Preparing Students for the 21st Century:
Strategies for Implementation of the
BH-BL 21ˢᵗ Century Framework for Learning

Report to the Burnt Hills-Ballston Lake Board of Education
From the DISTRICT 21ˢᵗ CENTURY INSTRUCTIONAL COMMITTEE

December 13, 2011

Burnt Hills-Ballston Lake Central Schools
Ensuring opportunities for learning, personal growth & social responsibility

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1. Background & Board of Education Charge to the Committee:

Implementing the BH-BL 21st Century Framework for Learning and Preparing for a Future Bond Referendum
In February 2010, the District accepted a shared decision making committee's recommendation to adopt the BH-BL 21st Century Framework for Learning. The framework serves to direct the instructional component of our Culture, Team, Data Strategic Framework by answering the essential question, "What do our students need to know and be able to do in order to be successful in the 21st Century?" It is important that the culture, team, data initiative continue to evolve with the changing needs of our staff, students and society.

The 21st Century Framework for Learning provides a definition of 21st century learning, a set of 21st century themes and skills, and questions to guide instructional planning and program development.

The Board of Education charged a committee to determine measures our district should take in the areas of instruction and infrastructure to successfully implement the BH-BL 21st Century Framework for Learning. To this end, principals and K-12 supervisors facilitated discussions that had already begun in grade levels, departments and buildings with the goal of engaging in futuristic, visionary thinking. Even in the midst of difficult economic times, BH-BL will continue to move forward to prepare our staff and students to successfully meet the challenges and opportunities of our times. Essentially, the spirit and intent of the conversations was to gain an understanding of the direction staff members are currently taking and would like to take in terms of instruction and program, and what measures the district can take to provide our staff and students with the instruction, space, infrastructure, and technology necessary for success in the 21st century.

2. Committee Approach

The 21st Century Instructional Committee of 15 members began meeting in April 2011 to fulfill the above charge. Committee members (see Appendix A) were chosen to represent a cross-section of the local and educational community.

In an effort to gain extensive information from a variety of perspectives, departments and buildings were asked to answer the following questions and submit information to the committee:
- What direction would the educational professionals like to take during the next 5-10 years in terms of instruction and program to best prepare our students for success?
- What measures can the district take to provide our staff and students with the space, infrastructure, and technology necessary for success in the 21st century?

Please refer to Appendix D for the input received.

In addition, members of the committee worked on reading and analyzing educational research related to 21st Century skills and collected additional input from constituent groups. Please refer to Appendix B for the research results.

Committee members made a preliminary report of their findings to the Board of Education in June 2011. Structured input sessions were held with teachers, administrators, and support staff, soliciting input on 21st Century instruction. Questions and suggestions from these meeting were used in preparing this final report. Note: The committee's work was guided by an analysis and synthesis of input provided by BH-BL departments and buildings.

3. 21st Century Framework for Learning Pathway Document

- **Create integrated classrooms with relevant interdisciplinary learning experiences with an emphasis on depth over breadth**
  - Encourage and explore ways for teachers in different disciplines to collaborate on shared projects, across curriculum
  - Include current, relevant and rigorous curriculum outlined in the 21st Century Framework for Learning
  - Utilize highly interactive technology to engage students with web based learning, personal technology, and distance learning
  - Improve classroom environment (desks, more storage, tables, outlets) to allow for more movement and group work
- **Develop skills and apply knowledge to address relevant problems with creative and innovative solutions**
  - Expand hands-on, relevant and rigorous project based learning opportunities for groups and individuals
  - Help students develop higher order thinking to utilize critical analysis to solve real life problems
  - Expose students to disciplinary and interdisciplinary based careers
  - Build interpersonal, presentation, and teamwork skills in the classroom.
- **Develop high quality literacy across all disciplines**
  - Incorporate technical, digital, and financial skills for students to understand the role of economy, culture, society and the individual's impact upon the world
  - Cultivate student's ability to think, read, write and express themselves, emulating an expert in the field

- **Provide and support professional development to inspire and encourage teachers to explore new teaching strategies and technology to deliver high quality instruction for the 21st Century**
  - Provide and embed time and opportunities for team orientated professional development
  - Promote extended learning opportunities and make them more accessible by offering a variety of delivery mechanisms
- **Expand alternative, differentiated learning opportunities**
  - Integrate state of the art technology and delivery systems to enhance learning outcomes
  - Develop flexibility in school scheduling, teaching strategies and procedures to allow for non-traditional, career and independent learning opportunities
  - Increase instructional programs and opportunities for differentiated learning experiences
- **Expand opportunities for collaboration and communication to increase student learning opportunities**
  - Increase communication with students, parents, community and other schools utilizing digital resources
  - Increase use of collaboration through community and professional partnerships like Junior Achievement and internships
  - Use collaboration and communication tools to create and share knowledge with a larger audience because "the world is our stage"
- **Utilize a balanced whole child educational approach that promotes academic, career, social, emotional, and physical development**
  - Develop citizenship, leadership, responsibility, and adaptability in students necessary to succeed in the 21st Century environment
  - Help students to discover and develop their passion to motivate them to be innovators and productive life long learners by exposing them to a variety of interests
  - Provide opportunities for all students to explore, experience and plan a career path

