

# Beekmantown Central School district Instructional Technology Plan 2022 - 2025



<b>Beekmantown Central School district Instructional Technology Plan</b>	<b>0</b>
District Technology Committee Members	1
PHILOSOPHY	2
BELIEFS	2
ASPIRATIONS	3
SECTION I - DISTRICT LEA INFORMATION	5
SECTION II - STRATEGIC TECHNOLOGY PLANNING	5
SECTION III - GOAL ATTAINMENT	7
SECTION IV - ACTION PLAN	8
Goal #1	8
Goal #2	9
Goal #3	10
SECTION V - NYSED INITIATIVES ALIGNMENT	11
SECTION VI - ADMINISTRATIVE MANAGEMENT PLAN	15
RESOURCE SECTION - EQUIPMENT AND RESOURCES	16
Network and Telecommunications Services	16

***DISTRICT TECHNOLOGY COMMITTEE MEMBERS***

<b><i>NAME</i></b>	<b><i>ROLE</i></b>
Gary Lambert	Committee Chair, Director of 21 <sup>st</sup> Century Learning
Cheryl MacKenzie	Board of Education Member
Douglas Beebe	Board of Education Member
Duffy Nelson	Principal, Beekmantown Middle School
Matthew Bezio	Principal, Beekmantown High School
Melissa Barcomb	Principal, Beekmantown Elementary School
Darcy Stoutenger	Principal, Cumberland Head Elementary School
Rosemary Manchester	Associate Principal, Beekmantown Middle School
Rick Gangwer	Senior Network & System Technician, District Employee
Jeremy Frenyea	Computer Specialist, Beekmantown High School
Robert Barcomb	Computer Lab Assistant, Beekmantown High School
Julie Ashline	Teacher, Beekmantown Middle School
Christopher Cabrera	Library Aide, Beekmantown Elementary School
Kyle Cahoon	Coach, Beekmantown High School
Bradley Countermine	Teacher, Beekmantown High School
Amy Couture	Teacher, Cumberland Head Elementary School
Elizabeth Drayse	Teacher, Beekmantown Elementary School
Jennifer Goodwin	Teacher, Beekmantown High School
Ashley Kollar	Teacher, Cumberland Head Elementary School
Lisa Menia	Teacher, Beekmantown Elementary School
Jennifer Mousseau	Counselor, Beekmantown High School
Kathleen Trombley	Teacher, Beekmantown Elementary School
David Yonteff	Teacher, Beekmantown Middle School
Niki Rivers	Parent, Beekmantown Elementary School
Makayla Brown	Student, Beekmantown High School
Douglas Duncan	Student, Beekmantown Middle School

## **PHILOSOPHY**

We as advocates and facilitators of learning believe that technology is a powerful tool that creates unique and relevant instructional experiences which has the power to provide enriching, engaging and varied sensory opportunities - ones that ultimately enhance the learning process. We are committed to nurturing active lifelong learners, preparing them to be responsible, contributing members of society and global citizens who can use technology as a tool to positively shape their lives and their community.

## **BELIEFS**

Our District Instructional Technology Plan seeks to provide a dynamic learning community in which:

- Learning has the freedom to take place anywhere, anytime.
- Whenever appropriate, technology will be seamlessly integrated into all aspects of teaching and learning.
- Technology is used as a tool to improve student motivation, engagement, and learning.
- Through teacher guidance, students will utilize technology to become more active participants in their own learning.
- Diverse learning styles of students are better served by incorporating technology.
- New ways to evaluate and assess understanding and learning will be available through the use of technology.
- All students have regular and appropriate access to computers and computer-based technology for learning.
- The needs of all learners are met through the use of adaptive and assistive technologies.
- All students will be prepared for the challenges of an information-based society. They will be able to create, access, exchange, and analyze information readily from electronic sources.
- Teachers in the district will be able to use state-of-the-art technologies to prepare and deliver their lessons.
- Technology is a tool to assist students in meeting the New York State Learning Standards and district goals.
- Skillful use of technology supports the development of process skills such as flexibility, adaptability, critical thinking, problem solving and collaboration.
- Networked technology systems permit efficient and effective communications within and outside the district.
- Technology maximizes productivity and efficiency and enables our schools to better prepare students for future learning.
- Students become better prepared for today's technology-infused workplace and the workplace of the future.
- Our schools must prepare students to be lifelong learners who are responsible for their own learning, skilled in accessing and processing information, confident in using technological tools, able to solve complex problems alone or collaboratively, capable of being creative and innovative, and able to communicate locally as well as globally.

## ASPIRATIONS

To accomplish our mission for enhanced student learning through the integration of technology we believe that our Instructional Technology Plan must include and lead to success in the following areas:

### 1. Maintain equal access for the learning community

- Establishes common technological networking capabilities at all sites.
- Provides for minimum standards of hardware and software for all students, staff, and sites.
- Assures that all students, staff, and sites will be provided with and have equal access to minimum standards of hardware and software.
- Ensures equity of delivery to all students.
- Enables anytime access to school learning resources through the use of the district and school websites, teacher classroom web portals, online instructional services, and a learning management system.
- Continues to improve our infrastructure, more specifically through the acquisition of a redundant internet connection, to ensure our teachers and students have 21<sup>st</sup> Century tools to improve the educational process.
- Provides the learning community with greater opportunity for interaction, collaboration, and information exchange. The school will continue to be a vital meeting place for a host of community services both on-site and virtually.
- Promotes equitable access to learning technology as a community investment and encourages an active partnership among schools, businesses, homes, and the community.
- Provides suitable assistive devices for special needs students.
- Institutionalizes an equipment replacement plan to ensure that technology based items are current and serviceable.
- Institutionalizes a process for procurement of electronic resources (software and hardware) with a careful data-driven review of utilization prior to decision-making.

### 2. Develop lifelong learners

- Assures skillful use of technology to support the development of lifelong learning skills and process skills such as: flexibility, adaptability, critical thinking, problem solving, and collaboration, which are essential to success in our rapidly changing Information Age.

### 3. Integrate technology in the classroom

- Expands classroom tools for teaching and learning.
- Provides for the integration of multiple resources for existing and emerging curriculum.
- Enables the learning community to communicate more effectively, access and process information, and work productively.
- Links the classroom with educational resources within the building, community, and worldwide.
- Creates a collaborative environment for project-oriented activities.
- Increases the productivity of students as they work toward attaining learning outcomes.
- Encourages the use of content-rich multimedia tools, enabling students to become active and experiential learners.
- Furnishes instructional technology to students for use in and outside of the classroom.
- Enables learning to involve partnerships within the school, among schools, and with other organizations.

### 4. Build a culture of continual learning for staff

- Establishes guidelines for staff development and training.
- Encourages district-based technology planning, learning, and coaching.

