the connection between new technologies and our capacity for embracing them, we must find ways to become more quickly adept with these new resources.
The school district’s vision lies less with the technology and more with the importance of developing the mind set or paradigm of the people who use the technology. Paradigm determines how well we handle changes, and dealing with change requires individuals to cultivate a unique set of attitudes and skills that are necessary if we are to successfully leverage the changes for our benefit. It is mindset that determines how people visualize the potential of a new technology and how it may be used to enhance our professional and personal lives, and if driven by a desire for comfort that outweighs the potential benefits of implementation, even the most powerful of new technologies have limited impact. The key to our success in the emerging technology-oriented global culture of the 21st century is being able to make a radical shift in our mind set and paradigm for life.

**Educational Technology Stakeholders**

The educational community of the Voorhees Township School District is comprised of many distinct groups, each holding a stake in the overall educational program provided by the district. As the presence and utilization of educational technology continues to grow and pervade in all facets of the organization and delivery of our educational program, because of the support and financial commitment which makes this technology accessible, the district has a responsibility to ensure that it meets the technology needs of all its stakeholders.

**Students** are both the product and the client in the industry of education, and the educational enrichment that may be provided through an appropriate implementation of instructional technology lends itself to the future preparation of students as lifelong learners and participants in a technological society.

**Parents and community members** are the consumers of our educational program. They generally support the concept that new tools and changed methodologies are necessary in our schools to best help ensure the success of today’s children - their children - as they prepare to participate in or lead in an evolving society and workplace. The presence of technology-based resources in the schools also provides community members with access to productivity tools and continuing education opportunities for themselves.

**The Board of Education** has a responsibility to the taxpayers to provide the best educational environment for the students in the township. They are accountable for ensuring that the system is effective in achieving all of its educational goals, meeting the needs of society and the local community in serving its children. The commitment and support of the Board of Education is crucial if a school district is to be successful in implementing a technology-based solution in schools.

**Teachers**, sometimes with the assistance of **instructional associates**, have the responsibility of providing educational experiences for students that are motivating and lead to learning.
Technology-based tools for instruction offer new avenues for teachers as they try to provide an exciting and enriching environment. Technology-based tools for productivity assist teachers in performing some of their management and clerical duties, which provides increased time for lesson preparations, parent consultations and other professional activities. Proper staff development and support is required to ease the stress level often associated with the implementation of new and unfamiliar tools and methodologies.

For real instructional technology integration to occur in the school curriculum, **administrators** must play an important role as instructional leaders. Serving as change agents to encourage, motivate and support teachers as they explore new instructional methodologies using new tools, they must exhibit a high regard for the teaching/learning process and potential that technology provides. Technology-based tools for information management and communication benefit administrators. By utilizing tools that decrease the amount of time required to perform administrative tasks, more time is available for activities more directly linked to enhancing the educational process in a school or across a school district. **Administrative support and operations staff members** also play a key role in facilitating information management and communications requirements, maximizing the potential for administrators to perform these leadership duties.

**Government Agencies, Corporations, Universities** and **Non-Profit Organizations** are identified as external stakeholders as the well-being of these institutions is dependent upon the capabilities of individuals within these organizations to attain success. Increasingly, it becomes vital that these entities take an active role in ensuring that the future workforce is appropriately skilled. Through participation in cooperative partnerships, generation of funding, or the provision of human or material resources, these organizations must have a share in cultivating technology- and information-rich learning environments.

**Guiding Values and Principles**

When investing in technology-based solutions, appropriate and responsible decision-making, should be guided by a common set of values and principles congruent with the educational philosophy of the school district. In the Voorhees Township School District educational technology initiatives should:

- Be used to raise community awareness of the benefits of technology in the schools with respect to its implementation today and in the future
- Prepare students to be productive, contributing members of a technologically advanced society
- Support, enhance and optimize other district educational goals, to include successful compliance with New Jersey Core Curriculum Content Standards and the Common Core Standards
- Be aligned with New Jersey State Department of Education and national technology
goals
- Enhance stakeholders ability to research, organize and present information
- Enhance personal and professional life-long learning skills
- Prepare students, staff and community members to become safe, responsible and ethical users of technology
- Support and encourage staff learning new technology through training and technical support
- Promote parental awareness of need for students to use digital tools, providing both a rationale and guidance
- Provide appropriate information access for all stakeholder groups, adapting formats where necessary to provide for special needs
- Simplify tasks for all groups
- Diversify teaching to address multiple learning styles
- Foster motivation to learn
- Aid in problem-solving strategies
- Serve as a bonding agent in the development and maintenance of partnerships
- Reflect cost effective decision-making
- Facilitate process of change
- Provide avenues for global communication
- Protect the information, technology resources and their users

As is the intent of any educational technology plan, whether authored by officials at the national, state, county or local level, this plan is intended to drive change - change which will empower members of the educational community to be life-long learners in an information- and technological-oriented society.

Although opportunities towards these ends have and continue to exist for the young people in Voorhees Township, a continuous process of evaluation and adjustment is necessary to ensure that the most appropriate tools are being used in the best ways.

To arrive in the preferred future, we must walk down a road of uncertainty. With the goals in this plan serving as a map, with strong leadership to establish direction, and with partners to provide strength and resources needed for endurance, the trip can be both exciting and enriching. But, since this is a road without an end, the journey itself is far more important than the destination.

**Evaluation Plan**

On an annual basis, at the conclusion of each year or more frequently when necessary, the educational technology planning committee reconvenes in order to review, reflect and assess progress in completion of tasks specified in the action plan. Identified persons responsible must report on each task with respect to the timeline and evaluation measure linked to each.
Tasks related to every goal in each of the nine target areas of the plan are reviewed and discussed with respect to degree of completion, measures of success and any identified need to modify or adjust some aspect of any task.

As indicated elsewhere in this document, this plan must address the district's mission and vision for educational technology with respect to all of its stakeholders and the identified guiding values and principles. Furthermore, evaluation regarding the integration of technology in all academic content areas, compliance with state academic standards in all academic areas and those related to the development of information, media and technology literacy skills, as well as the establishment of a foundation for life-long learning are specifically addressed in Key Category (Gear) 1 of the action plan.

More precisely, for each of the eight (8) key categories in the district action plan, we are looking to measure growth following annual administration of each school’s NJTRAx Digital Learning Surveys over this three-year period. We expect to realize an increase of at least two points on both our Digital Learning Readiness and Digital Learning Implementation scores for each school, as compared with scores recorded in 2015-16. Additionally, we expect to reduce the existing gap between each school’s Digital Learning Readiness and Digital Learning Implementation score to less than one point by significantly increasing Digital Learning Implementation over the next three years. Each school’s action plan contains its own plan for reflection and adjustment.

The plan is dynamic rather than rigid in structure, and included targets, goals or tasks must be modified or adjusted whenever the climate should happen to change. Many of the goals and objectives from the 2013-16 were carried over into the 2016-19 plan without revision, as they were deemed to still be relevant to our stated mission. Some of these were revised in order to be continued due to certain changes in the environment, and their inclusion within the new context is just as significant as when they were originally introduced. Many of the 2013-16 goals or objectives were not discontinued for 2016-19, as they still establish direction, intended to be continuously pursued and possibly only attainable over a significantly longer period of time than allowed in the plan. Many new goals and objectives were constructed and added into each of the target areas addressing the district’s more recent needs, some spawned by unexpected outcomes (both positive and negative) realized during implementation of the 2013-16 plan, and all will be assessed at the conclusion of each passing year.
Educational Technology Planning Process

Historical Overview

The Voorhees Township School District recognizes the correlation of careful planning to the degree of success realized when implementing new initiatives. Educational technology is an area of no exception, especially due to its perceived level of societal importance (and its cost).

The inclusion of historical data in this document is to reinforce the district’s belief that technology planning should be an ongoing endeavor, responsive to changing needs and opportunities. As the school district has been an active participant in educational technology practices for many years, the plans created and the processes utilized have emerged from our past experiences. This section attempts to emphasize the district’s commitment of time and resources as essential elements of the planning process, and to provide the reader with a perspective regarding the baseline on which this planning document was built.

Pre - 1989

During the years before the writing of the district’s first educational technology plan, members from various facets of the school community were surveyed to determine a consensus of technology needs. The administration, faculty, non-certified staff and community members were given the opportunity to provide input into the selection of hardware, software, curricular programs, staff development methods and topics, data management tools, etc. These surveys did and still focus on these target issues individually as specific needs emerge.

1989-1991

During this period the district made a considerable initial investment in securing computer-based resources and establishing the base infrastructure in each school’s local area network environment. These resources included the establishment of networked computer labs, automated libraries, and single computer classrooms for special education, BSIP and ESL classrooms. Through these years teachers and students participated in an evolving computer literacy curriculum, but were also engaged to experiment with and explore new teaching methodologies and tools for instruction. Through the 1990-91 and 1991-92 school years, the district participated as a beta test site for IBM’s Writing to Write Curriculum. As one of eleven districts nationwide to pilot the program and provide the company with field data, we had the opportunity to recommend changes prior to the product’s first commercial release.

1991-1994

During the winter of the 1990-91 school year, following an IBM Executive Briefing held for a
district subgroup in Atlanta, GA, a committee of district administrators and teaching staff members were assembled to participate in a series of five strategic planning sessions with the intent to develop a comprehensive three-year district educational technology plan. With the cooperation and participation of an IBM consulting team, implementing the Joint Educational Technology (JET) planning strategy, the document was completed and implemented during the late spring.

The district’s first Educational Technology Plan also documented the planning session methodology utilized. It provided the original technology mission statement and identified opportunities that were in existence in the district’s instructional program at the time of its development. The plan offered a consolidation of problems and issues that were to be addressed, listed the requirements, solutions and benefits of these consolidated issues, and outlined the district action plan in response to the preliminary activities noted above. The action plan included specific subtasks, persons responsible, time lines, and cost considerations for each of these six target areas:

- Training
- Instruction
- Student Motivation
- Organization/Access of Information
- Communication
- Time Management

1994-1997

The second revision of the district’s Educational Technology Plan also represented a three-year growth plan, largely based on the successes and failures the district had experienced during the implementation of its predecessor. The school district facilitated its evolution based on current and future needs, perceived at the time, requiring specific tools and strategies. The district established a committee comprised of teachers and administrators representing various populations within the educational community. The plan was created following a variety of data collecting activities during five strategic planning sessions.

The first phase of the planning process focused on information gathering activities, which included various educational technology presentations conducted by various educational technology consultants and district staff members. Reports from subcommittee field visitations of area school districts with acclaimed educational technology programs, an examination of the New Jersey State Educational Technology Plan, and a briefing regarding the initiatives proposed by the newly formed Camden County Educational Technology Committee (e.g., CamNet project) were included. Information was shared with the committee regarding new hardware and software products, online information networks and services, instructional and administrative practices, and global and societal implications of technology.
The second phase of the process involved a series of strategic visioning activities. Stakeholders were identified, with guiding values and principles defined. Local and global trends were scanned and forecasted, and both a vision and a mission statement were established.

Life cycles of our past and current technology initiatives were analyzed with data generated focusing on seven major areas. The action plan portion of the document included the following goals falling within these seven areas: 1) Staff Development; 2) Instruction; 3) Teacher Productivity; 4) Administration; 5) Community Access; 6) Infrastructure & Maintenance & 7) External Resources.

1997-2002

For a third time, the district had committed to participate in a strategic planning process to ensure that its investment in its educational technology resources was both appropriate and beneficial to the educational community. Although the planning methodology had varied with each revision of the district’s plan, the goal remained the same.

As an initial activity, a cross-section of district staff members had participated as representatives in an initial fact finding meeting. This was a good starting point as it included a large number of staff members who contributed many worthwhile ideas.

From the pool of staff members who attended the initial planning meeting, a smaller working group was invited to serve as members on the district’s Educational Technology Planning Committee. These staff members, joined by the district’s Technology Specialists, a team of administrators, community representatives, and other contributing agencies were charged with the responsibility of charting the district’s course into the 21st Century.

The planning process designed required that all committee members attend three full day work sessions, one or two smaller-scale informational meetings, visit and report on one or more area schools with exemplary technology programs, and participate in scheduled technology "futurist" presentations and product demonstrations. The school district had provided release time for staff members to facilitate the completion of these activities.

This planning process was designed to first present committee members with relevant information in the format of an executive briefing, and then to engage them in work sessions that focused on strategic visioning, data collection and action planning activities. As a result, the district’s standing vision for a preferred future was modified and our educational technology mission statement was renewed. A situational analysis was performed on the relative state of all technology-based initiatives being implemented at the time, strategies for change management were generated and potential barriers to change were examined.

The data generated during this phase was compiled and classified within target areas. These
target areas were identified as solutions-based initiatives or support structures. The Action Plan portion of this document was developed to include goals related to each of these target areas, tasks related to each goal, responsible persons named for the completion of each task with timelines, linkages with other programs, resources required, benchmarks and estimated cost information identified.

All components developed were reviewed to ensure compliance with New Jersey State Department of Education Guidelines required for funding from several state and federal sources, and included the establishment of linkages with both external technology plans and other ancillary local plans. The related plans identified, at least in part, serve to determine and reinforce roles and levels of responsibility of individuals, schools and the district as a whole, toward meeting the technology goals in the Voorhees Township School District.

Corporate partners and other technology vendors were consulted throughout the planning process as solutions for voice, data and video applications were placed under consideration. In addition to the review and selection of technology products and services, opportunities for educational institutions, creative-financing programs, customer support options and product futures were explored. Relationships formed or renewed in this process have continued to serve the district during the incremental implementation of this plan.

1999-2001 Update

Modifications and enhancements made to the original (1997-2002) five-year plan were the result of data gathered during 1) monthly Board of Education meetings, district administrators meetings, school staff meetings and parent-faculty organization meetings; 2) weekly computer specialist meetings; 3) monthly Camden County Educational Technology Committee meetings 4) monthly local and regional distance learning consortium meetings; 5) Bi-monthly Voorhees Educational Technology Association meetings.

Additional input/feedback was collected from the community via correspondence as a result of information published on district and school web sites, press releases, district and school newsletters, school calendars, Board of Education meeting notes, and other relevant publications.

The district’s main goals for technology initiatives through the year 2002 were established in order to meet district technology needs, as identified by both the original and revision planning committees. They were set within the nine major areas of the action plan and broken out into two larger categories:

Solutions-based Initiatives

- Instructional Technology Programs and Initiatives
- Administration and Teacher Productivity Initiative
• Community Access Opportunities

Support Structures

• Facilities, Hardware Resources and Infrastructure
• Software and Online Resources
• Staff Development Programs
• Educational Technology Staffing
• Maintenance, Service and Support
• Technology Resource Acquisition

2001-2004

A task force was created consisting of the Director of Educational Technology, and the school district's eight (8) Technology Specialists; four based in elementary schools, three based in the middle school and one centralized staff member servicing the entire K-8 structure.

Each task force member served as both a chairperson and representative for building-based subcommittees consisting of building-level and central office administrators and support staff members, regular and special education teachers, librarians and community liaisons. In their usual role of Technology Specialists, these task force members not only regularly keep abreast of research, trends and developments in technology impacting the educational environment and society at large, but they also have hands-on experience and a strong sense of the specific problems, issues, requirements and potential solutions as related to their separate constituencies.

In a decentralized approach, site-based planning subcommittees each met independently to evaluate the status of the existing technology plan. The group examined the plan for both degrees of completion and continued relevancy of goals and objectives. Within the context of the nine (9) target areas from the previous plan, and with an eye toward current trends and future opportunities in educational technology, current problems and technology-based solutions were identified and prioritized.

Each committee member received an edited copy of a NJDOE checklist, originally provided by the Camden County E.T.T.C., in advance of the initial meeting. The committee members were directed to use it as a guide in examining the current plan (1999-2002 Update) prior to attending. The checklist was distributed containing text representing a description of data required in the new document, as well as notes, observations, recommendations, etc., regarding how the new required items relate to information already included in the district's current plan.

Subcommittee feedback in the form of recommended insertions, deletions and modifications to the existing technology plan were gathered and provided to each of the representatives.
Information was developed via a combination of group discussion, informal dialogue, and use of survey instruments.

Each member brought his/her consolidated subcommittee recommendations back to the task force in a general meeting. The group worked through the items requiring the least amount of effort and discussion during the first portion of the meeting, with the Action Plan (Target Areas, Goals & Tasks) revision consuming the balance of the available time.

Edited copies of core components of the plan were distributed to the committee members as available via e-mail attachments. Changes reflect those agreed upon by the group during the initial planning meeting. Copies of the edited Executive Summary, Action Plan (Target Areas, Goals & Objectives components), Planning Process, Current Environment components and Appendices were revised and shared with the committee members as they had become available. Recommendations for change, discussion and consensus were reached collaboratively using e-mail tools.

New additions to the plan were also developed, with drafts being periodically sent to all technology specialists seeking feedback from school-based subcommittees. These components include Student Technology Proficiencies by Grade Level, and Educational Technology Competencies for both teachers and administrators. The development of these new components consumed a significant portion of two follow-up planning meetings. These components have a significant impact on instructional technology integration planning strategies and staff development program development.

Additional community input had been obtained using a survey instrument designed to specifically address the Community Access Opportunities component of the action plan. Feedback concerning ways the district may use technology to improve home-school communications, provide access to technology resources and update information technology adult education courses was gathered. The Voorhees Township School District Information Officer and the Director of Community Education and Recreation had both contributed in the development of the survey instrument.

The survey was administered to the following groups: 1) Board of Education members; 2) Voorhees Educational Technology Association (V.E.T.A.) foundation officers; 3) Parent/Faculty Organization officers & Key Communicators Committee members. These groups are proven supporters of the school district and serve as representatives to larger bodies of community members.

All remaining feedback and input by subcommittees and community members were considered as the remaining components of the plan were completed. A final planning meeting was held, during which final decisions were made and house-keeping items were completed.

Board of Education Approval and submission of Technology Plan to County Office for approval.
had taken place in May, 2001.

At the conclusion of the strategic planning process, the Educational Technology Planning Committee had reaffirmed the continued viability of the nine (9) target areas that were included in the last two revisions of this document.

**Solutions-based Initiatives**

- Instructional Technology Programs and Initiatives
- Administration and Productivity Initiatives
- Community Access Opportunities

**Support Structures**

- Facilities, Hardware Resources and Infrastructure
- Software and Online Resources
- Staff Development Programs
- Educational Technology Staffing
- Maintenance, Service and Support
- Technology Resource Acquisition

2004 - 2007

As was the case in previous technology plan revisions, we initiated the planning process with information gathering, exposure and discussion in the format of a staff work session. Session participants were selected based on their background and experience in working with technology resources, media content and communications systems over the past years, and most have held some level of responsibility in serving as information and/or technology resource and support agents for other staff members. Administrator participants have an awareness of district curriculum and technology goals, logistical barriers and potential opportunities, staff needs and motivators, and provide required leadership.

The session began with introductory comments providing an explanation of the purpose for the meeting. The meeting agenda was reviewed with the desired outcomes revealed.

The next portion of the session called for the establishment of several small workgroups, each assigned a technology specialist as a resource and charged with the completion of a sequence of tasks created for each of ten (10) designed activities. The purpose for each activity was to allow the participants to work with a different “e-learning” resource available today in their schools, explore them at a fairly complex level, and engage in discussion and problem solving throughout the process. The groups were able to rotate through most of the activities during the morning portion of the work session. With that, discussion of the management,
maintenance and support requirements allowing for the existence of these resources in the classroom was drawn out with individual groups during the activity.

As the nature of many of the examined resources expressly involve the manipulation and sharing of various media forms (content) as well as communications (people), whole group discussion examining legislation, policy and procedures dealing with copyright vs. fair use, and parental permissions were included in the process.

With an experience baseline established after working through the ten distance learning activities, and relevant discussions, the primary focus of the afternoon’s discussion session was to: 1) identify opportunities for employing the use of these available resources; 2) examine some of the benefits for enhancing instruction, staff development and productivity; 3) list required conditions leading to successful implementation; 4) recognize obstacles hindering progress; 5) explore motivators for increasing staff participation; and finally 6) construct legitimate recommendations for systematic change that affords the district a better approach to achieving its goals, beyond what it’s doing already.

As a follow-up to the initial meeting, the district provided a ½ day hands-on staff development session in every school over the course of several months during the spring of 2003, providing full day substitutes to cover both a morning and afternoon group of teacher participants, as well as selected community members. This program provided several small-scale learning activities allowing participant groups to experience many of the new technology resources available. Enough sessions were scheduled to include every building teacher and community representative, and all of the district’s technology specialists participated in every session as group leaders. Feedback was obtained from every participant and this data was analyzed and used in the revision of goals and tasks incorporated in the plan.

The community at large was also afforded the opportunity to participate in a comprehensive survey that included items designed for the purpose of educational technology planning. This survey was conducted in the fall of 2003 via the district’s web site.

Additional meetings were held with district technology staff members serving as building and community representatives. A complete review of the required revision elements of the plan as prescribed by the NJDOE was provided, a final task-by-task assessment of the former action plan was conducted with respect to continued relevance, and new goals and tasks were created in the identified target areas as a result of staff and community input.

By more aggressively pursuing the implementation of the recommendations made as incorporated in the revised action plan, it is hoped that we may: 1) Pursue equity by increasing significantly the number of students that are afforded opportunities to benefit from the provision of learning experiences that utilize educational technology resources on a more regular basis; 2) Raise levels of expectation and provide assurances that our staff will regularly use educational technology resources following varied approaches to motivation, appropriate
levels of staff development and the reformation of various types of support structures; 3) Dedicate the required level of manpower and expertise to ensure that systems that provide access to educational technology resources may be properly administered, maintained and can evolve in proportion with our changing needs; and 4) Engage in continuous project assessment and provide necessary modifications to ensure that the district realizes a maximum return (i.e., educational benefits) on its investment in costs associated with communications services, infrastructure, staff, staff development, media content licensing, and support services.

As was the case in past revisions, the nine (9) target areas that were again reaffirmed as comprehensive and viable:

**Solutions-based Initiatives**

- Instructional Technology Programs and Initiatives
- Administration and Productivity Initiatives
- Community Access Opportunities

**Support Structures**

- Facilities, Hardware Resources and Infrastructure
- Software and Online Resources
- Staff Development Programs
- Educational Technology Staffing
- Maintenance, Service and Support
- Technology Resource Acquisition

**2007 – 2010**

The district’s initial planning activity was to administer an online technology needs assessment to its various stakeholder groups, with role-specific versions created for staff members based on employment area of responsibility. A community member version was provided as well, and was also administered via the district’s website. Survey items were created to reflect current trends and issues related to each of the target areas that had been established in our most recent technology plan revisions.

Almost half of the included items on administrator versions of the survey were comprised of the Role Specific Leadership Tasks, published by the TSSA Collaborative and adopted by the International Society for Technology Education (ISTE) as the National Educational Technology Standards for Administrators (NETS*A). For more information on these standards, performance indicators and role specific leadership tasks.

Data collected via these survey instruments were aggregated and reviewed by a group of the
district’s technology specialists, and then compared against the goals and objectives from the 2004-07 technology plan. The data compiled will later be shared with departments and work groups, to be used in the planning of policy, procedures and relevant staff development programs. For technology planning purposes, this data was useful in establishing direction in evaluating the present relevancy of the goals and objectives from the 2004-07 plan, as well as new targets for consideration.

Working with selected groups of teachers, media specialists, administrators, secretarial and operations staff, our technology specialists compiled building level lists of potential goals and objectives for each target area in the 2007-2010 plan. These included recommendations for the removal, continuance and/or revision of 2004-07 goals and objectives, and the addition of new items, based on the published NJDOE required components for this revision. Much of this activity was conducted via online collaboration using the available communications and project management resources.

Target areas, goals and tasks were established for the 2007-2010 plan by the group of technology specialists, as they represented their building level task force in a planning meeting. This final list was shared back with the larger committee for approvals, along with the ancillary support components developed by the Director of Educational Technology, building technology specialists and other central office staff members.

2010-13

The needs assessment strategy employed was a multifaceted approach that considered both the internal and external forces motivating our reasons to consider making changes to our technology environment.

Revisions to many of the external plans with which our former plan had been linked had been. The ISTE National Educational Technology standards for Students, Teachers and Administrators, the Educational Technology Plan for New Jersey, The New Jersey Core Curriculum Content Standard 8.1 for Educational Technology, and the Facilities Guide for Technology in New Jersey Schools are among them. All were placed under review and discussion by the district technology planning committee.

The exploration of these documents showed a consistent alignment with the Framework for 21st Century Learning, developed by the Partnership for 21st Century Skills organization. A series of phased seminars, “Creating 21st Century New Jersey Schools: The Statewide Systemic Model for Continuous Professional Learning and Growth,” have been scheduled throughout the state beginning the summer of 2009. These sessions presented various aspects of the framework, and were attended by several members of the technology planning committee for information gathering and sharing purposes.
An independent technology audit was commissioned by the superintendent of schools, with that service provided by 610 Information Systems, LLC of Voorhees, New Jersey. Evaluating the state of the organization’s information technology environment has provided us with another opportunity to reflect on our current status in each of our established planning categories, identifying the strengths and exposing the weaknesses. 601 Information Systems were asked to perform a review of the information technology department, and it consisted of interviews, review of systems documentation and walkthroughs of various buildings. They conducted their review in such a manner as to understand the mindset of management as well as the approach taken to document and follow the various policies and procedures used to administer and manage the technology assets of the district. They assert in their report that Information Technology (IT) governance is a critical issue to any organization, and they selected the COBIT 4.1 framework (promoted by the IT Governance Institute - www.itgi.org) as the established evaluation criteria. This report and all related information created during this project were reviewed, with recommendations included in this strategic plan.

The survey data gathered by user group in 2007 was revisited for review of the identified needs at that time. Rather than repeating the administration of a revised version of this survey instrument, instead, the technology planning committee launched a Blog for gathering feedback and inciting discussion regarding ways in which we could improve on the pursuit of our mission and vision as stated in this plan. This was an open-ended forum seeking posted comments on aspects of our technology environment in the context of the nine (9) identified target areas of the action plan. The information gathered here from the staff at large was invaluable in the formulation of new tasks.

Ongoing project-based planning activities by school or department through recent times have yielded real goals and objectives. Project leaders, including community members and parent-faculty organizations, have collaborated with technology staff to implement projects aligned with the continuing goals and objectives from this plan.

2013-16

Although no longer required by the state, nor for Priority 1 e-rate funding eligibility, we agreed that the continuation of technology planning is a vital practice. As with previous revisions, we obtained feedback and recommendations from the educational community - In addition to administrators, teachers, librarians, and other staff, we had offered parents and community members the opportunity to contribute as well.

Participant input was regularly obtained through interactions with our teachers, through membership and participation in school PFO meetings and other district groups/events that facilitated articulation among parents, and school or district officials. We had administered a short survey for the parents and guardians of our students to complete and submit, and one for our elementary and middle school teachers as well. The information compiled was often shared...
among our staff members during the planning process as we formulated our action plan.

For parents and staff interested in a deeper level of participation, we granted access for them as “registered” guests in an internal collaborative workspace, so that they could view relevant planning information, participate in an open-ended “Question & Answer” area, engage within a discussion forum focusing on several predefined relevant topics. These resources were hosted in a private area of the district’s web site generally reserved for staff, but “registered” community members were provided with log on account credentials for temporary access.

In the Technology Planning Forum, feedback to specific questions along with interactive dialog among our administrators, teachers, parents and community members proved to be quite valuable to the planning process. The broad level of participation by all had significant value, and there were several ways to contribute:

- Continuous sharing of thoughts and ideas between teachers, technology specialists and administrators during meetings
- Completion of a technology survey designed for parents or elementary and middle school teachers
- Provision of comments (and comments on the ideas of others) on relevant topics in a discussion forum
- Initiation of new discussion topics within the context of the forum
- Posting of general questions (or provision of answers) in the Q&A area
- Joining the Technology Planning Committee, to be formed at the end of initial activities, to help revise the planning document

We established a working committee, comprised of representatives from several stakeholder groups, who worked together in an online collaborative environment. Committee members parsed the information collected, revised the vision and the mission, and modified the action plan as necessary based on local criteria and the provided NJDOE checklist.

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**Strategic Planning**

**2016-19**

During January of 2014, in order to get a fresh perspective on how the use of personalized technology resources may enhance our shifting approach to instruction, a district subgroup attended an Executive Briefing hosted by Apple, Inc. in New York City. This event was very much in line with a similar activity we engaged in with IBM prior to writing our first technology plan in 1991. The group participated in discussion with Apple representatives relevant to the status of our instructional program, philosophy, technology initiatives and goals for the future. We looked at different instructional models that would allow us to move towards the reinvention of some of our current processes, explored devices and applications that offered...
great opportunities for teaching and learning in a personalized setting, compared the adoption rates for different users and how to leverage that dynamic in professional development planning, and agreed to revisit and adopt a more formalized strategic planning process in our activities going forward. This entire briefing was held again one month later at our location for a larger audience, the newly formed “Innovation Committee,” as a precursor for that group’s involvement in strategic instructional planning.

The Innovation Committee met again in March, 2014, to begin the process of transforming the culture for our learning environments. The group articulated a vision for how instruction should look, and then crafted a new mission statement (provided earlier in this document) relevant to the vision upon which to build. Although not unlike the previous mission statement, the emphasis is now placed on instruction rather than on technology.

From the vision and the mission statement came the slogan, “Inspire, Engage, Innovate,” which was to be used as a rally cry in an attempt to create and communicate a “brand” for the district’s new instructional culture, and the slogan now appears on signage, in e-mail signatures, on our school and district websites, as well as on virtually all forms of correspondence used by the district.

The Innovation Committee established a “To Do List,” serving as a draft for revisions made to the Action Plan component of this document. Items listed here fall into several categories within the context of this plan including Instructional Technology Programs and Initiatives; Community Relations; Facilities, Hardware and Infrastructure, Educational Technology Staffing; Staff Development Program; and Technology Resource Acquisition.

Between April, 2014, and the time of this writing, the Innovation Committee held eight (8) additional general meetings where administrators and staff convene to share ideas and learn about the latest practices. The full committee was tasked to discuss, create and plan opportunities to transform instruction, evolve professional development options, enhance communication and collaborative efforts among staff, explore new technologies, and gather information via surveys for future planning purposes. During 2015-16, each building spawned its own school-based Innovation Committee in order to address issues, set goals and pilot smaller initiatives relevant to each individual school. The larger committee was reduced to school representatives that would serve as liaisons for sharing results of the efforts of the smaller groups.

One of the outcomes of our changed instructional culture was the district’s recognition by the NJ Department of Education as an innovative school district. INNOVATE NJ is New Jersey’s initiative to support innovation and practice by fostering sharing and collaboration, cultivating projects and convening practitioners and partners. We feel our active participation in INNOVATE NJ will help facilitate next-generation instructional practices that will promote and heighten the college and career readiness levels of our students.
In the early spring of 2016, the New Jersey Department of Education launched a statewide Digital Learning initiative that was developed in alignment with the U.S. Department of Education’s “Future Readiness” initiative. The NJDOE established the NJTRAx database to gauge the technology readiness of New Jersey schools and districts for online testing as well as provide a digital learning tool.

The NJTRAx technology readiness database is designed to collect and store the datasets that inform readiness ratings. These ratings are published in reports that are customized for each school, district, region, and for the state. NJTRAx has been revised to reflect the single administration for the Spring PARCC Assessments as well as for the possibility of field test units. The districts will continue to keep the data in NJTRAx up to date so that the data reflects the present reality of the district.

To assist districts with developing digital learning environments, new digital learning surveys and reporting capabilities have been added to the NJTRAx interactive technology readiness data and reporting system. Each district school now has the ability to track and strategically plan for digital learning policies and practices. The launch of NJTRAx Digital Learning (DL) is part of the NJDOE Educational Technology’s long-term Digital Learning Initiative (DLI) and Voorhees Township School district has embraced the established framework as we evolve our local Digital Learning Readiness posture.

Each of our schools is now using the NJTRAx Digital Learning tool to document their readiness and implementation ratings for digital learning, and we use the Digital Learning framework to assist each school to be ready for digital learning. Stakeholders may gain insight into the school’s digital learning readiness, its digital learning implementation, and the gaps the school currently has that must be closed if they are to use technology efficiently and effectively, in ways that increase our students’ college and career readiness.

Grounded in a key set of indicators for effective implementation of digital learning, six surveys were used to collect data from six different stakeholder groups. Those six include: students, parents/guardians, teachers, school administrators, information technology coordinator, and educational technology coordinator. The data has been collected and a customized report for each school has been generated with its readiness ratings for digital learning and comparisons of perspectives across the survey respondent groups. Sponsored by the New Jersey Department of Education, this Digital Learning tool is a school version of the District Readiness Assessment (http://dashboard.futurereadschools.org/) used at the White House Future Ready Summits (http://tech.ed.gov/futureready/). Stakeholder groups in each of our school communities had completed the survey process during the established March-April 2016 window, and although the full content of the district report and each school’s report may be found posted on the district’s website (http://www.voorhees.k12.nj.us/Page/82984), the following illustration provides comparative data related to Overall Digital Readiness and Overall Digital Implementation:
2015-16 NJTRAx Digital Learning Readiness Report Comparison

The Digital Learning Readiness Rating is scored on a continuum from Investigating, to Envisioning, Planning, and Staging for implementation. Each of the ratings is based on a scale of 0-10.

A school’s implementation rating represents the extent to which digital learning is implemented with students. The Digital Learning Implementation Rating is scored on a scale of 1-10 on a continuum from no/low implementation, to moderate, and then high implementation. Only 5 of the 8 gears are used to calculate the implementation score, since the other three gears do not directly impact students.
If our students are to graduate college and career ready in today's high tech, connected society, they must be competent digitally, proficient with technology, the Internet, 21st Century skill, and digital learning. The framework adopted by the NJDOE and us, according to the U.S. Department of Education, is designed to set out a roadmap to achieve that success and to commit districts to move as quickly as possible towards a shared vision of preparing students to thrive today and tomorrow. This can only be accomplished through a systemic approach to change. With student learning at the center, as we revise this "Technology for Digital Learning Plan 2016-19", we must align each of the following eight (8) key categories (gears) in order to implement and sustain successful digital learning:

- Curriculum, Instruction, and Assessment
- Use of Time
- Technology, Networks, and Hardware
- Data and Privacy
- Community Partnerships
- Professional Learning
- Budget and Resources
- Empowered, Innovative Leadership

Each of these goes hand in hand, with all being equally important, interrelated, and interdependent. These categories now replace the Action Plan Target Areas established in former district technology plans.

Each school’s Innovation Committee has contributed a series of school-based goals, based on their NJTRAx Digital Learning Readiness survey results, to focus on more localized needs. These complement the overall set of district goals and tasks listed in the Action Plan portion of this document. These surveys will be administered again in upcoming years so that we may use the data to measure growth and adjust the focus of our efforts.

2016-2019 marks the 9th revision to the original document written in 1991. The completed Educational Plan 2016-19 was approved by the Voorhees Township Board of Education and the Camden County Office of Education, published on the district’s web site for public access, and listed as “approved” on the NJDOE website.
Current Environment

Instructional Technology Programs and Initiatives

Although the district has both an Information Technology Literacy Program and a Technology Education Curriculum that is not to say that it condones teaching about technology for technology’s sake. The philosophy statement, educational technology goals, and the instructional computing program overview portions of the curriculum guide clearly indicate that Voorhees Township Schools view technology-based resources as tools for teaching and learning, rather than as objects of study. In the variety of ways in which the program is implemented, the objectives related to 21st century themes and traditional academic content are always primary in focus. The technology-related concepts and skills linked to each lesson are secondary. Students are actively engaged, motivating them to be successful in mastering content while developing 21st century skills.

The Information Technological Literacy program represents those technology-related concepts and skills (e.g., keyboarding, word processing, multimedia, etc.), as defined in the Student Information Technology Knowledge & Skills Matrix that are developed as students work through courseware, applications software, multimedia authoring and tools for learning across content areas. This locally developed program is congruent with both the National Educational Technology Skills (NETS) and the New Jersey Core Curriculum Content Standard 8.1 for Educational Technology. As these state and national standards were revised in 2015 and implemented in the fall of 2015, the revision of the Student Information Technology Knowledge & Skills Matrix, available on the district website, was a key accomplishment of the previous plan revision.

Technology-Infused Instruction relates to the inclusion of technology-related objectives within curriculum guides for academic content areas (e.g., word processing and desktop publishing objectives in the language arts, spreadsheet formulas in math, database manipulation and distance learning tools in the social studies, etc.). Those methodologies which provide students access to technology resources and engage them in activities that lead to the acquisition of concepts and skills, whether to reinforce or extend learning, conduct research, or promote problem solving ability, extend creativity, and foster the development of higher order thinking skills. Incorporating Information, Media and Technology skills from the Framework for 21st Century Learning in our activity planning will promote real-world learning and heighten global awareness. Delivering educational content using available technology tools by the teacher during instruction in the classroom also falls in this category.

The Technology Education program teaches students about the nature of technology and the human designed world. This is done through Technology Learning Activities (TLA) and principles of Science, Technology, Engineering and Mathematics (S.T.E.M), which allow the
students to design and fabricate solutions in areas such as coding, robotics, structures, space, transportation, etc. The design challenges relate to real world situations. Students work cooperatively, using a design process to develop critical thinking skills as well as skills in material processing and safety. The revised 2014 NJCCC Standard 8.2 for Technology Education will drive future modifications to this program.

These programs are delivered in a variety of ways in different environments, with all staff members assured access to the resources needed to facilitate appropriate technology integration:

**1:1 iPad Initiative**

The purpose of the 1:1 iPad initiative in grades 6-8 at the Voorhees Middle School, as well as in Grades 3-5 in all four elementary schools, is to provide students and staff with tools and resources to create a modern learning environment that will prepare students to be successful in high school and ultimately to be college and career ready. Grades 1 & 2 are 1:1 is some cases, and in other situations, there are shareable iPads available on carts. We recognize that technology integration should be seamless and allow students to create, think critically, problem solve, collaborate, and communicate in new, meaningful, and interesting ways. The iPad program helps teachers transform curriculum and teaching practices so they can prepare students to be successful in an ever-changing global economy. All policies, procedures, and information are documented and apply to all iPads used by Voorhees students and staff. Teachers may set additional requirements for use in their individual classrooms.

**Bring Your Own Device (BYOD)**

In an effort to further increase student contact with technology tools for classroom use, considering that many students have access to their own privately-owned devices that could be used in learning activities, we have initiated a limited “Bring Your Own Device (BYOD)” program. Teachers must approve, direct and supervise student use of their devices during instructional time, after receiving prior approval from an administrator, and may also prohibit that use for any given activity. They will not assist or provide technical assistance to students who are not able to properly operate their own devices. Designed activities may in no way provide an advantage for students who use privately-owned devices over those who do not. Students may not use the school’s WiFi network or connect to a wired Ethernet port with their devices, and when or where connectivity is required, they must use the privately contracted data plan associated with their own device. They must also comply with established rules for use of school-owned technology resources when using their own devices, they may not use their devices to access school network equipment, and they may only use these devices if first granted permission by a parent or guardian submitting this form. This document reflects the Voorhees Township School District’s Pupil Use of Privately-Owned Technology Policy (Policy 2363). The school district assumes no responsibility for the security or damage to any privately-owned device brought to school by a student.
Teaching & Learning with Computers (TLC)

In this classroom learning center approach, versus the computer lab environment, students either rotate through stations or work in cooperative learning groups using a combination of desktop computers, virtual desktop interface devices, wireless notebook computers, tablets or other handheld computing devices. This approach places technology into the initial instruction phase on a consistent, daily basis. The use of courseware, educational apps and online reference tools belong within this category.