4. 21st Century Instructional Committee Recommendation:

The 21st Century Instructional Committee recommends that the District adopt:

      A. **The 21st Century Framework for Learning Pathway Document**
      B. **Crosswalk of Pathways Document and 21st Century Skills**

BH-BL 21st Century Framework for Learning

Definition of 21st Century Learning:

21st Century Learning includes the essential skills, knowledge, expertise and attitudes students must possess to succeed in school, post secondary education, work and life.

Communication:
- Articulate thoughts and ideas using a variety of forms such as: oral, written, nonverbal, and electronic.
- Use active listening to understand others' messages.
- Communicate for a variety of purposes such as to inform, instruct, motivate, and persuade.

Problem Solving/Critical Thinking:
- Solve real-life problems in conventional and innovative ways.
- Ask questions that clarify various points of view that lead to better solutions.
- Interpret various forms of information, draw conclusions and solve problems.
- Reflect critically on learning experiences and processes.

Manage, Analyze and Synthesize Information:
- Access information efficiently and effectively.
- Evaluate information thoughtfully and critically.
- Use information accurately, creatively, and ethically for the issue or problem at hand.
- Manage the flow of information from a wide variety of sources.

Teamwork/Collaboration:
- Interact positively and effectively with others.
- Collaborate and cooperate effectively within and among diverse teams.
- Hold self and others accountable for time, work production and quality results.

BH-BL 21st Century Framework Skills

Productivity:
- Set and achieve goals.
- Manage time and projects effectively.
- Produce and be accountable for results.
- Work independently and with others to complete tasks without direct oversight.
- Demonstrate initiative to gain knowledge and enhance skills.

Media Literacy:
- Understand, create, and utilize the most appropriate media tool to communicate to a variety of audiences (i.e. PowerPoint, podcast, blog, short animation, etc.).
- Understand the ethical/legal issues surrounding the use of media.

Financial Literacy:
- Know how to make appropriate personal economic choices.
- Understand the role of the economy in society.

Innovation & Creativity:
- Create new ideas.
- Work creatively with others.
- Act on creative ideas and innovations.

Adaptability:
- Be flexible with varied roles, responsibilities, schedules, and situations.
- Work effectively in a climate of ambiguity and change.
- Deal positively with praise, setbacks and criticism.

Definition of 21st Century Learning:

21st Century Learning includes the essential skills, knowledge, expertise and attitudes students must possess to succeed in school, post secondary education, work and life.

Global Awareness:

- Understanding global issues such as economic changes, competition for natural resources, and growth of the worldwide middle class.
- Understanding, appreciating, and working with individuals representing diverse cultures, religions, etc.

Energy & Sustainability:

- Demonstrating an understanding of the environment and conditions affecting it such as air, climate, land, food, energy, water and ecosystems.
- Understanding society's impact on the natural world.
- Taking action towards addressing environmental issues.

Life Balance & Wellness:

- Taking charge of your life through balancing academics, extracurricular activities, sports, families, friends, media consumption and use of electronic devices, etc.
- Making appropriate choices regarding health and wellness.
- Understanding preventative health measures such as: nutrition, exercise, risk avoidance, stress reduction.

Meaning/Purpose/Passion:

- Discovering and cultivating talents, interests and passions.
- Seeing the relevance of what is being learned in a clear and compelling way.

BH-BL 21st Century Framework **Themes**

Desire to Learn:

- Discovering what ignites an interest to learn more.
- Feeling capable and competent as learners.

Ethics, Civic & Personal Responsibility:

- Exercising the rights and responsibilities of citizenship.
- Demonstrating integrity and ethical behavior.
- Acting responsibly by keeping the interests of others in mind.

Leadership:

- Using interpersonal and problem solving skills to influence and guide others toward a common goal.
- Utilizing the strengths of others to accomplish desired results.
- Inspiring others to reach their best through example.

Character Development:

- Treating self and others with empathy, respect, compassion, etc.
- Acting responsibly toward self, others and surroundings.