- Builds online learning opportunities.
- Incorporates digital teaching and learning across all curricular areas.
- Provides information and funds for conferences and workshops.

5. Provide support for instructional change

- Facilitates access to collegial support and best practice information from a wide variety of resources.
- Expands the variety of teaching tools and strategies to support diverse learning styles.
- Supports productive and efficient management of student assessment and project data.
- Increases support for emerging instructional strategies: interdisciplinary, collaborative, and active learning options.
- Refines curriculum, instruction and assessment to enable flexible use of technology tools.
- Provides a system that helps students, parents and teachers work together to support educational outcomes.
- Pilots new teaching strategies, technologies, and instructional resources.
- Maintains sustainability for electronic learning resources, such as Chromebooks or tablets, for student and faculty use.

6. Provide technical support & training for all technology items - equipment and software

- Maintains a district-wide Technology Help Desk.
- Maintains a multi-level system to support all uses of educational technology.
- Includes staffing for district-employed Director of 21<sup>st</sup> Century Learning, Network & Systems Administrator, district technicians, and/or others where appropriate.

7. Maintain Library Media Centers as hubs for technology use

- Professionally staffed by Library Media Specialists.
- Promotes information literacy.
- Prepares students, teachers, and community with the skills and knowledge needed to retrieve, evaluate, and ethically use electronic sources of information.
- Provides access to resources beyond the school.
- Provides access to and assistance with the available technologies.
- Serves as a center for students to explore and create in makerspaces.
- Functions as an integral resource for all content area instruction.

8. Monitor success and adherence to the Instructional Technology Plan

- Provides ongoing development and exploration of emerging, as well as existing technologies and policies.
- Continues the work of the District Technology Committee as necessary.
- Implements tools that can be used to assess progress in implementation of this plan, such as the BrightBytes platform.

## SECTION I - DISTRICT LEA INFORMATION

1. District Administrator Responsible for entering the Instructional Technology Plan Data: Gary Lambert
2. Title of the district administrator responsible for entering the Instructional Technology Plan data: Director of 21<sup>st</sup> Century Learning

## SECTION II - STRATEGIC TECHNOLOGY PLANNING

1. It is the mission of the district and its community to educate every individual to be a quality contributor to society and self.
2. Beekmantown Central School district is dedicated to leveraging technology to provide world class learning to **engage** all students, **enhance** their learning, and **empower** students to achieve greater levels of achievement.
3. Learning is at the heart of all we do in the Beekmantown Central School District. It continues to be our belief that student learning can often be improved through the use of technology as an instructional tool. This instructional technology plan starts with the history of technology in our district. It continues with our vision for student learning, our philosophy of technology, and the associated goals. Our plan offers a well-supported rationale for continuing to build upon the successes of previous initiatives, describing the current status of technology within our district and outlining the strategies which we plan to implement to achieve our goals. Lastly, we include a feedback component to continually assess and evaluate our program.

In 1997, educators, administrators and community members created a vision to implement the use of technology district-wide with the explicit goal of increasing student skills in communication, information processing, and productivity. This vision was translated into tangible action through the 2004 Capital Project, Phase III. As a result of this foundational project, students and staff were able to realize that vision of working within a networked environment - one in which all instructional spaces and offices are equipped with computers connected to the district's network as well as to the internet. This technology planning committee helped form the basis upon which all of the district's future actions regarding instructional technology would be built.

In 2009, the district was able to take advantage of funding through New York State's EXCEL program. The district leveraged this funding to further enhance the technology environment provided to staff and students. As a result of this project several key technology goals were accomplished. Among these were the complete refresh of the district's wired network switching infrastructure, the addition of interactive whiteboards (Mimio & SmartBoards) in all district classrooms, the replacement and/or addition of LCD projectors in classrooms and conference rooms, the virtualization of thirteen existing application and voice servers, and perhaps, most importantly, the addition of a district-wide wireless network. This wireless network, comprising nearly 130 enterprise-grade 802.11ac wireless access points, would pave the way for the district to explore new avenues of teaching and learning.

In 2014 the District Technology Committee (DTC) reconvened with the primary responsibility of researching, reviewing, and revising the district's technology plan and providing recommendations of how the district would provide instructional technology to further empower student learning. This committee, composed once again of teachers, administrators, parents and other community members, Board of Education members, and students, met both in person and via electronic correspondence during the 2014-2015 school year to discuss the direction of technology in the district with an eye toward sustainability. With the successful passage of the

Smart Schools Bond Act, many of the committee's discussions revolved around how the district could make the most effective use of the funds which it is designated to receive. Attendance at a national educational technology conference as well as site visits were part of the process which informed the development of this plan as did the formulation of staff, student and community surveys. Thanks to the efforts of the DTC members, their recommendations charted the direction that teaching and learning took at Beekmantown CSD over the last four years. The 2014 plan was a guide for the district for what was to come both in the short and long-term for the future of technology in the district. The committee's recommendations helped articulate the vision for the Digital Literacy Initiative and the 1:1 device program which has been immensely successful over the last few years.

A great deal of experience and expertise was gained not only through the last several years of the Digital Literacy Initiative, but also as a result of the COVID-19 pandemic, both of which helped to inform the current district technology committee's perspective on the use of educational technology. The committee has been fortunate to have the expertise of the Department of 21<sup>st</sup> Century Learning staff, Administration, Board of Education members, teachers, students, and community members. The charge of this committee is to establish the goals for the coming several years as well as the action plans to see them through. Members of the current committee began meeting in August of 2021 to determine what steps would need to be taken. In order to be more responsive to committee members' needs, the committee met exclusively using Google Meet. Meetings were held minimally every month with members collaborating electronically on documents using the district's mass notification program (ParentSquare) and Google Docs. In this way much work could be accomplished without having to meet in person. This technology plan is a direct outcome of these meetings and the committee's collaborative efforts.

4. This planning process was significantly different in several ways. First of all, the district has been 1:1 for six years now. Most if not all of the previous years' goals have largely been achieved and/or institutionalized. This was the first time that the committee met solely on a virtual platform, allowing for even more efficiency and productivity. As a committee we reviewed the prior technology plan to assess the degree to which the district had been able to achieve its goals and noted those areas where we excelled, as well as those areas that could be improved upon and translated into actionable goals for this current plan. We intend to address previously unobtained portions of our last plan with a more specific matrix, and we are revising our plan to remove outdated and/or irrelevant goals.