Large Group (Interactive) Presentation

Using the computer/tablet, software, and special purpose peripheral devices in conjunction with a large screen LED flat panel display or projector provides the teacher with an “electronic chalkboard” for instructional delivery. Devices may be physically attached or wirelessly attached via a mirroring device (e.g., Apple TV). This mode of instruction is especially conducive to teaching and learning activities in a large group environment. Interactive components, such as an interactive whiteboard (SMARTBoard), wireless tablet or tablet computer, wireless slate, or personal response system (PRS), have been added to our classrooms to facilitate interaction for both the teacher and students with the digital content and tools being used during large group instruction. Document cameras are used for the exploration of artifacts, product samples or printed media elements related to lesson content. All elementary school classrooms, and most classrooms in the middle school, have been equipped with a permanently mounted SMARTBoard and projector attached to a computer.

Video Distribution

Cisco IP/TV - supports live video, scheduled video, video on demand (VoD), synchronized presentations and screen captures, and a wide range of video management functions. The central management platform for the Cisco IP/TV network, the IP/TV Content Manager offers a simple browser interface for a wide range of capabilities, including information sessions, important announcements and other forms of presentations (including professional development opportunities), both live and archived.

IP/TV Content Manager - administrators create, schedule, and manage events, manage IP/TV servers, monitor Question Manager (interactive chat tool), establish preferences and network settings, and move content among servers. The Content Manager automatically creates and hosts the IP/TV Program Listing that users see and manipulate.

Cisco IP/TV Broadcast Servers - configured with a capture card to encode streams from analog video and audio sources. They deliver on-demand or scheduled rebroadcasts of IP/TV programs. Broadcast Servers are used for multicasting live events, broadcast television programming or prerecorded programs on a scheduled basis. They receive content from analog
sources such as video cameras, VCRs, satellite feeds, cable feeds, and existing ASF, AVI, or MPEG digital files.

Safari Montage is an additional media distribution system that provides subscription-based access to educational video content. This is an internal server-based solution that provides high-quality, easily searchable content to classroom teachers, students and parents. From an administrative perspective, the Creation Station module provides each school and the district office with the ability to post recorded video presentations that are searchable and available in an on-demand fashion from both the school.

**Distance Learning**

There has been a structured “Distance Learning” program in the Voorhees Township School District since 1998, with the focus of our participation placed primarily on the development and implementation of learning activities involving two-way videoconferencing, including electronic field trips, classroom to classroom projects and off-site courses. “Distance Learning” actually includes many of the other technology initiatives that currently exist in various stages of implementation within the school district, providing our students, staff and community members with access to people and content not otherwise available via e-mail, social networking tools or virtual multiuser environments. The concept and related applications extend beyond the teaching-learning process to staff development delivery and the facilitation of staff productivity in the form of enhanced opportunities for communication and collaboration. These resources have emerged as the focus point when describing the development of 21st century skills for communications, media and technology literacy.

Enhancements to the communications infrastructure over the past several years have allowed the district to provide new online resources and services to the classroom, while improving on those already in place. Examples include, but are not limited to:

- High speed Internet access with content acceleration and filtering features, allowing for the interactive use of multimedia intensive content, including virtual and gaming environments, delivered via the web
- Classroom tools for the creation, manipulation and sharing of content, such as networked computers, educational courseware and applications, large screen viewing devices, interactive whiteboards, screen control software, screen casting, digital still and video cameras, scanners, mobile wireless notebook computers, etc.
- Web hosting services, providing a means for sharing district and school-based information with the community, and employing a decentralized approach as we continue to promote teacher participation in the creation and publishing of content. Formats include Blogs, Podcasts & Wikis in addition to traditional static pages, forms and surveys, and photo galleries or media libraries.
- Office 365 Education - a collection of services that allows us to collaborate and share schoolwork - services include Office Online (Word, PowerPoint, Excel, and OneNote),
1TB of OneDrive storage, Yammer, and SharePoint sites. Teachers and students may install the full Office applications on up to 5 PCs or Macs, whether district-owned or personally owned.

- Point-to-point or multipoint videoconferencing from any location in every school, with participants existing either within the district, outside, or both, allowing for content sharing and/or collaboration. Informal means, such as Skype or Facetime, makes videoconferencing highly accessible, while products like Cisco telepresence endpoints, WebEx and Spark allow for tighter coordination of higher quality collaboration activities.
- Scheduled multicasts, i.e., “one to many” of broadcast television or satellite based programming, recorded programming or live presentations.
- On-Demand access to media clips and titles, beginning with the development of a centralized video library, to be shared via a computer, large screen viewing device, etc. Indexed metadata provides fast access to media segments, which can be included in custom playlists by the user. Subscription-based educational media content is available, as well as content developed by both teachers and students, and all media content is available from both school and from home. Media content, including eBooks, are also searchable using our online library catalog, and MARC record entries there are integrated tightly with one of the district’s two video-on-demand systems.
- Document management system containing searchable lessons, presentations and a variety of other internal district documents containing information useful to the staff.
- Unified groupware applications providing an integrated e-mail messaging system with an internal centralized directory and Internet capabilities, resource scheduling, workflow management and document sharing capabilities.

Although these new systems provide valuable opportunities, for each, there are underlying requirements that must be met in order to maximize the district’s return on its investment. Part of the challenge lies in providing for the administration and maintenance of these added systems without increasing staff, but by reevaluating the roles of existing staff. Another piece lies in providing effective staff development, beginning with exposure to these resources and including more in depth training opportunities, and the availability of both curriculum support and technical support vehicles that make these resources easy to use. The last component deals with the importance of administrative leadership regarding the establishment of policy, guidelines and in the setting of expectations for staff related to the use of electronic content and communications resources, so we can do so safely, legally and in a way that ensures equity for all of our students.

There is a need to roll many of our current technology initiatives under the umbrella of "Distance Learning" as they are all interrelated, and then begin to coordinate the efforts of those involved in each of the separate components so that these structures may function and evolve more efficiently.
Assistive Technology

The effective integration of technology into curriculum-oriented efforts may require support and assistance. Assistive technology is incorporated into the instructional setting in such a way that education is facilitated without calling undue attention to the technology being used, or to its user. An assistive technology strategy bank is maintained by the district’s Special Services Department to assist educators with examples of methods and ideas, and accommodations are made for students for whom assistive technology has been determined to be necessary. Each student’s individualized education program is consistent with academic program, district and assistive technology guidelines. Appropriate staff training is provided for teachers responsible for students requiring adaptive resources, and in class support is offered by building technology specialists.

Information Technological Literacy (K-8)

Overview

The focus of the district’s technological literacy program, at any level (K-8), is first and foremost on using technology to meet objectives related to various academic content areas while addressing 21st century themes. However, the program’s function is also to develop student awareness related to computer and technology concepts and issues, as well as to establish skills in interacting with computers and other tools of technology. Awareness of computer system components and functioning, the role of computers and technology in society, user responsibility, safety and ethical issues, as well as increasing proficiency in the operation and maintenance of hardware devices, various user interfaces, and software applications are among the goals of the program. It is necessary for students to develop concepts and skills related to technology-based tools before they can be expected to apply them in learning activities.

Both the academic and technology objectives for each lesson are co-developed by the classroom teachers and technology specialists in an ongoing fashion. As the program schedule is not being used to provide the classroom teacher with prep time, as is done with other special areas programs, the two teachers work in a team teaching arrangement to implement each lesson toward the completion of a larger project.

Due to the open and flexible nature of the program, planned student activities are highly varied in their goals, instructional environments chosen, methodologies selected, and in the amount and structure of time allotted. And although instruction may be somewhat decentralized and activities may vary, the technology literacy knowledge and skills sets addressed are standardized by grade level. These defined skill sets will evolve during the next few years as the district’s Student Information Technology Knowledge & Skills Matrix is revised to align with new state and national standards for educational technology.

In addition, in the departmentalized environment of the middle school, students attend
technology courses as part of the related arts program. Whether the courses at a grade level are mandatory or elective, they are highly specialized in their focus. The advantage in this is that students may explore a specific application of technology in great detail, spending a full marking period on a more narrowly defined set of tasks in a given area.

Implementation

Building-level planning teams, organized by grade level, content or instructional teams, engage in a continual process that integrates curriculum development and student assessment with decisions about the tools and resources needed to support academic content and standards. This organizational structure fosters:

1. Integration of appropriate technology resources for both teaching and learning
2. Teacher proficiency in technology use
3. Student proficiency in technology use
4. School-based collaborative technology planning and instructional delivery
5. Maintenance of program integrity and continuity in a decentralized instructional approach
6. Student technological literacy assessment, progress management and reporting

In 2013, the district’s technology department had revised the 2009 version of the Student Knowledge and Skills Matrix it originally developed in 2004. This planning guide represents our local technology skills array, and it is founded on the 2009 version of the National Educational Technology Standards for Students (NETS*S) as developed by the International Society for Technology in Education (ISTE), as well as the 2009 version of the New Jersey Department of Education Core Curriculum Content Standard 8.1 for Technological Literacy. As standards have changed once again, this tool will be updated as an objective in this plan.

The Matrix provides linkages with relevant components of these higher plans, and it is posted on the Voorhees Township School District Website under Technology and e-Learning where is used as an interactive planning tool. Each category listed for information, media and technology literacy is linked dynamically to academic curriculum-oriented projects that provide for the development of the listed knowledge and skills sets. Projects are continuously being developed in all grade levels (K-8), in all academic content areas, and each consists of series of lesson plans developed and posted by staff members, with objectives, list of needed resources, procedures and samples of finished products.

At both the elementary & middle school level, the integration approach is used to provide connections between and among the content and learning experiences in the curriculum. Using a project-based, technology-infused format for each information technology instructional cycle, classroom teachers and building-level technology specialists jointly select a project that best meets the curriculum needs of the class during the time of year for which it is planned. This decision is made based on the needs identified in the academic content and technology literacy target areas, within the context of a selected 21st century theme. Either a posted, pre-
created project is selected, or a new project is developed and then archived for use by others. Every student (Grades 3 – 8) is required to complete a minimum of one technology-infused project for each academic content area per year. Students in grades K-2 complete activities associated with curriculum-technology integration and the acquisition of age-appropriate technology skills, but no minimum requirement is established.

Teachers engage their students with digital learning projects that promote 21st Century skills, standards-based content knowledge and elements of deeper learning (e.g., critical thinking and decision-making, creativity and innovation, bi-directional communication, research and information literacy, and self-direction), and have relevance beyond the classroom walls. Strategies are shared for heightening expectations, personalizing learning experiences, leveraging technology, and making good use of assessment data in pursuit of better preparing students for college and career readiness. Teachers are asked to reflect on and evaluate existing instructional activities and technology projects, making revisions to enhance or transform them through the four stages of the SAMR (Substitution, Augmentation, Modification, Redefinition) Model, Bloom’s Taxonomy, TPAK (Technological, Pedagogical, and Content Knowledge), and others, and these models have been interwoven in the fabric of our professional development programs.

The classroom teacher is responsible for delivering a significant portion of the instruction for any given project, with regularly scheduled blocks of time provided in the school’s computer lab. Most related activities take place in the classroom, however classroom teachers may still reserve computer lab time for these described purposes.

The technology specialist is responsible for assisting the classroom teacher in organizing the series of lessons required in the completion of each project. He/she provides the classroom teacher with any training and support needed to successfully deliver the instruction. The technology specialist must provide direct instruction in at least one phase of the project, i.e., introduction of a new required technology skill, but may be required to assist during various portions as needed by the classroom teacher.

At the middle school, in addition to technology-infused curriculum projects, supplemental and advanced information technology literacy skills are targeted and developed primarily in the school’s related arts program as a series of specialized courses provided at the sixth, seventh and eighth grade level. These computer applications oriented courses are designed to introduce and reinforce concepts and skills identified at those levels. These courses are instructed by designated computer teachers.

Student technological literacy assessment is performed on an ongoing basis by the classroom teacher, with input and/or assistance by the building technology specialist when necessary. All grade level appropriate technological literacy standards are addressed during project/lesson planning throughout the school year, and implemented during instructional activities. Student proficiency is evaluated at the conclusion of each activity based on performance using a teacher
developed rubric or other instrument, and proficiency is recorded via entries in our online student assessment recording instrument.

The Technology and Information Literacy Assessment Instrument is a locally developed database that was originally based on the NJTAP-IN Rubric, developed by the New Jersey Department of Education in 2007, with the current instrument reflecting the revised 2014 NJCCCS 8.1 for Educational Technology. Evaluative data is maintained for each individual student by the building technology specialist during the year. This data is entered into this recording tool, or previously entered scores are modified, at the conclusion of each project and scores are recalculated dynamically. This data follows each child from class to class and school to school, and it is available for reference purposes as our students progress through the years. Completed student projects and work samples are archived in a digital portfolio, for review, sharing and further evaluation, and each student’s body of work is stored throughout his/her tenure in the school district. The level of technological proficiency is determined by the rating provided by this instrument, with modifications made following review of each student’s portfolio and performance observations taken during the course of the year. Technological proficiency for all grade eight students is reported each year to the New Jersey Department of Education as required using the New Jersey Smart student data submission process.

Assessment of student work, with regard to mastery of concepts and skills as related to other academic content objectives, may be derived by teachers in this project-based environment as well.

Reporting of data related to student technological literacy proficiency may be made by authorized staff periodically, as requested, based on evaluative data maintained in each student’s proficiency record. This data may be confirmed at any time in review of work samples stored in each student’s digital portfolio, which exists for review in both local and cloud based storage platforms.

The building administrator is responsible for communicating and establishing a common set of expectations regarding these defined roles, facilitating collaborative planning between classroom teachers and technology specialists, and supervising and enforcing that responsibilities are being met by all parties.

Emerging Cloud based tools, including social media web sites, virtual learning environments, cloud-based services (storage, apps, digital content), and virtual private network access to school hosted resources, have significantly enhanced opportunities for students pursuing 21st century skills in school, just as they have for increasing productivity among professionals in the workplace. At the same time, these tools have reduced importance related to where and when some of these interactions may take place because information can be easily shared without the need for physical proximity or coordination of schedule among participants.
Because devices (and applications) used to connect us to these resources commonly exist in our schools, at the workplace, in our homes, or in our pockets or brief cases or backpacks, we are no longer limited to participation within the confines of the four walls of a classroom, or in a “one-size-fits-all” methodology. There is now greater flexibility for location, time and circumstances in which learning can take place.

Because of these tools, new learning environments can be: “24/7/365”, “just-in-time”, “personalized” “year-round”, “life-long”, “project-based”, “blended/online”, “virtual”, “game-based”, “flipped”, “learner-driven”, “on-demand”, “assistive”, and “technology-rich”. There is some question as to whether, in the next 3-5 years, K-12 learning will take place in brick and mortar classrooms, 100% online, or in some form of hybrid environment. We are caught somewhere between the old “factory-model”, “top-down”, “compliance-driven” world of sanction and control, and a more “loosely governed”, “self-directed” and “knowledge-based” educational system, trying to find our way.

In the pursuit of a mobile learning initiative, the objective is to provide the learner with the ability to assimilate learning anywhere and at any time using mobile technologies. Learning with portable technologies including but not limited to handheld computers, MP3 players, notebooks, mobile phones and tablets. Mobile learning focuses on the mobility of the learner, interacting with portable technologies, and learning that reflects a focus on how society and its institutions can accommodate and support an increasingly mobile population. The teacher may create “on the spot” and “in the field” learning material that predominately uses smart phones. Using mobile tools for creating learning aides and materials becomes an important part of informal learning, providing benefits both in and away from the confines of the classroom.

The current technology-infused projects taking place in our schools are pivotal to the district’s efforts in making sure that there is equity (for all students, not just for those who have teachers that choose to actively engage them in technology-rich learning activities) making sure that every teacher provides every student with every opportunity to improve academic achievement in all content areas, address 21st Century themes, and to also meet the NJCCCS 8.1 standards for technological literacy. This NJ standard was revised in 2012 and adopted in 2014, mainly to include more of the established “21st Century Skills,” including information, media and communications literacy, as well as competencies in using Cloud based resources. With that, these projects must continue evolve to ensure compliance with the new standards. Staff development opportunities will follow, and the trend to move more of this away from the computer lab and into the classrooms will continue. The provision of iPad tablets and laptops in our 1:1 initiative, as well as our BYOD policy, helps facilitate these goals.

The Voorhees Township School District must continue to implement the 2014 NJCCC Standard 8.1 for instructional technology and address the integration of 21st Century themes and skills required in all academic areas so that student learning outcomes evolve to be more global, authentic and have real world significance. In an effort to ensure compliance with technology readiness specifications for the PARCC Assessment initiative as well as to support instructional
technology goals, Voorhees Township School District will strive to refresh, repurpose and retire obsolete wired and wireless network infrastructure, as well as the devices and ancillary equipment needed for both online learning and test taking. Purchase of new wired and wireless devices will be consistent with learning and assessment goals.

**Middle School (Grades 6-8) Related Arts Courses in Technology Areas**

**Grade 6**

**Computers I:**
In Computers I, the sixth-grade class, students begin using Microsoft Excel. Data input and basic formatting are introduced. Common Sense Media curricular activities are used to raise student awareness about being good digital citizens. Using [www.code.org](http://www.code.org), students use block coding to foster understanding of the vocabulary and thinking behind programming. The fundamentals of graphic editing and multimedia are presented using Microsoft Paint, Microsoft Publisher, Keynote and iMovie.

**Engineering & Design:**
Working in collaboration with peers, students will design and create a product that addresses a real-world technological problem using the design process working with specific criteria and constraints. Data logs are maintained and trends and data are analyzed with annotated sketches to record the development cycle. The class will discuss why human-designed systems, products, and environments need to be constantly monitored, maintained, and improved. Models are created to demonstrate the benefits of seatbelts using Newton’s first law of motion. Designs using 3D printing are created. Textbook used in-class, Introduction to Technology, chapters covered will be 4, 5 & 22. Also, STEM pgs. 566-572 Forces and Motion, Newton’s Laws of Motion, STEM pgs. 587-591, 594 Drawing STEM pg. 596 Linear Math

**STEM:**
Students will be introduced to the engineering design process. Through several challenges, students will learn and understand how to identify problems, research possible solutions, develop a plan, execute the plan, and refine the product as needed. Students will develop several products to solve a problem that will benefit the local community. Additionally, students will work on a 20% time or Genius Hour project in which they research and develop a passion of their choice throughout the course.

In addition, the above curriculum, the enrichment students will also deepen their understanding of coding by programming in several apps, including Swift Playgrounds and Tickle. Students will create code to accomplish tasks with a Sphero ball, including traveling through a maze and dancing to an original work of music composed in GarageBand.

**Grade 7**
Computers II
In the Computers II, the seventh-grade class, students advance further and build on their knowledge from sixth grade. Students use Adobe Photoshop and presentation iMovie, Keynote, and PowerPoint to create multimedia presentations. Digital citizenship lessons are continued through Common Sense Media activities. Microsoft Excel spreadsheet creation and formatting is reinforced. Students continue to use block coding to make characters move and accomplish a goal.

Engineering & Design
Scientific tools, technologies, and computational strategies are used to explain the interdependence of a subsystem that operates as part of a system. Quality controls standards are used to examine data sets and to examine evidence as a means of generating and reviewing explanations. Students demonstrate how to safely use tools, instruments, and supplies. The kinetic and potential energies of a moving project at various points on its path are learned. Textbook used in-class, Introduction to Technology, chapters covered will be 1, 2, & (3 optional). Also, STEM pgs. 572-577 Energy and Work

Enrichment Program -Advanced Technology
Identify the design constraints and trade-offs involved in designing a prototype (i.e., how the prototype might fail and how it might be improved) by completing a design problem and reporting results in a multimedia presentation. 3D Printing software is introduced as tool. Mock corporations are created to collaborate on projects and financial budgets are maintained. Students will create a multimedia presentation including sound and images. Computer programming is introduced through Robotic programming. Textbook used in-class, Introduction to Technology, chapters covered will be 10, 17 & (16 optional). Also, STEM pg. 598 Rectangles and Triangles, STEM pg. 601 Volume of a Cylinder

STEM:
Students will work with LittleBits to develop an understanding of basic electrical circuits. Using the engineering design process, students will create projects that accomplish specific tasks, such as improving a backpack design and developing carnival games. These designs will be enhanced through the incorporation of technology. Additionally, students will work on a 20% time or Genius Hour project in which they research and develop a passion of their choice throughout the course.
Computers III
In Computers III, the eighth-grade class, students move into more advanced operations in Microsoft Excel. Basic equations, functions, and graphing are introduced. Students continue to increase their knowledge of digital citizenship and coding. More advanced multimedia development using Photoshop, iMovie, Keynote, and PowerPoint also continues.

Engineering, Manufacturing, the Global Society and Environment
Students will explain how the resources and processes used in the production of a current technological product can be modified to have a more positive impact on the environment and the economy by using alternate energy sources. Simple circuits involving batteries, solar panels, and motors are utilized to compare and predict the current flow with different circuit arrangements. Measurement and the relationship between the force acting on an object and the resulting acceleration are studied. Textbook used in-class, Introduction to Technology, chapters covered will be 7, 8 & (21 optional). Also, STEM pgs. 578-580 Electricity and Magnetism, STEM pg. 604 Statistics (averages)

STEM:
Students use the Lego Mindstorms EV3 robotics software. Students progress through nine distinct missions in which they investigate, observe, calculate, and apply their knowledge to solve specific tasks. They apply and creatively adapt programming and problem-solving skills to design and build robots to solve seven very different space missions. The Space Challenge Curriculum is designed to address ITEEA and ISTE technology standards, Next Generation Science Standards, and Common Core State Standards. Students work as scientists and engineers, immersing themselves in motivating STEM activities that develop creative problem solving, communication, and teamwork skills.

Administrative and Productivity Initiatives
In the back end, systems for personnel management, accounting, payroll, purchasing, transportation, building maintenance, food services, etc. are all in place to facilitate some of the district’s core operations, with the benefits of these resources and services being somewhat transparent to the general employee. In the front end, the district’s standardization on Microsoft, Micro Focus, Apple and various web-based products helps most staff members in a more noticeable way on a daily basis.

The district professional staff’s ability to more effectively collect, organize, and retrieve information, to communicate, and to manage time and other resources, is directly linked to its success as an educational organization. Reducing the time and effort spent while engaged in necessary administrative and clerical duties increases time available for the planning, implementation and evaluation of the overall instructional program. Other activities and initiatives currently being implemented toward these ends include:
Data Management and Interoperability

Practices in promoting data management standardization, data threat/risk management, digital records and communications retention, and New Jersey student data reporting requirements are being infused into the use of the applications available to our users. These are important for regulatory compliance, as well as for the protection of the information, and to facilitate our ability to share it between dissimilar systems.

Genesis, from Genesis Educational Services, Inc., is the district’s key student information system. Data maintained here in our centralized database is supplied to other applications so that their data refreshes quickly, and to ease the burden of repetitive data entry. Student information regarding demographics, scheduling, grading & grade reporting, attendance, discipline, and other relevant data is maintained here. Although school-based users see this information only for students attending that school, district users have a consolidated view of all student information, depending on their assigned security privileges. Similarly, special education student data is managed by Frontline IEP (formerly IEP Direct), which is a hosted solution.

Student information from Genesis is passed back and forth between the Grading component in the main product and the teacher Gradebook module at specified “posting” times during each marking period. Exports required for New Jersey State Reporting, including NJSMART - a statewide comprehensive data warehouse, with related student, staff and course level data reporting, and a unique identification system for students (SIDs) and staff (SMIDs) - are made easily and cleanly as needed. Daily automatic customized file exports from the Genesis database populates or modifies the central account database for other data systems managed by different departments.

Currently, Genesis is integrated with the following administrative applications, Follett’s Destiny (Library Management), Lunchtime (Food Services Accountability, Point of Sale & Vending), Frontline IEP - formerly IEP Direct (Special Education Case Management and IEP Generation), Apple School Manager (IDs, iTunes U & Apple Classroom), Microsoft School Data Sync (IDs and Microsoft Classroom), eBackpack (workflow management for digital content), SchoolMessenger (Parent/Staff Notification System Auto dialer), and TrandFinder’s RouteFinder Pro (transportation management).

The district’s business office migrated to a new system, Edge, for purchasing, accounting, payroll, and transportation, with the underlying hardware platforms and operating systems now current and supportable. There continues to be no human resources database.
GroupWare: E-Mail, Messaging and Resource Management

Micro Focus’s GroupWise provides all district employees with flexible, integrated e-mail, scheduling, and task, contact and document management capabilities using a traditional PC client as well as a secure web client interface. User mailbox features include rules, proxy (shared) access, full-text indexing, folder-level view options, filtering and archiving. The “Home” page provides a convenient dashboard view of selected tools with the ability to bring in web pages and RSS feeds in customizable panels. Document management capabilities, including version control, full text indexing and tight integration with Microsoft Office applications, are available to the individual user, as well as in the centralized district document library architecture with varying levels of access provided to groups as appropriate. The scheduling of meetings and reservation of rooms and equipment are accomplished district-wide and workflow (task) management activities are implemented by various departments.

GroupWise Messenger has been deployed as an internal instant messaging tool for staff, and it can be used for on-to-one chat conversations as well as one-to-many collaborative discussions among groups of employees.
The district replaced its BlackBerry Enterprise server with a Micro Focus Data Synchronization and Mobility system during 2012. With services now expanded and available to all staff and no longer just limited to administrators, any interested staff member may configure their personal ActiveSync-compatible (e.g., iOS or Android operating systems) smart phone or tablet device(s) for use. These devices may be configured to integrate automatically with the GroupWise environment, with full directory lookups and with automatic synchronization of contacts, e-mail messages, calendar appointments tasks and cabinet items with devices owned by participating staff members.

The Retain repository is the school district’s organizational messaging archive. Provided by GWAVA (recently purchased by Micro Focus), it is a searchable local storage repository that is used for message retention compliance, and to respond to legal discovery, open records and audit requests. It can also be used in the enforcement of various district policies (e.g., sexual harassment, acceptable use of technology, etc.), if necessary, as determined by the Superintendent of Schools.

The school district’s message retention “policy” is to save all (100%) messages for a period of three (3) years, based on state law, and so we have implemented a mandatory 3-year information life cycle for all messages that are created and/or received by all district GroupWise users, regardless of the job title of its owner, without exception. Messages are automatically extracted from GroupWise and “published” into the Retain repository seven (7) days after they enter any container beneath each user’s GroupWise home folder (e.g., Mailbox, Sent Items, Cabinet, etc.). All of these messages, attachments, etc., are indexed and accessible for eDiscovery purposes right away. This marks the beginning of the 3-year retention period for any given message, and as each message has its individual date and time stamp, each has its own independent life cycle.

Each message is retained in the Retain repository for a period of three (3) years and is then automatically deleted at the time of expiration. No auditing user has rights to manually delete any messages in the repository. The owner of the archived messages has the ability to move copies back into the live GroupWise system via a web-based interface. GroupWise “Trash” messages auto-delete from GroupWise after fourteen (14) days. These discarded messages are moved into the Retain repository prior to deletion. All archived messages from the GroupWise trash, like all other messages, are retained for three (3) years. Owners of these messages are not able to see or access them while in the trash repository. As any archived message is returned to the GroupWise system by a user for any purpose, the message is treated as a new one, and all of the rules established for retention and management of the message will again apply. GroupWise messages, appointments, tasks, etc. are automatically deleted after 365 days, allowing us to reduce the storage requirement on the live GroupWise system for performance reasons.

Remote Access and Collaboration

Access to information from the home or other remote locations is important for those who choose to work or communicate during the off-hours or while traveling. Accommodations are
available to staff wishing to gain remote access to resources stored within the confines of the district’s network, or “private cloud,” while other resources are hosted by service providers whose “public cloud” is remotely accessible by design, and access is achieved in the same way whether from the office, home or from the road.

GroupWise WebAccess is a secure, web-based portal into the GroupWise environment maintained inside the district’s network. This is a full featured interface allowing remote access and manipulation of most features of GroupWise as described earlier, and it also provides users with a link to the messaging archive repository, Retain. GroupWise Mobility is a companion resource that makes messages, calendar appointments, documents, etc., stored in GroupWise accessible on any mobile device.

Micro Focus’s Filr resides on a local server and allows Voorhees staff members to bring services together in a personalized portal for district work. Filr, Microsoft OneDrive and eBackpack are each a secure web portal, and also a desktop or mobile App, providing users with access to their data files from any location outside of the school environment. Microsoft Office 365, Blackboard’s Nimbus and Synergy, and Cisco Spark and WebEx platforms allow staff members to create virtual teams to collaborate with others and share information within the school district environment. The shared information of a virtual team is available to members of the team only, and is provided using the following tools available in different regions of the team’s home page: Message Boards (discussion threads), Shared Files & Folders, Chat, and Common Links. Micro Focus’s iPrint environment allows our mobile devices to print to our centralized printer/copier/multi-function device infrastructure, either locally or remotely.

The Genesis Student Information System (including the embedded Teacher Gradebook Module), Follett Destiny Library Manager and Safari Montage are web-based database applications running on local servers, available to staff, parent and student users from home. These portals are also SSL encrypted for security purposes, so there is little concern about student data manipulation or transfers across the public Internet by users.

During 2016-17, our district subscribed to Microsoft Office 365 Education Plus for Faculty and Students. Office 365 Education is a collection of products and services that allow staff to collaborate and share their work. Microsoft has made this available for free to teachers who are currently working at an academic institution. The service includes Office Online (Word, PowerPoint, Excel, and OneNote), 1TB of OneDrive storage, Yammer, and SharePoint sites. Our district is eligible to allow teachers and students to install the full Office applications on up to 5 PCs or Macs for free. They may also install the free apps on any iOS, Android or Windows mobile device and use them with a provided Microsoft account. Teachers share and co-edit schoolwork using Word, PowerPoint, Excel, and OneNote in real time—anywhere, any time, on any device. With 1 TB of OneDrive storage, staff can keep all work online for easy access. Working with colleagues online, teachers see each other’s changes in real time with Office Online and OneDrive. There is no need to email outdated versions back and forth. Teachers can
type or handwrite notes, capture webpages, record audio/video, embed spreadsheets, and more with OneNote, available on all devices

Other internal resources that do not provide a web interface are accessible to users via a Virtual Private Network (VPN) tunnel provided by client software (Cisco Systems AnyConnect) installed on a remote computer and access privileges established on the district’s network firewall appliance. Current VPN users mainly include employees working in food services, buildings and grounds, security, and IT management.

The district also works with several application service providers (ASPs), subscribing to resources maintained in server farms outside the school district. These “cloud” environments are secure portals to resources the district uses for specialized purposes, whether related to programs or operations, without having to bear the burden of costs associated with ownership of the resources themselves. As all of these services are web-based, they are also accessible from any location. Some of these include: iObservation (teacher and administrator observation/evaluation management system), Frontline IEP – Formerly IEP Direct (Special Ed IEP Management), SchoolDude Maintenance Direct (maintenance work order management), ELAN Online (BOE policy archive), Frontline Absence and Substitute Management – Formerly AESOP (staff attendance management and substitute teacher procurement system), SchoolMessenger (staff/parent notification system), NJSMART Portal w/EDAnalyzer Tool (interface for New Jersey student data warehouse and data mining/reporting tools), Lunchtime Parent Portal (customer payment management) and SchoolWires (district & school website content and feature management) with Synergy (online collaborative storage) and Nimbus (social networking and collaboration) product add-ons. Hosted performance evaluation management systems for teachers and school principals are currently under consideration for selection.

**District Website**

Schoolwires (owned by Blackboard) is an applications service provider (ASP) the district contracts with to host its website in an extremely reliable data center environment managed by a highly trained and competent staff. The Centricity platform provides the user interface and tools that are simple for our staff members to use as they publish and manage content related to their jobs. Resources for visual design, content authoring, home page & calendar management, editorial and workflow, user and role management, Microsoft Office support, Intranet and content viewing permissions, broadcast e-mail and content subscriptions, systems integration and personalization, and data collection tools such as forms, surveys and event registration are all available.

The Schoolwires Centricity 2 package now provides Cloud based and Social Media tools, such as Blogs, PodCasts and Wiki’s, which may require teacher content moderation and approval if used with students for educational purposes, or open when used by staff for professional purposes. Users can enable visitor comments, threaded discussions, ratings, and tags for any
content element on a page and, any content element can be syndicated through an RSS feed. Integrated content search, web analytics and LDAP authentication are embedded as well.

Additional tools help to provide editors with the ability to construct templates and content elements that comply with the Americans with Disabilities Act (ADA) Section 508 guidelines. During content contribution by staff members, the Schoolwires Editor requires that all imagery inserted has an ALT attribute assigned. When creating templates, the Schoolwires Styler tool allows web designers to manufacture CSS layouts. These templates produce a positive ADA compliant user experience.

Schoolwires Synergy is a cloud-based file sharing and collaboration environment, where users securely create, store, organize and share digital files and presentations, compatible with Microsoft Word, Excel and PowerPoint, online while working from anywhere, including home. Files may be zipped and downloaded to local storage, or uploaded back into the Synergy file store.

Schoolwires Nimbus is also an online collaborative environment for the sharing of resources and providing social, community and instructional capabilities. Participation in professional learning communities, discussion groups, wall posts, blogs, podcasts, photo albums, RSS feeds, etc., are accessible from anywhere, secured by defined roles and permissions.

**Video Surveillance, Digital Retrieval & Security**

Video surveillance and digital retrieval for security purposes is currently available in all district schools. A digital IP-based video network provides live camera feeds to a series of network digital video recorders (NDVR) responsible for streaming and recording the images and archiving them. Computer-based client software uses the IP protocol to access these controllers so that authorized users may view live or stored video for supervision, evidence or documentation purposes. Mobile device Apps are available as well, and in combination with VPN connectivity, these NDVR devices may be accessed from anywhere at any time. The Panasonic WJ-ND400 system are a series of appliances that communicate with a significantly high number of network attached and IP-based dynamic high resolution digital cameras in each building. Integration between this system, door entry and security features of VoIP phone services were pursued so that school administrators have the tools they need to better ensure the safety of the school population. Access to these resources is limited to authorized personnel, but these identified users may access live or archive surveillance resources from their PCs, tablets or smart phones either at work or from home. These network recorders and live camera feeds are accessible to local law enforcement.

In order to heighten building-level security and respond to emergency situations, video surveillance systems, perimeter (door) monitoring/security systems, strobe signaling, wireless voice communications systems and inbound call logging systems have been introduced as part of the infrastructure. RF sensors on assets or in key locations will allow us to extend our security capabilities using our wireless LAN. Plans to enhance and extend these systems are always under development.
Call Management with Voice-over-IP (VoIP)

An integrated telephone/voice messaging system is in place in each of our district facilities with telephone units installed in all classrooms, offices and work areas (some digital, others network attached for VoIP). The architecture is built on the Alcatel-Lucent OpenTouch Business Edition Suite, including OmniPCX Enterprise, which is a fully featured, enterprise grade, hybrid based corporate communications platform. The OmniPCX provides telephony infrastructure for both TDM and IP devices.

The two (2) OmniPCX Enterprise Communications Servers are based in the VMS data center, and they provide scalable, standards based open-distributed communications services, managing both traditional and IP configurations. Backup communications servers are installed in all other buildings. The media gateway architecture also allows traditional TDM or mixed IP-TDM configurations. The Communications Servers provide the controlling intelligence – it is a soft-switch platform, controlling IP Media Gateways which in turn facilitate local connectivity to the PSTN/ISDM, and IP phones through the district’s IP network. PSTN connectivity for voice utilizes PRI circuits (provided by Comcast), with analog PSTN trunks for backup.

The OmniVista 8770 Network Management Suite is a comprehensive set of applications that manages the voice network. It is designed to help the district with day-to-day tasks and assist with making strategic choices in the converged networks, due to reliability, assured availability, performance information, access security, configuration management and telecommunications cost tracking.

OpenTouch Multimedia service is a software based voice messaging system providing voicemail and automated attendant capability. It provides users with message accessibility from any phone or from any IMAP mail client, web based voice messaging and integration extensions for several popular enterprise e-mail environments. It also allows the owner of a mailbox to send messages to other mailbox users, be notified via an e-mail or an SMS text on the arrival of new voice messages, and stores all voicemails on its e-mail server. OpenTouch Voice Messaging also provides automated auto attendant (automatic switchboard) features that allow the voicemail system to act like an attendant: answer incoming calls, transfer them to a requested or pre-defined number or mailbox, using addressing by name or by number.

The Alcatel-Lucent Emergence Server (ENS) provides E911 services, allowing district officials to receive alerts in the event of a 911 call being placed. This includes call routing to the correct Public Safety Answering Point (PSAP), identification of the caller location at the PSAP level, on-site safety personnel call alerting and notification (e.g., phone, radio, PC desktop alters, e-mail, and SMS text message), voice recording of all calls, 911 calls activity web-based monitoring, full compliance with U.S. regulatory requirements.
State Data Reporting - NJ SMART

Major initiatives have been completed within the NJ SMART environment to meet expanding demands and expectations over recent years. Integrated state assessment data means that the district has regular access to assessment reports that allow easy monitoring and comparison of critical performance measures. With the implementation of SIDs, we are able to track students and their performance more effectively over time, even if they transfer in and out of the district. EDAnalyzer allows the district to access assessment data that is as current as the most recent data loaded into the NJ SMART data warehouse. District Reports is a robust tool that works with Local Data Mart and Official Snapshots. The District Reports tool offers us the opportunity to bring together data currently stored in a variety of locations into one integrated data warehouse at our discretion. This allows staff to access linked student data, generate user-friendly reports to analyze student data outside of Official reporting period timeframes, and make data informed decisions. These activities combine to provide the foundation for a more comprehensive system of data reporting and student performance management for New Jersey public schools, and we must continue to make sure our data submissions remain clean, maintenance activities effective and our administrators capable to take full advantage of these resources in tracking student performance.

Staff Observation/Evaluation Process

Recently in New Jersey, comprehensive educator evaluation reform has been taken place through multi-year process in order to enhance teachers’ professional practice, remove ineffective teachers, and provide a comparable framework for determining effectiveness. In August of 2012, the TEACHNJ Act went into effect, defining specific requirements for educator evaluations (as well as related professional development and tenure process changes) and full implementation of teacher and principal evaluations across the state is in effect. In relation to this legislation, the Department proposed regulations aimed at ensuring all Districts would fulfill specified capacity-building. The district has adopted and been using the iObservation product from Effective Educators, a robust management system for collecting observation evidence and reflections, performing data analysis and reporting on staff job performance. This system allows us to comply with TEACHNJ as it meets requirements for educator evaluation systems, other professional growth and development systems, and tenure decisions.