BURNT HILLS-BALLSTON LAKE CENTRAL SCHOOLS
21ST Century Framework for Learning – Pathway Document
Crosswalk and Alignment with 21st Century Learning Skills

21st Century Framework for Learning Pathway Document	Comm unicat	Prob Solv/ Crit Thkg	Team work/ Collab	Manag/ Analyz/ Synthe Info	Innova/ Creativ	Media Literac	Adapt.	Produc	Finan. Literacy
Create integrated classrooms with relevant interdisciplinary experiences with an emphasis on depth over breadth									
• Encourage and explore ways for teachers in different disciplines to collaborate on shared projects, across curriculum	*	*	*		*			*	
• Include current, relevant and rigorous curriculum outlined in the 21st Century Framework for Learning	*	*	*	*	*	*	*	*	*
• Utilize highly interactive technology to engage students with web-based learning, personal technology, and distance learning	*			*		*		*	
• Improve classroom environment (desks, more storage, tables, outlets) to allow for more movement and group work	*	*	*		*		*	*	
Develop skills and apply knowledge to address relevant problems with creative and innovative solutions									
• Expand hands-on, relevant and rigorous project based learning opportunities for groups and individuals	*	*	*		*			*	
• Help students develop higher order thinking to utilize critical analysis to solve real life problems	*	*		*	*			*	
• Expose students to disciplinary and interdisciplinary based careers				*	*				*
• Build interpersonal, presentation, and teamwork skills in the classroom	*		*		*		*	*	
Develop high quality literacy across all disciplines									
• Incorporate technical, digital and financial skills for students to understand the role of economy, culture, society and the individual's impact upon the world				*		*	*		*
• Cultivate student's ability to think, read, write and express themselves, emulating an expert in the field	*	*		*	*			*	

21st Century Framework for Learning Pathway Document	Comm unicat	Prob Solv/ Crit Thkg	Team work/ Collab	Manag/ Analyz/ Synthe Info	Innova/ Creativ	Media Literac	Adapt.	Produc	Finan. Literacy
Provide and support professional development to inspire and encourage teachers to explore new teaching strategies and technology to deliver high quality instruction for the 21st Century									
• Provide and embed time and opportunities for team orientated professional development	*	*	*	*	*		*	*	
• Promote extended learning opportunities and make them more accessible by offering a variety of delivery mechanisms				*		*		*	
Expand alternative, differentiated learning opportunities									
• Integrate state of the art technology and delivery systems to enhance learning outcomes	*			*		*			
• Develop flexibility in school scheduling, teaching strategies and procedures to allow for non-traditional, career and independent learning opportunities	*	*	*	*	*		*	*	*
• Increase instructional programs and opportunities for differentiated learning experiences	*	*	*				*	*	
Expand opportunities for collaboration and communication to increase student learning opportunities									
• Increase communication with students, parents, community and other schools utilizing digital resources	*	*	*			*			
• Increase use of collaboration through community and professional partnerships such as internships	*		*				*	*	
• Use collaboration and communication tools to create and share knowledge with a larger audience because "the world is our stage"	*		*	*	*	*	*	*	
Utilize a balanced whole child educational approach that promotes academic, career, social, emotional, and physical development									
• Develop citizenship, leadership, responsibility, and adaptability in students necessary to succeed in the 21st Century environment.	*	*	*	*	*	*	*	*	*
• Help students to discover and develop their passion to motivate them to be innovators and productive life long learners by exposing them to a variety of interests	*	*	*	*	*	*	*	*	*
• Provide opportunities for all students to explore, experience and plan a career path	*	*	*	*	*		*	*	*

Note: While the graphic above represents the natural connections between instructional strategies and 21st Century Skills, the 21st Century Themes and Guiding Questions must also be viewed as being fully interconnected in the process of 21st Century teaching and learning.

5. The committee recommends that the following measures be taken to ensure ongoing review and modification of instructional practices and programs to ensure alignment with the BH-BL 21st Century Framework for Learning:

- Utilize the K-12 Curriculum and Instruction structure that has been built in our district to oversee the process of implementing the Framework.
- Align instruction and programs with the New York State Common Core Learning Standards, since the new standards are comprised of 21st century skills and themes outlined in the Framework.
- Embed the Framework in the process of implementing the Annual Professional Performance Review Plan.
- Support teams in their ongoing efforts to identify essential outcomes by unit, course, and grade level, and to develop common formative assessments to determine student acquisition of essential knowledge and skills.
- Incorporate the Framework into standard district instructional processes, e.g., job-embedded professional development proposals, summer curriculum projects, new course or program proposals, etc.

6. Considerations for the future Bond Referendum Committee

The 21st Century Instructional Committee is recommending that the Board of Education expedite the Bond Referendum cycle and charge a committee for a bond referendum vote in the spring of 2013.