5. Although we had begun our Digital Literacy Initiative years ago, the COVID-19 pandemic created a heightened need to deliver even greater levels of instruction using technology and a variety of online platforms. Our district was uniquely positioned to be successful following many years of technology-based staff development. To address this dynamic learning environment, the Department of 21<sup>st</sup> Century Learning provided weekly online meetings to assist staff members with the use of remote learning programs. Although most students already had devices issued to them, the district made it a priority to ensure that ALL enrolled students in grades PK3-12 had access to a device for online learning. Through the regular budget, as well as via the Smart School Bond Act, the district purchased additional devices for the early primary grade levels. Through a collaborative effort with the district's transportation department and the School Resource Officer these additional devices were deployed and delivered. In addition to devices, we also have long recognized that devices without connectivity have little to offer our students. We have a well-established history of providing mobile internet hotspots to students at all grade levels to provide connectivity at home. The district respected the wishes of families who were hesitant to return to in-person learning by offering a blended (part in-person/part virtual) learning environment. Our teachers received training in order to facilitate this shift in instruction and were highly supported by the Department of 21<sup>st</sup> Century Learning. In order to keep parents, students and staff more fully aware of rapidly changing mandates and requirements, as well as offer a solid and consistent

conduit for communication, the district invested in a mass notification platform called ParentSquare. Through the use of ParentSquare, for the very first time the district had a unified communications platform so that all members of the learning community could engage in the manner that worked best for them.

6. The district is fully 1:1.

7. The District recognizes the importance of ongoing and sustained professional development to improve the educational environment for staff and students. As such, the district provides focused technology-based professional development opportunities to district staff through both regular budget and grant funds. This staff development comes in many forms such as attendance at local, regional, state and national conferences, Saturday Tech Summits, full-blown Google Summits, EdCamps, ExploreEDU's, Just Another Hour after school sessions, Faculty Meeting trainings, Tech Mentoring, as well as self-guided, self-paced online learning opportunities that often provide direct pathways to technology skill certifications. These professional development options are for individuals, small groups, and large groups. During such offerings, it is expected that employees will collaborate with one another to elevate their learning. These efforts will ensure all our teachers, school administrators and staff will be empowered to best utilize both new and emerging technologies as well as long institutionalized programs and services for instructional purposes. Throughout the lifespan of this Instructional Technology Plan, staff will be surveyed to determine their familiarity and facility with technology in order to help better align these offerings to best meet the need. All professional development offerings are followed by an evaluation to provide feedback to the instructor in order to gauge the effectiveness of the professional development plan. These evaluations are used to continually refine our professional development offerings.

### **SECTION III - GOAL ATTAINMENT**

1. Digital Content: Fully met the goal
2. Digital Use: Significantly met the goal
3. Digital Capacity and Access: Fully met the goal
4. Leadership: Fully met the goal
5. Accountability: Fully met the goal



## **SECTION IV - ACTION PLAN**

### Goal #1

1. Within three years, the district will completely replace our aging wired and wireless network infrastructure to take advantage of newer technologies to better meet the current and future needs of our end users. This goal aligns with NYSED goals for implementing, and sustaining a robust, secure network to ensure sufficient, reliable high-speed connectivity for learners, educators, and leaders. This goal is being established with fiscal responsibility in mind as the funding sources for this goal are varied in nature: Smart School Bond Act, Federal E-Rate, as well as regular local budget.

2. Aligning with NYS Goal: Design, implement, and sustain a robust, secure network to ensure sufficient, reliable high-speed connectivity for learners, educators, and leaders.

### 3. Target Population:

- All Students

### 4. Target Population:

- Teachers
- Administrators
- Parents / Guardians / Families / School Community

5. The district will use the Gartner Magic Quadrant data to identify potential network vendors. The district will also solicit references from other K-12 school districts to determine best fits for a network vendor to replace our current infrastructure. The district will also be collecting technical data from vendors to determine which products will best suit our current and future needs. This data will be used to help create an evaluation matrix that will assist the district in scoring the vendors who choose to bid on our project. Prior to implementation, the district will meet with the awarded vendor to discuss an installation schedule and training for technicians. The goal will be accomplished once the new network infrastructure has been installed, technicians have been trained, and staff and students are able to connect to the network.

### 6.

Action Step #	Action Step	Action Step - Description	Responsible stakeholder	Other Responsible Stakeholder	Anticipated date of completion	Anticipated Cost
1.	Research	District researches available options with regards to network equipment and vendors	Director of Technology	N/A	7/1/2022	\$0
2.	Budget	Meet with District stakeholders to determine available budgetary scope of potential project	Business Official	N/A	7/7/2022	\$0
3.	Evaluation	Bids will be evaluated using scoring matrix	Director of Technology	N/A	7/28/2022	\$0
4.	Purchasing	Business Office will generate purchase orders to begin purchasing process.	Business Official	N/A	7/29/2022	\$900,000
5.	Implementation	Vendor to whom bids are awarded will install new network and train department staff in its use	Other	Network Vendor	7/31/2025	\$0

Goal #2

1. During the lifespan of this technology plan, the district will develop and implement a grade-level, age-appropriate, skill-based technology education matrix for all grade levels in the district. This matrix will serve as a guide for instructional staff, explicitly defining the skills by grade level to provide students with a solid technological foundation. This matrix will allow staff to have a better understanding of what technology-based skills need to be taught as part of their curriculum. These skills will form a scaffold that will allow students to build their technology toolkit year after year, and encourage staff to engage their students with newly available programs. These skills will also foster student facility with instructional technology and help them understand the implications of technology in the real world. This goal aligns with the NYS goals for developing strategic visions and goals to support student achievement and engagement through seamless integration of technology into teaching and learning. This goal will allow the district to fine tune its professional development offerings for staff to permit more explicit training to take place in support of the goal.

2. Aligning with NYS Goal: Develop a strategic vision and goals to support student achievement and engagement through the seamless integration of technology into teaching and learning.

**3. Target Population:**

- All Students

**4. Target Population:**

- Teachers
- Administrators
- Parents / Guardians / Families / School Community

5. The district will utilize surveys and meetings to gauge staff and student understanding of the core toolkit of programs and services that are in place for technology. Data will be analyzed from the surveys in order to determine areas that need improvement, and areas where a high level of understanding has been achieved. Professional development will be developed and implemented to accommodate the areas that need improvement to foster student and staff engagement. The district will reevaluate on a yearly basis to determine level of improvement of staff competencies within this matrix.