Online Standardized Assessment Administration

The Partnership for Assessment of Readiness for College and Careers (PARCC) is a consortium of 22 states plus the U.S. Virgin Islands working together to develop a common set of K-12 assessments in English and math anchored in what it takes to be ready for college and careers. The PARCC next-generation assessment system was first administered during the 2014-15 school year and hopes to provide students, educators, policymakers and the public with the tools needed to identify whether students — from grade 3 through high school — are on track for postsecondary success and, critically, where gaps may exist and how they can be addressed.
well before students enter college or the workforce. The move to online assessments poses to a distinctive set of challenges for school technology. The Smarter Balanced Assessment Consortium and the Partnership for Assessment of Readiness for College and Careers (PARCC), working with the State Educational Technology Directors Association (SETDA) and Pearson, have developed tools to help state education agencies work with schools and districts to ensure readiness when the online assessments are launched by the two consortia each year. This online tool gives schools a convenient way to capture and report on indicators of their technology readiness, and we need to make sure that our reporting is accurate, that we provide adequate infrastructure, and create online testing environments that meet our needs through the process.

Facilitating user account registrations, uploading personal needs profiles, performing updates reflecting continuous change, training staff, and installing test client software are some of the tasks related to the PARCC assessment. Similar tasks and the creation of Dynamic Learning Maps are performed in relation to the DLM for the Special Services Department, and ACCESS for ELL Pre-ID Submissions and data verification tasks are performed with ESL staff.

**Community Access Opportunities**

Since community members are stakeholders in the plan, the district wishes to ensure that we use our available technology resources in the best way in order to provide legitimate services to the community. We are focused on delivering programs and services fostering home-school communications, technology resource usage, information technology and computer applications training, and information sharing on curriculum and operations topics - including Internet safety, acceptable technology use and risk management.

The district makes a continual effort to enhance its Internet web presence by providing additional and more practical information categories, engage in more frequent information updates in order to keep content current, and use more active elements and media objects to make web pages more stimulating. Most staff members in the district are responsible for providing and maintaining some measure of content on the website as it applies to their job responsibilities. Most students in grades 3-8 now have content posted on our website as well, but a secure login is required for viewing.

Voorhees Township School District web sites incorporate interactive features allowing parents and community members to use the Internet as a vehicle to provide a school or the district with new information or feedback to questions posted in the interest of public relations. Online surveys and discussion forums, and program registration interfaces exist today, along with new capabilities for providing blogs, podcasts and photo galleries, and collaborative web pages (e.g., wikis). Parents and community members have the ability to subscribe to receive notifications when selected content changes in the form of an e-alert, have content pushed in the form of an RSS feed or podcast, or in the future, have content provided via a mobile app on a smart phone.
or tablet device. Conversely, community members can provide information in the completion of a survey, posting a comment in a blog, or by contributing to the development of a collaborative page.

Community members may also interact with district officials via an established Facebook social media account. Social media presence has been small so far due to limited man power, and the fact that we provide information in many other ways already. Although our community is provided with as-needed opportunity to provide input using these new channels, most of our dialog involves presentation. Having a district presence on Facebook or Twitter allow for heightened open discussion, but again, our resources to engage here are very limited.

The district website provides a library of rich navigation objects. Though some of these include dynamic JavaScript menus, the web hosting environment offers other ADA friendly navigation objects. These objects include a Site Map, Channel Section List, Section List and Page List, as well as a search tool for accessing any of the indexed content throughout defined areas or the entire web site based on keyword tags.

The district provides secure, web-based access to school or student information that is not for general public access. Parents and students may search the school library catalog in order to reserve published materials, and view online educational content via our integrated video-on-demand system, Safari Montage, or via several other subscription-based content databases. Parents registered to use the Genesis Parent Access portal may examine student report cards, current student marking period or interim grades, schedules, attendance data, and possibly at some point, view homework assignments, quiz and test grades as well as discipline infractions. An online food services portal, is available for parents who wish to establish purchasing credit for their student(s) in the cafeteria, by making secure online deposits.

As part of a recent “Going Green” initiative, beyond going paperless with our digital report cards, we now post a “Virtual Backpack” on our school web servers. Important notification, bulletins, calendars, etc. that would usually be sent home on paper copy are now archived in digital form for parent retrieval via the Internet. Weekly e-blasts with relevant information items and updates are sent out of our Public Information office, using our SchoolMessenger notification system, with links to more in-depth information where available. Some of our school principals provide their own weekly school-based updates using this same method.

The district strives to maximize teacher use and reliance on existing district e-mail and voice messaging systems in enhancing communication between the home and school. The district publishes a comprehensive directory of teacher e-mail addresses and voice-mailboxes by school, maintains and provides teachers with current parent home and work e-mail addresses, use a digital voice messaging system to report emergency information or student absenteeism, grant parental permissions for access to resources via online registration, or report status information back to parents related to the resources described here.
The Genesis Parent Access portal resource allows parents of students having valid accounts to have secure access to student schedules, absentee data, report cards, and teacher grade books - view homework assignments (and obtain digital versions of materials distributed for use in the classroom) and grades on those assignments, as well as on quizzes and tests.

The Voorhees Township Community Education and Recreation (C.E.R.) adult education course offerings in information technology topics may be updated to provide skills-based training relevant to workplace readiness or retooling. Popular business software applications, technical skills in computer repair and networking, and website design concepts are among some examples.

C.E.R. adult education course offerings in general interest information technology topics may be enhanced to cover a broader scope and should be aligned with real world information technology issues, practical applications and required skills. Refined Internet search strategies, making secure online purchases, computer virus protection measures, and data management techniques may be included areas of study.

The district may consider providing community members with supervised open access to school technology resources, including computers, software, Internet access, WiFi on personal devices, etc., to conduct independent research or other personal business based on a published schedule. We may also allow community groups supervised access to school technology resources such as computers, projectors, Internet access, videoconferencing facilities, etc., in order to facilitate training sessions or other organizational presentations.

The district may consider providing elementary students with the ability to sign-out portable technology resources, such as notebook computers, iPads, digital media, etc., to engage in educational activities at home, and/or provide remote (home) access to school network instructional resources such as networked educational software programs, online informational databases, digital media samples, etc. Middle school students may already bring home their school issued iPad device as part of our 1:1 initiative.

During 2016-17, we permitted students to use the Microsoft Office 365 for Education program. Office 365, offered at no cost to our students, is a cloud-based service that provides tools and resources to increase communication and collaboration. Students have a district provided email address, access to document storage, and access to document sharing sites. With that, Microsoft Office Pro Plus is offered to all students, allowing students to download Office programs, such as Word, PowerPoint, and Excel on up to five personal devices, free of charge. Students with iPads or other mobile devices can use the Office apps free of charge with their VTSD Office 365 account. We believe the tools we are now able to offer our students represents an important step to improve communication and collaboration as we meet our teaching and learning objectives. The tools will support the higher levels of collaboration that are required in today’s work environments and will facilitate greater communication among students and staff, and our students’ families benefit from having access to this product licensing at no cost.
The district will maintain its efforts to provide presentations to community groups on topics focusing on emerging new technologies, related societal issues and the consequential impact they have on education and child development. Sample topics may include Internet safety issues, interactive television, media copyright laws, online stock trading, setting up a home computer network, etc.

**Facilities, Hardware Resources and Infrastructure**

The means for implementing an evolving, innovative and highly aggressive educational technology program has stemmed primarily from the high level of commitment demonstrated by the Voorhees Township Board of Education and supportive community. Our facilities, equipment base and software resources stand not only as testimony to that commitment, but as an indicator of the high degree of confidence placed in the vision and judgment of the administrative and teaching staffs. At the time of this writing, the following technology environments exist throughout the school district and this description is provided from the network’s edge (Internet) and inward:

**Internet Connectivity**

Voorhees Township School District has selected Comcast Business Communications, LLC as its Internet Service Provider, and had entered into a 60-month contract beginning at the start of the 2012-13 school year.

Services have been upgraded and include a dedicated 1 Gbps symmetrical fiber optic Internet connection from the Voorhees Middle School to Comcast’s fiber optic backbone, available for access from all locations in the extended campus network as defined below. This Internet connection is rate limited to 500 Mbps at an associated fixed price, with options available to increase bandwidth incrementally for additional cost. Comcast provides all required hardware up to the demarcation point, which is a 1000Base-TX connection to a layer 2 Ethernet switch managed by Comcast. Provision of Internet services afforded to the school district beyond basic connectivity includes the procurement of a minimum of thirty (30) contiguous public IP host addresses, DNS services and domain name registration and maintenance services.

**Extended Campus Network**

Comcast has constructed, installed and maintains ownership of the fiber optic cable network, with all associated materials, equipment and facilities, through which the Voorhees Township School District BOE is authorized to transmit its data and other information in an exclusive manner. Comcast has charged the Voorhees Township School District one time for installation, and monthly over a sixty (60) month period as a service fee for access to and use of the described resources.
Comcast provides the Voorhees Township School District BOE with one (1) point-to-point, Gigabit Ethernet fiber optic connection for local area network to local area network (LAN-LAN) interconnection between Voorhees Middle School, 1000 Holly Oak Drive, Voorhees, NJ and each of the following five (5) locations: Voorhees Township School District Administration Building, 329 Route 73, Voorhees, NJ; E. T. Hamilton Elementary School, 23 Northgate Drive, Voorhees, NJ; Kresson Elementary School, 1 School Lane, Voorhees, NJ; Osage Elementary School, 112 Somerdale Road, Voorhees, NJ and Signal Hill Elementary School, 33 Signal Hill Drive, Voorhees, NJ.

Comcast has terminated the fiber connection at each of five (5) Service Provider owned IEEE 802.3ah compatible 1000Base-SE GBICs to be located in Ethernet switching equipment at the Voorhees Middle School, and at a single Service Provider owned IEEE 802.3ah compatible 1000Base-SE GBIC in Ethernet switching equipment to be located in each of five remaining BOE locations. Handoffs in all six (6) locations will be RJ-45 copper (1000Base-TX), and will be rate limited to 700 Mbps at an associated fixed price, with options available to increase bandwidth incrementally for additional cost.

Comcast is responsible for maintaining all interconnecting equipment up to and inclusive of the Demarcation Point, defined as the RJ-45 1000Base-TX port on Comcast's installed layer 2 Ethernet switch at each location. Comcast has provided the Voorhees Township School District BOE with written assurances that its property and equipment shall be kept in proper working order, free of defects which would cause interference of data transmissions, by performing routine periodic preventive maintenance services. Comcast shall provide written assurances that immediate response in problem resolution will be afforded the Voorhees Township School District, when necessary, and will continue uninterrupted until services are restored to proper functioning.

Plans to exercise the option to increase future Internet bandwidth, or in the extended campus network, are under consideration in compliance with standards and rationale provided in the Facilities Guide for Technology in New Jersey Schools.

Each school’s local area network (LAN) maintains one or more wiring closets that house network communications equipment, primarily Cisco Systems Catalyst switches. The core switch in each building’s main data center is physically connected to the Comcast-provided 1000Base-TX switch port, extending all links to a Cisco Catalyst 4510R switch located at the Voorhees Middle School. These resources complete the collapsed backbone architecture of the extended campus network described above.

These inter-switched links between attached ports participate as members in uniquely defined “virtual” local area networks (VLANs). These have been created as logical divisions in the switching fabric of the Catalyst 4510 switch. Inter-VLAN routing is achieved using the Layer 3 capability in this Catalyst switch and allows the district to control the flow of communications traffic by implementing rules that either enable or disable the transmission of specific types of
data across these links. In this environment, access to common network resources is provided while maintaining conditions that promote appropriate bandwidth management and quality of service (QoS) in data transmission.

**Shared Centralized Resources**

As each building’s LAN resides in its own routed VLAN in the extended campus network, other special purpose VLANs exist as well. Just like Internet access, these non-building-specific VLANs contain other important resources (e.g., database servers, special-purpose appliances, etc.) shared by various groups of users, either from inside or outside of the network. Many of these resources are described in this plan under Administrative and Productivity Initiatives.

The edge of the district’s extended campus network is secured via a Cisco Adaptive Security Appliance (ASA5585) with its “outside” port connected to a Cisco ASR1001 Router. District traffic is routed through a Comcast managed switch as the next hop to the Internet. Inbound traffic is highly restricted with various schemes in place to protect resources inside the network, and outbound traffic to Internet resources is restricted based on district policy. Other firewall-related resources offer varying degrees of security and performance enhancement and exist in “demilitarized zone” (DMZ) areas created with the firewall.

These centralized areas contain resources that contribute to network security, threat management and disaster recovery. Network appliances such as Cisco FirePOWER Module with FireSIGHT Management Center (real-time visibility, awareness and security automation technology), Cisco Identity Services Engine (Identity-based resource access, device posturing and user profiling services), IronPort S380 Web Security Appliance (Anti-Malware, Web Content Filtering, Web Caching Services), IronPort C170 E-Mail Security Appliance (antimalware, anti-spam, content filtering & monitoring), McAfee Total Protection Services Suite (centrally managed client & server antimalware Protection), and both the Unitrends Recovery-823 (data backup, restore & archive services) are all examples.

The district’s main data center and others are provided with climate control resources that keep these environments at the proper temperature and humidity level, preventing dust as well. In the case of the main data center, where most of the district’s most critical resources are located, generator backup is provided to the both the installed uninterruptible power supplies feeding the communications equipment, as well as to the installed climate control unit. A device for monitoring environmental factors in the main data center, such as temperature, humidity and the presence of AC power, exists as well, and provides both e-mail and SMS alerts to key personnel in the case where an event causes a defined threshold to be crossed. Plans to extend generator backup, climate control and monitoring into all building data centers and wiring closet are underway, while plans to install fire suppression measures into each of these areas as well are being formulated.
Hyperconverged Infrastructure (HCI)

During 2016-17, multiple servers in our decentralized data center environment were scheduled for retirement. Instead of deploying new hardware in a one-for-one physical server replacement scenario, we opted to utilize the Cisco HX architecture to create a single centralized data center. In this scenario we have fewer management points and can control our environment much more effectively. This type of system also reduces our overall data center footprint while still increasing density and simplifying management.

Hyperconverged Infrastructure (HCI) is a next-generation technology which tightly couples the virtual controller layer with its own operating mesh. There are a number of similarities between HCI and converged infrastructure, however, the biggest difference comes in how these environments are managed. In HCI, the management layer – storage, for example – is controlled at the virtual layer. Specifically, HCI incorporates a virtual appliance which runs within the cluster. This virtual controller runs on each node within the cluster to ensure better failover capabilities, resiliency, and uptime.

Our Cisco HyperFlex system combines software-defined computing in the form of Cisco Unified Computing System (UCS) servers, software-defined storage with the new Cisco HyperFlex HX Data Platform Software (Springpath), and software-defined networking with Cisco UCS fabric that integrates with Cisco Application Centric Infrastructure (ACI).

The HyperFlex architecture integrates directly into our existing Cisco network environment supports VMware vSphere. As it stands now, we have four (4) HX240c nodes in the cluster. It comes with full network fabric integration, allowing us to create QoS policies and even manage vSwitch configurations that scale throughout the entire fabric interconnect architecture. The Cisco HX cluster spreads data across all nodes at the same time, first writing to the local SSD cache; from there, replicas are written to the remote SSD drives in parallel.

Wireless Local Area Network (WLAN) Resources

We have implemented the Cisco Unified Wireless Network (Cisco UWN) solution, which is designed to provide 802.11 wireless networking solutions across the district. The Cisco UWN solution simplifies deploying and managing large-scale wireless LANs and enables a unique best-in-class security infrastructure. The operating system manages all data client, communications, and system administration functions, performs radio resource management (RRM) functions, manages system-wide mobility policies using the operating system security solution, and coordinates all security functions using the operating system security framework.

Our Cisco UWN solution consists of two (2) Cisco 5508 wireless LAN controllers and currently 175 associated 3600 Series lightweight access points controlled by the operating system, all concurrently managed by several forms of the operating system user interfaces, as well as by our Cisco Prime Infrastructure appliance. The Prime Infrastructure appliance has tools to
facilitate large-system monitoring and control both of our Cisco wireless LAN controllers and all associated access points.

The Cisco UWN solution supports client data services, client monitoring and control, and all rogue access point detection, monitoring, and containment functions. It uses lightweight access points, Cisco wireless LAN controllers, and the Cisco Prime Infrastructure to provide wireless services to the entire school district. Operating system security bundles Layer 1, Layer 2, and Layer 3 security components into a simple, Cisco WLAN solution-wide policy manager that creates independent security policies for each of up to 16 wireless LANs.

Our Wireless LAN Controllers are enterprise-class high-performance wireless switching platforms that support 802.11a/n and 802.11b/g/n protocols, upgradable to 802.11ac. They operate under control of the operating system, which includes the radio resource management (RRM), allowing them to automatically adjust to real-time changes in the 802.11 RF environment. These controllers are built around high-performance network and security hardware, resulting in a highly reliable 802.11 network with unparalleled security. This is a highly scalable and flexible platform that enables system wide services for mission-critical wireless networking in our campus environment. These controllers support lightweight access points across multiple floors and buildings simultaneously.

Using the Cisco Prime Infrastructure in our wireless LAN environment, controllers periodically determine the client, rogue access point, rogue access point client, radio frequency ID (RFID) tag location and store the locations in the Cisco Prime Infrastructure database. This has been extremely useful in our attempts to locate misplaced wireless devices, such as iPads, smartphones and notebook PCs.

**Building Local Area Network (LAN) Resources**

Again, each building’s LAN resides in its own routed VLAN in the extended campus network. Each building is segmented with some number between 10 and 25 VLANs, routed using the Layer 3 technology in the installed Cisco Catalyst switches. Each school’s data center, until recently, consisted of a server farm, providing file and print services, applications and database resources, DHCP/DNS, data backup, centralized PC desktop management and other services, however all of these have now been centralized in our main data center on the Cisco Hyperflex platform. The district is currently using Micro Focus’s Open Enterprise Server for SUSE Linux and Microsoft Windows Server as primary operating platforms, e-Directory as the primary directory service, Micro Focus’s ZENWorks Configuration Management for desktop computer and user policy management, with Jamf Pro for similar management tasks with iPads.

There are about 1,000 personal computers of various specifications installed in six district buildings, all of which configured as network clients, and there are almost 3,000 Apple iPad tablets as well. We’ve reduced our inventory of more than 370 shared printers to about 90 high yield printers and multifunction devices in recent years, in order to save costs on ink.
supplies and maintenance. Each school has a fiber optic cabling backbone with fiber, copper and wireless segments installed into computer labs, media centers, classrooms and offices. Multiple network architectures are currently being utilized inside each LAN including shared 300 Mbps wireless Ethernet, switched 100 Mbps, switched 1000 Mbps Gigabit Ethernet and switched 10 Gbps Ten Gigabit Ethernet.

**Backbone Distribution System:**

- Kresson Elementary, Signal Hill Elementary and Administration Building are configured in a star topology with a single main distribution feed (MDF)
- E.T. Hamilton Elementary, Osage Elementary and Voorhees Middle School each maintain two wiring closets with 12-strand multimode fiber (62.5/125 - plenum) 31 run in conduit between MDF and IDF, terminated in multimode fiber optic ST patch panels mounted in 19” wiring racks in both locations. Additional IDF locations are necessary in the middle school due to its size.

**Central Distribution System:**

- Classrooms and Office Clusters – Connectivity provided via 6-strand multimode fiber (62.5/125 – plenum) between MDF or IDF and all classrooms and clusters of non-instructional spaces. All fiber optic cable terminated in multimode fiber optic ST patch panels mounted in 19” wiring racks in MDF and IDF locations, and in 6-port ST wall-mount patch panels in drop locations.
- Computer Labs – Connectivity provided via Category 5 & 5e unshielded twisted pair (24 AWG - plenum) terminated in patch panels mounted in MDF and IDF wiring racks, and in surface mounted RJ-45 jacks in all school computer labs.
- Wireless LAN – 802.11a/b/g/n connectivity is provided in all buildings, via centrally managed, permanent end-to-end wireless coverage.

**Elementary Schools:**

In each of the district elementary schools there is a single computer lab to service from 375-650 students. These labs are used primarily to support the development of student information technology literacy skills, but since this program is delivered via activities within the context of other content areas, it simultaneously serves as a computer assisted instruction (CAI) resource, writing lab, research and technology projects facility. All remaining time is available as additional open blocks, which may be signed out by teachers for use by an entire class. The scheduling of these labs is handled on a sign-in basis using the scheduling features of GroupWise, described earlier in this section. There are, however, periods each day reserved as activity periods in which individuals
may be permitted to sign in and use the resources to complete independent projects.

Five to ten workstations are available in each school library for independent work, by teachers as well as students, whether using courseware or applications software, performing digital catalog searches, media circulation and for conducting online research using CD-ROM, DVD, local Video-on-Demand resources or online database subscription services.

Expansion of our networks into the instructional classrooms began in 1990-91, an initiative that provided additional workstations for all special education, BSIP and ESL classes. This growth had continued through 1995-96, involving the installation of approximately six or seven workstations and a printer in seventy-five percent of each school’s regular classrooms at each grade level over the next three years. A 4:1 student to computer ratio was achieved in order to support our learning center-based Writing to Write and Teaching and Learning with Computers (TLC) projects, as well as to provide network access to our BSIP and ESL populations. The scheduling of our Writing to Write and TLC programs has involved the development of teaching teams with rotating schedules and innovative student movement strategies.

By 1998-99, all classrooms in the district were equipped with at least one multimedia computer having full Internet access. As the student to computer ratio was reduced in each classroom during this time period, as aging and obsolete hardware was removed, a greater emphasis was placed on using computer-based resources in large group instructional settings.

A shift away from the learning center approach to the large group instructional approach necessitated the phased implementation of permanently mounted large screen multimedia monitors. By the 2000-01 school year, all first through fifth grade classrooms have these monitors installed with access to wireless keyboards/pointing devices in order to provide teacher mobility during instruction. Each monitor was permanently connected to an Internet enabled multimedia computer (one of as many as five that may have existed in any given classroom), as well as a VCR device, for large group instructional activities. Other existing TV monitors were placed on mobile carts and equipped with VGA-NTSC composite video scan converters for similar use in other instructional environments.

In 2004-05, mobile wireless laptop labs were introduced in each school and available for shared access by teachers doing technology-infused activities in their classrooms. Wireless tablet computers were added in 2005-06 in order to facilitate interactive capability to large group instruction, while the deployment of mounted interactive whiteboard and LCD projectors began during that same period of time.
Between 2007 and 2010, an influx of wireless notebook computers accompanied the roll-out of end-to-end building wireless coverage, provided by the WLAN infrastructure, and the technology-infused projects mandated in every content area in grades 3-5. Additional access to PC resources in the classroom was afforded via the installation of virtual desktop interfaces (VDIs), extending the use of a single PC to three or four additional “virtual desktop” instances for use by students.

A range from four (4) to eleven (11) mobile notebook computer labs and one (1) to two (2) mobile iPad labs exist in each elementary school and may be reserved for use by any teacher for use in any classroom. Plans are in place to expand this further.

All large multimedia monitors were replaced by mounted LCD projectors and a SMARTBoard (interactive whiteboard) was installed in every classroom for use by teachers in a variety of activities that emphasize the manipulation of data, objects and media samples. Projectors, both with and without SMARTBoards, are also available for use in larger venues with more available seats. Apple TV devices are used as well in each classroom to wirelessly present content from an iPad.

Digital still image and video cameras, as well as scanners, are available for student and teacher use in the development of multimedia presentations and web pages. Webcams and two large room mobile videoconferencing units are available in every elementary school and configured for use as described earlier in this document.

Beginning in 2016-17, grades 3-5 in all four elementary schools participate in a 1:1 iPad initiative, where each student and staff member assigned an iPad. Grades 1 & 2 are 1:1 in some cases, and in other situations, there are shareable iPads available on carts. Although these devices remain in school, the iPad program helps teachers transform curriculum and teaching practices so they can prepare students to be successful in an ever-changing global economy. All policies, procedures, and information are documented and apply to all iPads used by Voorhees students and staff. Teachers may set additional requirements for use in their individual classrooms.

At the time of the time of this writing, each Voorhees Township elementary school has an average of one hundred twelve (112) desktop computers, one hundred ninety-three (193) wireless notebook/tablet computers, four hundred forty (440) iPad tablets, and ten (10) shared printers in service for instructional, teacher productivity and administrative purposes.

**Middle School:**

Two of four computer labs are primarily used to service approximately one thousand one hundred fifty students as they participate in related arts computer courses. The third and fourth middle school labs are used primarily for technology-infused projects by
academic content area teachers, as well as multipurpose facilities for use by classes in all academic areas. Students in all content areas may access courseware, applications and other network resources. The scheduling of these labs is handled on a sign-in basis using the scheduling features of GroupWise. All four computer labs, as well as the twelve workstations available in the school media center, are available for teacher and student use during activity period and other available time blocks.

As students participating in the computer literacy related arts courses are involved in multimedia presentation and desktop publishing, a variety of development tools are available in the computer labs for student and teacher use. Examples include color flatbed scanners, still and full motion video digitizers, digital cameras, audio adapters, color ink jet and laser printers.

All classrooms are equipped with technology resources, including at least one multimedia computer with Internet access. Computers installed in twenty new classrooms constructed during the summer of 2003 were equipped with TV tuner components, thirty-five (35) classrooms have permanently mounted LCD projectors attached to a classroom computer for use with one of thirty (30) mounted SMARTBoards or a wireless tablet PC for large group instruction activities, and eight (8) rooms have mounted 60” LED monitors. Apple TV devices are used as well in each classroom to wirelessly present content from an iPad.

The Technology Education department maintains ten PC and Mac systems, and use student iPads for coding, robotics control projects, and other activities related to S.T.E.M and related principles within their related arts courses as well.

Six (6) mobile notebook computer labs may be reserved for use by any teacher for use in any classroom. Mobile LCD projectors, SMARTBoards, digital cameras, scanners, and videoconferencing units are also available for various purposes in any instructional environment within the school.

The media center, beyond maintaining workstations for general network access, offers an online digital catalog and circulation system, a Maker Space work area, as well as general purpose access to online resources for research.

Beginning in 2014-15, grades 6-8 at Voorhees Middle School participate in a 1:1 iPad initiative, where each student and staff member assigned an iPad. These devices are used both in school and at home, the iPad program helps teachers transform curriculum and teaching practices so they can prepare students to be successful in an ever-changing global economy. All policies, procedures, and information are documented and apply to all iPads used by Voorhees students and staff. Teachers may set additional requirements for use in their individual classrooms.
Educational Technology Plan 2016-2019

The Voorhees Middle School, at the time of this writing, utilizes three hundred (300) desktop computers, one hundred (100) wireless notebook/tablet computers, six (6) virtual desktop interfaces, one thousand two hundred (1,200) iPad tablets, and twenty-five (25) printers in service for instructional, teacher productivity and administrative purposes.

**Documentation**

Detailed network diagrams, school floor plans and wiring diagrams that itemize the equipment residing in each building and its location exist, stating the function and how these resources are configured and utilized, are maintained by the Director of Technology. There is a clear outline of all major appliances, switches and technologies as well as detail related to the most critical components compiled in a formalized operations manual, including policies and procedures. The district's overall disaster recovery and contingency plan is included too, documenting procedures, description of rotation schemes, backup device makes and models, software versions and media, location of software, steps to restore data in the event of a failure, and other pertinent information related to the current backup strategy. A standard operating procedures manual of daily procedures is continuously updated and maintained as the information technology environment changes.

**Resources, Obsolescence & Energy Conservation**

The cost to maintain the existing technology infrastructure, i.e., computers, cabling, network servers and communications devices, etc., at reasonably current standards has been prohibitive. Great strides have been made in this area in cycles since the 1989-90 school year, but this will always be a recurring issue due to the changing nature of technology and its impact on the local school budget. The cost to extend and replace available educational technology resources grows in proportion with the initiatives planned.

The need to sustain acceptable levels of available technical support, and maintain resources for disaster prevention and recovery, such as data backup systems, antivirus/anti-spyware/anti-spam solutions, intrusion prevention, web content filtering, Internet firewall protection, etc., continues to compete with our need to provide resources for instruction and productivity. However, these costs to protect and maintain end-user resources do contribute directly to extending the lifespan of the products we have.

With the evolution of technology placing high emphasis on multimedia, the convergence of voice, data and video, interoperability with Cloud based services, including virtual environments, these new resources require faster data throughput and guaranteed quality of service on the network. Therefore, upgrades and replacements for network communications devices, servers, workstation and operating systems are continuously under review.

Traditionally the district has maintained a minimum student-computer ratio of 5:1 in each of its
schools. Regular maintenance, incremental upgrades, retrofits and repurposing of computer hardware have been and will continue to be performed to prolong usefulness. Each computer (or other technology resource) is taken out of service in and around its 5-year anniversary, and is either traded in, donated, sold, recycled or disposed in compliance with state and federal regulations. Every attempt is made to secure a replacement for each computer removed, whether the replacement is a desktop, notebook, tablet PC, or Virtual Desktop Interface (VDI) device.

Electrical plant upgrades and climate control capabilities were recently performed within most of our network wiring closets as a means for extending the life of critical components. Electrical upgrades have been identified and continue to be performed incrementally in our classrooms. Most network communications devices and servers are now connected to “clean” and fault tolerant power sources that also must be maintained and periodically upgraded. This protection is provided by both uninterruptible and redundant power supply devices, with generator backup for the most critical resources. Upgrades to the electrical plant have continued with new dedicated circuits being provided incrementally in classrooms.

Measures for reducing the district’s technology carbon footprint are under consideration or being implemented. Consideration for moving toward virtualization in the data center, i.e., replacing several individual servers (hardware) with a single server that can run multiple virtual servers within the confines of a single physical server, would reduce energy consumption by reducing the quantity of hardware devices and lessen the need for climate control. Virtual Desktop Interface (VDI) products are now online in our classrooms, with these devices drawing minimal electricity from the attached host computer. Power management software is being considered for policy based rules on power consumption based on user behaviors and schedules while using technology products, and the more rapid replacement of “old” computers with newer, more energy efficient models makes a difference as well.

Network resources are also used with other “green” initiatives within the district. Building Management Systems provide for the monitoring of building utility use and HVAC controls to be performed over the Internet via IP. The impact of motion-sensor activated interior building lighting, and power generation via installation of rooftop solar energy panels is monitored as well.

Although the district’s information technology initiatives are moving forward in many areas, achieving a balance between adding new resources, refreshing old resources, and supporting the personal devices of students and staff simultaneously is our reality. These represent significant challenges that we must continue to find a way to meet year in and year out.
Software and Online Resources

In the implementation of technology-based solutions for meeting educational needs of students, the availability of quality educational courseware, applications such as creativity and reference software, and collaborative services is a key issue. Software, either as a curriculum supplement, extension or as a component within a complete curriculum package, is an important ingredient in successful curriculum-technology integration. The medium on which the software is delivered, as well as the design of the product, determines what types of hardware and connectivity are required for its implementation. Our definition for the term “software” extends to include the many subscription-based resources we use that service providers deliver over the Internet and device-specific “Apps” that provide content delivery, create simulations, facilitate gaming, or have value for productivity.

Software selection is done both centrally and at the building level. In any given year that another content area curriculum undergoes revision, the members of that curriculum committee, the district technology specialists, supervisors and directors play an active role in reviewing, evaluating and recommending titles which best meet the objectives of that new curriculum. The curriculum guides developed in all areas often include resources for the correlation of objectives (aligned to NJ standards) to components within the selected resources which provide instruction, reinforcement or enrichment related to those specific areas. In addition, other funds are reserved in each budget year to purchase upgrades to existing software titles, new titles supporting other curricular areas where there are needs, administrative initiatives, and when necessary to facilitate the implementation of new pilot programs. Input toward decision-making is provided by technology specialists, librarians, and classroom teachers.

With respect to district curriculum needs, each building also has its own unique set of needs as well. Each building principal generally budgets to purchase software requested by staff members interested in engaging in a particular project that may be recommended to improve an area of weakness, provide enrichment or pursue 21st Century literacy.

Administrators and staff responsible for Special Education, select and purchase assistive technology resources that meet the needs prescribed in student individual education programs – some products may remediate, extend or reward learning in the classroom, while others are adaptive, allowing the child to use common tools in an alternative way in order to surmount or bypass a restriction imposed by the child’s disability. The Basic Skills Instruction Program and English as a Second Language also plan for the purchase of software that meets the unique needs of these populations. Regardless of who purchases the software, once installed and made accessible it may be shared by all groups within the constraints of the licensing agreement.

The purchase of iPad Apps is a bit complex, and using the district’s purchase order procedure can only be achieved via Apple’s App Store Volume Purchase Program (ASVPP), now part of the
Apple School Manager environment. The ASM environment require the creation and assignment of specified roles: 1) Administrator (formerly Program Manager - one per district); 2) Content Manager (formerly Program Facilitator – Selects Apps and obtains product install codes using purchased vouchers and distributes them to end users for the installation of Apps. The Content Manager(s) Apple ID(s) cannot be associated with an iTunes account; they are used solely to access the ASVPP portal to redeem vouchers. Certain accounts are to be used by Content Managers for managing building-purchased apps for iPads to be used in regular education, while others were created for managing Apps for iPads to be used by special education – Content Manager accounts are linked to sources of funding maintained by building or by department; 3) End User(s) - Install apps on devices via Jamf Pro mobile device management system. Although any pre-existing iTunes account may be used to install apps, new Apple IDs are created by and belong to the school district via Apple School Manager (synchronized with our Genesis student information system) – the Managed Apple IDs are restricted from making purchases in the App Store.

Any staff member can purchase an Apple voucher using a purchase order, and they are available in increments of $100, $500, $1,000, & $5,000. Recommended practice is to purchase greater numbers of less expensive vouchers, rather than fewer more expensive vouchers, as individual vouchers cannot be shared among Program Facilitators. The voucher document arrives in an e-mail, received by the Content Manager for the building or for special education. The Content Manager uses the voucher to seed their account in the App Store Volume Purchasing Program (ASVPP) portal, purchases the desired Apps, then pushes the App installation to end user devices via a scoping process performed on the Jamf Pro MDM.

Other new roles in Apple School Manager include Site Manager, People Manager, Manager, Device Manager, Instructor, Staff and Student. These roles are for management of devices or classes, and rosters used by either iTunes U or the Apple Classroom App (via roster sync with Jamf Pro MDM).

Our district has also recently subscribed to Microsoft Office 365 Education Plus for Faculty and Students. Office 365 Education is a collection of products and services that allow us to collaborate and share our work. Microsoft has made this available for free to teachers who are currently working at an academic institution and to students who are currently attending an academic institution. The service includes Office Online (Word, PowerPoint, Excel, and OneNote), 1TB of OneDrive storage, Yammer, and SharePoint sites. Our district is eligible to allow teachers and students to install the full Office applications on up to 5 PCs or Macs for free. We may also install the free apps on any iOS, Android or Windows mobile device and use them with our Microsoft accounts. We are using Microsoft School Data Synch to create and modify student and staff Microsoft accounts, and populate class rosters for use with Microsoft Classroom (workflow management and collaboration).

Educational resources deliverable via the Internet have become increasingly prevalent in recent years with many publishers providing free and subscription-based access to media rich content,
collaborative applications and activities that either replace or enhance products delivered in more traditional ways. The district’s evolving communication infrastructure makes the use of these resources possible, our staff regularly explores, assesses and shares information with one another about these resources, and our staff development initiatives focus equally on the effective use and creation of Internet-based resources. The district’s pursuit of Cloud based tools, including social networking applications, multi-user virtual environments (MUVEs) or massively multi-player online role-playing games (MMORPGs), require not only increased Internet bandwidth and computing power, but heightened awareness about Internet safety, etiquette, ethics, and consequences for risk taking online.

Measures are taken to ensure that users of these online resources, both students and staff, may do so safely and with reduced risk of exposure to inappropriate content or contact. Acceptable Technology Use Policies (Appendix G), published usage guidelines and signed permission forms, parent & student information sessions on cyber safety, published links to online safety websites, consistent student supervision and related discussion, positioning of equipment in the room for monitoring purposes, etc., contribute in concert with some of the technology-oriented resources in place (e.g., IronPort S360 web content filter, protocol filter, anti-SPAM, anti-Spyware, anti-Phishing, Pop-up blockers, etc.) to collectively safeguard the online environment.

The district’s communication infrastructure provides new opportunities for educational applications and content to be more accessible in the classroom, when needed at the point of instruction. Shared resources for live video-based programming, video-on demand, videoconferencing, blogging, collaborative document creation, online discussions, archived computer-based instructional presentations, and educational media-rich web content are some examples.

As teachers attempt to plan for technology integration as they prepare their lessons in each content area, part of their task is to determine which portion of which piece of software or online resource directly relates to meeting the objectives planned for the session. Part of the role of the technology specialist in each school is to serve as a resource during such planning, including the delivery strategy for the lesson, with recommendations and support provided to the classroom teacher. Program administrators for curriculum, special education, BSIP and ESL are strong resources also. Most often, both academic curriculum content and information technology literacy skills standards are addressed concurrently.

Technology Specialists demonstrate and provide teacher training whenever new software or online resource become available. Information and access to these resources are maintained and shared in the Educational Technology and e-Learning component of the district’s website, lessons, presentations and software user guides are archived and indexed in district’s GroupWise document management system, many software titles and descriptions are built into each school’s digital catalog system, and all resources are available for exploration from every instructional location in every school.
The Voorhees Township educational community recognizes that we need to help our students prepare for future citizenship, high school and college education, and other 21st century needs by engaging them online in real information-rich, technology-infused learning opportunities in the K-8 environment. We do struggle, however, with balancing the need to technologically empower students with our concerns regarding safety, respectful behavior, and the law. The question relates to whether the district should provide access to K-8 students in "open" social media environments as opposed to the "closed" environments we currently have that offer students a similar, but potentially safer experience.

When looking at open (managed by the student – Facebook, Twitter, Instagram) versus closed (managed by school officials – Nimbus, Office365, GroupWise) cloud based tools, similar experiences may be realized in each type of environment with the proper planning. Closed environments can be opened to extend the reach based on the needs in a designed project, but open environments in school can only really be controlled with content filtering or good teacher supervision.

We don't just talk about social media - students work with online tools for collaboration, sharing and communication that have the look and feel of many of the popular "open" social media environments. As these are "closed" systems, not open to public access unless approved by school officials, there is another layer of protection between the students and rest of the world as they engage in designed activities. In a closed environment, district officials have pre-post content review, access and account management controls over the student during his/her activity. Connections needed with persons outside this realm can be opened in support of a designed activity and then closed again upon completion. The student works with similar tools, but does have a safety net.

Internet safety, technology acceptable use, and digital citizenship are address as students interact with each other, with teachers and with outside entities that have been vetted first. Along the way we've addressed students who have hacked into each other's web pages to deface or alter content, deleted files from the network storage owned by other students, communicated with each other in inappropriate ways, and made repeated attempts to access or post inappropriate content on the web. As this environment is a microcosm of the real world, the consequences for mistakes or misbehavior are significant and lessons are learned, but no one's safety is in jeopardy. However, the question remains as to whether this is doing enough.