**6.**

Action Step #	Action Step	Action Step - Description	Responsible stakeholder	Other Responsible Stakeholder	Anticipated date of completion	Anticipated Cost
1	Evaluation	The district will assess current student and staff involvement with technology	Building Principal	N/A	9/30/2022	\$0
2	Collaboration	District administrators will meet to discuss the results of the evaluation and make adjustments for involvement	Building Principal	N/A	10/3/2022	\$0
3	Professional Development	Staff will be trained on how integrate technology into the classroom through programs and interaction	Director of Technology	N/A	06/01/2025	\$20,000
4	Curriculum	Teachers will adjust their pedagogy to integrate technology into the classroom and foster student engagement	Classroom Teacher	N/A	06/30/2025	\$0

Goal #3

1. During the lifespan of this technology plan, the district will continue to reinforce and further develop a culture of awareness and practice which helps work towards greater compliance with the NIST Cybersecurity framework and NYS EdLaw 2D. The district will implement a higher degree of staff training on digital hygiene in order to prevent social engineering attacks, increase awareness of personal responsibility for security, and streamline the security onboarding process for new staff. The Department of 21<sup>st</sup> Century Learning will formalize practices to ensure a secure chain of custody of personally identifiable information, create a system for data vaulting, and backup. The district will be partnering with vendors to ensure that our PCs have been properly updated to prevent vulnerabilities. The district will investigate and explore potential vendor partners for network penetration testing to ensure our network is safe from outside threats. This goal aligns with the NYS goals for designing, implementing, and sustaining a robust, secure network to ensure sufficient, reliable high-speed connectivity for learners, educators, and leaders. This goal is being established with changing safety and security practices in mind.

2. Aligning with NYS Goal: Design, implement, and sustain a robust, secure network to ensure sufficient, reliable high-speed connectivity for learners, educators, and leaders.

**3. Target Population:**

- All Students

**4. Target Population:**

- Teachers
- Administrators
- Parents / Guardians / Families / School Community

5. The district will utilize current guidelines, such as the NIST Framework and EdLaw 2D compliance checklist, and evaluate current procedures to determine if changes need to be made, and will make efforts to reinforce best practices in safety and security. The district will also be collecting feedback from other security agencies and other K-12 school districts to be able to replicate the gold standards for safety and security. The district will use the collected data to evaluate our goal, increase efforts to secure student and teacher data, and utilize software and services to increase the district’s security footprint and reduce its security liabilities.

6.

Action Step #	Action Step	Action Step - Description	Responsible stakeholder	Other Responsible stakeholder	Anticipated date of completion	Anticipated Cost
1	Evaluation	The district will review our current safety and security practices to determine what additional changes need to be made.	Director of Technology	N/A	7/1/2022	\$0
2	Research	The district will research updated security guidelines and practices and identify programs/services to meet the needs.	Director of Technology	N/A	9/01/2022	\$0
3	Purchasing	The district will purchase any programs or services to assist in implementing any updated best practices	Business Manager	N/A	7/3/2023	\$50,000
4	Implementation	The district will inform staff of changes to practices and implement the programs & services	Director of Technology	N/A	9/4/2023	\$0

## **SECTION V - NYSED INITIATIVES ALIGNMENT**

1. The district, in alignment with the NIST Framework and NYS EdLaw 2D, has made available a large number of instructional tools, such as Google Workspace for Education Plus, EdPuzzle, Castle Learning, and many others (Reference: [bit.ly/BCSDApprovedSoftwareMasterList](https://bit.ly/BCSDApprovedSoftwareMasterList)), to foster student engagement and increase opportunities for student collaboration. Teachers utilize these resources to develop comprehensive lesson plans that combine technology with good teaching practice in order to provide a 21<sup>st</sup> century learning curriculum. Students utilize these resources through the means of online tools, collaborative assignments, and creating digital artifacts to showcase the extent of their knowledge.

2. The district has made it possible for students to access their coursework on and off campus by providing students with access to a Chromebook. Students who do not have access to a reliable internet connection have the ability to request and secure a wireless hotspot to access our learning management system and other online resources. In addition, the district's entire bus fleet is also equipped with permanently installed, hardwired hotspots to permit students to access the internet and educational resources while in transit to and from school. This effectively allows students the possibility to extend the school day without actually lengthening time at school. On campus, the district has provided students with a high speed internet connection that can be used to connect to cloud-based learning management systems, such as Google Classroom to complete coursework and connect with teachers. WiFi is available on all district-issued devices with wireless access points in all instructional and common areas. The district will continue its efforts to engage students through the means of online learning, as well as partnering with vendors to best suit our district's needs with technology.

3. The district recognizes that students with disabilities may sometimes require special accommodations through the use of technology to better support their learning. The district employs several accessibility technologies, such as text-to-speech, speech to text, Read&Write, variable rate audio playback extensions, and large screen displays, to name just a few. These technologies allow for accommodation of student needs while using district-provided devices without any installation necessary on the part of the learner. The district's special education program has access to alternative learning programs, such as Lexia Learning, that provide students with core educational materials while expanding their technology toolkit. The district also recognizes that despite our best efforts, some students may not be able to utilize the devices that are distributed through the 1:1 program. As such, the Department of 21<sup>st</sup> Century Learning continues to work with the Special Education Department to seek out those instructional technology tools that will meet the specific needs of each student.

4. How does the district utilize technology to address the needs of students with disabilities to ensure equitable access to instruction, materials, and assessments?

- Class lesson plans, materials, and assignment instructions are available to students and families for "anytime, anywhere" access (such as through a class website or learning management system).
- Direct instruction is recorded and provided for students to access asynchronously (such as through a learning management system or private online video channel).
- Technology is used to provide additional ways to access key content, such as providing videos or other visuals to supplement verbal or written instruction or content.
- Text to speech and/or speech to text software is utilized to provide increased support for comprehension of written or verbal language.

- Assistive technology is utilized.
- Technology is used to increase options for students to demonstrate knowledge and skill.
- Learning games and other interactive software are used to supplement instruction.

5. What type of professional development will the district offer to teachers of students with disabilities that will enable them to differentiate learning and to increase student language and content learning through the use of technology?

- Incorporating technology to support writers in the elementary classroom
- Incorporating technology to support writers in the secondary classroom
- Integrating research, writing and technology in a digital world
- Enhancing children's vocabulary development with technology
- Reading strategies through technology for students with disabilities
- Choosing assistive technology for instructional purposes in the special education classroom
- Using technology to differentiate instruction in the special education classroom
- Using technology as a way for students with disabilities to demonstrate their knowledge and skills
- Multiple ways of assessing student learning through technology
- Electronic communication and collaboration
- Promotion of model digital citizenship and responsibility
- Integrating technology and curriculum across core content areas
- Helping students with disabilities to connect with the world

6. How does the district utilize technology to address the needs of English Language Learners to ensure equitable access to instruction, materials, and assessments?

- Class lesson plans, materials, and assignment instructions are available to students and families for "anytime, anywhere" access (such as through class websites or learning management systems).
- Direct instruction is recorded and provided for students to access asynchronously (such as through a learning management system or private online video channel).
- Technology is used to provide additional ways to access key content, such as providing videos or other visuals to supplement verbal or written instruction or content.
- Text to speech and/or speech to text software is utilized to provide increased support for comprehension of written or verbal language.
- Home language dictionaries and translation programs are provided through technology.
- Hardware that supports ELL student learning, such as home-language keyboards, translation pens, and/or interactive whiteboards, is utilized.

- Technology is used to increase options for students to demonstrate knowledge and skill, such as through the creation of a product or recording of an oral response.
- Learning games and other interactive software are used to supplement instruction.

7. Yes - As the district utilizes the Google Workspace Education Plus platform, the 15 most currently spoken languages in the district are supported through machine translation options for all documents.

8. What type of professional development will the district offer to teachers of English Language Learners that will enable them to differentiate learning and to increase their student language development and content learning with the use of technology?

- Multiple ways of assessing student learning through technology
- Electronic communication and collaboration
- The interactive whiteboard and language learning
- Use camera for documentation

9. How does the district utilize technology to address the needs of students experiencing homelessness and/or housing insecurity to ensure equitable access to instruction and learning?

- McKinney-Vento information is prominently located on individual school websites, as well as the district website.
- If available, online/enrollment is easily accessible, written in an understandable manner, available in multiple languages and accessible from a phone.
- Offer/phone/enrollment as an alternative to/in-person/enrollment.
- Set enrollment forms to automatically provide the McKinney-Vento liaison with contact information for students who indicate possible homelessness and/or housing insecurity
- Create a survey to obtain information about students' living situations,/contact information,/access to internet and devices for/all/students in/the/enrollment processes/so the district can/communicate effectively and/evaluate their needs.
- Provide/students/experiencing homelessness/and/or housing insecurity with tablets or laptops, mobile hotspots, prepaid cell phones, and other devices and connectivity.
- Provide students a way to protect and charge any devices they are provided/with/by the district.
- Replace devices that are damaged or stolen/as needed.
- Assess readiness-to-use technology/skills/before disseminating devices to students experiencing homelessness and/or housing insecurity.
- Create individualized plans for providing access to technology and internet on a case-by-case basis for any student experiencing homelessness and/or housing insecurity.

- Have/resources/available to/get/families and students step-by-step instructions on how to/set-up and/use/their districts Learning Management System or website.
- Class lesson plans, materials, and assignment instructions are available to students and families for
- Direct instruction is recorded and provided for students to access asynchronously (such as through a learning management system, DVD, or private online video channel).
- Technology is used to provide additional ways to access key content, such as providing videos or other visuals to supplement verbal or written instruction or content.
- Conduct regular educational check-ins with all students experiencing homelessness and/or housing insecurity and secure any help needed to keep up with course work.
- Adjust assignments/to be completed successfully using/only/the/resources students have available./
- Offer a technology/support hotline during flexible hours.
- Make sure technology/support is offered in multiple languages.

**10.** How does the district use instructional technology to facilitate culturally responsive instruction and learning environments?

- The district uses instructional technology to strengthen relationships and connections with families to assist in building a culturally responsive learning environment to enhance student learning.
- The district uses instructional technology to facilitate classroom projects that involve the community.
- The district uses instructional technology to develop and organize coherent and relevant units, lessons, and learning tasks that build upon students' cultural backgrounds and experiences.
- The district uses instructional technology to assist in varying teaching approaches to accommodate diverse learning styles and language proficiencies.
- The district uses instructional technology to enable students to communicate and collaborate with students in different schools or districts in New York State, the United States, or with different countries.
- The district uses instructional technology to facilitate collaborative classroom projects among heterogeneous student groups.

## **SECTION VI - ADMINISTRATIVE MANAGEMENT PLAN**

### **1. Staff Plan**

The Beekmantown Central School district has, as of the adoption date of this Instructional Technology Plan, the following full-time Equivalent (FTE) count whose primary responsibility is delivering technology integration training and support and/or technical support for teachers.

<b>Title</b>	<b>Full-Time Equivalent (FTE)</b>
District Technology Leadership	.80
Instructional Support	.20
Technical Support	3

### **2. Investment Plan**

Anticipated Item or Service Drop Down Menu. Select One per row.	If you chose, 'Other' Anticipated Item or Service in the column to the left, please identify here. Otherwise, please write "N/A"	Estimated Cost	Is Cost One-Time, Annual, or Both?	Potential Funding Source. May check more than one source per item	If you chose 'Other' Potential Funding Source in the column to the left, please identify here. Otherwise, please write "N/A."
Network and Infrastructure	N/A	\$900,000	One-time	District Operating Budget, E-Rate, Smart Schools Bond Act	N/A
Professional Development	N/A	60,000	Annual	BOCES CoSer purchase, District Operating Budget, Grants	N/A
Instructional and Administrative Software	N/A	\$150,000	Annual	BOCES CoSer purchase, District Operating Budget	N/A

**3.** Has the school district provided for the load of instructional computer hardware to students legally attending non-public schools pursuant to Education Law, section 754?

Not Applicable

**4.** Technology Plan URL:



## **RESOURCE SECTION - EQUIPMENT AND RESOURCES**

In this section, the educational technology environment, as of the publishing date of this instructional technology plan, is listed below.

### ***Network and Telecommunications Services***

#### ***Type of Wiring***

All instructional and administrative spaces which require them have been equipped with Category 5e Unshielded Twisted standard certified 1000 Megabits per second. Every classroom and administrative workspace has been provided with between six to fifteen network connections. Fiber riser and backbone connections have been provisioned to the thirteen telecommunication data closets throughout the main campus, Cumberland Head Elementary School, district Office and Bus Garage to replace copper backbone connections and enhance bandwidth. Fiber star topology is the target architecture used to connect remote buildings to the main distribution frame (MDF) for voice, data, and video digital communications.

#### ***Network Standard***

Ten GigaBit Ethernet has been applied in the design of the current WAN and LAN backbone connections. The system in its current operations provides a minimum of 100 Megabit per second connections, but in most cases, 1 Gigabit per second connection for all wired connections to all ends. As all network switches in service within the district were installed in the Spring of 2014, the district's network infrastructure is very sound. The district has worked very hard to create a single, composite signal path for voice, data and video surveillance feeds. The network infrastructure will continually evolve to higher bandwidth standards as media and supporting equipment are cycled out and new ones become economically feasible through both Smart Schools Bond Act, E-Rate, and regular budget funding. All new network switches will be provisioned with IEEE 802.3at, PoE+ for all ports on the device. This will permit the continued ability to provide the additional power required for modern network equipment and devices.

#### ***LAN Protocols***

The district will adopt IPV6 and/or other high-bandwidth, quality of service protocols as evolving standards certify them for use and common acceptance drives their price into affordable ranges. The availability of emerging public service facilities will be closely monitored as the area infrastructure evolves to ensure that adequate provisions are made for upgrade of the school district wide area network at minimum cost.