**Educational Technology Staffing**

The **Director of Educational Technology** is responsible for all technology-related programs and initiatives in the areas of instruction, teacher productivity and administration. Responsibility
ranges from curriculum-technology integration planning and implementation to network/data center design, installation and technical support.

The district maintains the position of **Technology Specialist**, which is that of a resource person with responsibilities in many areas. Those employed in this capacity have had backgrounds as classroom teachers with varying degrees of technical experience. The role (and job description) for the Technology Specialist is continuously evolving, moving gradually away from that of a lead provider of instruction to curriculum resource person and technology integration facilitator. Technology Specialist responsibilities include information technology literacy instruction, academic curriculum-technology integration planning and implementation, teacher in-class technology support, staff development, building-level budgeting and purchasing, as well as maintenance and technical support for computer hardware, software, network administration, website and electronic messaging systems management, and administrative data systems support. One technology specialist is assigned to each elementary school, with one assigned to the middle school. The district also employs a K-8 technology specialist, whose home base is the Administration Building, who engages in similar activities on a district-wide basis in support of instructional and administrative initiatives:

The middle school also maintains two **Computer Teachers** and two **Technology Education Instructors** who are responsible for the implementation of the technology literacy and technology education curricula, respectively. This instruction is delivered via specialized courses as part of the related arts program:

The position of **Computer Technician** was established and filled during the 1996-97 school year. This staff member is responsible for resolving technical problems related to mainly hardware, but also with applications and operating systems. This staff member is also responsible for the installation and maintenance of all network cabling systems.

The following is a list of existing technology services staff positions and responsibilities. Technical training is provided to staff as needed utilizing in-house, online and outside sources:

**Director of Educational Technology (1)**
Addresses all relevant administrative tasks, network infrastructure (voice/data/video communication systems), data center management (data storage, access and disaster recovery), security services (structure, policy implementation, etc.) design and engineering, network resource procurement, implementation and top-level support, district technology staff development activities coordination, and the development of e-learning and curriculum-technology integration initiatives.

**Technology Specialist (District Level) (1)**
Addresses school & district-level student information systems (database management and reporting) support, maintenance and implementation of new components and related
projects, end user support and training, district instructional technology integration activities coordination and related staff development.

Technology Specialists (School Level) (5)
Student technology instruction & classroom instructional technology integration initiatives; LAN resource maintenance, school website administration, and resource management; school administrative & productivity technology support; staff development; and management of district-level initiatives. More time needs to be spent engaged in providing instructional delivery assistance to other teachers, curriculum/instructional planning & in class support, and ongoing staff development so that classroom teachers are better able to provide technology infused learning experiences on their own.

Computer Teachers (2)
Provide student information technology course instruction as part of the Related Arts program at Voorhees Middle School.

Technology Education Teachers (2)
Provide student technology education and S.T.E.M. course instruction as part of the Related Arts program at Voorhees Middle School.

Computer Technician (2)
PC/iPad and equipment hardware maintenance and repair services, network cabling installation and maintenance services, general software installations and troubleshooting, new resource deployments and redistribution of existing equipment.

Staff Professional Development Program

Through a variety of training initiatives implemented over the past years the district staff as a whole continues to develop into a very computer- and technology-literate group. Periodically the district administers a survey that measures general staff technology knowledge and skills competency, as well as experience levels with using specific hardware and software resources. Items in the survey also address the ability of each staff member to resolve their own problems while using technology as well as their ability to assist others.

Staff levels of experience in using specific tools range from “beginner” to “intermediate” to “advanced” to “expert.” Fortunately, there are usually not many responses recorded in the “not interested in learning” or “not applicable” categories. The list of resources included twenty-five items, and although responses were predictably stronger in the categories that have been available for a longer period of time, there was a good mix across the board.

These results confirmed that self confidence is high for more than two-thirds of district staff as related to their general technology knowledge and skills, their capability to resolve problems
that arise and their ability assist others. Staff members also identified a variety of help resources they turn to when necessary, with each being a viable choice. Beyond the supports we provide that foster self-service and moderate experimentation, these results mainly reflect our commitment to professional development and for the varied methods chosen for delivery.

In review of the survey data we are able to isolate areas of need as we move forward, using these results as a benchmark for planning purposes. Our “Mini-Course” program in instructional technology was specifically designed to address these areas directly, however these skills may be developed using a series of small scale workshops as well. Although some staff members have gone farther than others in terms of their level of interest and experiences in using the resources available, every staff member has participated to some degree in our overall program. As a whole, the staff is highly motivated, recognized the positive role technology can play when used as a tool for both instruction and productivity.

This district has developed a very comprehensive and systematic approach to staff development with regard to the use of computers and technology. Largely in-house staff members deliver this program, however consultants are used on an as-needed basis. There is great flexibility in terms of the structure of these courses and the related compensation for participants, and it is the district’s belief that this variety is the key to its success. The current program offerings consist of specific tracks or formats for staff members: on-site graduate courses, mandatory in-service training programs, courses and mini courses (for in-house credit) and miscellaneous workshops or self-study experiences. During the planning process we consider the nature of the specific role for that employee in the district and refer to the Role Specific Leadership Tasks, published by the TSSA Collaborative and adopted by the International Society for Technology Education (ISTE) as the National Educational Technology Standards for Teachers (NETS*T) and Administrators (NETS*A).

As the district’s technology specialist are often used as trainers in the locally developed programs that we offer, opportunities to acquire the knowledge and skills are afforded to these staff members in a variety of ways. Formal “train-the-trainer” programs, specialized off-site or on-line courses, small-scale webinars, in-house technical training sessions, and collaborative work sessions are among the approaches used to make sure that our trainers have both the technical and instructional skills to be successful. New initiatives and ongoing collegial support is shared among these technology specialists via online tools in a professional learning community.

The school district continues building on its comprehensive staff development program by providing training opportunities to meet both the instructional and productivity needs of the professional staff (including administrators) and support staff. Online course evaluation forms, staff surveys, post-program briefings with participants and/or technology specialists, participant resource reservation requests, review of user help request documentation, etc., all contribute as checkpoints during planning.
Computer and technology staff development programs are being continuously planned and updated, working in concert with the district’s Innovation Committee. This committee is formed each year to revise the district’s annual professional development plan, including topics in digital learning, and supervised by the Assistant Superintendent for Curriculum and Instruction. Building technology specialists continues to serve on Innovation Committee with classroom teachers and other school representatives. Technology specialists continue to be directly responsible for coordinating all technology-oriented staff development described in this document.

As teachers are asked to reflect on and evaluate existing instructional activities and technology projects, making revisions to enhance or transform them through the four stages of the SAMR (Substitution, Augmentation, Modification, Redefinition) Model, Bloom’s Taxonomy, TPACK (Technological, Pedagogical, and Content Knowledge), and others, these models have been interwoven in the fabric of our professional development programs.

**Mandatory Training Programs**

Each year, training is provided for a group of staff members during school hours in a small series of sessions provided over a period of multiple days. The focus varies from year to year based on needs identified at that time, and the targeted participants are selected based on relevance of content to job responsibilities. Although instructional technology topics have been the focus of these programs historically, in recent years the district has used this mode to focus on other areas of need.

**In-house Mini-Course Program**

Based on the in-house credit course program and designed to meet the needs of staff members that find it difficult to commit to a fifteen-hour instructional block concentrated in a single topic area, a scaled down “mini-course” program was initiated during the 2003-04 school year. Numerous mini courses (2.5 hours in duration) have been developed and offered over the years. These programs are placed on a district calendar, each with sessions scheduled throughout all district locations, with registration conducted online via the district’s website. Successful completion of in class activities and an out-of-class assignment are requirements for the issuance of certificates that may be accumulated and “traded in” or redeemed for in-house credit.

Beginning in 2008-09, funds for these mini-course small scale professional development programs were diverted so that more in-service training programs could be held during the school day. Substitute teachers provide release time for the participants during the school day, rather than holding class with an instructor during the off-hours for in-house credit. These required programs focused on instructional strategies that meet the requirements in core academic content areas, but have technology infused instructional delivery components. This program design is more closely aligned with the district’s philosophy and approach for the
development of technology literacy skills in students, and in-service training sessions were held that focused on the development of instructional technology skills and technology-infused teaching strategies within the contexts of Literacy, Science Curriculum, Achievement Gap, Inclusion, Math Curriculum and Best Practices in Co-Teaching, and the development of 21st Century skills across the curricula, for students, teachers and administrators. The district implements an annual “Technology Boot Camp” for new staff members at the start of each year using this format, in an attempt to get them up to speed quickly with the resources needed for management and productivity. The return of these mini-courses to after work hours or a summertime schedule has not been ruled out going forward.

**Information Technology Workshops**

As a portion of our staff population may not be interested or able, due to other commitments, to participate in courses for credit, a workshop format for staff in-service continues to be utilized. Independent workshops are developed to meet highly specific needs of certain populations, and their scope is narrowed, or concentrated, to meet a limited number of target objectives in a relatively short period of time. These workshops and user group sessions target secretaries and instructional associates, as well as professional staff members.

Workshops are developed as a result of staff interest or need, but also out of district initiatives or mandates. Workshops vary in length and are held during scheduled in-service days, during any regular school day, or before or after school hours in small doses (including faculty meetings), and are often organized by building. If the workshop is held during a regular school day, substitutes are provided for participants and may be shared among teachers through the course of a day. Staff members participating in workshops before or after the school day may be compensated via flexible scheduling.

Other staff development needs not addressed in workshops held locally are met by providing staff with time and funds to participate in workshops held out-of-district by external organizations. There have been many recent workshops available state wide, sponsored by area colleges and universities, due to the emphasis now being placed on the “21st Century New Jersey Schools” initiative. This series of workshops have been developed in a multi-phase approach to inform teachers and administrators about the need to engage student’s activities that develop skills in information, media and technology using Cloud based and social networking tools.

**Self-Directed Professional Learning Opportunities**

Professional development session formats have become more diverse, including opportunities such as blended learning (e.g., combination of online and classroom organization) and synchronous or asynchronous distance learning including “Massive Open Online Courses” (MOOCs), EdCamps, Social Media (Twitter, YouTube, Edmodo, etc.) offerings, and sessions hosted via corporate partnerships and educational communities (Apple Distinguished Educator,
Microsoft Educator Network. Professional learning communities can meet online, where there are no physical limits to discourage participation. Forms of compensation available for participation should be diverse as well. Many staff members participate in a variety of these programs, and in some cases, receive a “digital badge” for completion.

**Informal Learning Opportunities**

In addition to these formal program formats, in the district’s elementary schools, scheduled computer blocks are not release time for the classroom teacher. Therefore, these classroom teachers are provided with a continuous exposure to the types of activities and resources being utilized by the students. In both elementary and middle school, the completion of at least one technology project is required per year in every content area in every grade level (3-8); and since it is the classroom teacher’s responsibility for implementing this with the support of the building technology specialist, the teachers learn with the students. Other demonstration lessons, modeling and coaching activities for both elementary and middle school teachers, and administrators, are arranged and facilitated by technology specialists, content area supervisors, and child study team learning consultants in the case of assistive technologies.

The district continues to identify staff training as the priority area in relation to all of the other components of the action plan. The tasks involved for all include the development, implementation and on-going evaluation of a comprehensive, appropriate and sequential staff development plan that meets the varying needs of the district staff. As these needs change or expand in scope, the staff development plan must remain flexible and provide room for growth.

The district’s staff development goals focus not only on heightening the awareness of our staff members to the tools of new and emerging technologies and their usefulness in the educational environment, but to also enable them to understand and use these technologies appropriately at the level required to meet both instructional and productivity needs.

**In-house Credit Courses**

Since the Board’s adoption of a policy allowing for in-house credit to be issued as compensation for participation in staff development activities (Spring, 1991), we had provided a variety of 15-hour/1-credit information technology courses, servicing a large portion of our interested staff members. As provided for in the approved teacher employment contract, in house credit is treated in the same way as is graduate credit with regard to movement on the salary guide. Courses of this kind were offered after regular school hours and/or during the summer months. Attendance, as well as the successful completion of in class activities and an out-of-class assignment are requirements for the issuance of credit.

**Onsite Graduate Courses**
Since the fall of 1990, Voorhees Township Schools have been offering computer courses to our staff members, on site, for graduate credit. Both the Glassboro State College and Georgian Court College “Instructional Technology” certificate programs were 18-credit certificate programs with a focus on the integration of computer technology in education. The participants of these programs received three graduate credits for successful completion of each course and gained insights into how our computer resources might be effectively utilized in meeting instructional objectives. As several of our district staff members are employed as adjunct instructors by each college, the district was successful in customizing course objectives and content to reflect specific district needs and available resources. In the late 1990’s there was a reduction of interest by district staff members to matriculate and commit to the rigors of graduate school, so the district elected to suspend this program and made plans to revisit it again in the future.

Ten years after offering its last graduate course in instructional technology, Voorhees Township Schools made a strong attempt to form a partnership with Richard Stockton College to provide their Master of Arts in Instructional Technology (MAIT) degree program onsite using district facilities and resources. The program, if implemented, would have established a local educational cohort designed to allow a group of students with common interests and goals to work towards attaining a graduate degree. The advantages of this cohort program would have included the convenience of using school district facilities as an off-campus location, enabling our busy, working staff members to further their education in spite of other demands on their time. Although we fell a bit short on meeting the enrollment requirements, we are still very much open to revisiting this or some other program going forward.

**Maintenance, Service and Support**

Voorhees Township School District has shifted its practices regarding the periodic maintenance and service of its equipment over the years, moving from complete dependency to self-sufficiency to a blended approach. We have found that the in-house performance of these necessary tasks is more cost-effective, improves incident response and problem resolution time, and allows for the performance of upgrades and other enhancement services. However, per-incident or contract-based support has value when local expertise is not adequate to meet the need, and relevant training wouldn’t meet time sensitivity requirements.

Some maintenance contracts are renewed on an annual basis. These programs support users of those hardware and software products perceived by the school district to be of a “mission critical” nature. Key computer systems, communications equipment and data management applications are among those products included.

Voorhees Township School District has kept a trained computer technician as a full-time employee since 1994-95, adding a second following the initiation of our 1:1 iPad program during 2015-16. The district maintains a small inventory of critical replacement parts, as well as
those most often requiring replacement. The district established several channels for ordering and obtaining replacement parts, providing overnight delivery to insure rapid hardware problem resolution. Apple Global Exchange and Cisco SMARTnet are examples.

Aside from the district’s ability to provide a better level of service for users, other opportunities have been realized. With in-house technicians the district has been able to recycle and harvest parts from old equipment, perform preventive maintenance services and periodic upgrades, install, manage and maintain our network cabling structure, and perform services related to operating systems and applications.

Regarding network support, the district’s current Director of Educational Technology is a certified network engineer and performs all network design, enhancement and support services. This applies to each of the school local area networks, Internet connectivity, as well as the management of all district web servers, e-mail servers, gateways, and special purpose appliances in the data center.

Each school employs a technology specialist. Although this position carries instructional responsibility, it has evolved through the years focusing more as a curriculum-integration and technology resource support person. This is possible largely due to the general staff’s heightened comfort level in using technology resources unassisted. Release time is provided for Technology Specialists to support other staff members engaged in instructional or administrative technology-related activities. Other portions of this time are provided for troubleshooting and resource maintenance activities.

With the steady migration of technology resource into classrooms over recent years, the district had determined that a portion of the maintenance responsibility falls with the classroom teacher. Through professional growth plans and participation varied staff development opportunities, staff members are expected to maintain and enhance their skills level so that they are able to minimize down time in the classroom.

To combat various threats and intrusions, the district has installed and utilizes many layers of protection such as next generation firewalls, malware protection, spam and web content filtering software. While implementing these technologies is important, proactive monitoring of them is most critical. Infrastructure controls related to the maintenance and patching of operating systems, database management systems, telecommunication software, security software and utility software. The district is proactive in reviewing and applying critical security updates, hot fixes and patches. Software patches are installed and kept up to date per vendor specifications, and the process is automated in many instances.

Equipment inventory has increased exponentially since our first technician position was created in the mid-1990s, and tasks relevant in all phases of the extended technology life cycle are barely manageable due to the sheer volume of resources maintained by the district over time. Systems critical to school district operations have increasingly been added on to the district’s
network infrastructure over recent years, with no tolerance for downtime. Preventive maintenance measures, including policy-driven user restrictions, are taken to protect these resources and minimize the need for repair.

Although we refresh our technology resources regularly and leverage various tools for management and support, after examining our published inventory, technology staffing and maintenance procedures, it is very apparent that there are limits to what we can do. Assuming that staff expectations for adequate response to problems they encounter will remain high (as they should), then these are our options:

1. Add additional technical staff, e.g., technician and/or network systems specialist.

2. Restructure the focus of the position of “technology specialist” so that there is a higher level of technical responsibility in the daily job.

3. Set higher expectations for teachers to troubleshoot and find workarounds themselves for the problems they encounter.

4. Reduce our inventory of technology products and resources to a level that permits the existing staff to support products that remain with response time deemed adequate or acceptable.

The process for resolving a technical problem incident in the Voorhees Township School District may be found in Appendix G.

Technology Resource Acquisition

Budget constraints due to decreased funding have, and will continue to impact all aspects of the educational technology program in a negative way. Although the district has been fortunate since the 1990s in its ability to maintain an average to high level of technology funding in its annual budgets, due to the cap and overall reductions in state educational funding in recent years, these amounts have declined.

Given the scope of the preceding issues as presented, the school district is confronted with a significant set of challenges. With new technologies rapidly emerging, the need to implement them in schools increasing, and the longevity of acquired technologies decreasing, creative solutions must be explored. The district recognizes the need to aggressively pursue alternative sources of both financial and human resources. Each year it seeks "E-rate" discounts on services from the Schools and Libraries Corporation and allocates a portion of state and federal funding in support of research-based technology infused instruction, technology literacy instruction, and staff development. Lease-purchase financing has been utilized to refresh
groups of PCs and iPad devices. Trade-in value is leveraged whenever possible while replacing equipment.

In the past, each school attained products from IBM, including the Writing to Write language arts curriculum resources and the NetVista Internet client and server products, free of charge in return for participation in special projects. Cisco Systems had also provided the district with extended discounts on network communications equipment needed to retrofit the infrastructure. Micro Focus, Inc. continues to provide significant discounts on their server operating systems, e-Directory, GroupWise, and ZENWorks products used by the district as platforms for computer networking, electronic messaging and desktop management systems. Microsoft provides Microsoft Office 365 Education Plus for Faculty and Students at no cost.

Schools have separately acquired private donations of equipment from individuals and have been fortunate to have local parent/faculty organizations that regularly support technology initiatives via proceeds from successful fundraising activities. Avenues to corporate and private sponsorships will continue to be pursued.

The Voorhees Educational Technology Association (VETA), a former non-profit foundation, was founded during the 1996-97 school year to spearhead technology funding initiatives throughout the community.

The group was comprised of interested community members who recognized the value of educational technology, who were aware of the funding limitations and their impact on the educational technology program, and were willing to contribute their time and creativity to improving this situation. While Voorhees Township is a small community, many of its members are career professionals in a variety of fields including engineering, computer science, advertising, marketing, education, etc. Members were drawn from these professionals and contributed their time and expertise as volunteers.

Although existing as a non-profit corporation, a separate entity from the school district itself, VETA’s activities were congruent with the district’s established educational technology mission statement. The role of VETA was to plan and implement strategies leading to the acquisition of financial and human resources, contributing to the district’s efforts in meeting the objectives in its Educational Technology Plan. Through publicity in its efforts, VETA was also able to effectively raise community awareness to the issues mentioned in order to extend the present support base.

Although VETA disbanded as an organization in 2005-06, the group is mentioned here (described below) because two of their most important projects had led to significant changes in bringing technology into the classroom environment, and the concept of having such a foundation may be revisited in the future:

**Net Day Project**
Netday NJ was a statewide initiative to speed the connection of 1,000 New Jersey schools to the world of information available on the Internet. In the form of an electronic barn raising during the 1996-97 academic year, citizens in school communities throughout the state are working together to help K-12 schools obtain Internet access in certain instructional areas. The infrastructure needs at that time in Voorhees Township School District, based on future plans involving emerging technologies, required a more robust and complete cabling plan than outlined in the Netday NJ specifications. As a result, the district pulled fiber optic cabling to every instructional and non-instructional area in each of its schools. All district schools now have the capacity for high-speed data, voice, and video communications within each classroom. Internet access is but one of many opportunities now possible, and the district has the ability to continually refresh its network communications equipment and enhance the shared resources available without having to worry about re-cabling in its buildings for years to come.

**SMARTBoard Project**

Interactive whiteboards for the manipulation of computer generated objects in large group instruction and presentations became desirous resources among the teaching staff during the 2002-03 school year. With limited budget funds channeled into other areas, VETA provided each school with a SMARTBoard, LCD projector, notebook computer, mobile cart and staff training in order to facilitate their use in a pilot program. The provision of these resources through outside funds has enabled the district to enhance the teaching learning process, and today in 2016, due to local budget and federal ARRA (stimulus) funding, there is an installed SMARTBoard and projector in every regular education, special education, and basic skills instruction classroom. This is mostly true in the middle school, and additional units will be deployed due to the success experienced and the heightened demand by teachers.

**Voorhees Township School District Parent/Faculty Organizations (PFOs)** are also comprised of many interested and concerned community members having a stake in the educational process in the Voorhees Township schools. Since 1989-90, each year, all of these independent organizations have provided significant funding to their respective buildings that has allowed for the procurement of hardware, software and online resources that would have not otherwise been available. There is a strong working relationship between these parent groups and the school administration, and these partnerships are valued and beneficial to all.

The **Voorhees Township Community Education and Recreation (CER)** program has been a financial contributor in recent years, contributing some portion of its revenue back into the school district in the form of funding for technology resources. In recent years, CER has provided the school district with mobile wireless laptop labs, iPads, multimedia presentation systems, CCTV video surveillance security and other expensive resources. Plans to create
income by providing adult technology education and community access to technology resources are under consideration as well.

**Bring Your Own Device (BYOD) Initiative** - adoption of a policy allowing students and/or employees bring personally owned mobile devices to school and using those devices to access privileged school resources such as email, file servers and databases as well as their personal applications and data. The district may be able to save money on expensive devices, and users may take better care of devices they view them as being their own. Although there are concerns regarding school liability, security of network resources, lack of control (content filtering), equity (not all students have these devices), wireless network bandwidth capacity and the establishment of an environment of non-standard, dissimilar resources (devices and applications), from an economic standpoint there is some merit.

Deliberate coordination between offices – curriculum, business, buildings and grounds, and information technology – is vital for addressing all aspects of an initiative and achieving success, and this has improved. Pooling district, building and external financial resources is a byproduct of strong coordination of efforts, and a better return on our investments can be realized.
The Action Plan portion of this document represents the course that the Voorhees Township School District is planning to take in a three-year period to achieve its educational technology mission and pursue the realization of its vision. Eight (8) key categories (gears) have been identified in alignment with the NJDOE Digital Learning Framework, target areas have been listed for each, and goals have been developed within each of these target areas in order to establish direction based on perceived needs. Tasks, or specific objectives, have been defined to serve as concrete steps leading to the fulfillment of each goal.

Each goal provides a timeline reflecting those years in which some portion of the associated tasks will be addressed, and the responsible persons (individuals or groups) for implementation are named. The evaluation of each task is represented in concrete or observable data serving as an indicator or benchmark in the successful completion of the task.

Cost estimates were determined by examining past and current district expenditures and by reviewing vendor proposals, quotations and advertised pricing on related products and services. Some tasks require no additional expense. Pricing on some planning and procedural activities, or desired outcomes, cannot be differentiated as a budget line item. It may, however, be linked to costs related in other areas. The proposed three-year budget may be reviewed in Appendix A.

1. Curriculum, Instruction, and Assessment

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<th>Timeline:</th>
<th>☑2016-17 ☑2017-18 ☑2018-19</th>
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<tbody>
<tr>
<td>Responsible Persons:</td>
<td>Assistant Superintendent for Curriculum &amp; Instruction</td>
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<td></td>
<td>Principals</td>
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<td>Directors</td>
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<td>Evaluation:</td>
<td>&gt; 2 point growth in each school’s overall NJTRAx Digital Learning Readiness Score and Digital Implementation Score</td>
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<tr>
<td></td>
<td>Reduction in gap to &lt;1 point between each school’s NJTRAx Digital Learning Readiness Score and Digital Implementation Score</td>
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1.1. 21st Century / Deeper Learning

1.1.1. Align curriculum and instruction with the vision for digital learning, creating the expectation that all students will leave the district’s educational program better prepared for college or career readiness.
1.1.1. Employ instructional methodologies integrating technology resources in the classroom to achieve local curriculum and instructional objectives in all content areas, to include the NJ Core Curriculum Content Standards and Common Core Standards.

1.1.2. Promote standards-based content and elements of deeper learning (e.g., critical thinking and decision making, creativity and innovation, bi-directional communication, research and information literacy, and self-direction).

1.1.2.1. Enhance all curricular areas, using technology as a vehicle to integrate the critical thinking, cooperative learning, and problem solving skills into classroom activities.

1.1.2.2. Enhance all curricular areas, using technology as a vehicle to explore cultural diversity, languages, values, interests and societal differences among world communities.

1.1.2.3. Increase student proficiency in using technology to gather, analyze and present information.

1.1.3. Create opportunities for learning that empower all students to experience and master the core understandings related to that content.

1.1.3.1. Increase student participation in authentic technology infused projects using available resources, based on 21st Century themes, 2009 NJCCCS 8.1 standards and cross content integration.

1.1.4. Adopt formal processes to systematically integrate 21st Century skills in support of a deeper learning model as a design feature of all curricula and instruction.

1.1.4.1. Schedule cooperative planning between teachers and building technology specialists focusing on the development and articulation of instructional technology integration strategies, activities and methods.

1.2. Personalized Learning

1.2.1. Leverage technology, a range of digital learning resources, and the principles of Universal Design for Learning (UDL) to personalize the competency-based learning experience for each student to ensure all students attain mastery.

1.2.1.1. Maximize the appropriate integration of technology resources in the teaching-learning process (including privately-owned devices where allowed) within all content areas based on relevant research, providing equal access to all students regardless of gender, race, national origin, socio-economic status, religious affiliation and special needs or disabilities.
### 1.2.2. Allow students to have a significant degree of control and choice in what, when, and how they learn.

1.2.2.1. Implement a project-based, technology-infused format in which individual and groups of students select projects that address needs identified in both academic content and technology literacy target areas within the context of a selected 21st century theme and relevance to student interest.

### 1.2.3. Tailor the content, pacing, and feedback to the needs of each student, empowering all students with choice, where they regulate and take ownership of significant aspects of their learning.

1.2.3.1. Implement a project-based, technology-infused format in which individual and groups of students design and manage projects that address needs identified in both academic content and technology literacy target areas within the context of a selected 21st century theme and relevance to student interest, and is time sensitive based on rigor and the accessibility of needed resources.

### 1.2.4. Provide all students with the opportunity to do authentic real-world work, collaborating with educators, fellow students, and others outside of the school environment on projects that often (1) involve the creation of knowledge products, (2) foster deep learning, and (3) have value beyond the classroom walls.

### 1.2.5. Support student projects through connected teaching and engages other professionals, parents/guardians, and community members as appropriate.

1.2.5.1. Enhance teaching-learning process through improved communications systems, and blended learning opportunities that take advantage of resources now available in many homes.

1.2.5.2. Increase student participation in global distance learning activities while educating students about appropriate online behavior, interactions in social networking sites, and cyber bullying awareness.

### 1.3. Collaborative, Relevant, and Applied Learning

#### 1.3.1. Engage students in collaborative learning communities with peers, teachers, experts, and others outside the school environment.

1.3.1.1. Increase student participation in global distance learning activities while educating students about appropriate online behavior, interactions in social networking sites, and cyber bullying awareness.

#### 1.3.2. Empower students through digital learning environments to do projects that often involve the creation of knowledge products, foster 21st Century skills/deeper learning, and have value beyond the classroom walls.
1.3.2.1. Increase student participation in authentic technology infused projects using available resources, based on 21st Century themes, 2009 NJCCCS 8.1 standards and cross content integration.

### 1.4. Element 4: Leveraging Technology

#### 1.4.1. Set high expectations for evidence-based, digital learning transformations by developing a culture of digital innovation.

1.4.1.1. Engage students in technology-rich learning activities that promote the development of defined 21st Century skills (e.g. information, media and communications literacy) by heightening expectations for teachers, and providing proper levels of staff supervision, support and professional development.

1.4.1.2. Identify legitimate performance expectations for using the productivity tools available to administrative, teaching & support staff.

#### 1.4.2. Redesign physical learning spaces and digital learning environments that integrate technology seamlessly into teaching, learning, and assessment.

1.4.2.1. Ensure access for all students to the district’s technology resources, whether located in the classroom, the media center and any other technology-rich access areas (for students) throughout the school. Universal design standards will be considered in any new construction to assure equal access for all, including students with disabilities.

#### 1.4.3. Facilitate a transformation that may involve virtual learning, transition from paper to digital, digital citizenship and digital literacy for students, ensuring that students learn in a culture of digital responsibility and ethics.

1.4.3.1. Incorporate online safety concepts and skills into student instructional activities at each grade level, as appropriate.

1.4.3.2. Provide resources for parents regarding online safety, including published website links, printed materials, scheduled presentations and/or workshops.

#### 1.4.4. Base decisions related to technology, devices, networks, and infrastructure on the learning needs of students in a culture of digital responsibility.

#### 1.4.5. Ensure that the educators who teach in these digital learning environments have the skills to adopt and adapt to new technologies, using filters that ensure that the use of technology adds value to the learning process.

1.4.5.1. Implement technology in ways that help all staff members better manage data, communicate and collaborate effectively.
1.4.5.2. Increase administrator and teacher access to online productivity resources in each building by providing demonstrations and training, modifying schedules, reorganizing resource availability, and promoting use of privately-owned devices as appropriate.

1.4.5.3. Identify legitimate performance expectations for using the information management systems available to administrative, teaching & support staff.

1.4.5.4. Identify legitimate performance expectations for using the communications and collaborative systems available to administrative, teaching & support staff.

1.4.6. Implement metrics to document the schools’ academic return on investment.

1.4.6.1. Maintain Information Technology (K-8) Knowledge & Skills Matrix tool, cross referencing local Knowledge & Skills Continuum with NJ Core Content Curriculum Standard 8.1 for Information Technology Literacy and National Education Technology Standards.

1.4.6.2. Ensure mastery by each student of a core set of technological skills through scheduled participation in mandatory technology-rich projects conducted by the classroom teacher in all academic content areas.

1.5. Element 5: Assessment – Analytics Inform Instruction

1.5.1. Use technology as vehicles for quality diagnostic, formative, and summative assessments, aligned to the vision for digital learning, and include assessments for all learning standards, 21st Century skills.

1.5.1.1. Maximize use of existing instructional technology resources to facilitate the PARCC assessments for students in grades 3-8, measuring college and career readiness.

1.5.1.2. Assess student technological skills proficiency at the conclusion of each technology-infused project using an appropriate rubric or checklist and manage using grade book software as well as the school’s student information system.

1.5.1.3. Manage teacher performance evaluations using an online management portal, providing classroom walkthrough data analysis and reflection, live observation, data collection and reporting tools.

1.5.2. Ensure that student projects involve peer review and revision, as well as self-assessment, empowering them to excel.

1.5.2.1. Maintain digital portfolio for each student in grades 3-8, archiving completed technology projects as evidence of technological skills proficiency.
1.5.3. Create mechanisms (i.e., processes and digital environments) that empower staff and students to use data to improve, enrich, and guide the learning process. Educators actively use data to guide decisions related to curriculum, content, instructional strategies, and assessments.

1.5.3.1. Report technological literacy status (NJSMART) for each 8th grade student based on longitudinal data maintained using the district’s student assessment and reporting instrument and evidence observed in each student’s digital portfolio.

1.5.3.2. Perform tasks in fulfilling the student information submission requirements in the NJSMART initiative, promoting administrative use of available data reporting tools.

2. Use of Time

Timeline: 🔒 2016-17 🔒 2017-18 🔒 2018-19

Responsible Persons: Assistant Superintendent for Curriculum & Instruction Principals Directors

Evaluation: > 2 point growth in each school’s overall NJTRAx Digital Learning Readiness Score and Digital Implementation Score

Reduction in gap to <1 point between each school’s NJTRAx Digital Learning Readiness Score and Digital Implementation Score

2.1. Flexible Learning, Anytime, Anywhere

2.1.1. Leverage technology and media resources so online learning options are available for students at any time of day, from home, at school, and in the community.

2.1.1.1. Provide access to communications links for student cooperative learning activities using approved web, e-mail, messaging, videoconferencing and social media services.

2.1.2. Promote flexibility and adaptability so that students and teachers use time innovatively, driven by student needs, interests, and preferences for learning.

2.1.2.1. Implement technology in ways that help all students and staff members better manage time and perform tasks.

2.2. New Pedagogy, Schedules, and Learning Environment for Personalized Learning
2.2.1. Facilitate more personalized learning by letting educators work together to identify and validate new designs for personalized learning wherein the use of time is adaptable and flexible.

2.2.1.1. Maintain access to communications links, allowing for collegial networking, collaboration and completion of important tasks through sharing of resources including web, groupware, e-mail, messaging, virtual meeting, videoconferencing, and personal device mobility synchronization services.

2.2.2. Make associated resources available to all students both synchronously and asynchronously to promote flexibility.

2.2.2.1. Provide and promote the use of available resources for remote access, allowing for student and staff use of data and collaborative resources from home or other location during the off hours.

2.3. Competency-Based Learning

2.3.1. Ensure the pace of learning remains flexible, based on the needs of individual students and the challenges of complex, project-based work.

2.3.1.1. Implement a project-based, technology-infused format in which classroom teachers and building-level technology specialists jointly select a project that best meets the curriculum needs of the class during the time of year for which it is planned, addresses the needs identified in both academic content and technology literacy target areas within the context of a selected 21st century theme, and is time sensitive based on rigor and the accessibility of needed resources.

2.4. Strategies for Providing Extended Time for Projects and Collaboration

2.4.1. Replace rigid schedules and short class periods with flexible time allocations, allowing for extended work time for complex projects.

2.4.1.1. Maximize and expand flexible scheduling, utilizing large instructional time blocks, allowing for better integration of subject matter and available technologies.

2.4.2. Repurpose what was previously homework time, as digital learning enables all students to productively use time during and beyond the school day.

2.4.2.1. Leverage available tools to create new learning environments that are: “24/7/365”, “just-in-time”, “personalized” “year-round”, “life-long”, “project-based”, “blended/online”, “virtual”, “game-based”, “flipped”, “learner-driven”, “on-demand”, “assistive”, and “technology-rich”. 
### 3. Technology, Networks, and Hardware

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<tr>
<th>Timeline:</th>
<th>✔️2016-17 ✔️2017-18 ✔️2018-19</th>
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<tbody>
<tr>
<td>Responsible Person:</td>
<td>Director of Technology</td>
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</table>

**Evaluation:**

- > 2 point growth in each school’s overall NJTRAx Digital Learning Readiness Score and Digital Implementation Score
- Reduction in gap to <1 point between each school’s NJTRAx Digital Learning Readiness Score and Digital Implementation Score

### 3.1. Equity and Adequacy of Devices

#### 3.1.1. Adopt diverse, creative, and environmentally sound options to ensure that appropriate Internet-ready technology devices are available to all students to support learning at any time, based on the district vision for digital learning.

- 3.1.1.1. Facilitate information-rich teaching, learning and administrative environments by securing and integrating hardware products into activity areas, congruent with requirements determined by software products, online services and research-based instructional methodologies to be employed.

- 3.1.1.2. Strive to achieve a student-device ratio in all instructional environments based on needs driven by planned instructional activities – all devices (district provided or privately-owned) should be adequately equipped to perform the desired tasks. There must be a 1:1 student-device ratio per grade level (3-8) for PARCC assessments administration based on technology readiness specifications.

- 3.1.1.3. Maximize the appropriate integration of technology resources in the teaching-learning process (including privately-owned devices where allowed) within all content areas based on relevant research, providing equal access to all students regardless of gender, race, national origin, socio-economic status, religious affiliation and special needs or disabilities.

- 3.1.1.4. Identify assistive technology needs for special education students annually in Individualized Education Programs (IEPs), purchase instructional materials and provide training as required.

#### 3.1.2. Ensure decisions regarding the purchase of devices are a collaborative process involving representation from curriculum, instruction, assessment, information technology, and business groups.

- 3.1.2.1. Utilize curriculum review/revision committees and school-based task forces to evaluate and select instructional media for purchase – products shall include
educational software & device-specific “apps,” online reference tools, audio and video products, cable television and satellite-based programming, as well as videoconference-based electronic field trips and related fee-based activities. A technology specialist and librarian (media specialist) should be added to each committee engaged.

3.1.2.2. Ensure product selection criteria correlates with the mastery of content defined in the NJ Core Curriculum Content Standards, Common Core State Standards, and locally defined academic content.

3.1.2.3. Charge each curriculum revision committee member, end-user and technology specialist to remain actively engaged and focused on the task of conducting ongoing evaluation and recommendation of related e-learning resources following a curriculum adoption.

3.1.2.4. Utilize district and building-level task forces, comprised of teachers and administrators, to evaluate and purchase standard administrative and productivity applications and services based on identified needs.

3.1.3. Achieve 24/7 equitable access through a 1:1 program, through a “bring your own device” (BYOD) program, or a blended environment.

3.1.3.1. Enhance teaching-learning process through improved communications systems, and blended learning opportunities that take advantage of resources now available in many homes.

3.1.3.2. Establish district control of mobile device (district provided or privately-owned) features during use in school (e.g., using the camera, video recording, 3/4G radio, etc.), using a mobile device management (MDM) system, forcing the disabling of identified features based on policy and established guidelines.

3.2. Robust Network Infrastructure

3.2.1. Create and maintain a robust, environmentally sound infrastructure with high speed Internet bandwidth serves all schools.

3.2.1.1. Maintain a high speed Internet connection with an Internet service provider, accessible from all instructional and non-instructional work areas in all buildings, accessible by both district owned and personal devices (where allowed).

3.2.1.2. Monitor existing Internet connection, increasing available bandwidth as needed to ensure compliance with technology readiness specifications for the PARCC assessments initiative, specifications presented in the Facilities Guide for Technology in New Jersey Schools, and requirements supporting access to the evolving online learning, communication and collaboration environments now available.
3.2.1.3. Maintain fiber optic horizontal cabling system within each building, providing connectivity between communications outlets in both instructional and non-instructional areas and well-managed equipment racks within established communications closets.

3.2.1.4. Upgrade scalable switched Ethernet, Fast Ethernet, Gigabit Ethernet and Ten Gigabit Ethernet network backbone in each school LAN, appropriating required bandwidth specifications between switches in communications closets and servers, routers and other critical network resources.