#### ***Wireless infrastructure***

In 2014 the district adopted the 802.11ac standard for wireless connectivity to all district facilities. This system in its current iteration provides for on-site Cisco 5700 Series wireless network controllers which communicate with POE (Power Over Ethernet) wireless access points strategically located throughout the district. All elementary, middle and high school classrooms, as well as all offices and large meeting spaces have coverage for district-owned devices for students as well as staff and visitor devices. This wireless infrastructure currently forms the backbone of the district's 1:1 Digital Literacy Initiative, permitting student and staff data access anywhere within range of wireless access points. There are a total of 210 wireless access points that are

currently in place throughout the district. Through Federal E-Rate as well as Smart School Bond Act funding the district will augment its coverage where necessary and will regularly monitor where any additional access points can be provisioned for greater access.

## ***Services***

### ***File Services***

The district has experienced a shift from the traditional client-server model over the last couple of years to utilize more cloud based services. The district is in the process of converting from a complex Storage Area Network built in a VMWare virtual environment to a more simplified, redundant Hyper V installation. The primary function of our remaining on-site hosted servers is tied to specific network based services such Active Directory, DHCP, DNS, Domain Services, LDAP Connectivity, Network Management, Print Services via PaperCut, and data exports. As well as specialized roles, such as premise security and environmental controls. In an effort to provide high quality services to its end users, the district also implemented cloud-based off-site hosted data solutions via Google Drive. Remote file access from any device, coupled with the ability to share and work in a collaborative manner with other staff members and/or students has made this initiative very impactful.

### ***Other Services***

The district will continue to increase the functionality and inherent complexity of its internet presence using emerging technologies. The district has moved from most of its on-site hosted server-based applications to a software as a service model (SAAS). As such there has been and will continue to be a high demand for a robust intranet presence with increasing bandwidth in order to support these services. Many of these SAAS applications are central office related such as recruiting and hiring, Board of Education policy manual maintenance, and professional learning management to name just a few.

The district will provide continued maintenance of DNS services, including integration with the Microsoft TCP/IP protocol implementations. Similarly, there will be continuing use and upkeep of DHCP and Active Directory as new implementations and integrations will be required with other services. Two such examples of this which have already been implemented are Google Active Directory Services (GADS) and Google Active Password Sync (GAPS).

Additionally, centralizing the delivery of software applications through the use of web-based cloud managed solutions such as the Google Admin Console have become the norm in the district, relieving the burden associated with installation and maintenance of software.

### ***Internet Connection***

The district currently utilizes a fiber data link to the NERIC Plattsburgh Data Center. The current provisioned connection operates at a speed of 200 Mbps, burstable to 1000 Mbps. Additionally, the district utilizes a 1000 Mbps Internet connection at our Cumberland Head Campus provided by Westelcom that can act as a backup Internet connection in event the NERIC circuit is down. This has eliminated many of the connectivity issues that restricted the effective use of the internet as a learning resource. The result has been a proliferation of internet browser software as a standard application for use by students and staff.

### ***Clients***

The district's Department of 21<sup>st</sup> Century Learning will upgrade the client workstation inventory on a

five year ongoing five year replacement cycle to meet current platform standards. These hardware upgrades and evolving minimum standards will ensure that the district keeps pace with industry standards for next generation software applications. Portable devices which rely on wireless access have become a standard within the district.

At the time of the writing of this current Instructional Technology Plan the district's minimum standard for desktop computing is Windows 10 and Mac OS X 10.15 also currently supported. With the district's large-scale migration to Google Workspace for Education Plus, the vast majority of our laptop and mobile devices are running on the Chrome OS platform either as Chromebooks or Chrome Tablets. There certainly will always be a need to maintain a number of traditional desktops to service specific curriculum software and hardware and/or administrative tasks, but these numbers will likely diminish over time since the transition to the Chrome OS has become embedded within the district's culture and software continues to evolve to support more and more web-based delivery methods which are platform agnostic.

### ***Software***

The district will continue to maintain and update a standard set of contemporary software for educational, personal productivity and administrative uses. Although the Microsoft Office Platform, version 2016 will still be maintained as a supported district standard for specific legacy needs, the district has migrated most staff and student use to the Google Workspace for Education Plus platform. One obvious benefit of the move to a cloud-based solution for software is that client software will not need to be individually upgraded on each computer workstation, but rather will be upgraded at the provider's end. Hardware upgrades will be a continuing necessity to meet the ever-increasing processor and memory requirements of more demanding client and server software implementations. All installed software will be maintained and updated through the use of a patch management system to provide heightened security. Additionally the district has implemented a decentralized, distributed processing, client-server model student information system (Schooltool) residing on a remote, NERIC hosted server. This model for software as a service has become the most common delivery method of software within the district.

### ***Telephone***

Recognizing the value of off-site hosted solutions, the district has transitioned to a hosted VOIP provider, Westelcom. This transition has allowed the district to maintain its ability to manage its own moves/adds/changes while also have access to experts in the realm of telephony to provide high-quality support for its end users. This move has proven to be more fiscally sound as it provides a predictable line item for yearly voice-related expenses since the cost of replacing voice servers would not be the responsibility of the district.

### ***Video***

Greater emphasis will be placed on digital video for classroom video systems. Educators are now able to transmit Google Slides, PowerPoint presentations, as well as internet based video into the classroom via Sharp Aquos and SMART Interactive Flat Panel Displays in the majority of classrooms.

In the fall of 2017 the district completed an installation of a high-definition IP based video surveillance system, replacing a 10+ year old analog and DVR based system. This server-based system not only provides more effective coverage of the school facility but additionally offers both mobile and off-site access to footage. This system, based on the Genetec platform is integrated with the premise security system and allows for the addition of lock-down buttons, door cameras, and other integrations making it an integral part of the district's security offering. With the construction of the higher speed fiber connection between the main campus and Cumberland Head Elementary School campus, both campuses' video surveillance systems have received

additional camera coverage since the initial installation. As resources and funding becomes available additions to the existing system are constantly under consideration to maximize staff and student safety.

***Electrical Capacity***

The district will continue applying electrical standards to its sites to provide adequate levels of service and to afford adequate protection of equipment. Planning for new construction and existing building renovations includes provisions for a comprehensive review of electrical capacity requirements to ensure that technology enhancements are considered and included in project engineering and design. Procurement documents will specify the use of energy saving technology for workstations and peripherals wherever possible.

***Current Inventory***

Desktop Computers	335
Chromebooks	2,200
Laptops	30

As part of the ongoing 1:1 initiative, the district will continue to purchase Chromebooks, which will be issued to all students in grades 3-12. In grades PK3-2, devices will be provided to the classroom, but will not be issued to the individual student.