3.2.1.5. Maintain manageable and highly segmented network architecture by decreasing the workstation-to-switched port ratio between devices on each building LAN in Ethernet, Fast Ethernet and Gigabit Ethernet environments.

3.2.1.6. Maintain existing fault-tolerant, switched Gigabit Ethernet, extended campus network between district buildings, utilizing new single-mode fiber optic cabling systems, providing required bandwidth and quality of service (QoS) features necessary to realize centralized administration and district-wide access of all available network resources.

3.2.1.7. Maintain spread spectrum radio access points and WLAN controllers, providing interfaces in all district buildings so that IEEE 802.11 A/B/G/N/AC wireless network connectivity is available to mobile device users and in the facilitation of special RF-based projects (e.g., building security, facilities monitoring, mobile assets tracking, PARCC testing, etc.), tasks or in the creation of mobile learning/work environments.

3.2.2. Monitor usage and identify and remedy possible bottlenecks prior to detrimental impacts on teaching and learning.

3.2.2.1. Maintain and evolve the district’s communications network within and among district buildings based on current and emerging specifications for data, voice and video applications.

3.2.3. Establish administrative processes and procedures are developed to maintain, operate, update, and govern the network.

3.2.3.1. Create and maintain a formalized IT operations manual that includes detailed network diagrams, school floor plans and wiring diagrams, equipment inventories stating location, function, configuration and utilization, as well as the district’s overall disaster recovery and contingency plans.

3.2.4. Ensure the infrastructure includes access to a digital learning platform that includes: a content management system (CMS); a learning management system (LMS); a referatory (i.e., database that refers user to appropriate sources) for apps, software, and other services aligned to the curriculum; a communication system; collaboration tools; and online and embedded assessments; etc.
### 3.2.4.1. Maintain permanent availability of content delivery systems, enabling classroom access to broadcast cable television, video conferencing, and media distribution resources that originate on both the local area network and the Internet.

### 3.2.4.2. Utilize Cloud based tools, including approved social media web sites, virtual learning & gaming environments, cloud-based services (storage, apps, digital content), and virtual private network access to school hosted resources, to enhance opportunities for students to pursue 21st century skills in school, creating a flexible, blended approach to the teaching-learning process.

### 3.2.4.3. Expand eBook circulation capability in all school libraries, integrating with the existing library management system, using both district-provided and privately-owned technology devices as eReaders.

### 3.2.5. Ensure this platform provides ready and consistent access to tools, resources, and communications for teaching, learning, assessment, and administration.

#### 3.2.5.1. Provide staff members with online tools facilitating the discovery and reservation of e-learning resources available for use in the classroom, whether access is to be scheduled or available in an on-demand fashion.

#### 3.2.5.2. Maintain and scale resources in the extended campus network to enhance the district's ability to store and protect critical data and growing libraries of electronic content via new and existing network attached data storage and backup devices.

### 3.2.6. Collaboratively design, communicate, and implement responsible use policies with students and staff.

#### 3.2.6.1. Ensure continued safe and appropriate access to both local and Internet-based resources and content by entire school community.

#### 3.2.6.2. Implement and enforce existing policies for network resource acceptable use, Internet safety, and use of personal devices in school for both students and staff.

### 3.2.7. Confirm the network design follows these policies (e.g., filtering, redundancy, etc.), and as policies are developed to guide the design and use of the network, establish coherence between law and enacted policy.

#### 3.2.7.1. Maintain LDAP authentication in district web content filtering practices so that access to and monitoring of resources are policy based, relying on group membership following user authentication rather than the IP address of any given device or placement in a given subnet, with group access policies reflecting acceptable use of network resources guidelines for students or staff.

#### 3.2.7.2. Ensure proper student supervision during online activities, and secure required administrative permissions in the case of a “BYOD” activity where Internet access is not subject to web content filtering restrictions.
### 3.2.7.3. Maintain required parent consent data for each student, as part of his/her record in the district’s student information system, concerning Internet access, media release and use of privately-owned technology devices in school.

### 3.2.8. Ensure the infrastructure adequately serves various programs for students and staff, including 1:1 and BYOD, often by portioning the network to accommodate guest access.

#### 3.2.8.1. Implement identity-based “BYOD” network access control that pairs the user with his/her registered personal device, determining levels of access based on user credentials (permissions), allowing for monitoring user activities, and evaluating the "posture" of the device with regard to operating system security update versions, anti-virus definitions, and whether the device contains "rooted" (jail broken) apps that may propagate malware.

### 3.2.9. Ensure funding for the infrastructure is consistent, driven by instructional needs in the district’s strategic plan.

#### 3.2.9.1. Utilize annual district funds to secure needed educational technology resources.

#### 3.2.9.2. Continue process of annual and long-range district budget planning for the acquisition of educational products and services based on curricular plans for digital learning.

### 3.3. Adequate and Responsive Support

#### 3.3.1. Provide technical assistance within the schools that is characterized by a positive service orientation, supporting the learning needs of students and educators.

#### 3.3.1.1. Maintain/extend existing educational technology support positions and enhance capabilities.

#### 3.3.1.2. Continue to budget for increasing salary and benefits expenses to ensure continuance of the district’s current level of capability in supporting its technology end-users.

#### 3.3.1.3. Redefine the role of each school's existing “technology specialist” position with a focus on administration, maintenance and support of network resources emphasized over other areas of responsibility, should no additional support staff be added.

#### 3.3.1.4. Realign shared responsibility for equipment management and maintenance between technology specialists, school librarians and teachers, so that the approaches taken may be more closely coordinated and equitable.

#### 3.3.1.5. Provide the appropriate type and level of training for technical support staff members based on the nature of the staff member’s position, the scope and depth of job responsibilities and assigned tasks, as well as his/her professional interests.
### 3.3.1.6. Examine cost and feasibility for outsourcing specific technical tasks or obtaining expertise in the implementation of technology initiatives from consultants and other technology integration agencies when necessary.

### 3.3.1.7. Examine cost and feasibility for employing an additional computer/network service technician in order to sustain present levels of efficiency in the performance of required maintenance and management tasks on a very large install base of equipment that has and will continue to increase at a rapid rate.

### 3.3.2. Verify that maintenance, operations, and management of the systems is ongoing, with users notified when updates or regularly scheduled maintenance are scheduled.

| 3.3.2.1. | Continue to maintain “mission critical” hardware and software resources on full-feature support contracts to minimize potential downtime and obtain product upgrades as available. |
| 3.3.2.2. | Ensure availability for timely upgrades of critical software applications via annual support/licensing renewals or direct upgrade purchases where appropriate. |
| 3.3.2.3. | Conduct routine maintenance tasks, such as the rollout of operating system patches and log monitoring, in a more controlled and consistent manner, based on an established schedule, in order to enhance the district’s ability to prevent or resolve trouble with its many resources. |
| 3.3.2.4. | Identify threats and manage risks posed to district technology assets, such as operating systems, applications and data. |
| 3.3.2.5. | Maintain and expand gateway-based protection, at the edge of the district’s network, to include firewall-based IP packet filtering, anti-virus/spam/spyware software solutions, and intrusion prevention resources. |
| 3.3.2.6. | Review/revise policy and continue application of periodic service patches and revision updates to network operating systems and databases in the existing Novell, Linux, and Microsoft Windows Server environments, as well as on any other network operating system platform to be introduced in the future. |
| 3.3.2.7. | Review/revise policy and continue performance of periodic service patches and revision updates to computer workstation operating systems, network clients, protocols, services and applications in the existing Microsoft Windows desktop and notebook PC environments, as well as for any future operating system used in a PC, network appliance, handheld or integrated devices to be introduced in the future. |
| 3.3.2.8. | Review/revise policy and continue performance of periodic service patches and firmware revision updates to network communications devices as necessary to maintain optimum functionality. |
3.3.2.9. Extend the use of PC desktop configuration and management software for imaging workstations, remote support, device inventory management, policy enforcement, application and patch distributions, considering options for similar management of mobile devices (district provided and privately-owned)

3.3.3. Ensure this system quickly and efficiently meets all staff and students’ technical assistance needs in the schools; that it is increasingly proactive in providing resources, coaching, and just-in-time instruction that prepares teachers and students to troubleshoot basic maintenance issues as they occur, reducing the need for external support during the instructional day.

3.3.3.1. Empower technology specialists to enhance performance of increasingly important instructional, curriculum support and staff training responsibilities by offsetting time spent in technology resource management through consideration of employment of an additional computer/network technician.

3.3.3.2. Reinforce, and communicate the evolving nature of the role of each school’s existing “technology specialist” position toward that of a technology support, curriculum and instructional facilitator and resource person, with reduced emphasis on direct student instruction under the condition that no additional technical staff is hired to offset the expanding workload.

3.3.3.3. Revise information technology competencies for all staff members, at skill complexity levels identified as beginner, intermediate and advanced, reflecting district expectations for mastery of relevant concepts and skills required for the simple operation and troubleshooting of available resources as appropriate by job category.

3.3.3.4. Extend information technology competencies for all staff members, reflecting district expectations for the performance of simple tasks related to preventive maintenance on the operating systems of the computers and other devices they use.

3.4. Formal Cycle for Review and Replacement

3.4.1. Establish a formal cycle for review, upgrades, and/or replacement

3.4.2. Continuously monitor technologies (e.g., software, hardware, and infrastructure) for needed upgrades, purchases, and, when called for, sunsetting of technologies.

3.4.2.1. Redistribute and/or retrofit aging equipment, performing only cost-effective upgrades, into areas where prolonged usage may continue to have perceived value.

3.4.3. Retire obsolete technology resources in a timely, environmentally appropriate, and proactive manner.

3.4.3.1. Replace obsolete computers and equipment used in all instructional environments and administrative work areas incrementally, at a pace commensurate
with changing instructional and technological needs, not to exceed a period of five (5) years.

### 4. Data and Privacy

**Timeline:** 2016-17, 2017-18, 2018-19

**Responsible Person:**
- Superintendent
- Assistant Superintendent for Curriculum & Instruction
- Principals
- Directors

**Evaluation:**
- > 2 point growth in each school’s overall NJTRAx Digital Learning Readiness Score and Digital Implementation Score
- Reduction in gap to <1 point between each school’s NJTRAx Digital Learning Readiness Score and Digital Implementation Score

#### 4.1. Data and Data Systems

4.1.1. Facilitate data-informed decision making using appropriate data that are readily available, easily comprehensible, and useful for supporting the decision making processes.

4.1.1.1. Provide administrator training in the analysis and use of available data, including Student Growth Objectives, Student Growth Percentiles, Staff Evaluation Scores.

4.1.1.2. Provide administrator training in the analysis and use of standardized testing data, including PARCC, Terra Nova, ACCESS ELL and Dynamic Learning Maps (DLM).

4.1.2. Ensure that data are available at any time, on any desktop, and from any location; made available through real-time access to data dashboards, data analytics, and data warehouses.

4.1.2.1. Evaluate current database management and reporting tools used by departments related to students, personnel, materials, and financial information, and make determinations as to whether changes are required based on current needs.

#### 4.2. Data Policies, Procedures, and Practices

4.2.1. Use the Family Educational Rights and Privacy Act (FERPA), the Child Internet Protection Act (CIPA), and the Children’s Online Privacy Protection Act (COPPA) as the basis for creating policy.
4.2.1.1. Create, revise policy as necessary to maintain compliance and to protect children, families and their information.

4.2.2. Ensure the district has up-to-date policies, procedures, and practices that address legal, ethical, and safety issues related to the privacy and security of data, and the usage of data, technology, and the Internet.

| 4.2.2.1. | Maintain and enforce protocol for student enrollment practices, as well as standards related to the format in which data items are recorded and accessed in the district’s student information systems. |

4.2.3. Address the collecting, storing, analyzing, reporting, exchanging, and archiving of data; as well as the usage of data, the Internet, and technology by all students and education professionals in the course of teaching, learning, communication, and the management of school services, in such policies, procedures, and practices.

| 4.2.3.1. | Maintain and scale resources in the extended campus network to enhance the district’s ability to store and protect critical data and growing libraries of electronic content via new and existing network attached data storage and backup devices. |
| 4.2.3.2. | Identify legitimate performance expectations for using the communications and collaborative systems available to administrative, teaching & support staff. |
| 4.2.3.3. | Reinforce each staff member’s responsibility for providing and maintaining content on the district’s websites and establish expectations for the periodic completion of related tasks. |
| 4.2.3.4. | Reinforce expectations for school and departmental secretarial staff, as well as other groups responsible for managing student data, to ensure that data entry is complete, accurate, timely, and conforms to the established standards. |
| 4.2.3.5. | Perform tasks in fulfilling the student information submission requirements in the NJSMART initiative, promoting administrative use of available data reporting tools. |
| 4.2.3.6. | Perform tasks in fulfilling the Technology Readiness requirements in the PARCC and other online student assessment initiatives, including design of local online testing environments. |
| 4.2.3.7. | Manage teacher performance evaluations using an online management portal, providing classroom walkthrough data analysis and reflection, live observation, data collection and reporting tools. |
| 4.2.3.8. | Improve central administration personnel officials’ capacity to provide notifications to network resource provisioning agents regarding new staff hiring, departmental transfers, and terminations in a direct and timely consistent fashion, so that network access privileges are granted or modified more efficiently. |
| 4.2.3.9. | Enhance district and school office staff’s capacity to provide emergency notifications and instructions (e.g., voice, e-mail, SMS, network broadcast messages, etc.) to staff in the event of a building maintenance or security incident, severe weather conditions or other catastrophic event. |
4.3. Data-Informed Decision Making

4.3.1. Use of formative and summative assessment data as part of the school culture, with administrators, teachers and, perhaps most importantly, all students actively using this data to improve learning.

4.3.1.1. Participate annually in the NJTRAx Digital Learning Readiness surveys to obtain and compare results regarding Overall Digital Readiness and Overall Digital Implementation.

4.3.1.2. Include Digital Learning focus in annually established administrator SMART Goals, Student Growth Objectives and Professional Development Plan.

4.3.1.3. Manage teacher performance evaluations based on an established framework using an online management portal, providing classroom walkthrough data analysis and reflection, live observation, data collection and reporting tools.

4.3.2. View assessment as part of the teaching and learning process, not punitive.

4.3.2.1. Assess student technological skills proficiency at the conclusion of each technology-infused project using an appropriate rubric or checklist and manage using grade book software as well as the school’s student information system.

4.3.2.2. Maintain digital portfolio for each student in grades 3-8, archiving completed technology projects as evidence of technological skills proficiency.

4.3.2.3. Report technological literacy status (NJSMART) for each 8th grade student based on longitudinal data maintained using the district’s student assessment and reporting instrument and evidence observed in each student’s digital portfolio.

4.3.3. Create an expectation in the school that data will inform all teaching and learning practices and decisions, modeling this at all levels of the school system, from administration to the students themselves.

4.3.3.1. Collaborate to establish metrics, collect and analyze data, interpret results, and share findings to improve staff performance and student learning.

4.4. Data Literate Education Professionals

4.4.1. Ensure that educators in the system are data literate, understanding the use and potential misuse of data in the teaching and learning process.

4.4.1.1. Perform tasks in fulfilling the student information submission requirements in the NJSMART initiative, promoting administrative use of available data reporting tools such as EdAnalyzer.
4.4.1.2. Manage teacher performance evaluations based on an established framework using an online management portal, providing classroom walkthrough data analysis and reflection, live observation, data collection and reporting tools.

4.4.2. Ensure that educators in the system are informed about and adhere to district policies on data privacy and security, making sure they also ensure that their students are knowledgeable and informed about data privacy and security, and that all students are good stewards of their own data.

4.4.2.1. Adopt Common Sense Media Digital Citizenship curriculum and implement grade level appropriate materials – all staff responsible for working through this content with all students.

4.4.3. Provide professional learning opportunities in data literacy, and supports all education professionals technically and instructionally in their use of data for learning.

4.4.3.1. Include data literacy topics throughout all professional development opportunities offered to staff concerning Digital Learning and 21st Century Skills.

5. Community Partnerships

Timeline: ☑ 2016-17 ☑ 2017-18 ☑ 2018-19

Responsible Persons: Superintendent
Assistant Superintendent for Curriculum & Instruction
Principals

Evaluation: > 2 point growth in each school’s overall NJTRAx Digital Learning Readiness Score and Digital Implementation Score
Reduction in gap to <1 point between each school’s NJTRAx Digital Learning Readiness Score and Digital Implementation Score

5.1. Local Community Engagement and Outreach

5.1.1. Actively involve the community in achieving the school’s learning goals.

5.1.1.1. Broaden public relations efforts to promote technology-based initiatives.

5.1.1.2. Educate members of all groups within the community as to the importance of educational technology integration in the schools, promoting 21st century themes & skills, demonstrating student benefits through planned interactive experiences.

5.1.1.3. Provide the community with programs geared toward the development of personal information literacy skills.
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#### 5.1.1.4. Update the Voorhees Township Community Education and Recreation (C.E.R.) adult education course offerings in information technology topics in order to provide skills-based training relevant to workplace readiness or retooling.

#### 5.1.2. Reach out to the community to (1) extend learning into community centers, libraries, museums, and other public spaces; (2) bring relevance to curricula through partnerships that take the shape of apprenticeships, community service, authentic projects, and the use of community-based experts and resources, etc.; (3) implement community-based exhibitions, reviews, critiques, and celebrations of student work; and (4) coordinate afterschool programs, including collaboration with the school and students’ teachers.

- **5.1.2.1.** Expand practice of promoting both school and district wide educational technology initiatives and achievements via web site and printed publications, television, school visitations, and presentations to the Board of Education, statewide professional associations, parent-faculty organizations, local groups and clubs, etc.

- **5.1.2.2.** Increase efforts to provide presentations to community groups on relevant topics focusing on emerging new technologies, related societal issues and the consequential impact they have on education and child development.

#### 5.1.3. Establish a school culture of collaboration, innovation, and empowerment.

- **5.1.3.1.** Enhance communication services that facilitate the exchange of information between the school and home.

- **5.1.3.2.** Enhance the district's Internet web presence by providing additional and more practical information categories, engage in more frequent information updates in order to keep content current, and use more active elements and media objects to make web pages more stimulating.

- **5.1.3.3.** Incorporate more interactive features into the district's web site allowing parents and community members to use the Internet as a vehicle to provide a school or the district with feedback to questions, posted discussion comments, and collaborative media development in the interest of public relations.

- **5.1.3.4.** Maximize teacher use and reliance on existing district e-mail and voice messaging systems, web content with embedded social apps in enhancing communication between the home and school.

- **5.1.3.5.** Maintain and expand “Going Green” initiative with online report card, attendance and grade book access, virtual backpacks, e-news blasts, voice & SMS notifications, etc.

- **5.1.3.6.** Enhance district and school office staff’s capacity to provide emergency notifications and instructions (e.g., voice, e-mail, SMS, network broadcast messages, etc.) to parents and community members in the event of a building maintenance or security incident, severe weather conditions or other catastrophic event.

- **5.1.3.7.** Enhance the district’s Internet web presence to provide accessibility for all by ensuring that new and existing content complies with the Americans with Disabilities Act (ADA) Section 508 guidelines, requiring that all imagery inserted has a ALT
attribute assigned, allowing developers to create CSS layouts (templates), and incorporate other ADA friendly navigation objects that do not use JavaScript but are listed as simple hyperlinks.

### 5.2. Global and Cultural Awareness

#### 5.2.1. Use community partnerships to extend and deepen all students’ knowledge, understanding, and appreciation of cultures and communities other than their own.

5.2.1.1. Survey community organizations to explore availability of regionally and culturally diverse resources, and willingness of these groups to participate in planned educational activities.

#### 5.2.2. Enable all students and education professionals to connect, interact, and collaborate with other students, experts, and organizations from outside of their locale via digital networks.

5.2.2.1. Maintain office and classroom access to communications links, allowing for collegial networking, collaboration and completion of important tasks through sharing of resources including fax, web, groupware, social media, e-mail, messaging, virtual meeting, videoconferencing, and personal device mobility synchronization services.

#### 5.2.3. Build the capacity of all students to recognize and value diversity, enabling them to participate successfully in community partnerships online and face-to-face.

5.2.3.1. Elicit assistance from community organizations and their network of contacts to implement onsite visits and distance learning programs that promote learning activities focused on global awareness and cultural diversity.

### 5.3. Digital Learning Environments as Connectors to Local and Global Communities

#### 5.3.1. Establish a digital learning environment that offers all students access to e-communication, resource libraries, file exchanges, and Web tools; which facilitate interactions among peers and between teachers, parents/guardians, and all students in school and beyond.

5.3.1.1. Utilize Cloud based tools, including approved social media web sites, virtual learning & gaming environments, cloud-based services (storage, apps, digital content), and virtual private network access to school hosted resources, to enhance opportunities for students to pursue 21st century skills in school, creating a flexible, blended approach to the teaching-learning process.

#### 5.3.2. Facilitate digital citizenship and student responsibility for the development and structure of online communities to ensure online safety and security.
5.3.2.1. Implement and enforce existing policies for network resource acceptable use, Internet safety, and use of personal devices in school for both students and staff.

5.3.2.2. Incorporate online safety concepts and skills into student instructional activities at each grade level, as appropriate.

5.3.2.3. Adopt Common Sense Media Digital Citizenship curriculum and implement grade level appropriate materials, including iBooks on student and teacher iPads.

5.3.2.4. Provide resources for parents regarding online safety, including published website links, printed materials, scheduled presentations and/or workshops.

5.3.2.5. Increase efforts to provide presentations to community groups on relevant topics focusing on emerging new technologies, related societal issues and the consequential impact they have on education and child development.

5.3.3. Form partnerships that promote affordable, community-based access to devices and the Internet for students.

5.3.3.1. Provide list of local public venues, and their locations, that offer free WiFi access to patrons or visitors.

5.3.3.2. Provide information concerning the Comcast Essentials program, providing low cost home Internet service to economically challenged families.

5.4. Parental/Guardian Communication and Engagement

5.4.1. Engage parents/guardians and all students in home-to-school communications through a variety of venues, including Internet-based solutions and also options that do not depend on connectivity in the home.

5.4.1.1. Maintain and expand “Going Green” initiative with online report card, attendance and grade book access, virtual backpacks, e-news blasts, voice & SMS notifications, etc.

5.5. District and School Brand

5.5.1. Develop a district and/or school brand (create a name, symbol, or design that identifies and differentiates itself from others)

5.5.1.1. From the vision and the mission statement, create a slogan to be used as a rally cry in an attempt to create and communicate a “brand” for the district’s new instructional culture.

5.5.2. Ensure the brand is transparent to all members within the organization—they must all be telling the same story, one that they believe in and stand behind.

5.5.2.1. The “brand” slogan must appear in e-mail signatures as well as on virtually all forms of digital and paper correspondence used by the district.
5.5.3. Communicate the brand to the entire team during faculty gatherings, informal conversations, and various meetings the district and school level.
5.5.3.1. The “brand” slogan must appear on meeting agendas.

5.5.4. Ensure that the brand promise matches the brand experience—the most important component for our students—so that the brand is effectively communicated outside of the school.
5.5.4.1. The “brand” slogan must appear on signage, on our school and district websites and used in our social media presence.

5.5.5. Utilize social media, technology, and connected communities to tell the school/district story, or communicate the brand.
5.5.5.1. Create school-based video content illustrating how each school embraces the district brand and makes it their own, and publish this content on school websites.

5.5.6. Encourage educators, students, and families to use their voices, take control of their stories, and begin thinking about how the school and district communities can brand their space.
5.5.6.1. Establish a new theme per month in all schools, related to our brand, and use this as a forum to publish and share the activities and projects with parents.

### 6. Professional Learning

**Timeline:** 📅 2016-17 📅 2017-18 📅 2018-19

**Responsible Persons:** Assistant Superintendent for Curriculum & Instruction Principals Directors

**Evaluation:**
- > 2 point growth in each school’s overall NJTRAx Digital Learning Readiness Score and Digital Implementation Score
- Reduction in gap to <1 point between each school’s NJTRAx Digital Learning Readiness Score and Digital Implementation Score

#### 6.1. Shared Ownership and Responsibility for Professional Growth

6.1.1. Encourage teachers, administrators, and other education professionals to be self-directed in their professional practices, using technology to optimize teaching and learning.
6.1.1.1. Enhance current professional development program formats include encourage self-direction while providing more diversity, include opportunities such as synchronous and asynchronous distance learning using Cloud based tools, Massive Open Online Courses (MOOCs), and establish professional learning communities using social media resources.

6.1.2. Encourage teachers, administrators, and other education professionals to take active responsibility for their own professional growth through professional learning networks (PLNs) and online communities of practice.

6.1.2.1. Provide or guide staff members towards the appropriate type and level of training available based on the nature of the staff member’s position, the scope and depth of job responsibilities and assigned tasks, as well as his/her professional interests.

6.1.3. Encourage teachers, administrators, and other education professionals to take advantage of the 24/7 access they have to collaborative tools, professional learning resources, and digital environments that may connect them locally and globally.

6.1.3.1. Continue practice of providing priority technical support to staff members engaging in educational technology initiatives, promoting heightened staff levels of comfort and autonomy in performing related tasks.

6.1.4. Offer in-house professional development opportunities that encourages, facilitates, and often requires creating and maintaining professional networks both within and outside of the district and school, frequently leveraging the latest in social media and blended learning.

6.1.4.1. Provide opportunities for teachers and administrators to share innovative educational technology initiatives through Cloud based tools, demonstrations, collaborative teaching and mentoring activities, and via videoconferencing resources.

6.1.5. Promote district policies that honor and encourage personalization of professional learning for teachers, administrators and other education professionals.

6.1.5.1. Implement “digital badge” initiative to reward staff for their engagement in professional development activities.

6.1.5.2. Design and implement incentive programs rewarding staff members with funding and other forms of recognition for engaging in innovative projects in educational technology.

6.1.6. Ensure that school leaders are modeling these new, technology-enabled professional learning.
6.1.6.1. Structure professional development so that it mimics how instruction should take place in the classroom.

### 6.2. 21st Century Skill Set

6.2.1. Encourage educators to expand their knowledge to acquire a 21st Century skill set applicable to their professional learning, their professional practices, and their classroom practices.

6.2.1.1. Modify existing staff development programs in instructional technology, emphasizing instructional methodologies and resource (district provided and privately-owned) utilization in support of 21st century themes and skills integration, to be infused across all content areas in the New Jersey Core Curriculum Content Standards and in the Common Core State Standards.

6.2.2. Promote acquisition of a 21st Century skill set for education professionals that includes: experience with online and blended learning; facility with technology in curriculum and instruction, with digital assessment, with informed use of data/data analytics; and the capacity to design appropriate units for all digital learners.

6.2.2.1. Engage staff in technology-rich learning activities that promote the development of defined 21st Century skills (e.g. information, media and communications literacy) by heightening expectations for teachers, and providing proper levels of staff supervision, support and professional development.

6.2.3. Create a school culture that requires teachers and other education professionals to apply these skills as they make informed decisions related to student-centered learning, teaching, and assessment.

6.2.3.1. Align all professional development programs in information technology with ISTE National Educational Technology Standards for both Teachers and Administrators, establishing high expectations established for each group related to both participation and the mastery of concepts and skills.

6.2.4. Promote professional learning that immerses educators into the learning sciences that address research-based pedagogies to leverage project based learning and authentic learning in situations that enable collaborative learning with colleagues.

6.2.4.1. Provide programs exploring digital learning projects that promote 21st Century skills, standards-based content knowledge and elements of deeper learning (e.g., critical thinking and decision-making, creativity and innovation, bi-directional communication, research and information literacy, and self-direction), and have relevance beyond the classroom walls.
6.2.5. Facilitate educator mastery of a variety of new, research-based instructional strategies to better engage all students in deeper learning and prepare them for college and beyond.

6.2.5.1. Share strategies with teachers for heightening expectations, personalizing learning experiences, leveraging technology, and making good use of assessment data in pursuit of better preparing students for college and career readiness.

6.2.6. Help educators learn to create lessons and use instructional approaches that develop their students’ 21st Century skills.

6.2.6.1. Continue in-service program designed to build relationships between 21st Century Themes and interdisciplinary curriculum planning in a project-based format leading to classroom student engagement focused on the development of 21st century skills.

6.2.7. Help educators to develop collaborative pedagogical models in a supportive culture that enables them to experience negative and positive outcomes in the facilitation of learning without penalties.

6.2.7.1. Have teachers evaluate their existing instructional activities and technology projects, making revisions to enhance or transform them through the four stages of the SAMR (Substitution, Augmentation, Modification, Redefinition) Model, Bloom’s Taxonomy, TPAK, and others.

6.2.8. Help educators to develop classroom management strategies for all digital learners, create safe learning environment that allows students to expand their reach, while ensuring that equipment is being used appropriately and effectively.

6.2.8.1. Continue in-service program designed to build instructional management strategies based on the design of the classroom activity, providing various simulated learning environments where teachers have hands-on with the technology resources as the instructor models and holds discussion concerning the logistics for managing the flow of the activities.

6.2.9. Help educators to develop this skill set that includes the effective use of technology, digital tools, blended learning, digital content, and social media to advance their own learning, and to coach and mentor their students.

6.2.9.1. Continue in-service program designed to foster resource management, including the selection and use of the most appropriate tools for meeting the objectives of the activity or project component, including hardware, software and online resources, as well as the proper use of content (media), distribution/collection, operation, troubleshooting, safety, etc.

6.3. Diverse Opportunities for Professional Learning
6.3.1. Model new types of professional learning and ensure that educators have access to (and the technology savvy necessary to leverage) professional development opportunities that are diverse, customizable and supported by the latest technologies.

6.3.1.1. Leverage school and district-based Innovation Committees to research and promote alternative professional development formats with individuals and small groups within the school environment.

6.3.2. Promote professional learning opportunities that use research-based pedagogies and technology (e.g., social media, professional learning networks (PLNs), Twitter feeds, EdCamps, etc.), are available anytime, anywhere in a variety of modes, and are supported through coherent district and school policies and practices.

6.3.2.1. Encourage self-direction while providing more diversity, include opportunities such as synchronous and asynchronous distance learning using Cloud based tools, Massive Open Online Courses (MOOCs), and establish professional learning communities using social media resources.

6.4. Broad-Based, Participative Evaluation

6.4.1. Promote goal-oriented, self-regulated professional behaviors, by ensuring that evaluation is participative (i.e., the educator who is the subject of evaluation is actively involved in goal-setting, collecting indicators of progress, and self-evaluative behaviors).

6.4.1.1. Implement Danielson’s Framework for Teaching as standard instructional model allowing both the educator and evaluator to collaborate via the iObservation management portal, to ensure proper planning, execution and reflection across all four domains.

6.4.2. Use a broad set of indicators in professional evaluation that include student achievement, evidence of improved instructional practice, student engagement, and 21st Century skill attainment.

6.4.2.1. Implement AchieveNJ Student Growth Objectives, allowing teachers to set long term academic goals for groups of students in consultation with their supervisors.

7. Budget and Resources

| Timeline: | ☑ 2016-17 ☑ 2017-18 ☑ 2018-19 |
| Responsible Person: | Assistant Superintendent for Business  
Assistant Superintendent for Curriculum & Instruction |
| Evaluation: | > 2 point growth in each school’s overall NJTRAx Digital Learning Readiness Score and Digital Implementation Score |
7.1. Efficiency and Cost Savings

### 7.1.1. Leverage technologies that increase efficiency, cost savings and cost effectiveness.

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<td><strong>7.1.1.</strong> Establish and maintain requirements with regards to purchasing guidelines, selection criteria and the process for identifying products, vendors or infrastructure so that product and vendor standardization remain a priority.</td>
<td></td>
</tr>
<tr>
<td><strong>7.1.1.2.</strong> Continue to maintain “mission critical” hardware and software resources on full-feature support contracts to minimize potential downtime and obtain product upgrades as available.</td>
<td></td>
</tr>
<tr>
<td><strong>7.1.1.3.</strong> Conduct routine maintenance tasks, such as the rollout of operating system patches and log monitoring, in a more automated, controlled and consistent manner, based on an established schedule, in order to enhance the district’s ability to prevent or resolve trouble with its many resources.</td>
<td></td>
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<tr>
<td><strong>7.1.1.4.</strong></td>
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</table>

### 7.1.2. Create strategies for calculating the total cost of ownership (TCO) for all technology resources, reviewing both direct cost (e.g., costs related to equipment, devices, Internet access, boxes, wires, etc.) and indirect costs (e.g., training, technical assistance, staff time, etc.)

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<tbody>
<tr>
<td><strong>7.1.2.1.</strong> Examine cost and feasibility for outsourcing specific technical tasks or obtaining expertise in the implementation of technology initiatives from consultants and other technology integration agencies when necessary.</td>
<td></td>
</tr>
<tr>
<td><strong>7.1.2.2.</strong> Examine cost and feasibility for employing an additional computer/network service technician in order to sustain present levels of efficiency in the performance of required maintenance and management tasks on a very large install base of equipment that has and will continue to increase at a rapid rate.</td>
<td></td>
</tr>
<tr>
<td><strong>7.1.2.3.</strong> Increase the district’s exploration of and participation in leasing and other creative financing programs designed to refresh obsolete technology products at a more appropriate rate.</td>
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</table>

### 7.2. Alignment to District– and Building-Level Strategic and Tactical Plans

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<tbody>
<tr>
<td><strong>7.2.1.</strong> Establish priorities for budget and resources that are clearly linked to district- and building-level strategic and tactical plans and to school improvement goals, justifying all expenditures as supportive of these plans.</td>
<td></td>
</tr>
</tbody>
</table>
7.2.1.1. Establish general requirements or objectives with regards to the process for 
identifying products, vendors or infrastructure that meet instructional goals - this 
could be in the form of purchasing guidelines, selection criteria, or references to 
policies and procedures.

7.2.2. Fund innovative programs conditionally upon their alignment to the district’s vision 
and mission, thus ensuring sustainability, efficiency, and coherence with the vision.

7.2.2.1. Provide teachers with the opportunity to pitch solutions as a packaged initiative 
for consideration based on need in an attempt to acquire funding, especially if the 
request is supported by a higher level need (e.g., NJCC Standard 1 with a 21st Century 
Learning emphasis).

7.2.2.2. Eliminate inequity concerning the availability of instructional technology 
resources deployed between buildings and/or academic departments comparatively.

7.3. Consistent funding Streams

7.3.1. Maintain budgets for digital learning programs and initiatives as part of the annual 
maintenance and operation budget for the district.

7.3.1.1. Continue process of annual and long-range district budget planning for the 
acquisition of educational products and services.

7.3.1.2. Continue to incorporate the cost of technology distribution and hardware into 
plans for future building renovation, retrofitting, and construction.

7.3.1.3. Increase the district’s exploration of and participation in leasing and other 
creative financing programs designed to refresh obsolete technology products at a 
more appropriate rate.

7.3.1.4. Optimize pursuit of external sources of funding, manpower and expertise to 
secure needed educational technology resources for the district on an annual basis.

7.3.1.5. Continue to secure technology products, services and funding through 
participation in cooperative partnerships with external organizations, agencies and 
businesses.

7.3.1.6. Continue to pursue shared technology products, services and funding through 
enhanced participation as a cooperative partner with the Voorhees Township 
Community Education and Recreation (C.E.R.) program.

7.3.1.7. Continue to secure technology products, services and funding through grants, 
donations and revenue-generating activities.

7.3.2. Minimize reliance on grant funding or temporary sources, and integrate funding for 
digital learning into all budget areas where appropriate.
7.3.2.1. Utilize annual district funding sources to secure needed educational technology resources.

7.4. Learning Return on Investment

7.4.1. Ensure that all metrics for review of budget priorities are based on their demonstrated relationship to student learning goals, so the school may calculate its learning return on investment.

7.4.1.1. Pursue deliberate coordination between offices – curriculum, business, buildings and grounds, and information technology as this is vital for addressing all aspects of any initiative and achieving success - pooling district, building and external financial resources is a byproduct of strong coordination of efforts, and a better return on our investments can be realized.

8. Empowered, Innovative Leadership

Timeline: ☑️2016-17 ☑️2017-18 ☑️2018-19

Responsible Person: Superintendent
Assistant Superintendent for Curriculum & Instruction

Evaluation:
> 2 point growth in each school’s overall NJTRAx Digital Learning Readiness Score and Digital Implementation Score

Reduction in gap to <1 point between each school’s NJTRAx Digital Learning Readiness Score and Digital Implementation Score

8.1. A Shared, Forward-Thinking Vision for Digital Learning

8.1.1. Create and maintain an educational program that prepares students to thrive in today’s connected, fast-paced society, by engaging all students in evidence-based, deeper learning through smart uses of technology and new pedagogies.

8.1.1.1. Employ instructional methodologies integrating technology resources in the classroom to achieve local curriculum and instructional objectives in all content areas, to include the NJ Core Curriculum Content Standards and Common Core Standards.

8.1.1.2. Enhance all curricular areas, using technology as a vehicle to integrate the critical thinking, cooperative learning, and problem solving skills into classroom activities.
| 8.1.1.3. | Enhance all curricular areas, using technology as a vehicle to explore cultural diversity, languages, values, interests and societal differences among world communities. |
| 8.1.1.4. | Increase student proficiency in using technology to gather, analyze and present information. |
| 8.1.1.5. | Increase student participation in authentic technology infused projects using available resources, based on 21st Century themes, 2009 NJCCCS 8.1 standards and cross content integration. |
| 8.1.1.6. | Schedule cooperative planning between teachers and building technology specialists focusing on the development and articulation of instructional technology integration strategies, activities and methods. |
| 8.1.1.7. | Maximize the appropriate integration of technology resources in the teaching-learning process (including privately-owned devices where allowed) within all content areas based on relevant research, providing equal access to all students regardless of gender, race, national origin, socio-economic status, religious affiliation and special needs or disabilities. |
| 8.1.1.8. | Increase student participation in global distance learning activities while educating students about appropriate online behavior, interactions in social networking sites, and cyber bullying awareness. |
| 8.1.1.9. | Increase student participation in authentic technology infused projects using available resources, based on 21st Century themes, 2014 NJCCCS 8.1 standards and cross content integration. |
| 8.1.1.10. | Engage students in technology-rich learning activities that promote the development of defined 21st Century skills (e.g. information, media and communications literacy) by heightening expectations for teachers, and providing proper levels of staff supervision, support and professional development. |
| 8.1.1.11. | Incorporate online safety concepts and skills into student instructional activities at each grade level, as appropriate. |

8.1.2. Engage all students, teachers, administrators, parents, and the community in the envisioning of a transformed education system that personalizes learning for all students through the effective uses of technology.

8.1.2.1. Form “Innovation Committee” to examine different instructional models that would allow us to move towards the reinvention of some of our current processes, explore devices and applications that offered great opportunities for teaching and learning in a personalized setting, compare the adoption rates for different users and how to leverage that dynamic in professional development planning, and revisit and adopt a more formalized strategic planning process in our activities going forward.
### 8.1.3. Articulate and share this vision for digital learning both internally and externally.

8.1.3.1. Leverage Innovation Committee to begin the process of transforming the culture for our learning environments, articulating a vision for how instruction should look, and craft a new mission statement relevant to the vision upon which to build.

### 8.2. A Culture of Collaboration, Innovation, Capacity Building, and Empowerment

#### 8.2.1. Establish a collaborative culture of innovation in which leaders at all levels are empowered to innovate.

8.2.1.1. Convene Innovation Committee meetings where administrators and staff share ideas and learn about best practices, discuss, create and plan opportunities to transform instruction, evolve professional development options, enhance communication and collaborative efforts among staff, explore new technologies, and gather information via surveys for future planning purposes.

#### 8.2.2. Restructure the school within this culture to bring the vision to life.

8.2.2.1. Spawn school-based Innovation Committees in order to address issues, set goals and pilot smaller initiatives relevant to each individual school - reduce the larger committee to school representatives that would serve as liaisons for sharing results of the efforts of the smaller groups.

8.2.2.2. Reinforce, and communicate the evolving nature of the role of each school’s existing “technology specialist” position toward that of a technology support, curriculum and instructional facilitator and resource person.

#### 8.2.3. Maximize the capacity of leaders to innovate through a culture of trust and respect, providing leaders with the flexibility and adaptability they require to lead.

8.2.3.1. Include at least one Digital Learning and 21st Century Skills oriented goal statement each year as an established district goal.

8.2.3.2. Include Digital Learning focus in annually established administrator SMART Goals, Student Growth Objectives and Professional Development Plan.

8.2.3.3. Continue active membership and participation in school- and district-based Innovation Committee initiatives.

### 8.3. High Expectations for Evidence-Based Transformations to Digital Learning

#### 8.3.1. Expect teachers, administrators, and students across the district to show progress toward the district vision for 21st Century digital learning.

8.3.1.1. Identify legitimate performance expectations for using the productivity tools available to administrative, teaching & support staff.
8.3.1.2. Implement technology in ways that help all administrators, staff members and students better manage data, communicate and collaborate effectively.

8.3.1.3. Increase administrator, staff members and students access to online productivity resources in each building by providing demonstrations and training, modifying schedules, reorganizing resource availability, and promoting use of privately-owned devices as appropriate.

8.3.1.4. Identify legitimate performance expectations for using the information management systems available to administrators, staff members and students.

8.3.1.5. Identify legitimate performance expectations for using the communications and collaborative systems available to administrators, staff members and students.

**8.3.2. Establish metrics for gauging such progress and work across the district to monitor progress and to use evidence-based decision making to ensure that technologies are implemented in ways that advance the vision.**

8.3.2.1. Manage teacher performance evaluations based on an established framework using an online management portal, providing classroom walkthrough data analysis and reflection, live observation, data collection and reporting tools.

8.3.2.2. Maintain Information Technology (K-8) Knowledge & Skills Matrix tool, cross referencing local Knowledge & Skills Continuum with NJ Core Content Curriculum Standard 8.1 for Information Technology Literacy and National Education Technology Standards.

8.3.2.3. Assess student technological skills proficiency at the conclusion of each technology-infused project using an appropriate rubric or checklist and manage using grade book software as well as the school’s student information system.

8.3.2.4. Maintain digital portfolio for each student in grades 3-8, archiving completed technology projects as evidence of technological skills proficiency.

8.3.2.5. Report technological literacy status (NJSMART) for each 8th grade student based on longitudinal data maintained using the district’s student assessment and reporting instrument and evidence observed in each student’s digital portfolio.

8.3.2.6. Participate annually in the NJTRAx Digital Learning Readiness surveys to obtain and compare results regarding Overall Digital Readiness and Overall Digital Implementation.

**8.4. Transformative, Coherent Thinking, Planning, Policies, and Implementation**

8.4.1. Advanced the district’s forward-thinking vision through leaders’ transformative thinking.

8.4.1.1. Promote an environment of professional learning and innovation that empowers educators to enhance student learning through the infusion of contemporary technologies and digital resources.
### 8.4.1.2. Lead purposeful change to maximize the achievement of learning goals through the appropriate use of technology and media-rich resources.

### 8.4.1.3. Promote and model effective communication and collaboration among stakeholders using digital age tools.

### 8.4.2. Promote leadership that ensures that the district’s policies are coherence with the philosophy underpinning the vision (e.g., personalizing professional learning for education professionals, just as they personalize learning for students).

<table>
<thead>
<tr>
<th>8.4.2.1.</th>
<th>Promote and participate in local, national, and global learning communities that stimulate innovation, creativity, and digital age collaboration.</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.4.2.2.</td>
<td>Stay abreast of educational research and emerging trends regarding effective use of technology and encourage evaluation of new technologies for their potential to improve student learning.</td>
</tr>
<tr>
<td>8.4.2.3.</td>
<td>Facilitate and participate in learning communities that stimulate, nurture and support administrators, faculty, and staff in the study and use of technology.</td>
</tr>
</tbody>
</table>

### 8.4.3. Develop strategic plans that map potential pathways to the district’s preferred future, create the tactical and financial plans and dedicated budget necessary for implementation, then monitor, adjust, build capacity, and experience incremental improvement.

<table>
<thead>
<tr>
<th>8.4.3.1.</th>
<th>Collaborate to establish metrics, collect and analyze data, interpret results, and share findings to improve staff performance and student learning.</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.4.3.2.</td>
<td>Recruit and retain highly competent personnel who use technology creatively and proficiently to advance academic and operational goals.</td>
</tr>
<tr>
<td>8.4.3.3.</td>
<td>Establish and leverage strategic partnerships to support systemic improvement.</td>
</tr>
<tr>
<td>8.4.3.4.</td>
<td>Establish and maintain a robust infrastructure for technology including integrated, interoperable technology systems to support management, operations, teaching, and learning</td>
</tr>
</tbody>
</table>
Technology for Digital Learning - School Action Plans

This portion of this document represents the course that each individual school in the Voorhees Township School District is planning to focus on digital learning transformation over the next three years based on 2015-16 Digital Learning Survey results. These Digital Learning Summary Reports are too lengthy for inclusion here, but relevant data is shared. The full report for each school is available on the district website (http://www.voorhees.k12.nj.us/Page/82984).

School-based Goals, Strategies, Objectives and Indicators are included for each school. A Reflection and Adjustment Plan is also included, as well as a school-based Budget to support activities in the Action Plan.


Infrastructure

NJTrax Technology Readiness completed during current school year.

Date: 5/2/2016  Rating: 8.5

Teaching and Learning

NJTrax Digital Learning Readiness completed during current school year.

Date: 5/2/2016  Rating: 8.2

Based on the NJTrax Survey from the 2015-2016 school year, we have identified 3 areas to be addressed in E. T. Hamilton School's three-year Technology Plan for Digital Learning. These goals have been developed in accordance with the results from the survey which was taken by 5th grade students, teachers, parents, technology coordinators and administrators. The plan includes the following areas targeted for improvement.

Gear: Budget & Resources (Readiness Score: 6.2)

Gear: Use of Time (Readiness Score: 6.3, Implementation Score 6.1)

Gear: Community Partnerships (Global & Cultural Awareness Implementation Score 4.6)
Educational Technology Plan 2016-2019

Technology Plan

Goal 1: To address the 6.2 for Budget & Resources under Digital Learning Readiness. Hamilton's Technology Goals should be to increase hardware to encourage a 1:1 environment.

Strategies: Seek funding from various district resources, CER, building funds, HFFA (parent funds), & district funds.

Objective(s): Increase hardware purchase by reaching out to parent funding meetings, emailing CER, communicating with administration, other district technology specialists, and the directory of technology.

Indicator(s): Inventory of building, staff, and student hardware over 3 years.

<table>
<thead>
<tr>
<th>Action Plan for Goal 1</th>
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<tbody>
<tr>
<td><strong>Activities</strong></td>
</tr>
<tr>
<td>Assess current technology and seek funding</td>
</tr>
<tr>
<td>Assessment of current hardware and survey staff &amp; students of needs. Identify vendors, funding resources, &amp; research out of district funding sources</td>
</tr>
<tr>
<td>Progress towards increasing purchasing of hardware</td>
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</table>

Goal 2: Address 6.1 for Use of Time under Digital Learning Implementation. Hamilton's technology goals will be redesigning the lab and classrooms to encourage the opportunity for the creation of 21st Century Projects.

Strategies: Ongoing communication between learning community, staff, & stakeholders.

Objective(s): Increase Flexible Learning; Anytime, Anywhere 5.4 with equity and adequacy of devices; availability and quality.

Indicator(s): Increase use of lab, classroom environments, collaborative work environments, increase peer to peer & grade to grade collaborative projects.

<table>
<thead>
<tr>
<th>Action Plan for Goal 2</th>
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<tbody>
<tr>
<td><strong>Activities</strong></td>
</tr>
<tr>
<td>Assess current learning environment, meet with Building Innovation Committee &amp; principal and classroom teachers</td>
</tr>
<tr>
<td>Adjust learning environments to accommodate needs of the learner to meet standards &amp; 21st century projects</td>
</tr>
<tr>
<td>Reassess learning environments &amp; stakeholders for adjustments to increase collaborative work environments, peer to peer &amp; grade to grade collaborative projects</td>
</tr>
</tbody>
</table>
Goal 3: To increase knowledge and understanding about cultures and communities to address the 4.6 for Global & Cultural Awareness under Community Partnership. To increase NITrax 2015-2016 score of 36% for the following question: Do students in this school have opportunities to gain new appreciations, knowledge, and understandings about culture and communities other than their own thought online communications and digital projects? Only 36% of parents/guardians said yes, their student is afforded these opportunities.

Strategies: Communicate with parent groups and stakeholders in the community

Objective(s): Go to parent group meetings, communicate with public relationship staff, involve local newspapers, posting on social media, utilize school messenger, presentations at Bd. Of Ed. Meetings.

Indicator(s): Surveys, Skype, videos, multimedia presentations, & internet web resources

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<tr>
<th>Action Plan for Goal 3</th>
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<tbody>
<tr>
<td><strong>Activities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surveys, Skype, videos, multimedia presentations, &amp; internet web resources</td>
<td>Administrator, teachers, staff</td>
<td>Web Resources, software, hardware</td>
</tr>
<tr>
<td>Students creating multimedia presentations relating to cultural awareness &amp; communities Students will utilize 21st century tools such as Skype &amp; webcasts to gain knowledge and understanding about cultures &amp; communities. Students will all communicate with parents &amp; the community.</td>
<td>Students, teachers, staff, &amp; community</td>
<td>Hardware, software, &amp; Web Resources</td>
</tr>
<tr>
<td>Continue to increase knowledge, and understandings about culture &amp; communities</td>
<td>Students, teachers, staff, &amp; community, &amp; social media collaboration</td>
<td>Office tools, Skype, videos, &amp; internet resources</td>
</tr>
</tbody>
</table>

Professional Learning Plan

<table>
<thead>
<tr>
<th>Goal #</th>
<th>Initial Activities</th>
<th>Follow-Up Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Research current technology, reach out to Innovation Committee, and other schools districts</td>
<td>Quotes from vendors, ongoing communication with Innovation Committee</td>
</tr>
<tr>
<td>2</td>
<td>Observe &amp; assess current use of time &amp; activities in all learning environments</td>
<td>Readjust learning environments as needed</td>
</tr>
<tr>
<td>3</td>
<td>Reach out to community &amp; teachers for needs &amp; suggestions</td>
<td>Follow up with Skype &amp; distance learning activities</td>
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Reflection and Adjustment Plan

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<thead>
<tr>
<th>Goal #</th>
<th>Initial Activities</th>
<th>Follow-Up Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Look at needs to increase hardware &amp; software across platforms</td>
<td>Check tools used and increase suggestions</td>
</tr>
<tr>
<td>2</td>
<td>Assess ongoing flexible learning</td>
<td>Encourage different hardware &amp; software and online resources</td>
</tr>
<tr>
<td>3</td>
<td>Observe cultural awareness, conduct survey</td>
<td>Reach out to community resources</td>
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Budget

<table>
<thead>
<tr>
<th>Goal #</th>
<th>Activity</th>
<th>Funding Source (Federal/State/Private/District)</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Look at current budget for building, HPFA, CER, &amp; district funding</td>
<td>District, building, CER, state, &amp; federal</td>
<td>TBD</td>
</tr>
<tr>
<td>2</td>
<td>Increase Flexible Learning; Anytime, Anywhere with equity and adequacy of devices; availability and quality</td>
<td>District &amp; building</td>
<td>TBD</td>
</tr>
<tr>
<td>3</td>
<td>District learning activities with global &amp; cultural awareness</td>
<td>Distance learning communities</td>
<td>TBD</td>
</tr>
</tbody>
</table>
Based on the NJTrax Survey from the 2015-2016 school year, we have identified 3 areas to be addressed in Kresson School's three-year Technology Plan for Digital Learning. These goals have been developed in accordance with the results from the survey which was taken by 5th grade students, teachers, parents, technology coordinators and administrators. The plan includes the following areas targeted for improvement.

**Gear: Community Partnerships (Readiness Score: 7.3, Implementation Score 5.0)**

Survey results concluded that although we scored 7.3 on a readiness level, our implementation rate shows a discord when it comes to implementation. Community partnerships allow for learning to extend past the confines of classroom walls and tap into experts, organizations and other students globally. Students learn to value diversity and better understand cultures and communities other than their own. Building community partnerships is also essential for successful schools as greater parent/community involvement is linked to higher student achievement.

**Gear: Use of Time (Readiness Score: 6.0, Implementation Score 6.1)**

Competency based learning, or the measurement of student mastery vs. the amount of hours spent learning and student-centered, and personalized learning, allow for the shift to educating students in an ever changing global and competitive economy. Transitioning to flexible learning, creating collaborative learning spaces and allowing students extended time allows for deeper more authentic learning experiences. Innovative uses of technology and using technology to meeting the needs of the learner promote competency based and personalized learning rich environments - Targeting this Gear also correlates to Voorhees Township 2016-2017 District Goal #1; continue to encourage academic achievement by providing instruction that is individualized based on students' readiness, interests and learning styles. As well as Goal #5; create learning environments that embrace the social and emotional needs of every child.

**Gear: Professional Learning (Readiness Score 6.9)**

Technology allows for increased professional learning opportunities as it affords educators the opportunity to reach out globally for professional development experiences. Moving away from traditional "sit and get" PD is essential for growth. Technology rich authentic experiences in professional development lead to higher student success and create a deeper understanding of skills paramount to mastering 21st Century skill sets - Targeting this Gear for improvement correlates to Voorhees Township 2016-2017 District Goal #2 – Increase teachers' knowledge and implementation of 21st Century learning skills that includes a focus on communication, critical thinking, problem solving, collaboration and creativity. As well as Goal #4; provide teacher professional development and student instruction focused on Digital Citizenship. Please note there is no implementation score because this Gear does not directly impact students.
Technology Plan

Goal 1: Create deeper community partnerships by increasing formal and informal connections to local and global communities.

Strategies: Encourage teacher buy-in by showing the importance of community partnerships
Provide increased access to resources which foster community partnerships
Celebrate and publicize successes, view failures as growth opportunities
Encourage professional conversation and reflection revolving around community partnerships

Objective(s): Increase access and training on equipment for video conferencing (Skype, Facetime, Webex)
Provide activity summaries/pictures to be publicized in papers, website and on social media
Share successes at faculty meetings
Invite and utilize local community members in for presentations/demonstrations

Indicator(s):
- Technology standards forms completed by teachers – held on file in the computer lab
- Surveys

<table>
<thead>
<tr>
<th>Action Plan for Goal 1</th>
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</thead>
<tbody>
<tr>
<td><strong>Activities</strong></td>
</tr>
<tr>
<td>Formal and informal professional conversation about importance of community partnerships</td>
</tr>
<tr>
<td>Continue to expand Kresson School STEM Fair Write and submit blurs/pictures of classroom activities to local paper, post on website, and present at BOE meetings</td>
</tr>
</tbody>
</table>

Goals:

Goal 2: Foster an environment of student-centered learning through competency-based and personalized learning which will empower students with more choice and control of their learning experiences.

Strategies: Ensure that parents know about online learning opportunities provided by the school during school and after school hours
Provide a workspace for students to go and work collaboratively on projects as well as encourage personalized learning
Increase exposure to classroom models utilizing flipped and blended learning models of learning

Objective(s): Ensure teachers/students/parents are knowledgeable on school based subscriptions available to them
Maintain updated school website to reflect current online subscriptions
Redesign the computer lab with movable furniture and laptops/iPads to accommodate collaborative learning
Provide teacher-led turnkey training on flipped/blended/student-centered models of instruction

Indicator(s):
- Monitor usage on school purchased software
- Updated technology space to support 21st Century learning strategies (computer lab)
- Surveys
### Action Plan for Goal 2

<table>
<thead>
<tr>
<th>Activities</th>
<th>Individual(s) Responsible</th>
<th>Resources</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meet with Innovation Committee, form a team including admin, teachers and students to plan new room design</td>
<td>Principal, Technology Specialist, Innovation Committee, Teachers, Students, Director of Technology, Director of Building and Grounds</td>
<td>None</td>
<td>Year 1 (update to reflect learning space to meet current needs in years 2 and 3)</td>
</tr>
<tr>
<td>Redesign computer lab</td>
<td>Same as above</td>
<td>Equipment, for lab</td>
<td></td>
</tr>
<tr>
<td>Disseminate login credentials to teachers/parents and students for all online subscriptions</td>
<td>Technology Specialist</td>
<td>None</td>
<td>Ongoing Years 1-3</td>
</tr>
<tr>
<td>Maintain updated information on school website and for online curriculum subscriptions and library databases</td>
<td>Technology Specialist, School Librarian, Main Office Secretaries</td>
<td>Schoolwire</td>
<td>Ongoing Years 1-3</td>
</tr>
<tr>
<td>Increase access to flipped and blended collaborative classrooms</td>
<td>Technology Specialist and Teachers</td>
<td>Classroom visitsations both in and outside of school</td>
<td>Ongoing Years 1-3</td>
</tr>
<tr>
<td>Teacher turn-key training PD on flipped/blended/student centered models of instruction</td>
<td>Technology Specialists and teachers</td>
<td>Teacher volunteers</td>
<td>Ongoing Years 2-3</td>
</tr>
</tbody>
</table>

**Goal 3:** Provide teachers with authentic professional learning opportunities through increased technology and digital learning experiences which will ultimately lead to improvements in student successes and create broader understanding of the skills that comprise success in the digital age.

**Strategies:**
- Move toward EdCamp models of professional development
- Design 21st Century district training to be more authentic – move away from "sit and get" model of professional development
- Encourage shared ownership and responsibility for professional growth

**Objective(s):** Transition professional development workshops offered to "hands on" and EdCamp models
- Modify current 21st Century workshops with district technology specialists to reflect desired types of professional development experiences offered to teachers

**Indicator(s):**
- Teacher surveys
- Documentation on professional development opportunities (o file in the computer lab)

### Action Plan for Goal 3

<table>
<thead>
<tr>
<th>Activities</th>
<th>Individual(s) Responsible</th>
<th>Resources</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attend EdCamp models of PD</td>
<td>Principal, Technology Specialist, Teachers</td>
<td>Access to EdCamps in area</td>
<td>Year 1</td>
</tr>
<tr>
<td>Implement EdCamp model of PD</td>
<td>District Technology Specialists</td>
<td>EdCamp Supplies</td>
<td>Year 2</td>
</tr>
<tr>
<td>Update District wide 21st Century training to reflect best practice PD styles</td>
<td>District Technology Specialists</td>
<td>Planning Time</td>
<td>Ongoing Years 1-3</td>
</tr>
</tbody>
</table>
## Professional Learning Plan

<table>
<thead>
<tr>
<th>Goal #</th>
<th>Initial Activities</th>
<th>Follow-Up Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Attend workshops and webinars, make connections through Twitter chats</td>
<td>Turnkey information in mini workshops, at staff meetings and informal conversation with all stakeholders</td>
</tr>
<tr>
<td>2</td>
<td>Visit districts with technology rich spaces for implementation ideas</td>
<td>Professional conversation and reflection, offer recommendations</td>
</tr>
</tbody>
</table>
| 3      | Attend EdCamps  
Professional Conversation with district technology specialists  
Modify PD courses to reflect new model of PD | Plan and implement experiences to enhance district training from experiences gained from EdCamps  
Collaborate on training models  
Professional conversation to reflect on best practice, adjust workshop training as needed |

## Reflection and Adjustment Plan

<table>
<thead>
<tr>
<th>Goal #</th>
<th>Initial Activities</th>
<th>Follow-Up Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Professional conversations with administration and teachers – celebrating successes and viewing failures as learning opportunities</td>
<td>Utilizing suggestions in future activities, adjusting accordingly</td>
</tr>
<tr>
<td>2</td>
<td>Professional conversations with administration and teachers – celebrating successes and viewing failures as learning opportunities</td>
<td>Reevaluate new technology space yearly and modify/update as necessary</td>
</tr>
<tr>
<td>3</td>
<td>Professional conversations with administration and teachers – celebrating successes and viewing failures as learning opportunities</td>
<td>Make adjustments in training models as necessary</td>
</tr>
</tbody>
</table>

## Budget

<table>
<thead>
<tr>
<th>Goal #</th>
<th>Activity</th>
<th>Funding Source (Federal/State/Private/District)</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Acquire equipment for increased opportunity for global connections</td>
<td>School Budget, District Technology Budget, CER, Parent Group Contributions</td>
<td>TBD</td>
</tr>
<tr>
<td>2</td>
<td>Redesign of Computer Lab</td>
<td>School Budget, District Technology Budget, CER, Parent Group Contributions</td>
<td>TBD</td>
</tr>
<tr>
<td>3</td>
<td>Professional Learning Experiences (Turnkey opportunities, Innovation Committee and outside presenters)</td>
<td>District/School Budgets when necessary</td>
<td>TBD</td>
</tr>
</tbody>
</table>
Osage Elementary School - Technology Plan for Digital Learning 2016-19

Infrastructure

NJTRAx Technology Readiness completed during current school year.

Date: 5/2/2016  Rating: 7.4

Teaching and Learning

NJTRAx Digital Learning Readiness completed during current school year.

Date: 5/2/2016  Rating: 7.0

Based on the NJTrax Survey from the 2015-2016 school year, we have identified 3 areas to be addressed in Osage School's three-year Technology Plan for Digital Learning. These goals have been developed in accordance with the results from the survey which was taken by 5th grade students, teachers, parents, technology coordinators and administrators. The plan includes the following areas targeted for improvement.

Gear: Budget & Resources (Local Community Engagement and Outreach Readiness Score: 5.3)

Gear: Community Partnerships (Readiness Score: 7.3, Implementation Score 5.6)

Gear: Use of Time (New Pedagogy, Schedules, and Learning Environments for Personalized Learning - Readiness Score 6.1, Implementation Score 5.3)

Technology Plan

Goal 1: Acquire updated hardware for student use.

Strategies: Research and find new funding available.

Objective(s): Increase budget through CER, OPF, and other funding available, identify resources to provide new technology

Indicator(s): Technology inventory compared over 3 years

<table>
<thead>
<tr>
<th>Action Plan for Goal 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activities</td>
</tr>
<tr>
<td>Assess current technology need in the school</td>
</tr>
<tr>
<td>Identify vendors, Outreach to CER, OPF, look at school budget, Research federal and state funding available for technology</td>
</tr>
<tr>
<td>Progress towards increasing purchasing of devices to be closer to a fully 1:1 environment</td>
</tr>
</tbody>
</table>
Goal 2: Enhance community partnerships through local community engagement and outreach.

Strategies: Ongoing communication and feedback from parents and stakeholders in the community.

Objective(s): Attend OPF meetings, submit to local Voorhees Sun, posting on social media, presentations at Board of Education meetings, Principal weekly newsletter

Indicator(s): Increased positive perception as indicated by the NJTRAX survey each year

<table>
<thead>
<tr>
<th>Activities</th>
<th>Individual(s) Responsible</th>
<th>Resources</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey parents/community members</td>
<td>Principal, Innovation Committee</td>
<td>Survey, feedback from NJTRAX Survey</td>
<td>Years 1-3</td>
</tr>
<tr>
<td>Attend school based community events</td>
<td>Principal, Vice Principal, Teachers, staff</td>
<td>OPF events, school concerts, information sessions</td>
<td>Years 1-3</td>
</tr>
<tr>
<td>Communication with parents and stakeholders</td>
<td>Principal, District Coordinator of Special Projects and Affirmative Action Officer</td>
<td>Local newspaper, Principal newsletter, Posting on Social media, presentations at BOE Meetings</td>
<td>Years 1-3</td>
</tr>
</tbody>
</table>

Goal 3: Develop new pedagogy, schedules, and learning environments for personalized learning.

Strategies: Encourage project based activities, redesign work spaces within the school.

Objective(s): Work with teachers to develop project-based activities and rubrics, redesign current computer lab, provide examples of collaborative spaces for teacher classrooms

Indicator(s): Rubrics turned in with technology standards, increased use of redesigned computer lab and classroom space

<table>
<thead>
<tr>
<th>Activities</th>
<th>Individual(s) Responsible</th>
<th>Resources</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher training of 21st Century skills</td>
<td>Technology Specialists, Teachers</td>
<td>Computer lab, Web resources</td>
<td>Years 1-3</td>
</tr>
<tr>
<td>Develop project based activities and rubrics</td>
<td>Technology Specialists, Teachers, Innovation Committee</td>
<td>Web resources, technology standards</td>
<td>Years 1-3</td>
</tr>
<tr>
<td>Redesign computer lab, design collaborative spaces in classrooms</td>
<td>Technology Specialists, Teachers, Innovation Committee</td>
<td>Innovation Committee, Technology dept</td>
<td>Years 1-3</td>
</tr>
</tbody>
</table>
### Professional Learning Plan

<table>
<thead>
<tr>
<th>Goal #</th>
<th>Initial Activities</th>
<th>Follow-Up Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Researching current technology, reach out to other school districts for information, collaboration with Innovation Committee</td>
<td>Pricing, quotes from vendors</td>
</tr>
<tr>
<td>2</td>
<td>Survey the community, community outreach</td>
<td>Ongoing communication, NJTRAX Survey each year</td>
</tr>
<tr>
<td>3</td>
<td>Meet with teachers to assess needs, develop projects/rubrics</td>
<td>Ongoing workshops for teachers, continue to develop grade-appropriate projects</td>
</tr>
</tbody>
</table>

### Reflection and Adjustment Plan

<table>
<thead>
<tr>
<th>Goal #</th>
<th>Initial Activities</th>
<th>Follow-Up Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Look at past 3 years of quotes and identify price changes over the past 3 years</td>
<td>Compare to new quotes – pricing from competitive, school-approved vendors</td>
</tr>
<tr>
<td>2</td>
<td>Review survey results</td>
<td>Provide feedback and ongoing communication to improve relations</td>
</tr>
<tr>
<td>3</td>
<td>Review technology standard results each year</td>
<td>Adjust projects/rubrics based on results of technology standards</td>
</tr>
</tbody>
</table>

### Budget

<table>
<thead>
<tr>
<th>Goal #</th>
<th>Activity</th>
<th>Funding Source (Federal/State/Private/District)</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Look at current budget for school, OPP, CER, federal and state funding available</td>
<td>District, private, state, and federal</td>
<td>TBD</td>
</tr>
<tr>
<td>2</td>
<td>OPP events to bring community together</td>
<td>Private (OPP, CER), district</td>
<td>TBD</td>
</tr>
<tr>
<td>3</td>
<td>21st Century training for teachers</td>
<td>District pay for substitutes</td>
<td>TBD</td>
</tr>
</tbody>
</table>
Infrastructure

NJTRAx Technology Readiness completed during current school year.

Date: 5/2/2016  Rating: 7.0

Teaching and Learning

NJTRAx Digital Learning Readiness completed during current school year.

Date: 5/2/2016  Rating: 6.8

Based on the NJTrax Survey from the 2015-2016 school year, we have identified 3 areas to be addressed in Signal Hill Elementary School's three-year Technology Plan for Digital Learning. These goals have been developed based upon the results from the survey which was taken by 5th grade students, teachers, parents, technology coordinators and administrators. The following areas have been targeted for improvement.

Gear: Community Partnerships (Readiness Score: 7.1, Implementation Score 5.1) The survey results concluded that although we scored 7.1 on a readiness level, our implementation rate shows a disconnect when it comes to actually providing opportunities. This gap must be closed. Community partnerships allow for learning to extend past the confines of classroom walls and tap into experts, organizations and other students globally. Students learn to value diversity and better understand cultures and communities other than their own. Our school community's population is quite diverse and our community partnerships should reflect this. Building community partnerships is also essential for successful schools as greater parent/community involvement is linked to higher student achievement.

Gear: Curriculum, Instruction, and Assessment (Readiness Score: 8.8, Implementation Score 6.2) The readiness score suggests that we are prepared for personalized learning, but that true implementation of it is not occurring within the classrooms as intended. Out of the 20 teachers who responded to the survey, only 60% of them see themselves as providing a learning environment that supports and encourages personalization.

Gear: Budget and Resources (Readiness Score: 5.0 out of 10) With the constant need of replacing and maintaining devices, online subscription services, and substitutes to provide teacher training opportunities, we must continue to pursue new funding sources and maintain those we have.
Technology Plan

Goal 1: Create more frequent and meaningful community and global partnership opportunities by increasing formal and informal connections to local and global communities.

Strategies: Collaboration with online learners and experts
Creation of a bank of resources of experts and virtual field trip partnerships for teachers to easily access and contribute to increase the number of classroom partnerships outside of our physical school building.

Objective(s): Increase access and training on equipment for videoconferencing (Skype and Facetime)
Increase teacher memberships to Skype Classroom/Microsoft in Education for global activities (e.g., Mystery Skype)
Share successes at grade level and faculty meetings and with the community through the school website.

Indicator(s): Technology standards forms completed by teachers held on file in computer lab
Surveys

<table>
<thead>
<tr>
<th>Activities</th>
<th>Individual(s) Responsible</th>
<th>Resources</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal and informal professional conversations about the importance of</td>
<td>All educational community stakeholders</td>
<td>Parent group Local area Chamber of Commerce</td>
<td>Ongoing 1-3 years</td>
</tr>
<tr>
<td>community partnerships</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Make connections through webinars, workshops, and the Microsoft Educator</td>
<td>Principal, Technology Specialist, Teachers</td>
<td>Webinars, workshops, teacher created bank of successful global connection</td>
<td>Ongoing 1-3 years Increasing frequency during years 2 and 3</td>
</tr>
<tr>
<td>website</td>
<td>Technology Specialist &amp; Teachers</td>
<td>opportunities Microsoft in Education</td>
<td></td>
</tr>
<tr>
<td>Mystery Skype</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students will utilize 21st Century tools such as Skype and virtual field</td>
<td>Students, Teachers, Staff &amp; Community</td>
<td>Hardware, Software, &amp; Web Resources</td>
<td>Ongoing 1-3 years</td>
</tr>
<tr>
<td>trips to gain knowledge and understanding about cultures and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>communities Students will create multimedia projects to communicate with</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>the community what they have learned</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Goal 2: Foster an environment of student-centered learning through competency-based and personalized learning, which will empower students with more choice and control of their learning experiences.

Strategies: Ensure that parents know about online learning subscriptions and opportunities provided by the school during school and after school hours
Provide a workspace for students to go and work collaboratively on projects as well as encourage personalized learning
Increase exposure to classroom models utilizing flipped and blended learning models of learning, including the continued development of project-based activities and rubrics

Objective(s): Ensure teachers/students/parents are knowledgeable on school based subscriptions available to them
Maintain updated school website to reflect current online subscriptions
Redesign the computer lab with movable furniture and laptops/iPads to accommodate project based collaborative learning
Provide teacher-led turnkey training on project based/flipped/blended/student-centered models of instruction

Indicator(s): Monitor usage on school purchased subscription software
Updated technology space to support 21st Century learning strategies (computer lab)
Surveys
Goal 3: To address the score of 5.0 for Budget & Resources under Digital Learning Readiness, one of Signal Hill Elementary School's Technology Goals should be to increase hardware to encourage a 1:1 environment and to replace older devices in a timely manner using current and new funding resources.

Strategies: Seek funding from various district resources, CER Grants, building funds, and SHPFA (parent group funding)

Objective(s): Increase hardware purchase by reaching out at parent funding meetings, emailing CER, communicating with administration, other district technology specialists, and the director of technology.

Indicator(s): Inventory of building, staff, and student hardware over 3 years old.

Action Plan for Goal 3

<table>
<thead>
<tr>
<th>Activities</th>
<th>Individual(s) Responsible</th>
<th>Resources</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assess current technology needs and seek funding</td>
<td>Technology Specialist, Principal, Community, EP, Librarian</td>
<td>Building &amp; District Funding, CER Funding, SHPFA</td>
<td>3-year time period</td>
</tr>
<tr>
<td>Assessment of current hardware and survey staff &amp; students of needs, identify vendors, funding resources, &amp; research out of district funding sources</td>
<td>Technology Specialist, Principal, Community, EP, Librarian</td>
<td>Building &amp; District Funding, CER Funding, SHPFA</td>
<td>Years 1-2</td>
</tr>
<tr>
<td>Progress towards increasing purchasing of hardware</td>
<td>Technology Specialist, Principal, Community, EP, Librarian</td>
<td>Building &amp; District Funding, CER Funding, SHPFA</td>
<td>Years 2-3</td>
</tr>
</tbody>
</table>

Professional Learning Plan

<table>
<thead>
<tr>
<th>Goal #</th>
<th>Initial Activities</th>
<th>Follow-Up Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Each teacher shall become a member of Microsoft in Education Attend workshops and webinars, make connections through Twitter Reach out to Parent group – SHPFA and parents at Back to School Night</td>
<td>Turnkey information in mini workshops, at staff meetings and informal conversations with all stake holders As opportunities arise, schedule “experts” to SKYPE, Facetime, or visit classroom</td>
</tr>
<tr>
<td>2</td>
<td>Provide log in information to parents/guardians at BTSN, Maintain Student log in info web pages, Periodically, include link to web page in the weekly eClass Meet with teachers to assess needs and develop projects/sububs Survey teachers to find out if current online subscriptions are meeting the needs of their students and providing reliable/ useful data Form a team to redesign the computer lab into a 21st Century environment</td>
<td>Check usage logs for after school times Check number of times the page was visited Ongoing workshops for teachers to continue to develop grade appropriate projects Research new providers if necessary Examine inventory of devices to find out what devices can be moved and what needs to be purchased</td>
</tr>
<tr>
<td>3</td>
<td>Research current technology, reach out to Innovation Committee and other school districts</td>
<td>Quotes from vendors, ongoing communication with Innovation Committee</td>
</tr>
</tbody>
</table>
## Reflection and Adjustment Plan

<table>
<thead>
<tr>
<th>Goal #</th>
<th>Initial Activities</th>
<th>Follow-Up Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Professional conversations with administration and teachers celebraing success and viewing failures as learning opportunities</td>
<td>Utilizing suggestions in future activities, adjusting information in the &quot;Bank&quot; accordingly</td>
</tr>
<tr>
<td>2</td>
<td>Look at afterschool usage rates of all online subscriptions. Review technology standards results annually. Based upon teacher survey results, pursue new options is necessary. Check computer lab calendar to see how often it is being utilized for project based learning and collaborative group projects.</td>
<td>If usage is low, develop a motivational event. Adjust projects/rubrics based upon results of technology standards. Research new services if necessary, set up a demo and get quotes. If underused, find out why and meets the needs as dictated</td>
</tr>
<tr>
<td>3</td>
<td>Look at need to increase/maintain hardware and software across platforms</td>
<td>Check devices and tools used to increase accessibility to quality equipment</td>
</tr>
</tbody>
</table>

## Budget

<table>
<thead>
<tr>
<th>Goal #</th>
<th>Activity</th>
<th>Funding Source</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Acquire equipment for increased opportunities for global connections</td>
<td>School budget, District Technology Budget, CER, SHPPA Parent group contributions</td>
<td>TBD</td>
</tr>
<tr>
<td>2</td>
<td>If new products are available, research and have publisher send a sales rep for free to demo features of the product. If new furniture or devices are necessary, get quotes.</td>
<td>District and school budget</td>
<td>TBD</td>
</tr>
<tr>
<td>3</td>
<td>Examine current budget for building, SHPPA, CER &amp; District funding</td>
<td>District, school, CER, state &amp; federal</td>
<td>TBD</td>
</tr>
</tbody>
</table>
Infrastructure

NJTRAx Technology Readiness completed during current school year.

Date: 5/2/2016 Rating: 7.0

Teaching and Learning

NJTRAx Digital Learning Readiness completed during current school year.

Date: 5/2/2016 Rating: 6.8

Based on the NJTrax Survey from the 2015-2016 school year, we have identified 3 areas to be addressed in Voorhees Middle School's three-year Technology Plan for Digital Learning. These goals have been developed in accordance with the results from the survey which was taken by 6th–8th grade students, teachers, parents, technology coordinators and administrators. The plan includes the following areas targeted for improvement.

Gear: Use of Time (Flexible Learning; Anytime, Anywhere Readiness Score: 3.1, Implementation Score 6.2)

Gear: Community Partnerships (Digital Learning Environments Serve as Connectors to Local and Global Communities - Readiness Score: 6.9, Implementation Score 4.6)

Gear: Community Partnerships (Local and Community Engagement and Outreach - Readiness Score: 3.0, Implementation Score 4.6)

Technology Plan

Goal 1: Develop new a pedagogy for student Centered Learning

Strategies: Encourage project based activities, redesign project centered collaborative work spaces within the school.

Objective(s): Work with teachers to develop project-based activities and rubrics, redesign current computer lab, provide examples of collaborative spaces for teacher classrooms

Indicator(s): Rubrics tuned in with technology standards, increased use of redesigned computer lab and classroom space

<table>
<thead>
<tr>
<th>Action Plan for Goal 1</th>
<th>Activities</th>
<th>Individual(s) Responsible</th>
<th>Resources</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey the teachers - 21st Century Training</td>
<td>Technology Specialists, Teachers</td>
<td>Computer lab, Web resources</td>
<td>Year 1-3</td>
<td></td>
</tr>
<tr>
<td>Develop projects and rubrics based on standards</td>
<td>Technology Specialists, Teachers, Innovation Committee</td>
<td>Web resources, technology standards</td>
<td>Year 1-3</td>
<td></td>
</tr>
<tr>
<td>Redesign computer lab and collaborative spaces within classrooms</td>
<td>Technology Specialists, Teachers, Innovation Committee</td>
<td>Innovation Committee, Technology dept.</td>
<td>Year 1-3</td>
<td></td>
</tr>
</tbody>
</table>
Educational Technology Plan 2016-2019

Goal 2: Increase global and distance learning

Strategies: Workshop the staff using tools like Microsoft Education (Virtual Field Trips and Mystery Skype), facilitate the staff connecting with classrooms outside our community

Objective(s): To provide opportunities for the students and teachers to communicate, interact and learn with the global community.