Type of Equipment	Quantity
Network Switches	43
Routers	2
Wireless Access Points	210
Servers	3 Physical 15 Virtual

## EVALUATION PROCESS

The Beekmantown Central School district regularly collects data using tools such as BrightBytes in order to improve services, learning and teaching. Evaluation of the Instructional Technology Plan falls into three areas: technology implementation and support, use of technology to achieve learning goals, and staff development.

Many evaluative processes have been discussed earlier in the document. Here is an overview:

### Technology Implementation and Support

- The District Technology Committee meets bi-annually to monitor the Instructional Technology Plan.
- Review of annual budget for technology.
- Inventory of all technology-related equipment.
- Evaluate district technology via a national standards tool (ISTE).

### Use of Technology to Achieve Learning Goals

- Refining learning goals based on the test results.
- Student rubrics will be established for monitoring technology-related skills.
- Classroom teachers will evaluate student technology skills.

### Staff Development

- Staff rubrics and Needs Assessments will be utilized to monitor technology skills.
- Workshops, Saturday Tech Summits and other local, regional, and national conferences regarding technology will be advertised and attendance encouraged.
- Courses will be provided in-district for skills and curriculum integration. Feedback will be solicited to continuously improve the quality of professional development offered.
- Staff Mentoring will continue to be encouraged as well as Pineapple Charts for peer learning.
- Incentives will continue to be developed for administrative, faculty, and staff participation in staff development opportunities.

## Enrollment

The Beekmantown Central School district has, as of the adoption date of this Instructional Technology Plan, the following enrollment figures:

<b>Beekmantown Elementary School</b>	<b>Enrolled</b>
PreK3	18
PreK4	35
Kindergarten	74
1 <sup>st</sup> Grade	75
2 <sup>nd</sup> Grade	68
3 <sup>rd</sup> Grade	80
4 <sup>th</sup> Grade	66
5 <sup>th</sup> Grade	80
<b>Cumberland Head Elementary School</b>	<b>Enrolled</b>
PreK3	18
Pre-K4	35
Kindergarten	73
1 <sup>st</sup> Grade	72
2 <sup>nd</sup> Grade	82
3 <sup>rd</sup> Grade	77
4 <sup>th</sup> Grade	85
5 <sup>th</sup> Grade	68
<b>Beekmantown Middle School</b>	<b>Enrolled</b>
6 <sup>th</sup> Grade	146
7 <sup>th</sup> Grade	157
8 <sup>th</sup> Grade	156
<b>Beekmantown High School</b>	<b>Enrolled</b>
9 <sup>th</sup> Grade	141
10 <sup>th</sup> Grade	139
11 <sup>th</sup> Grade	117
12 <sup>th</sup> Grade	133

## *Technology Elements*

### Devices

The district's technology committee members evaluated a wide variety of technology devices to determine which device would be the best overall fit for our students to meet our instructional goals. Using an evaluation matrix based on price, performance, usability and features, the Chromebook and the Chrome OS were chosen by committee members as the primary standard for student use at most grade levels. The district will continue to evaluate the appropriateness of other devices and platforms as warranted and as the needs of the district evolve. The specific model of Chromebook may vary from one year to the next as vendors change their offerings, but the minimum requirements for the duration of this Instructional Technology Plan would be:

- 11" Color LCD screen
- Keyboard with built-in drainage
- 4 GB of RAM
- 16 GB of solid state storage
- 2 USB ports
- USB-C charging

### Professional Development

In an effort to gather as much practical information as possible and to expose district members to the workings of 1:1 classrooms, the district coordinates a variety of professional development opportunities for staff members. Approved professional development activities provide valuable insight into instructional practices of a fully-integrated digital curriculum, the IT challenges associated with such a model, and the administrative and logistical hurdles that must be overcome to be successful.

### Device Protection

The intent of the district's 1:1 initiative is to allow students to have access to their school-provided technology devices at home as well as in school. Recognizing the need to provide protection for these devices while they are being transported and in use, research was done to find a suitable protective device for them. After contacting numerous case vendors committee members evaluated several finalists for the standard device protection. Ultimately the Volume Cases Bubble Case II Chromebook case was chosen as the primary district standard. As other devices are evaluated, other protective cases will be evaluated in order to protect the district's investment in these devices.

### Insurance

The district will supply students with a Chromebook for use in and out of the classroom. In the same way that textbooks are issued to students and remain the property of the district, so too are these devices. Through the district's student-run help desk club, known internally as the "BeekSquad", students and their families are given the opportunity to purchase a device protection plan which covers theft and accidental damage to the device. The student-run help desk club uses the funds from the Device Protection Plan to purchase and stock the parts necessary to facilitate repairs to devices which are covered under the plan. If a student's device is not covered by the Device Protection Plan then parents must assume complete financial responsibility for the repair or replacement of the Chromebook due to damage or loss of the device. In this way students receive excellent device repair services, most of which are performed within 1-3 business days, the

student help desk members acquire valuable technology-related work skills, and the district leverages the talent within its student body to help sustain its 1:1 program.

### ***Technology Asset Management/Inventory Control System***

While the district is committing significant resources toward its 1:1 initiative, it became apparent that a robust technology inventory management solution was needed to replace the antiquated inventory database that was previously in place. Putting in place such a system provides a check and balance and necessary audit trails to report on equipment purchased for the district. Several competing systems were demoed, and in the end One To One Plus was the choice of the district. This system can be utilized with any internet connected device with a modern web browser as well as with iOS and Android devices through the use of its mobile app. Additionally, the system can also connect to handheld barcode scanners for immediate access to inventory information. This system, coupled with permissioned access to key staff members has enabled the district to proactively plan and effectively manage the costs associated with the IT assets. Having such a system in place assists the district in controlling its assets in order to optimize the value from its investment in technology.

### ***Professional Development Opportunities and Digital Citizenship***

The district recognizes that one of the most critical elements of any instructional technology plan is the training that its staff receives to effectively integrate the technology into teaching and learning. With that in mind, the district has taken a multi-pronged approach to accomplish this goal, especially during its transition to a 1:1 teaching and learning environment.

Professional development comes in many forms in our district such as attendance at local, regional, state and national conferences, Saturday Tech Summits, full-blown Google Summits, EdCamps, ExploreEDU's, Just Another Hour after school sessions, Faculty Meeting trainings, Tech Mentoring, as well as self-guided, self-paced online learning opportunities that often provide direct pathways to technology skill certifications. These professional development options are for individuals, small groups, and large groups. During such offerings, it is expected that employees will collaborate with one another to elevate their learning. These efforts will ensure all our teachers, school administrators and staff will be empowered to best utilize both new and emerging technologies as well as long institutionalized programs and services for instructional purposes.