Indicator(s): Observation of additional activities being accomplished in the school by students and teachers

<table>
<thead>
<tr>
<th>Action Plan for Goal 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activities</td>
</tr>
<tr>
<td>Survey teachers to get a baseline of current activities</td>
</tr>
<tr>
<td>Develop lists of resources and activities</td>
</tr>
<tr>
<td>Implement and adjust the planned activities</td>
</tr>
</tbody>
</table>

Goal 3: Improve community relations/perception of what is happening at VMS

Strategies: Ongoing communication and feedback with parents and stakeholders in the community, go to parent groups meetings, posting on social media, posting on school website, presentations at Board of Education meetings, principal weekly newsletters

Objective(s): To improve the community’s perception of our school

Indicator(s): Increased positive perception of VMS as indicated on the NJTRAX Survey each year

<table>
<thead>
<tr>
<th>Action Plan for Goal 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activities</td>
</tr>
<tr>
<td>Survey parents/community members</td>
</tr>
<tr>
<td>Attend school based community events</td>
</tr>
<tr>
<td>Communication with parents and stakeholders</td>
</tr>
</tbody>
</table>

Professional Learning Plan

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<tr>
<th>Goal #</th>
<th>Initial Activities</th>
<th>Follow-Up Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Meet with teachers to assess needs, develop projects/fabrics</td>
<td>Ongoing workshops for teachers, continue to develop grade-appropriate projects</td>
</tr>
<tr>
<td>2</td>
<td>Workshop the staff and provide resources for implementation</td>
<td>Ongoing workshops for teachers, continue to develop grade-appropriate projects</td>
</tr>
<tr>
<td>3</td>
<td>Survey the community, community outreach</td>
<td>Ongoing communication, NJTRAX Survey each year</td>
</tr>
</tbody>
</table>

Reflection and Adjustment Plan

<table>
<thead>
<tr>
<th>Goal #</th>
<th>Initial Activities</th>
<th>Follow-Up Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Review the technology standard results each year</td>
<td>Adjust projects/fabrics based on results of teacher implementation and technology standards</td>
</tr>
<tr>
<td>2</td>
<td>Review Standard C results each year</td>
<td>Adjust projects/fabrics based on results of teacher implementation</td>
</tr>
<tr>
<td>3</td>
<td>Review survey results</td>
<td>Provide feedback and ongoing communication to improve relations</td>
</tr>
</tbody>
</table>

Budget

<table>
<thead>
<tr>
<th>Goal #</th>
<th>Activity</th>
<th>Funding Source (Federal/State/Private/District)</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>21st Century training for teachers</td>
<td>District pay for substitutes</td>
<td>TBD</td>
</tr>
<tr>
<td>2</td>
<td>Microsoft provides opportunities through our license</td>
<td>No funding needed</td>
<td>No funding needed</td>
</tr>
<tr>
<td>3</td>
<td>VMS events to bring community together</td>
<td>Private (PFA, CER), district</td>
<td>TBD</td>
</tr>
</tbody>
</table>

Voorhees Township School District
Appendices
Appendix A: Technology Spending Plan

I. Educational Technology Plan Target Areas

- Curriculum, Instruction, and Assessment
- Use of Time
- Technology, Networks, and Hardware
- Data and Privacy
- Community Partnerships
- Professional Learning
- Budget and Resources
- Empowered, Innovative Leadership

II. Supporting Technology Resources & Projected Costs

<table>
<thead>
<tr>
<th>Staff Resources</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee Salaries &amp; Benefits</td>
<td>$1,101,322.00</td>
<td>$1,123,348.00</td>
<td>$1,145,815.00</td>
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<tr>
<td>Staff Development</td>
<td>$16,830.00</td>
<td>$17,167.00</td>
<td>$17,510.00</td>
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<tr>
<td><strong>Subtotal</strong></td>
<td><strong>$1,118,152.00</strong></td>
<td><strong>$1,140,515.00</strong></td>
<td><strong>$1,163,325.00</strong></td>
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</table>

<table>
<thead>
<tr>
<th>Communications Resources</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local, Regional &amp; Long Distance Calling Services</td>
<td>$8,916.00</td>
<td>$8,916.00</td>
<td>$8,916.00</td>
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<tr>
<td>Wireless Communications Services</td>
<td>$23,670.00</td>
<td>$24,143.00</td>
<td>$24,626.00</td>
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<tr>
<td>Internet Access &amp; Extended Campus Network</td>
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<td>$122,687.00</td>
<td>$122,687.00</td>
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<tr>
<td><strong>Subtotal</strong></td>
<td><strong>$155,273.00</strong></td>
<td><strong>$155,746.00</strong></td>
<td><strong>$156,229.00</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Maintenance Contracts &amp; Service Fees</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network Communications Equipment (Cisco)</td>
<td>$56,785.00</td>
<td>$59,800.00</td>
<td>$62,500.00</td>
</tr>
<tr>
<td>OES2 NOS, ZCM, NSM &amp; GroupWise SLA (Micro Focus)</td>
<td>$16,747.00</td>
<td>$16,747.00</td>
<td>$16,747.00</td>
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<tr>
<td>Network Services 15-incident Support Contract (Micro Focus)</td>
<td>$7,800.00</td>
<td>$7,800.00</td>
<td>$7,800.00</td>
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<tr>
<td>Network Services 5-incident Support Contract (Microsoft)</td>
<td>$1,250.00</td>
<td>$2,500.00</td>
<td>$1,250.00</td>
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<tr>
<td>SchoolWires Web Hosting Service/Support</td>
<td>$14,972.00</td>
<td>$14,972.00</td>
<td>$14,972.00</td>
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<tr>
<td>SchoolMessenger Parent Notification System</td>
<td>$6,000.00</td>
<td>$6,000.00</td>
<td>$6,000.00</td>
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<tr>
<td>E-Mail SPAM Filtering &amp; Anti-X Subscription (IronPort)</td>
<td>$5,305.00</td>
<td>$5,305.00</td>
<td>$5,305.00</td>
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<tr>
<td>SchoolDude Maintenance Request Management</td>
<td>$7,000.00</td>
<td>$7,000.00</td>
<td>$7,000.00</td>
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<tr>
<td>Web Content Filtering &amp; Anti-X Subscription (IronPort)</td>
<td>$25,080.00</td>
<td>$25,080.00</td>
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<tr>
<td>Antivirus Software Licensing (McAfee)</td>
<td>$20,195.00</td>
<td>$20,599.00</td>
<td>$21,011.00</td>
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<tr>
<td>Retain e-Mail Archive/Retrieval License/Support (GWAVA)</td>
<td>$5,940.00</td>
<td>$5,940.00</td>
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</table>
## Technology Software Resources & Online Content

<table>
<thead>
<tr>
<th>Products/Services</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genesis SIS Software License/Support</td>
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<td>$14,600.00</td>
<td>$14,600.00</td>
</tr>
<tr>
<td>Oracle Software License/Support</td>
<td>$2,163.00</td>
<td>$2,206.00</td>
<td>$2,250.00</td>
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<tr>
<td>Frontline IEP - formerly IEP Direct - Software License/Support (Frontline)</td>
<td>$8,000.00</td>
<td>$8,160.00</td>
<td>$8,320.00</td>
</tr>
<tr>
<td>Observation Staff Eval Mgmt Software License/Support (Effective Educators)</td>
<td>$9,000.00</td>
<td>$9,180.00</td>
<td>$9,360.00</td>
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<tr>
<td>Absence and Substitute Management - formerly Aesop - Software License/Support (Frontline)</td>
<td>$7,000.00</td>
<td>$7,000.00</td>
<td>$7,000.00</td>
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<tr>
<td>Library Management Software License/Support (Follett)</td>
<td>$6,837.00</td>
<td>$6,973.00</td>
<td>$7,113.00</td>
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<tr>
<td>Safari Montage HW/SW License/Support</td>
<td>$11,400.00</td>
<td>$11,628.00</td>
<td>$11,860.00</td>
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<tr>
<td>Backup System HW/SW License/Support</td>
<td>$15,177.00</td>
<td>$15,480.00</td>
<td>$15,790.00</td>
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<tr>
<td>Mobile Device Mgmt HW/SW License/Support</td>
<td>$15,000.00</td>
<td>$15,000.00</td>
<td>$15,000.00</td>
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<tr>
<td>Food Services POS Software License/Support (Lunchtime)</td>
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<td>$5,483.00</td>
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<td>Edge Accounting HW/SW License/Support</td>
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<tr>
<td>Transportation HW/SW License/Support</td>
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<td>$6,120.00</td>
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<td><strong>Subtotal</strong></td>
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## Operating Expenses

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<th>Products/Services</th>
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<th>2018-19</th>
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<tr>
<td>General Supplies</td>
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<td>$15,953.00</td>
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<tr>
<td>Mileage / Expense Reimbursements</td>
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<tr>
<td>Journal Subscriptions, Manuals and Training Fees</td>
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<td>$5,000.00</td>
<td>$5,000.00</td>
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<tr>
<td><strong>Subtotal</strong></td>
<td>$22,640.00</td>
<td>$22,953.00</td>
<td>$23,272.00</td>
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## Hardware Resources (New & Replacement)

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<thead>
<tr>
<th>Products/Services</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
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</thead>
<tbody>
<tr>
<td>PC Workstations / Notebook PCs, Tablets, etc.</td>
<td>$356,000.00</td>
<td>$356,000.00</td>
<td>$356,000.00</td>
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<tr>
<td>Servers/Appliances</td>
<td>$197,000.00</td>
<td>$20,000.00</td>
<td>$20,000.00</td>
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<tr>
<td>LAN Switches/Wireless Access Points/GBICs/VoIP/etc.</td>
<td>$300,000.00</td>
<td>$250,000.00</td>
<td>$100,000.00</td>
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<tr>
<td>Printers, LCD Projectors, &amp; Miscellaneous Peripherals</td>
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<td>$20,000.00</td>
<td>$10,000.00</td>
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<tr>
<td><strong>Subtotal</strong></td>
<td>$1,293,000.00</td>
<td>$1,046,000.00</td>
<td>$746,000.00</td>
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## Technology Software Resources & Online Content - Allocation Based on Need

<table>
<thead>
<tr>
<th>Products/Services</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network/Online Courseware &amp; Applications</td>
<td>$12,000.00</td>
<td>$12,000.00</td>
<td>$12,000.00</td>
</tr>
<tr>
<td>Web-Based Encyclopedia/Database Subscriptions</td>
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<td>$6,120.00</td>
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<td><strong>Subtotal</strong></td>
<td>$26,475.00</td>
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## TOTAL PROJECTED TECHNOLOGY SPENDING

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<th>Years</th>
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<th>2017-18</th>
<th>2018-19</th>
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<tr>
<td>TOTAL</td>
<td>$2,863,017.00</td>
<td>$2,660,635.00</td>
<td>$2,387,755.00</td>
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</table>
### III. Federal, State & Local Funding Sources

<table>
<thead>
<tr>
<th>Source</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
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</thead>
<tbody>
<tr>
<td>TOTAL PROJECTED TECHNOLOGY SPENDING</td>
<td>$2,863,017.00</td>
<td>$2,660,635.00</td>
<td>$2,387,755.00</td>
</tr>
<tr>
<td>E-Rate Federal Funding - Telecommunications/Internet/Basic Maintenance/Internal Connections</td>
<td>$103,121.00</td>
<td>$71,575.00</td>
<td>$77,575.00</td>
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<tr>
<td>State &amp; Local Funding</td>
<td>$2,759,896.00</td>
<td>$2,589,060.00</td>
<td>$2,310,180.00</td>
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</table>
Appendix B: Hardware Resource Distribution

### Network

#### Servers

<table>
<thead>
<tr>
<th>Products</th>
<th>Hamilton</th>
<th>Kresson</th>
<th>Osage</th>
<th>Signal Hill</th>
<th>VMS</th>
<th>Admin</th>
<th>Total/Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cisco USC HX220c</td>
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<td>2</td>
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<td>Cisco USC HX240c</td>
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<td>4</td>
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</tbody>
</table>

**Total/Location**

| Location | 6 | 6 |

#### Network Appliances

<table>
<thead>
<tr>
<th>Products</th>
<th>Hamilton</th>
<th>Kresson</th>
<th>Osage</th>
<th>Signal Hill</th>
<th>VMS</th>
<th>Admin</th>
<th>Total/Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cisco ASA5585-X SSP-20 Firewall</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>1</td>
<td>0</td>
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<tr>
<td>FirePower Management Center – FireSIGHT 750</td>
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<tr>
<td>IronPort S-380 Web Security Appliance</td>
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<tr>
<td>IronPort C-170 E-mail Security Appliance</td>
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<tr>
<td>Unitrends Recovery-823 Backup Appliance</td>
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<tr>
<td>Cisco Identity Services Engine 3495</td>
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<tr>
<td>NCS Prime Infrastructure</td>
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<td>1</td>
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</tbody>
</table>

**Total**

|          | 0 | 0 | 0 | 0 | 7 | 7 |

### Network Communications Resources

<table>
<thead>
<tr>
<th>Products</th>
<th>Hamilton</th>
<th>Kresson</th>
<th>Osage</th>
<th>Signal Hill</th>
<th>VMS</th>
<th>Admin</th>
<th>Total/Type</th>
</tr>
</thead>
</table>

Voorhees Township School District
<table>
<thead>
<tr>
<th>Equipment Description</th>
<th>Qty</th>
<th>Qty</th>
<th>Qty</th>
<th>Qty</th>
<th>Qty</th>
<th>Qty</th>
<th>Qty</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cisco ASR 1001 Router</td>
<td>0</td>
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<td></td>
</tr>
<tr>
<td>Cisco Catalyst 4510R Core Switching Chassis</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>1</td>
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<td></td>
</tr>
<tr>
<td>Cisco Catalyst 4506 Core Switching Chassis</td>
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<td>1</td>
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<td>0</td>
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</tr>
<tr>
<td>Cisco 5508 WLAN Controller</td>
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</tr>
<tr>
<td>Cisco Catalyst 2960S Switch (48-Port)</td>
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<td>0</td>
<td>6</td>
<td>0</td>
<td>8</td>
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</tr>
<tr>
<td>Cisco Catalyst 3750V Switch (24-Port)</td>
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<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Cisco Catalyst 2940 Switch (8-Port)</td>
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<td>5</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Cisco 3602i Wireless Access Point</td>
<td>25</td>
<td>22</td>
<td>28</td>
<td>28</td>
<td>66</td>
<td>6</td>
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<tr>
<td>Cisco C4500 4 Port Line Card: Sup 7-E 10GE (SFP+), 1000BaseX (SFP)</td>
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<td>1</td>
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</tr>
<tr>
<td>Cisco C4500 6 Port Line Card: Sup 7L-E 10GE (SFP+), 1000BaseX (SFP)</td>
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<td>1</td>
<td>5</td>
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<td>Cisco C4500 Series 12 Port Line Card: 10GE SFP+</td>
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<tr>
<td>Cisco C4500 Series 6 Port Line Card: 1000BaseX (GBIC)</td>
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</tr>
<tr>
<td>Cisco C4500 48 Port Line Card: 10/100/1000BaseT Premium POE E Series</td>
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<td>2</td>
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<tr>
<td>Cisco C4500 48 Port Line Card: 10/100BaseTX (RJ45)</td>
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<td>2</td>
<td>1</td>
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<tr>
<td>Cisco C4500 24 Port Line Card: 10/100BaseTX (RJ45)</td>
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<td>0</td>
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<td>2</td>
<td></td>
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<tr>
<td>Cisco C4500 48 Port Line Card: 100BaseFx (FX-</td>
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<td>1</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>
## MT\(^{1}\) 10/100 Switches

<table>
<thead>
<tr>
<th>Type</th>
<th>Hamilton</th>
<th>Kresson</th>
<th>Osage</th>
<th>Signal Hill</th>
<th>VMS</th>
<th>Admin</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>NetGear 10/100 Switches</td>
<td>12</td>
<td>6</td>
<td>9</td>
<td>6</td>
<td>18</td>
<td>2</td>
<td>53</td>
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<tr>
<td>Assante 10/100 Switches with 100B-FX Uplinks</td>
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<td>0</td>
<td>6</td>
<td>0</td>
<td>22</td>
<td>0</td>
<td>28</td>
</tr>
<tr>
<td>Allied Telesyn 10/100 Switches with 100B-FX Uplinks</td>
<td>38</td>
<td>32</td>
<td>54</td>
<td>46</td>
<td>68</td>
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<td>77</td>
<td>57</td>
<td>133</td>
<td>6</td>
<td>374</td>
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</tbody>
</table>

## Total End-User Computing Devices / Location

### Total Computers / Location

<table>
<thead>
<tr>
<th>Location</th>
<th>Hamilton</th>
<th>Kresson</th>
<th>Osage</th>
<th>Signal Hill</th>
<th>VMS</th>
<th>Admin</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hamilton</td>
<td>748</td>
<td>583</td>
<td>857</td>
<td>817</td>
<td>1,557</td>
<td>84</td>
<td>4,646</td>
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<tr>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Osage</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Signal Hill</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>VMS</td>
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</tr>
<tr>
<td>Admin</td>
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### Desktop Computers

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<th>Hamilton</th>
<th>Kresson</th>
<th>Osage</th>
<th>Signal Hill</th>
<th>VMS</th>
<th>Admin</th>
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### Portable Computers/Tablets

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<th>Signal Hill</th>
<th>VMS</th>
<th>Admin</th>
<th>Total/Type</th>
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<td>Apple iPad Air</td>
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### Printers

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### Classroom Display

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<th>Total/Type</th>
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Digital Video Distribution

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<th>VMS</th>
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Videoconferencing Resources

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<th>Osage</th>
<th>Signal Hill</th>
<th>VMS</th>
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Telephony Resources

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<th>Kresson</th>
<th>Osage</th>
<th>Signal Hill</th>
<th>VMS</th>
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Educational Technology Plan 2016-2019

<table>
<thead>
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<th>Products</th>
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<th>Signal Hill</th>
<th>VMS</th>
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<td>Alcatel-Lucent Model 8039 Digital Display</td>
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<td>Speaker Phones</td>
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<tr>
<td>Alcatel-Lucent Page &amp; Door System Integration</td>
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<td>1</td>
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<td>1</td>
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<tr>
<td>Video Surveillance Resources</td>
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<td>Panasonic WJ-ND400 Network Digital Video Recorder (NDVR)</td>
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</table>
Voorhees Administration Building  LAN & WLAN Resources
Appendix C: Network Operating Systems, Communications and Management Software

Local- & Wide-Area Network
- Micro Focus NetWare (e-Directory)
- Microsoft Azure AD
- Microsoft Windows Server 2008 R2, 2012 R2, 2012 R2 Data Center
- Cisco IOS

Internet
- SchoolWires Centricity 2
- IronPort Web & E-mail Reputation Filtering
- Sophos Gateway Anti-malware
- Cisco (SourceFire) Advanced Malware Protection (AMP)
- Web Servers: Microsoft Internet Information Server; Apache/Tomcat
- Micro Focus GroupWise Web Access Server
- Micro Focus GroupWise Internet Agent (GWIA) Gateway
- Micro Focus GroupWise Mobility Server
- Micro Focus Filr
- Micro Focus iPrint (Mobile)
- Microsoft Office 365 Online Applications

Network Management
- Micro Focus ZENWorks Configuration Management
- Micro Focus ZENWorks Patch Management
- Jamf Pro Mobile Device Management System
- Micro Focus iManager, ConsoleOne, DNSDHCP Management, Storage Manager & RConsoleJ
- Micro Focus SUSE Linux YaST, LVM, GRUB
- Cisco Adaptive Security Device Management (ASDM)
- Cisco FireSIGHT Manager
- Cisco Prime Infrastructure (NCS)
- Cisco Identity Services Engine (ISE)
- Cisco AnyConnect VPN Client
- Cisco Network Assistant
- Unitrends Recovery-823 and Backup Agents for Linux & Windows
- Micro Focus (GWAVA) Retain (e-mail message archive & retrieval)
- Intel McAfee Endpoint Security
- Microsoft Windows Remote Desktop Connection & Terminal Services

Student Information
- Genesis Student Information System
  - Teacher Gradebook Module
  - Parent Access Module
  - Custom Database Interoperability Interfaces – Automated Data Exchange
- Frontline IEP (IEP Direct)
Staff Information
- Genesis Student Information System - Staff Database
- iObservation
- Frontline Absence and Substitute Management (AESOP)
- Edge (Payroll)

Library
- Follett Destiny Library Manager

Food Services
- Lunchtime Back Office & Point-of-Service
- Lunchtime Parent Portal

Communications / Collaboration
- Micro Focus GroupWise Mobility Server
- Micro Focus GroupWise
- Micro Focus GroupWise Messenger (IM)
- SchoolWires (Blackboard) Centricity 2, Synergy & Nimbus
- Impero Desktop Sharing
- Cisco WebEx
- Cisco Spark
- Cisco Jabber
- Microsoft Office 365 Suite (Client & Online Applications)
- Skype for Business
- Microsoft Classroom
- Apple Classroom
- Apple iTunes University
- eBackpack

Security
- Panasonic IP-based NDVR System
- Keri Systems Doors

Maintenance
- SchoolDude Maintenance Request Management

Transportation
- Transfinder RouteFinder Pro

Accounting
- Edge Accounting

Voice
- Alcatel-Lucent Hybrid VoIP Communication System
- Comcast Corporation
- Sprint Communications

Videoconferencing
- Cisco Business Edition 6000
- Cisco Expressway-E
- Cisco Expressway-C
• Microsoft Skype for Business (Windows & iOS Devices)
• FaceTime (IOS Devices)

**Video-On-Demand**
• Cisco IP/TV Server & Client Application
• Safari Montage Content Management Server
Appendix D: School Purchased or Subscription-Based Courseware and Software

Instructional Courseware and Productivity Tools purchased for use in schools or subscribed to as an online service (* indicates iPad App):

Reading / Language
- 3rd Grade Reading Comprehension Prep*
- 4th Grade Reading Comprehension Prep*
- 5th Grade Reading Comprehension Prep*
- 6th Grade Friendzy - Reading, Math, Science*
- ABC Balloons & Letters*
- ABC Genius - Preschool Games for Learning Alphabet Letters and Phonics*
- ABC MAGIC PHONICS-Learning Sounds and Letters*
- ABC Magnetic Alphabet Lite for Kids - Learn to write!*
- ABCmouse.com - Early Learning Academy*
- ABC Ninja - The Alphabet Letters and Phonics Slicing Game for Kids*
- ABC Photo Touch*
- ABC Phonics Long Vowel Words*
- ABC Phonics Rhyming Words Lite*
- ABC Phonics Word Family Free*
- ABC Spelling Magic Short Vowels*
- ABC Tracer Lite Free Alphabet*
- Action Words*
- All About Letters Interactive Activities*
- Alphabet Aquarium Early Reading Letters Adventure A to Z*
- Alphabet Flashcards by Pyzia*
- Alphabet Match*
- Alphabet Tracing*
- A+ Spelling Test*
- A Treasury of Aesop’s Fables*
- Audio Memos Free - The Voice Recorder*
- Big or Small Lite*
- Bitsboard - Education, Games, and Flash Cards App*
- Bluster!* 
- Book Creator for iPad*
- BookPress - Best Book Creator And Story Maker Tool*
- BrainPOP ESL*
- BrainPOP Featured Movie*
- Build a Word Express*
- Build-it-up*
- Cat in the Hat*
- Charades! Guess Words with Kids*
- Chicktionary*
- CleanUp Category Sorting*
- Comparative Adjectives*
- Cursive Practice*
- Cursive Words*
- Cursive Writing*
- Dictionary.com*
- Dr. Suess Lite*
- 3D Shape Sorter*
- Educreations*
- Everyday Social Skills*
- First Words Sampler*
- Four Letters*
- Fluency Time Pro*
- Front Row Math & English Language Arts*
- Fry Words*
- Fun English Language Learning & ESL Games for Kids*
- Fun Rhyming*
- Grammar Express: Parts of Speech*
- Grammar For Kids - Learn Parts of Speech*
- Grammar Fun*
- Grammar Jammers Primary Edition*
- Grammar Pop*
- Grammar Quiz - Elementary K-5*
- Grammar Up*
- Grammaropolis*
- Grammar Wonderland*
- Grammar Wonderland Primary*
- Green Eggs and Ham*
- Guided Reading*
- Hairy Letters*
- Hooked on Words*
- Hooked on Phonics - The #1 Learn to Read Program*
- I Can Write 2*
- iBooks*
- Inference Ace: Reading Comprehension Skills & Practice for Struggling Readers*
- Inspirational and Motivational Quotes - Daily Quote of the Day*
- iTooch 5th Grade Language Arts*
- iWriteWords Lite*
- K12 Timed Reading Practice Lite*
- Kids A-Z*
- Kindergarten Reading, Tracing and Spelling*
- Let’s Name Things Fun Deck*
- LetterForms*
- Letter Quiz*
- Letter School*
- Lists for Writers - Ideas for Creative Writing*
- Little Matchups ABC - Alphabet Letters and Phonics Matching Game*
- LiTE - Free Educational Game for Kids*
- Little Writer*
- Mad Libs*
- Magic Spell – 300 First Words*
- Magnetic ABC*
- Main Idea - Sentences: Reading Comprehension Skills & Practice Game for Kids*
- Main Idea - Short Texts: Reading Comprehension Skills & Practice Kids Game*
- Making Sequences*
- MiniMod Parts of Speech*
• Mobymax*
• Monkey Preschool Explorers*
• My Grammar Lab*
• My Note Games*
• MyScript Calculator - Handwriting calculator*
• My Spelling Test*
• OG Card Deck*
• Partners in Rhyme for Schools*
• PBSKids*
• Peek-A-Boo Studios – Reading 3,4,5*
• Phonics and Reading With McGuffey I*
• Phonics Awareness: 1st Grade*
• Phonics Fun Farm Games: Letter Sounds, Sight Words*
• Phonics Genius*
• Phonics Island, Letter Sounds games & Alphabet Learning: Preschool Kids Reading*
• Phonics Tic-Tac-Toe*
• Phonics Vowels – Short Vowels Lite*
• Play and Learn English letters*
• Playwords Lite ~ First Words, Reading and Spelling*
• Plurality*
• Pocket Phonics*
• Practice English Grammar*
• Preschool Phonics All In One!
• Professor Garfield Fact or Opinion*
• Quizlet: Flashcard & Language App to Study & Learn*
• Reading Comprehension Prep*
• Reading Eggs*
• Reading Rainbow Skybrary Family*
• Reflex*
• RAZ-Kids*
• Scholastic Book Fairs*
• Scholastic Classroom Magazines*
• Scholastic Reading Timer*
• Schoology*
• Scott Foresman – Language Arts
• Scramble with Friends*
• Sentence Maker*
• Sentence Reading Magic*
• Short Vowels - Learn to Read*
• Sight Words: Kids Learn*
• Sight Words 1-300: Kids Learn*
• Sight Words 2: 140+ Learn to Read*
• Sight Words by Photo Touch*
• Sight Words Free - Dolch Cords Cards*
• Sight Words Learning Games & Reading Flash Cards*
• Sight Words List - Learn to Read Flash Cards & Games*
• Sight Words: Match for 3-8 Years*
• Sight Words Ninja - The Endless Slicing Game to Learn to Read*
• Skill Builder Spelling*
• Social Skill Builder*
- Sock Puppets*
- Sound Literacy*
- Spell Color: Spell Words, Color Grid*
- Spell Mania - Word Spelling Games and Boggle Trainer*
- Spelling Bug*
- Spelling City*
- Spelling Grade 1-5*
- Spelling Notebook*
- Spelling Test*
- Spellosaur*
- S.P.I.R.E. Touch Phonics*
- Spy Sam Reading Book 1 - The big adventure with little words for kids to learn to read*
- Spy Sam Reading Book 2 - The Struggle for Jess*
- Spy Sam Reading Book 3 - Into the Den*
- Square Panda Bowling*
- Square Panda Fishing*
- Square Panda Lagoon*
- Starfall*
- Story Creator - Easy Story Book Maker for Kids*
- Storylines for Schools*
- TagCloud*
- Tell a Tale*
- The ABC Song - Educational activities & sing along*
- Things to Think About*
- Tic Tac Toe Phonics*
- ToonTastic*
- Word Wrap*
- WordSearch Unlimited*
- Word Wonderland*
- Study Island
- StudyBlue - Online Flashcards and Study Guide App*
- Wiggleworks K-2
- Reading Blaster Network
- Elmo's Reading
- Jump Start Kindergarten
- Word Muncher's Deluxe
- Jump Start Phonics 3-6
- Jump Start Spanish
- "My First Incredible, Amazing Dictionary"
- Chuck Wagon Bill
- Reading Street
- My Sidewalks
- Wattpad - Free Books and eBook Reader*
- Wheels on the Bus HD*
- Word BINGO Lite*
- Word Clouds by ABCYa.com*
- Word Search For Kids - Puzzle Games*
- Word Wagon HD - by Duck Duck Moose*
- Word Wizard - Kids learn to spell with talking alphabets, spelling tests & fun phonics games*
- Wordrop*
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- Wordsalad - Beautiful word clouds - Lite Edition*
- Write About This*
- Workbook for Kids*
- World's Worst Pet – Vocabulary*

Science
- 4th Grade Science*
- 6th Grade Friendzy - Reading, Math, Science*
- Anatomy 4D*
- Bounce Physics*
- Chromville*
- Color Uncovered*
- Compass for iPad*
- Dino Quest - Dinosaur Game with Fossil Dig & Discovery*
- Dinosaur Park - Jurassic Simulator Games For Kids*
- Dinosaurs 360+
- Discovery Education Techbook*
- Elements 4D by DAQRI*
- Everything Weather
- goREACT*
- Home Sustainability Mobile Assessor*
- HudsonAlpha iCell*
- iCells (Plants, Animals, Cells)*
- iLearn Solar System HD*
- iLearn: Continents & Oceans*
- Journey North*
- K12 Periodic Table of the Elements*
- Kids Planet Discovery*
- Living Earth*
- LearSnap*
- Lobster Diver HD*
- Magic School Bus Animals
- Magic School Bus Oceans*
- Magic School Bus Solar System
- Mammals: A Multimedia Encyclopedia
- Max & Ruby! Science Educational Games for Kids in Preschool and Kindergarten*
- Microsoft Animals
- Microsoft Oceans
- Mini Zoo*
- Molecules*
- NASA*
- Needit Feedit*
- Nuclear*
- NumFun – Seeds*
- Peekaboo Barn Lite*
- Peterson Guide to Birds*
- Pocket Zoo with Live Animal Cams*
- Science Quiz*
- Science 360*
- Solar Walk*
• Solar Walk - 3D Solar System Model*
• Sound Uncovered*
• Spacecraft 3D*
• Spaceteam*
• Star Walk*
• Sky Map*
• SmithsonianTTJunior*
• SmithsonianTween Tribune*
• StudyBlue - Online Flashcards and Study Guide App
• Tiny Cloud*
• Toddler Animals*
• The Rock Cycle*
• The Weather Channel App for iPad - best local forecast, radar map, and storm tracking*
• Trading Cards*
• U.S. Army STARS Elements - Fun with Chemistry*
• Wonderopolis*

Social Studies
• 50 US States Map, Capital Cities and Flags of the United States of America (USA) - American Quiz*
• All About the Holidays*
• Archiving Early America*
• Constitution and Federalist Papers*
• Digital Citizenship*
• Disney American Presidents*
• Do I Have a Right?*
• Electoral Vote Polls*
• Enjoy Learning U.S, Map Puzzle*
• European Exploration: Age of Discovery*
• Frontier Heroes - A Planet H game from HISTORY*
• Geo Touch: Geography Game to Learn the US State Maps, Capitals and Countries of the World*
• Graph Master
• History Channel*
• iTeachStates*
• Jigsaw Geo US 13 Original Colonies*
• Journey North*
• Landforms*
• Learn World Geography*
• Map the World*
• National Geographic*
• National Geographic for Kids*
• National Geographic World Atlas*
• National Inspirer
• Neighborhood Map Machine
• Newsela: News and nonfiction at your reading level*
• Presidents vs. Aliens*
• Professor Garfield Cyberbullying*
• Professor Garfield Online Safety*
• SmithsonianTTJunior*
• Smithsonian Tween Tribune*
• Stack the Countries*
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- Stack the States*
- States and Capitals Quiz !*
- StudyBlue - Online Flashcards and Study Guide App
- TapQuiz Maps World Edition*
- Test Generator
- The Constitution*
- The Graph Club
- The Oregon Trail*
- TIME for Kids Classroom*
- Timeliner
- Trading Cards*
- U.S. Revolutionary War Trivia*
- Win the White House*
- Wonderopolis*
- World Map for iPad FREE*
- Your Bill of Rights*
- Your World*

Math
- 10 More Than, 10 Less Than*
- 1st Grade Math – Numbers, Counting, Adding & More*
- 2 Times Fun*
- 2048 Number Puzzles & Games*
- 24 Game Math Card Puzzles*
- 2nd Grade Math – Addition, Subtraction & Kids Games*
- 3rd Grade Math - Multiplication, Fractions and More*
- 5th Grade Math - Fun Multiplication, Fractions & More*
- 6th Grade Friendzy - Reading, Math, Science*
- Aaah! Math Zombies*
- Addition*
- Addition & Subtraction For Kids - First Grade Math*
- Addition UnderSea Adventures Games*
- A Math Regrouping App: Addition and Subtraction*
- Ace Kids Math Word Problems*
- Algodoo*
- Amazing Coin(USD): Educational Money Learning & Counting Games for Kids Free*
- Ants*
- ArithmeTick - Math Flash Cards*
- Base Ten Blocks Math*
- Basic Fractions*
- Basic Math with Mathaliens*
- Beat the Computer*
- Caboose Express: Patterns and Sorting for Preschool and Kindergarten*
- Chicken Coop Fraction Games*
- Chicken Vault*
- Chocolate Chip Cookie Factory: Place Value*
- Connect the Dots*
- Coolmath Games*
- Count Money !*
- Counting 123*
- Counting and Skip Counting*
- Counting Money*
- Desmos Graphing Calculator*
- Divisibility Dash*
- Division ! !*
- Equivalent Fractions*
- Factor Samurai*
- Fast Facts Addition*
- Fast Facts Division*
- Fast Facts Multiplication*
- Fast Facts Subtraction*
- First Grade Math Challenge - Barnyard Edition*
- Flash Cards*
- Fourth Grade Splash Math Education Learning Games*
- Fractions*
- Front Row Math & English Language Arts*
- Fruit vs. Robot Trivia*
- GeoBoard*
- Geometry Dash*
- Geometry Pad*
- Graphinc Calculator*
- Hungry Fish*
- Interactive Telling Time Lite*
- Kakooma*
- Khan Academy*
- Kahn Academy: Algebra I*
- Kahn Academy: PreAlgebra*
- Kids Numbers & Math: Add & Subtract*
- Know Your Math Facts*
- Learning Gems - My Piggy Bank*
- Learning Though Sports*
- Let’s Tan (Tangrams)*
- Lobster Driver: Fractions & Decimals*
- Logic Quiz*
- Logic Solving*
- Lola’s Math Train - Learn Numbers, Counting, Subtraction, Addition and more!*
- Madagascar Math Ops*
- Marble Math*
- Math 24*
- Math Academy*
- Math Adventure with Fast Facts*
- Math Animations Pro*
- Math Bingo*
- Math Blaster HyperBlast 2 HD*
- Math Bug Free*
- Math Cards ! !*
- Math Challenge 1: Addition*
- Math Circus*
- Math Contenders: Decimals*
- Math Doodles*
• Math Drills Lite*
• Math Evlove*
• Math Explore*
• Math Geometry*
• Math is fun: Age 3-4*
• Math Kids*
• Math Monsters – Bingo*
• Math Ninja HD*
• Math Number Training Games for Kids - Simple Plus & Minus*
• Math Puppy - Bingo Challenge Educational Game for Kids HD*
• Math Slide: Addition & Subtraction*
• Math Slide: Basic Facts School Edition*
• Math Slide: Hundreds, Tens & Ones*
• Math Slide: Multiplication & Division*
• Math/Splash Math Grade 5*
• Math Word Problems - Addition and Subtraction for Kindergarten and First Grade*
• Math24 - A Puzzle of Math 24 by 4 Cards*
• MathBoard*
• MathBoard Addition*
• Mathmateer*
• Maths 24/7*
• Mathseeds*
• MC eMath*
• Mickey Mouse Clubhouse: Mickey's Wildlife Count Along*
• Mobymax*
• Motion Math Numbers: Addition*
• Motion Math: Hungry Fish Pro*
• Motion Math: Pizza!* 
• Motion Math Zoom*
• Multiplication*
• My Math Flash Cards*
• Number Frames*
• Number Pieces Basic*
• Numbers*
• Numbler*
• Oh No! Fractions*
• Operation Math Code Squad*
• Panther Math Paper*
• Park Math HD - by Duck Duck Moose*
• Pattern Shapes*
• Penguin Mathematics*
• Photomath - Camera Calculator*
• Pizza Fractions 1*
• Place Value Fish*
• Place Value MAB*
• Preschool Puzzle Math*
• Protractor Tool*
• Quick Math - Multiplication Table & Arithmetic Game*
• Rounding Whole Numbers*
• Sam Phibian*
• Script Calculator*
• SlateMath for Kids*
• Sling Math*
• Subtraction*
• Scott Foresman – Math
• StudyBlue - Online Flashcards and Study Guide App*
• Sumdog*
• Sushi Monster*
• Tables Quiz*
• TallyPad*
• Tangram Mania*
• Teaching Number Lines*
• Tell Time – Little Matchups Game*
• The Hungry Caterpillar Counting*
• Timer+
• Tiny Chicken Learns Math*
• Top It*
• Virtual Manipulates*
• Zoom*
• Envision Math
• Study Island
• Math Arena
• Numbers Undercover
• Math Blasters Ages 8-13
• Lost Cities-Math Ages 4+
• Math Blaster Ages 6-9
• Math Essentials I & II
• Wild West Math
• Fractions with Professor Von Strudel
• Mathosaurus I & II
• Key Skills
• Numbers Recovered
• Number Cruncher
• Reflex*
• Rounding Whole Numbers*
• Schoology*
• Second Grade Splash Math Common Core Learning Game*
• Tell Time - Little Matchups Game*
• Telling Time +*
• The Calculator*
• The Lemonade Stand*
• Third Grade Splash Math Learning Games & Practice*
• Tiggly Chef: Preschool Math Cooking Game*
• Times Tables Game - Multiplication Study App*
• Tiny Tower - Free City Building*
• Todo Math*
• Tony Fraction’s Pizza Shop*
• Touching/Counting Patterns Lite - TouchMath Adventures*
• Trading Cards*
• Venn Diagram*
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- Virtual Manipulatives!
- Virtual Nerd Mobile Math*
- Wonder Bunny Math Race: 1st Grade App for Numbers, Addition and Subtraction*
- Wonder Bunny Math Race: 2nd Grade Learning App for Numbers, Addition, Subtraction, Multiplication and Division*
- Wonder Bunny Math Race: 3rd Grade Learning App
- Workbook for Kids*
- XtraMath*