The district recognizes that there is a need to build relationships and engage with outside entities that are experts in their respective areas. To that end, the district has periodically contracted with Renaissance Educational Consultants to provide additional instructional staff training in content delivery and learning management systems as well as to provide support for Google Workspace for Education Plus. Early on, Amplified IT was contracted to provide support to the Department of 21<sup>st</sup> Century Learning to inform best practices in setting up the district's Google domain.

Coupled with the on-site professional development provided by Renaissance Educational Consultants and Amplified IT, the district also recognizes the value in providing both staff and students access to on-demand training. Since digital learning does not operate on a traditional school bell schedule, the district makes use of the Google Workspace Teacher Training site for Google Workspace for Education Plus. This training platform allows the user to learn valuable instructional skills leveraging Google based technology tools. It provides the end user with training available in all of the essential Google Workspace for Education Plus tools.

The district believes that strong instruction in digital citizenship is essential to form the foundations of learning in the 1:1 environment. Beginning in elementary school and reinforced throughout the curriculum, digital citizenship instruction for students K-12 is regularly woven into the lesson materials. Specific lessons on



online privacy, cyberbullying and other current topics are also explicitly provided at a variety of grade levels using resources such as Common Sense Media and Google's Be Internet Awesome.

### ***Content Delivery and Digital Learning Management***

In an effort to move away from the lecture-centric model so typical of the 20<sup>th</sup> century classroom, the District's Technology Committee began exploring alternative instructional models which leveraged the power of technology. At the heart of this exploration was a recognition that there were many 21<sup>st</sup> century skills that were simply not easy to cultivate even using time-honored technology tools such as Microsoft Office. Members of the committee understood that what was needed were tools that made anytime, anywhere, any device access a priority in addition to sharing and collaboration capabilities. After examining currently available options, committee members unanimously agreed that the Google Workspace for Education Plus was the best fit for Beekmantown CSD. The idea of providing software to users as services rather than as products offers several key benefits in addition to those mentioned above. Such an approach transfers responsibility for software updates and maintenance away from the district's IT department, freeing IT staff from a considerable amount of software support. The resources saved are able to be directed at making the IT department more innovative and agile, attributes that are increasingly important in responding to rising student expectations of technology in school.

All stakeholders can collaborate in the learning process through the use of this suite. Teachers are able to share documents and calendars with parents so they can see what projects their children are working on and when assignments are due. Students can connect with educators outside of school. Students are able to collaborate together on group projects without needing to physically meet. This collaborative model allows for a dynamic environment that moves away from lectures and more fully engages the learner.

Building upon the foundation provided by the Google Workspace for Education Plus, the district selected another utility as part of its digital toolkit. GoGuardian Teacher brings additional content delivery and classroom management tools to the digital equation. GoGuardian Teacher works in conjunction with the district's primary learning management system, Google Classroom, to enable teachers to easily share assignments with students as well as monitor their activities along the way. Since GoGuardian Teacher provides such a tight integration with Google Classroom, it is able to very easily populate a teacher's classroom with enrolled students.

### ***Filtering and Mobile Device Management***

As the district increasingly relies on its network as a critical foundation for teaching and learning in the digital age, IT management has become more complex and challenging. In an attempt to provide a balance between compliance with Federal CIPA regulations and user access to content, the district contracts with NERIC to provide GoGuardian Admin. This hosted service offers intelligent features for customization, granular policy control, explicit content, and self-harm reporting. By utilizing GoGuardian Admin the district is able to provide the same level of filtering for students on Chromebook devices at home that it does while on campus. Using the product's comprehensive monitoring and reporting tools, the district's administrative and IT staff can review all user activity to enforce acceptable use policies, troubleshoot issues, and make adjustments as needed. The district's ability to manage student devices provided by the district is made even more complete with the ability to manage the devices through the Google Administrator Console. The Google Administrator Console allows IT staff to hierarchically manage the district's Chromebooks and users remotely wherever they are in the world, providing that the devices have an internet connection.

## ***Digital Equity***

The district recognizes that there is a great disparity in access to resources among our student population due to socioeconomic status. Recognizing this, the last thing that the district would want to do is widen that digital divide. In an effort to gather measurable data, the district conducts biannual student, staff and parent technology surveys through the BrightBytes platform. The first of these surveys revealed the percentage of students who did not have access to high-speed internet and wireless access. With this information in hand, the district committed to provide economically disadvantaged students a device from the Kajeet company, called the Kajeet SmartSpot, which is a MiFi mobile wireless hotspot, combined with customizable internet filtering. These devices allow students access to all web-based resources necessary to complete educational assignments on multiple readily available 4G LTE cellular networks.

Additionally, the district also purchased and installed 24 Kajeet Cradlepoint units to equip all active buses in the transportation department's fleet, delivering WiFi access to riders on buses using their district-issued devices. This endeavor seeks to provide students and student athletes with additional time to access required educational resources when they would otherwise be unable to do so. The intent of this additional access is to give all students increased access to resources that may benefit them in their educational pursuits.

In terms of equity provided, issuing devices to students has assisted in leveling the playing field between regular and special education - improving access to assistive technologies for students with disabilities. Students now have access to text to speech which will be beneficial in meeting the individual learning needs of all students. It has also enabled students to have "textbooks," websites, documents, and tests read to them. This increases independence and also offers some students the ability to stay in the classroom for testing and other academic tasks instead of leaving for a room to have a human reader. Through the use of software as a service such as TextHelp's Read&Write product, students also have access to word prediction software which has been shown to improve students' writing skills. Students also have access to a variety of graphic organizers or the ability to create their own. Having these digital devices benefits students with disabilities who need adjustable print size, improved organizational, task management, and study skills, and assistance with note-taking. Leveling text has also become a reality providing students with reading deficits access to the same curriculum content as their peers.

Using Google Workspace for Education Plus as well as the associated apps in the Google software ecosystem permits students who are English language learners or multi-lingual learners to have access to machine translations of course material into their home language. This ensures that these learners have the same equitable access to instruction, materials and assessments by permitting staff members the tools to create these translated items as well as providing the learner with access to tools to interpret materials in their home language.

## ***Summary***

This District Instructional Technology Plan would not have been possible without the collaborative efforts of all of the members of the District's Technology Committee, to which is owed a debt of gratitude. Through countless hours of research and participation, their efforts have given rise to a plan which aims to continue improving student engagement, enhancing instruction, and empowering students with the goal of improved student achievement. However arduous the work done thus far was to arrive at this plan, it is minuscule in comparison to the value derived from its implementation. Full realization of this plan will help to more fully solidify Beekmantown CSD in its role as a progressive leader in technology integration in the North Country.