Art & Media
- Adobe Illustrator Draw*
- Adobe Photoshop Express*
- Adobe Spark Video*
- Art Maker*
- Awesome Voice Recorder for Mp3 Audio Recording*
- Awesome Voice Recorder for MP3/WAV/M4A Audio Recording*
- Awesome Xylophone Lite*
- CamScanner HD*
- Capture - Control Your GoPro Camera - Share Video*
- ChatterPix - by Duck Duck Moose*
- ColorBox HD*
- Colorfy: Coloring Book for Adults and Girls*
- Comic Life 3*
- Comic Maker HD*
- Comic Movie - Cartoon Effects Movie Maker Apps*
- Color Uncovered*
- Concepts: Sketch, Design, Illustrate & Architect*
- Cubify Draw*
- Doc Scan HD - Scan PDF, Print, Fax, and Email*
- Doodle Buddy*
- DrawCast*
- FaceTalker*
- Flow Doodle*
- Flow Speed Control - Camera and Video Editor*
- FrameCast - Online Animation Studio, create stop motion animated videos with sound*
- Funny Movie Maker - Replace Your Face*
- Glogster - Multimedia Posters*
- Glow Draw*
- Green Screen by Do Ink*
- iDoodle Card*
- iMovie*
- iPhoto*
- Jigsaw Puzzles: The Greatest Artists*
- Keys to the Collection*
- Kid's Patterns*
- Kidpix: Save Your Kid's Art*
- Learn to write Music*
- lino - Sticky and Photo Sharing for You*
- LiveCollage - Instant Collage Maker & Photo Editor*
- Make Beliefs Comix*
• Mematic - Make your own meme, add captions to pictures, and create motivational posters!*
• MoMA Art Lab*
• PhotoCard by Bill Atkinson*
• Pic Collage*
• Professor Garfield Forms of Media*
• Quiver - 3D Coloring App*
• Sketch Master - My Cartoon Photo Filter Avatar Pad & Pic Edit Booth*
• Snapchat
• Sock Puppets
• Splice - Free Video Editor + Movie Maker by GoPro*
• Stop Motion Studio*
• Tiny Tap*
• Magic Artist Studio
• Image Composer
• Adobe Photoshop Elements
• Pinnacle Studio 10
• Tellagami*
• ThingLink*
• Touch Van Gogh*
• Veescope Live Green Screen App*
• Video Star*
• Web Recording Tool Lite*
• YAKiT Kids*
• YouTube - Watch and Share Videos, Music & Clips*
• YouTube Kids*

Music
• A to Z Music Videos*
• BandBlast - The Music Education Revolution*
• Children’s Classics*
• Children’s Classics (Beethoven)*
• Chop Builder*
• Classical Kids*
• Classical Music I: Master’s Collection Vol. 1*
• Figure - Make Music & Beats, Collaborate and Remix on Allihoopa*
• GarageBand*
• InsTuner*
• iWriteMusic*
• iWriteWords*
• JazzBird LITE*
• Learn to Write Music*
• Librivox Classical Music*
• Magic Piano by Smule*
• Meet the Orchestra - learn classical music instruments*
• Monkey Tunes Simon Says*
• Name That Note*
• Note-A-Lator*
• Orchestra Lite*
• Pandora - Free Music & Radio*
• Piano 3D - Free Player Piano App with Songs, Lessons & How to Play Mode*
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- Piano with Free Songs To Learn*
- Pocket Drums*
- Practic*
- Rhythm Lite*
- MADS 24*
- Musical Terms*
- Music Theory*
- Music Theory Video Tutor*
- Music Tutor*
- Magic Piano*
- OzoGroove*
- Pro Metronome - Tempo Keeping with Beat, Subdivision and Polyrhythm for Musicians*
- Rhythm Cat Lite HD - Learn To Read Music*
- SoundCloud - Music & Audio*
- Spotify Music*
- Theory*
- Theory Lessons*
- Tiny Piano*
- Treble Cat Lite - Learn To Read Music*
- Tuner Lite by plusadd - The Ultimate Free Chromatic Tuner for Guitar, Bass, Ukulele and Violin
- Writing Music*
- Zoola Children’s Classic Sampler*
- Music Maestro
- Video Star*

Health and Physical Education
- Brush My Teeth - Virtual Kids Healthy Dental Care Simulator*
- Fitness Gram 8.3
- Health Tips*
- KINBALL*
- Meditation Jar*
- Relaxtopia: Relax with ambient sounds, lower your stress level, focus or sleep better*
- Toothbrush Timer*

World Languages
- Duolingo - Learn Languages for Free*
- Google Translate*
- National Geographic Kids Readers: Korean*
- Spanish 24/7 Language Learning*
- Talking Translator*

Technology Education
- 123D Design*
- 3D Home Architect
- Aeronautical Fundamentals
- Auto Sketch
- Blockly for Dash & Dot Robots*
- Bridge Builder
- Car Builder
- Daisy the Dinosaur*
- Digital Citizenship*
- Flight Path
- Flight Simulator
- Hopscotch: Learn to Code Creatively and Make Games*
- Kodable
- Lightbot : Code Hour*
- MiP App*
- Ozobot*
- Path for Dash Robot*
- Scratch Jr.
- Spacecraft 3D*
- Space Shuttle
- Sphero*
- Sphero Draw N' Drive*
- Sphero Macrolab*
- SPRK Lightning Lab - Programming for Sphero Robots*
- Swift Playgrounds*
- The Way Things Work
- Tickle: Program drones, robots, LEGO, and Arduino!*
- Tynker - Code games. Control toys. Build anything!*  
- Tynker for Schools - Coding for kids. Learn programming to make games, control robots and fly drones.*
- Wonder for Dash and Dot Robots*
- Xylo for Dash robot*

**Keyboarding**
- Kids Typing Racing For Kids*
- Mavis Beacon Teaches Typing
- Swype*
- TapTyping - typing trainer*
- Type to Learn
- TouchPal Keyboard - Type Fun With Emoji & Themes & Fonts*
- Type Fun*
- Type Racer - a game about typing fast*

**Special Ed**
- Autism Apps*
- Autism iHelp – Colors*
- Autism iHelp - Comparatives & Superlatives*
- Autism iHelp - Comprehension*
- Autism iHelp - Language Concepts*
- Autism iHelp – Opposites*
- Autism iHelp – Play*
- Autism iHelp - Same and Different*
- Autism iHelp – Sorting*
- Autism iHelp - WH Questions*
- Color SlapPs*
- Dragon Dictation*
- Touch Trainer*
- Co-Writer
- Inspiration
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- KITE Client*
- QuestionIt*
- Write Out Loud
- Eararobics
- Functional Communication System*
- Draft Builder
- Geo Sketch Pad
- Clicker
- iSEQUENCES*
- JAWS
- Learning Ally Audio*
- Learning Ally Link*
- Model Me Going Places 2*
- Scott Foresman – My Sidewalks (Special Ed)
- See.Touch.Learn.*
- Sentence Builder for Special Needs Children*
- Shelby's Quest*
- Let's be Social - Social Skills Development*
- Fast ForWord & Progress Tracker
- BoardMaker
- EdMark Reading
- DynaVox
- Writing with Symbols
- Teaching Made Easier
- Goals & Objectives Writer for Brigance Diagnostic Inventory-Early Development II
- Goals & Objectives Writer for Brigance Diagnostic Inventory-Basic Skills
- TouchWindow

Research/Organization
- BrainPOP Featured Movie*
- Google Earth*
- Kids Discover*
- Safari Montage, Image Gallery
- Cisco IP/TV
- Compton’s Encyclopedia
- Destiny Discover*
- Destiny Quest*
- Dictionary.com Dictionary & Thesaurus for iPad*
- DigitalCurriculum
- DOGOnews*
- EasyBib, for iPad*
- Follett Destiny*
- Goodreads - Book Recommendations and Reviews*
- Home Sustainability Mobile Assessor*
- Hoopla Digital*
- iFile Organizer*
- World Book Online
- Microsoft Bookshelf
- EBSCO
- Encarta
- Facts on File (includes Maps Online and Science Online)
- Grolier’s Online
- Google Earth*
- Google Maps - Navigation & Transit*
- HowStuffWorks*
- National Geographic
- National Geographic World Atlas*
- Newseba: News and nonfiction at your reading level*
- Notability*
- Note-A-Lator*
- Notes: Supernote Recorder, Notes, Photos Notepad*
- Paper by FiftyThree - Sketch, Diagram, Take Notes*
- PaperPort Notes*
- Popplet Lite*
- Webpath Express
- Brain Pop, Brain Pop Jr., & Brain Pop Espanol
- MacMillan McGraw-Hill Social Studies Book Online
- Merriam-Webster Dictionary HD
- Pearson BouncePages*
- Pearson Dash*
- Pearson eText*
- Seesaw: The Learning Journal
- SmithsonianTTJunior*
- SmithsonianTweenTribune*
- TED *
- TIME for Kids Classroom*
- Wonderopolis*

Problem Solving
- Caillou House of Puzzles*
- Caillou Search & Count Hidden Objects*
- Cargo-Bot*
- Checkers*
- Chess*
- Chess Academy for Kids*
- Circadia*
- Cooking Mama Lite*
- Color Switch*
- Creative Shapes: Puzzles for Kids*
- Decide Now!*
- Desert Drop*
- Dice*
- Flow Free*
- Funbrain Jr.*
- Garfield's Diner Hawaii*
- Heads Up!*
- I am lost – GeoGuessr*
- Inspiration
- Inspiration Maps*
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- JogNog*
- Jumbline 2*
- Kahoot!
- Kidspiration
- LetsTans Classic*
- Little Finder*
- Minecraft: Pocket Edition*
- My First Tangrams HD - A Wood Tangram Puzzle Game for Kids*
- Pocket Tangrams*
- PuzzleBits*
- Real Solitaire Free for iPad*
- Scribblenauts*
- Shape Builder - the Preschool Learning Puzzle Game*
- Sushi Monster*
- Unblock Me
- UNO & Friends*
- Wowzers*

Productivity
Word Processing / Desktop Publishing
- Book Creator*
- Pic Collage*
- Tag Cloud*
- Microsoft Word 2016
- Microsoft Publisher 2016
- Microsoft OneNote 2016
- Pages*
- The Print Shop Premier
- Print Artist
- Ultimate Writing and Creativity Center
- Adobe PageMaker

Multimedia Presentations
- Adobe Premier Pro
- Adobe Elements
- Audio Boo*
- Audio Memo*
- Educreations*
- Explain Everything*
- Haiku Deck Presentation and Slideshow App with Beautiful Charts and Graphs*
- i-Prompt Pro
- iTunes U*
- Jot! Whiteboard*
- Podcasts*
- Voice Recorder*
- YouTube*
- Keynote*
- Microsoft PowerPoint 2016
- Microsoft Sway
- Microsoft Visio 2016
- Nearpod*
- Microsoft Movie Maker Live
- Prezi Lite Editor*
- Prezi Viewer*
- RWT Timeline*
- ScreenChomp*
- ShowMe Interactive Whiteboard*
- Skype for Business (formerly Lync 2013)*
- SMARTNotebook
- Whiteboard Lite: Collaborative Drawing*
- ZOOM Cloud Meetings

**Spreadsheets**
- Microsoft Excel 2016
- Numbers*

**Database**
- Microsoft Access 2016

**Classroom Management**
- Microsoft Classroom (OneNote)*
- Apple Classroom*
- Apple iTunes University*
- eBackpack*
- ClassDojo*
- Edmodo*
- Remind*
- Showbie - Paperless Classroom*
- Socrative*
- TES Teach with Blendspace*
Appendix E: Hardware & Software Maintenance Contracts

Computers/Tablets
- Cisco UCS (Hyperflex) Servers – Cisco SMARTnet (3 years, 24X7X4)
- PC Workstations, Notebooks & Tablets – 1-3 year on-site warranty repair
- iPad Tablets & iMac Notebooks – 2 year Apple Care protection

Communications Equipment
- RFP Solutions – Telephony Systems / Video Surveillance Equipment

Backup, Restore & Disaster Recovery
- Unitrends – Recovery-823 Backup Appliance

Videoconferencing Equipment
- Cisco SMARTnet – Cisco Business Edition 6000 Server, SX10 Endpoints, DX80 Endpoints, DX70 Endpoints

Software (Local) Support Services
- Gloucester County Services – Edge central accounting/payroll system
- Micro Focus – NetWare, OES2 for Linux, GroupWise, ZENWorks,
- Microsoft – Windows servers & desktop operating systems, and Office applications
- Genesis Educational Services & Oracle – Genesis Student Database Server & Web Applications
- Lunchtime Software – Lunchtime & Parent Portal food services applications
- Follett – Destiny Library Manager & Content – elementary & middle school library automation
- Jamf Software – Jamf Pro Mobile Device Management System
- Safari Montage - Content Management – elementary & middle school media content distribution
- Transfinder – RouteFind Pro student transportation management
- GWAVA – Retain e-Mail Archive & Retrieval System

ASP (Hosted) Software Support Services
- McAfee – “Total Protection for Small Business” Antivirus
- SchoolWires – Academic Portal (website) and content management tools
- SchoolMessenger – Parent / Staff Notification System (Autodialer)
- Frontline – IEP Management for Special Education; Staff Attendance & Substitute Management
- Effective Educators – iObservation Staff Evaluation Management
- ELAN Online – Strauss Esmay Associates BOE Policy Archive
- SchoolDude – Building Maintenance Request Management

Out-of-Warranty Service
- In-house technician & other staff
POLICY 2360: USE OF TECHNOLOGY

The Board of Education recognizes the use of technology in the educational process is an essential part of the schooling experience. Technology is to be viewed as a resource to enhance the learning process among other resources available to teachers and pupils. In addition, technology can be used to enhance the administration of the schools and the district. In order to provide direction and meaning to the use of technology as an instructional resource, the Board encourages and supports staff use of technology as a component of the learning process.

For purposes of this policy “technology” includes, but is not limited to, the use of computers and computer peripherals, communications networks, access to databases and libraries of information and the integration of audio, video, multimedia devices and media for purposes of teaching and learning.

The Superintendent, in consultation with teaching and support staff, shall recommend to the Board the acquisition of appropriate technology to best implement the curricular, instructional, and administrative program of the school district. The Superintendent shall prepare a technology plan for the school district to encompass the following:

Curricular, Instructional and Administrative Need

The technology plan shall define the curricular, instructional and administrative need for technological equipment and media for the district.

In-service Education

The Board shall provide opportunities for school staff to participate in in-service programs on hardware or software programs to be used in the execution of educational and administrative tasks. In-service programs may be provided in or out of the district.

Standards, Codes and References

All technology installations shall conform to the industry standards and applicable federal, State and local statutes and codes.

Facilities Planning

In all facilities projects involving new constructions, additions, and renovations the Superintendent or designee shall ensure the plans include provisions for current and future technology needs in terms of the structural, electric/electronic, mechanical, acoustical and visual systems of the building(s). All educational specifications shall include features required for the use of instructional technology.

Computers

The school district will provide support or maintenance agreements for specified brands of computers. All other computers purchased or donated will be subject to repair only when non-allocated funding is available and therefore may remain unrepaired until funding is available.

Computer Software Acquisition and Upgrading
The school district will only support the specified upgrades and training. Staff members shall not purchase software that has not been included on a list of specified software or has been approved by the Building Principal or designee.

The Superintendent will recommend the purchase of upgrades to software as needed. An evaluation of upgrades shall be made by appropriate personnel and no upgrade shall be purchased without the express approval of the Superintendent.

**Site Licenses**

In the case where more than one copy of a software program is required, the Director of Educational Technology shall attempt to acquire or negotiate a site license with the software developers. In the event a site license is not possible, vendors shall be sought who will provide multiple copies at a discounted cost.

**Software Copyright**

All employees shall strictly adhere to the copyright laws of the United States. No software shall be copied and/or distributed except in accordance with these laws. All software placed on media workstations or any network with public access shall be copy protected by the Director of Educational Technology, who shall assure that individuals who have access to such programs shall not copy them without authorization.

**Internal Communication (District)**

The school district shall provide communication between schools by a variety of means.

**External Communications**

The Board encourages the use of external communications so schools may utilize the vast resources of external databases and communicate with other schools, external agencies, and businesses throughout the world. Gateways to such communications will be supported by the school district. The use of particular gateways shall be approved by the Director of Educational Technology. The Director of Educational Technology shall be responsible for the installation of software in district owned computers and/or computer systems that prevents access to gateways and Internet sites that have material considered by the Director of Educational Technology to be inappropriate for use by pupils.

**Computer Laboratories and Distributed Computing**

In order to provide teacher, staff, and pupil access to computers, the Board directs that provisions be made to provide computer access in computer laboratories, classrooms, and school libraries/media centers.

**Audio/Video**

All audio and/or video materials shall be used in accordance with the copyright laws of the United States. Teachers, pupils, or staff who create audio or video materials containing the voices or images of the individuals involved shall obtain proper releases from those individuals, their parent(s) or legal guardian(s) for instructional use within the school.

**Informing Parents, Legal Guardians and Interested Parties**
Upon request, the Building Principal shall make available to parent/legal guardians the computer hardware and software used in the district in order that a computer purchased privately for home use may be compatible with the computer and software the pupil uses in the school setting.

Technology Coordination

The Board shall appoint a Director of Educational Technology to assure the technology needs of the district are met in the most efficient manner possible at the lowest costs available to meet specified needs.

Broadcast Rights and Copyrights

The Board specifically retains the Broadcast rights and copyrights to all materials created by employees of the Board as part of their responsibilities to the Board. Any financial remuneration for the use of such materials shall be retained by the Board.

Computer Security

The Director of Educational Technology shall develop security procedures to include, but not be limited to, the following areas:

1. Physical Security of Equipment

   All computer equipment shall be maintained in a secure manner appropriate to its location.

2. Data Security

   a. Back-up procedures for system files, libraries, and data shall be practiced in a timely fashion.
   b. Disaster recovery plans shall be kept up-to-date at all times.
   c. Password protection shall be in place and updated periodically.
   d. Resource security shall be in place to prevent unauthorized access to system files, libraries, and data.

3. Employee Training

   All new employees having, as part of their job responsibilities, access to computers and information systems will be trained in the proper security procedures outlined above.

   All employees having, as part of their job responsibilities, access to computers and information systems will be kept up-to-date on current security procedures for equipment and data.

4. Transaction Audit Trail

   Appropriate procedures will be maintained in order to monitor system activity and users, as necessary.

5. Security Officer
The Superintendent shall designate the Director of Educational Technology as the district’s Computer Security Officer to monitor system security procedures.

Use of Facsimile (FAX) Machines

Fax machines provide a useful means of communicating and shall be subject to the same rules that apply to the use of telephones. All incoming faxes shall be considered confidential mail. No disclosure of the contents of any fax shall be made except to the individual for whom the fax is intended. Any individual violating this confidentiality shall be subject to discipline as provided by the policies and regulations of the Board.

N.J.A.C. 6A:26-6.1 et seq.
17 U.S.C. 101 et seq.

Adopted: 26 September 2007
POLICY 2361: ACCEPTABLE USE OF COMPUTER NETWORK/COMPUTERS AND RESOURCES (M)

The Voorhees Township School District is proud of its status as a leader in technology implementation and education. The District offers vast, diverse, and unique resources to pupils, staff, and community members. The district’s goal in providing these services is to promote educational excellence by facilitating resource sharing, innovation, and communication.

A. Technology Defined

The use of technology, which is defined under this policy as including, but not limited to the use of software, audio and video media, computers and hardware peripherals, network and telecommunications equipment, and video and audio equipment owned or leased by the Voorhees Township School District, is subject to the terms of this policy. District technology is to be used to enhance instruction and support learning.

B. Purpose

The Voorhees Township School District realizes the importance of incorporating technology and the vast resources of the Internet to enhance the curriculum. The district recognizes that as telecommunications and other new technologies shift the ways that information may be accessed, communicated, and transferred by members of society, those changes may also alter instruction and pupil learning. The district supports access by pupils and staff to rich information resources along with the development of appropriate skills to analyze and evaluate resources. In today’s world, access to and manipulation of information is a critical skill. Staff and pupils will have available to them age/grade appropriate technological tools necessary to explore the world both from inside and outside the classroom walls.

C. General Responsibilities

The Voorhees Township School District has the capability to monitor use of network resources. Users should not expect that files, data, e-mail or any other resources stored on district servers or other hardware will be private or confidential.

With these new learning tools, all users must understand and practice proper ethical use and security. Use of technology, including the Internet, is a privilege, not a right, which may be revoked at any time for inappropriate conduct.

Internet safety must be exercised at all times by all users. According to the Children’s Internet Protection Act (CIPA) of 2000, this policy must address:

1. Access by minors to inappropriate material on the Internet and world Wide Web;
2. The safety and security of minors when using electronic mail, chat rooms, and other forms of direct electronic communications (i.e. Instant message services);
3. Unauthorized access, including so-called “hacking” and other unlawful activities by minors online;
4. Unauthorized disclosure, use, and dissemination of personal identification information regarding minors; and
5. Measures designed to restrict minors' access to materials harmful to minors.

Internet filtering products will be used to limit access by minors and adults to inappropriate or harmful material on the Internet and World Wide Web.

The Voorhees Township School District will make every reasonable effort to block or filter and monitor access to "visual depictions" that are obscene, child pornography, harmful to minors, or that the Voorhees Township School District determines is “inappropriate for minors.”

All users (pupils and adults) are required to report any sites that contain inappropriate materials or materials harmful to minors. This information is to be reported by a pupil to the supervisor in charge or if a staff member, to the Director of Educational Technology. This would include any text, audio segment, picture, image, graphic image file, or other visual depiction that is deemed inappropriate or harmful to minors or when taken as a whole, lacks serious literary, artistic, political, or scientific value as to minors.

It is the responsibility of all instructors/employees to properly inform pupils/staff under their charge of this policy and to see that the policy is strictly enforced.

Pupils using the Internet and World Wide Web will be under the direct supervision of the instructor.

D. Acceptable Uses

Examples of appropriate conduct include but are not limited to:

1. Use consistent with the mission of the Voorhees Township School District;

2. Use of technology, including the Internet for Board approved curriculum-related activities;

3. Use that encourages efficient, cooperative and creative methods to perform the user’s job duties or educational tasks

4. Use in support of research and education;

5. To provide unique resources to and collaborative projects with Board approved educational partners;

6. Users are responsible for the activity recorded to their network accounts and are responsible for notifying the Director of Technology when they believe a breach of security has occurred;

7. Your right to free speech applies to your communication on the Internet. The District Network and all related resources are considered a limited forum, similar to the school newspaper, and therefore the district may lawfully restrict your speech for valid educational reasons; and

8. All other uses must be approved by the District Administrator, if an employee; or the teacher, in charge if a pupil.

E. Unacceptable Uses
Examples of inappropriate conduct include but are not limited to:

1. Use of technology, including the Internet for anything but Board approved curriculum-related activities;

2. Use of technology for a commercial, political, or profit making enterprise, except as specifically agreed to with the district;

3. Accessing or distributing inappropriate material (i.e. obscene, abusive, threatening, harassing (religious, sexual, racial), or any material specifically prohibited by federal, State, or local law;

4. Send or display offensive messages or pictures, pornography, etc.;

5. Use of obscene language;

6. Harass, insult or attack others;

7. Unacceptable network etiquette;

8. Use of the Internet for unlawful or malicious activities;

9. Breaching security by sharing and/or using unauthorized passwords or working from network accounts not assigned to you;

10. Improper access of information (unauthorized use of the Internet Relay Chat, Multi-User Dimensional or other network intensive games; unauthorized e-mail accounts such as hot mail, AOL mail, etc.)

11. Activities that could cause congestion and disruption of networks and systems;

12. Deliberate destruction or diminishment in value or effectiveness of any technology system or information;

13. Attempt to illegally access, alter, or delete files, data, information, or accounts;

14. Misrepresentation of oneself; attempting to gain unauthorized access including attempting to log in through another person's account or access another person's files;

15. Use of unauthorized software, hardware, printers, using district technology or printing non-school related materials using district technology;

16. Personal disks, non-commercial DVD's or CD's, or other similar media are not to be used on district owned hardware;

17. Violate copyright laws;

18. Behavior in violation of district policy or regulations, copyright laws, State statutes, or federal laws;
19. Pupil users will not post personal contact information about themselves or others on the Internet or World Wide web including: first and last name, address, e-mail address, telephone number, social security number, personal photograph;

20. All users will promptly disclose to their teacher or supervisor any network communication they receive that is inappropriate or makes them feel uncomfortable; and

21. Load non-school-owned software on District owned hardware.

If you are not sure if an action is permissive, contact a teacher or supervisor for clarification.

F. Consequences

Any pupil user who violates this policy will be disciplined according to school policy which may include warnings, parent(s) and/or legal guardian(s) conferences, loss of independent user privilege or other appropriate intervention including police notification, suspension or other appropriate penalties.

All interventions will provide appropriate due process procedures.

The administration is authorized to develop forms to administrate this Policy and they will be maintained in the Principal’s office.

N.J.S.A. 2A:38A-3
Federal Communications Commission: Children’s Internet Protection Act.

Adopted: 26 September 2007
POLICY 3321: ACCEPTABLE USE OF COMPUTER NETWORK(S)/COMPUTERS AND RESOURCES BY TEACHING STAFF MEMBERS

The Board recognizes that as telecommunications and other new technologies shift the manner in which information is accessed, communicated and transferred that those changes will alter the nature of teaching and learning. Access to telecommunications will allow teaching staff members to explore databases, libraries, Internet sites, bulletin boards and the like while exchanging information with individuals throughout the world. The Board supports access by teaching staff members to information sources but reserves the right to limit in-school use to materials appropriate to educational purposes. The Board directs the Superintendent to effect training of teaching staff members in skills appropriate to analyzing and evaluating such resources as to appropriateness for educational purposes.

The Board also recognizes that telecommunications will allow teaching staff members access to information sources that have not been pre-screened using Board approved standards. The Board therefore adopts the following standards of conduct for the use of computer network(s) and declares unethical, unacceptable, inappropriate or illegal behavior as just cause for taking disciplinary action, limiting or revoking network access privileges, instituting legal action or taking any other appropriate action as deemed necessary.

The Board provides access to computer network(s)/computers for administrative and educational purposes only. The Board retains the right to restrict or terminate teaching staff members access to the computer network(s)/computers at any time, for any reason. The Board retains the right to have the Superintendent or designee, monitor network activity, in any form necessary, to maintain the integrity of the network(s) and ensure its proper use.

Standards for Use of Computer Network(s)

Any individual engaging in the following actions declared unethical, unacceptable or illegal when using computer network(s)/computers shall be subject to discipline or legal action:

1. Using the computer network(s)/computers for illegal, inappropriate or obscene purposes, or in support of such activities. Illegal activities are defined as activities which violate federal, state, local laws and regulations. Inappropriate activities are defined as those that violate the intended use of the network(s). Obscene activities shall be defined as a violation of generally accepted social standards for use of publicly owned and operated communication vehicles.

2. Using the computer network(s)/computers to violate copyrights, institutional or third party copyrights, license agreements or other contracts.

3. Using the computer network(s) in a manner that:
   a. Intentionally disrupts network traffic or crashes the network;
   b. Degrades or disrupts equipment or system performance;
   c. Uses the computing resources of the school district for commercial purposes, financial gain or fraud;
   d. Steals data or other intellectual property;
e. Gains or seeks unauthorized access to the files of others or vandalizes the data of another user;

f. Gains or seeks unauthorized access to resources or entities;

g.Forges electronic mail messages or uses an account owned by others;

h. Invades privacy of others;

i. Posts anonymous messages;

j. Possesses any data which is a violation of this policy; and/or

k. Engages in other activities that do not advance the educational purposes for which computer network(s)/computers are provided.

Violations

Individuals violating this policy shall be subject to appropriate disciplinary actions as defined by Policy No. 3150, Discipline which includes but are not limited to:

1. Use of the network(s)/computers only under direct supervision;

2. Suspension of network privileges;

3. Revocation of network privileges;

4. Suspension of computer privileges;

5. Revocation of computer privileges;

6. Suspension;

7. Dismissal;

8. Legal action and prosecution by the authorities; and/or

9. Any appropriate action that may be deemed necessary as determined by the Superintendent and approved by the Board of Education.

N.J.S.A. 2A:38A-3

Adopted: 26 September 2007
POLICY 4321: ACCEPTABLE USE OF COMPUTER NETWORK(S)/COMPUTERS AND RESOURCES BY SUPPORT STAFF MEMBERS

The Board recognizes that as telecommunications and other new technologies shift the manner in which information is accessed, communicated and transferred that those changes will alter the nature of teaching and learning. Access to telecommunications will allow support staff members to explore databases, libraries, Internet sites, bulletin boards and the like while exchanging information with individuals throughout the world. The Board supports access by support staff members to information sources but reserves the right to limit in-school use to materials appropriate to educational purposes. The Board directs the Superintendent to effect training of support staff members in skills appropriate to analyzing and evaluating such resources as to appropriateness for educational purposes.

The Board also recognizes that telecommunications will allow support staff members access to information sources that have not been pre-screened using Board approved standards. The Board therefore adopts the following standards of conduct for the use of computer network(s) and declares unethical, unacceptable, inappropriate or illegal behavior as just cause for taking disciplinary action, limiting or revoking network access privileges, instituting legal action or taking any other appropriate action as deemed necessary.

The Board provides access to computer network(s)/computers for administrative and educational purposes only. The Board retains the right to restrict or terminate support staff members access to the computer network(s)/computers at any time, for any reason. The Board retains the right to have the Superintendent or designee monitor network activity, in any form necessary, to maintain the integrity of the network(s) and ensure its proper use.

Standards for Use of Computer Network(s)

Any individual engaging in the following actions declared unethical, unacceptable or illegal when using computer network(s)/computers shall be subject to discipline or legal action:

A. Using the computer network(s)/computers for illegal, inappropriate or obscene purposes, or in support of such activities. Illegal activities are defined as activities which violate federal, state, local laws and regulations. Inappropriate activities are defined as those that violate the intended use of the network(s). Obscene activities shall be defined as a violation of generally accepted social standards for use of publicly owned and operated communication vehicles.

B. Using the computer network(s)/computers to violate copyrights, institutional or third party copyrights, license agreements or other contracts.

C. Using the computer network(s) in a manner that:

1. Intentionally disrupts network traffic or crashes the network;
2. Degrades or disrupts equipment or system performance;
3. Uses the computing resources of the school district for commercial purposes, financial gain or fraud;
4. Steals data or other intellectual property;
5. Gains or seeks unauthorized access to the files of others or vandalizes the data of another user;

6. Gains or seeks unauthorized access to resources or entities;

7. Forges electronic mail messages or uses an account owned by others;

8. Invades privacy of others;

9. Posts anonymous messages;

10. Possesses any data which is a violation of this policy; and/or

11. Engages in other activities that do not advance the educational purposes for which computer network(s)/computers are provided.

Violations

Individuals violating this policy shall be subject to appropriate disciplinary actions as defined by Policy No. 4150, Discipline which includes but are not limited to:

1. Use of the network(s)/computers only under direct supervision;

2. Suspension of network privileges;

3. Revocation of network privileges;

4. Suspension of computer privileges;

5. Revocation of computer privileges;

6. Suspension;

7. Dismissal;

8. Legal action and prosecution by the authorities; and/or

9. Any appropriate action that may be deemed necessary as determined by the Superintendent and approved by the Board of Education.

N.J.S.A. 2A:38A-3

Adopted: 26 September 2007
POLICY 2363: PUPIL USE OF PRIVATLY-OWNED TECHNOLOGY

The Board of Education recognizes that technology is always changing and as a result of increased accessibility to technology many pupils possess technology devices for their use during non-school hours. These privately-owned devices may be beneficial to pupils during school hours for approved educational purposes. Therefore, the Board of Education will allow pupils to use their privately-owned technology devices under conditions outlined in this Policy.

For the purpose of this Policy, “technology” means hardware or software.

For the purpose of this Policy, “privately-owned” means technology hardware and software that is purchased, owned, and maintained by the pupil at no expense to the school or school district.

For the purpose of this Policy, “hardware” means any device that can store, access, retrieve, and/or communicate data or information. “Hardware” may include, but is not limited to, any type of computer device; wireless telephone; electronic reader; personal digital assistant (PDAs); video broadcasting and/or recording device; or camera.

For the purpose of this Policy, “software” means any computer program(s) or related data that provide instruction for telling a computer or other hardware device what to do and how to do it.

The use of privately-owned technology by a pupil in the educational program during the school day must be approved by the pupil’s parent or legal guardian and the school teaching staff member responsible for supervising and/or providing the pupil’s instructional program. A teaching staff member may approve a pupil’s use of privately-owned technology based on the assignment(s) to the pupil. The teaching staff member may also prohibit the use of privately-owned technology for an assignment(s).

Teaching staff members must get prior approval from their immediate supervisor or Principal before allowing pupils to use privately-owned technology during instructional time.

Pupils who use privately-owned technology in school will not be given access to the school district’s computer server(s) or network(s). In the event the teaching staff member approves the use of privately-owned technology to access the Internet, the access must be through the privately-owned technology without the use of any school district hardware or software. A teaching staff member who approves a pupil to use their privately-owned technology to access the Internet during instructional time will provide the pupil with a list of approved Internet sites the pupil is permitted to access. A pupil granted such permission must comply with school district policies and regulations regarding acceptable use of computers and technology. Any use of privately-owned technology by a pupil shall be in strict accordance with the teaching staff member’s specific approval(s) and Board policies and regulations. Any violation will subject the pupil to appropriate discipline and/or grading consequences.

The teaching staff member, in considering the use of privately-owned technology, will ensure such approval does not provide any advantage or benefit to the pupil who owns such technology over the pupil who does not own such technology. The teaching staff member will not approve the use of privately-owned technology if the teaching staff member determines the use would be advantageous or beneficial to the pupil who owns such technology over the pupil who does not own such technology.
The school district assumes no responsibility for any privately-owned technology brought to school by a pupil. The pupil shall be responsible for the proper operation and use of any privately-owned technology brought to school. School staff members shall not be responsible for the effective use and/or technical support for any privately-owned technology.

The school district shall assume no responsibility for the security of or damage to any privately-owned technology brought to school by a pupil. Pupils are encouraged to purchase private insurance for loss, damage, or theft of any privately-owned technology the pupil brings to school.

Adopted: November 28, 2012

Pupil Use of Privately-Owned Technology

The Board of Education recognizes technology is always changing and as a result of increased accessibility to technology many pupils possess technology devices for their use during non-school hours. These privately-owned devices may be beneficial to pupils during school hours for approved educational purposes. Therefore, the Board of Education will allow pupils to use their privately-owned technology devices under conditions outlined in this Policy.

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For the purpose of this Policy, “software” means any computer program(s) or related data that provide instruction for telling a computer or other hardware device what to do and how to do it.

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Teaching staff members must get prior approval from their immediate supervisor or Principal before allowing pupils to use privately-owned technology during instructional time.

Pupils who use privately-owned technology in school will not be given access to the school district’s computer server(s) or network(s). In the event the teaching staff member approves the use of privately-owned technology to access the Internet, the access must be through the privately-owned technology without the use of any school district hardware or software. A teaching staff member who approves a pupil to use their privately-owned technology to access the Internet during instructional time will provide the pupil with a list of approved Internet sites the pupil is permitted to access. A pupil granted such permission must comply with school district policies and regulations regarding acceptable use of computers and technology. Any use of privately-owned technology by a pupil shall be in strict accordance with the teaching staff...
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Adopted: November 28, 2012
### Appendix H: Additional Required Elements for Plan Submission

**Stakeholder Assurance**

I agree to the contents in this educational plan, and the assurance that I will be involved in the implementation of this Technology Plan for Digital Learning. Involvement in the implementation of this Plan may include: reviewing the progress of meeting the goals and objectives, being responsible for completing one or more activities in the action plan, participating in the revisions of the plan. Stakeholders associated with the district and school levels should sign.

<table>
<thead>
<tr>
<th>Stakeholder Name</th>
<th>Stakeholder Title</th>
<th>Stakeholder Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Raymond J. Brosel, Jr.</td>
<td>District Superintendent</td>
<td></td>
</tr>
<tr>
<td>Dr. Diane Young</td>
<td>Assistant Superintendent for Curriculum and Instruction</td>
<td></td>
</tr>
<tr>
<td>Dr. Frank T. DeBerardinis</td>
<td>Assistant Superintendent for Business</td>
<td></td>
</tr>
<tr>
<td>Mr. Bruce Taylor</td>
<td>Technology Director</td>
<td></td>
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<tr>
<td>Mrs. Jennifer Waro</td>
<td>Community Member</td>
<td></td>
</tr>
<tr>
<td>Mrs. Susan Donnelly</td>
<td>Coordinator, Special Programs</td>
<td></td>
</tr>
<tr>
<td>Mr. Andrew Moskowitz</td>
<td>Principal, E. T. Hamilton Elementary</td>
<td></td>
</tr>
<tr>
<td>Mrs. Andrea Carroll</td>
<td>Technology Specialist, E. T. Hamilton Elementary</td>
<td></td>
</tr>
<tr>
<td>Marlene Cosenza</td>
<td>Teacher, E. T. Hamilton Elementary</td>
<td></td>
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<tr>
<td>Mrs. Stacey Morris</td>
<td>Principal, Kresson Elementary</td>
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<tr>
<td>Mrs. Lisa Morgan</td>
<td>Technology Specialist, Kresson Elementary</td>
<td></td>
</tr>
<tr>
<td>Susan Meuer</td>
<td>Teacher, Kresson Elementary</td>
<td></td>
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<tr>
<td>Mr. Robert Cranmer</td>
<td>Principal, Osage Elementary</td>
<td></td>
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<tr>
<td>Mrs. Megan LaGrossa</td>
<td>Technology Specialist, Osage Elementary</td>
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<tr>
<td>Andrea Saylor</td>
<td>Teacher, Osage Elementary</td>
<td></td>
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<tr>
<td>Mrs. Sharon Stallings</td>
<td>Principal, Signal Hill Elementary</td>
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</tr>
<tr>
<td>Mrs. Helen Rubin</td>
<td>Technology Specialist, Signal Hill Elementary</td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
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<td>--------------------</td>
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</tr>
<tr>
<td>Linda Fulleylove</td>
<td>Teacher, Signal Hill Elementary</td>
<td></td>
</tr>
<tr>
<td>Mrs. Kristine Calabria</td>
<td>Principal, Voorhees Middle</td>
<td></td>
</tr>
<tr>
<td>Mrs. Shari Kauffman</td>
<td>Technology Specialist, Voorhees Middle</td>
<td></td>
</tr>
<tr>
<td>Dawn Danley</td>
<td>Teacher, Voorhees Middle</td>
<td></td>
</tr>
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</table>
## Technology Plan Components Checklist

This form may be used to ensure all components are addressed in the submitted document for review.

### District: Voorhees Township  County: Camden

<table>
<thead>
<tr>
<th>NJTRAx PARCC Technology Readiness Rating</th>
<th>Future Ready Digital Learning Readiness Rating</th>
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</thead>
<tbody>
<tr>
<td>9</td>
<td>9.6</td>
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- Current Future Ready District Level Report report posted on [district website](#)
- Current NJTRAx Digital Learning Surveys summary report posted on [district website](#)

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<td>Reflection &amp; Adjustment plan Included</td>
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<td>6</td>
<td>School-Based Action Plan with infusion of technology (clearly written)</td>
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<td>School-Based Budget included to support Action Plan Activities for each school</td>
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