Some areas for the Bond Referendum Committee to consider for new space, infrastructure and technology include, but are not limited to:
- Student work spaces
- Lighting
- Electrical upgrades
- Phone system
- Storage

- Heating and cooling
- Environmentally sustainable features such as green technology
- Classroom space
- Technology wiring and hardware
- Technology access for a STEM or technology wing and upgrading of classrooms/labs
- Athletic fields and areas
- Fine arts performance areas
- Professional meeting space
- Project based learning space
- Large group meeting areas
- Media production labs

A recommended form for Proposed Capital Projects is below:

<div align="center">

Burnt Hills-Ballston Lake Central Schools
Description of Proposed Capital Project
2013 -- 2018

</div>

Project title:

For what building?

Submitted by:

How to reach you if we have questions:

Estimated Cost:

Description. Brief narrative of what is being proposed:

Explain how this project advances the BH-BL 21st Century Framework for Learning, including the 21st Century Pathway document:

Staff to include in final project planning:

Reminder: please submit this form to the appropriate building principal by

Appendices
Appendix A: Committee Members

<u>Committee Members</u>:
John Capano, Instructional Technology Coordinator
Linda Doherty, Facilitator
Sabine Erickson, Teacher
Rick Evans, Chair, Central Administration
Jean Foster, CSEA
Elizabeth Herkenham, Board of Education
Andrew Lancaster, Teacher
Christine Layden, Teacher
William McQuay, Administrator
Ed Murray, Junior Achievement
Rie Posillico, Administrator
Tim Sinnenberg, Administrator
Catherine Snyder, Parent, Post-Secondary
Eileen Stone, Parent, Business
Maryellen Symer, Administrator

Appendix B: 21st Century Instructional Committee Research Sources:
Below is a summary of current 21st Century instruction trends and examples:

1. <u>The NMC Horizon Report</u>: 2011 K-12 Edition is a publication of the New Media Consortium

- **The abundance of resources and relationships made easily accessible via the Internet is increasingly challenging us to revisit our roles as educators in sense-making, coaching, and credentialing.**
  - Electronic books continue to generate strong interest in the consumer sector and are increasingly available on campuses as well.
  - Smart phones, iPads, and similar devices, subscription-based services are available that allow students to receive textbooks and ancillary materials on the devices they already own.
  - Blackboard's Learning Management Systems and other web-based curriculum management tools are available for instructional methodologies.
  - Connexions and Google Docs are places to view and share educational material made of small knowledge chunks called modules that can be organized as courses, books, reports, *etc*. Anyone may view or contribute.
- **People expect to be able to work, learn, and study whenever and wherever they want.**
  - Mobiles devices are capable computing devices in their own right, and they are increasingly a user's first choice for Internet access.
  - School Districts are instituting a **B**ring **Y**our **O**wn **D**evice initiative. The devices available today are multi-functional and robust, but the story of mobiles is no longer solely about the devices we carry.
  - Mobile devices, including smart phones, iPads, or similar "always-connected" devices, are doorways to the content and social tapestries of the network, and they open with just a touch.
- **The world of work is increasingly collaborative, giving rise to reflection about the wa**y student projects are structured.
  - The days of isolated desk jobs are disappearing, giving way to models in which teams work actively together to address issues too far-reaching or complex for a single worker to resolve alone.
  - Real-time collaboration via video.
  - Real-time collaboration on documents; peer-to-peer critiquing and editing.
  - Group work spaces.
  - New scholarly forms of authoring, publishing, and researching.
- **The technologies we use are increasingly cloud-based, and our notions of IT support are decentralized.**

- Cloud computing has already transformed the way users of the Internet think about computing and communication, data storage and access, and collaborative work.
- Cloud-based applications and services are available to many school students today, and more schools are employing cloud-based tools all the time.
- Now schools are looking to outsource significant parts of their infrastructure, such as email and backups, to cloud providers.
- Together, these developments have contributed considerably to the adoption of cloud computing approaches at K-12 schools across the globe.
- It does not matter where our work is stored; what matters is that our information is accessible no matter where we are or what device we choose to use.
- Some examples of technology include: Google Apps, BlackBoard, Moodle, Microsoft SharePoint, Online Courses, Online Collaboration, Student Information System, and Social Networking

- **The perceived value of innovation and creativity is increasing.**
  - The ways we **design learning experiences** must reflect the growing importance of innovation and creativity as professional skills.
  - Innovation and creativity must not be linked only to the arts subjects but rather to all subject areas.
- **Technologies to Watch**
  - **Cloud computing** has already transformed the way users of the Internet think about computing and communication, data storage and access, and collaborative work.
  - **Mobiles** are a category that defies long-term definitions. Mobiles, especially smartphones and tablets, enable ubiquitous access to information, social networks, tools for learning and productivity, and hundreds of thousands of custom applications.
  - **Open content** is the current form of a movement that began a decade ago, when universities such as MIT began to make their course content freely available. There is a growing variety of open content from K-12 organizations and schools, and in many parts of the world, open content represents a profound shift in the way students study and learn.
  - **Game-based learning** has grown in recent years as research continues to demonstrate its effectiveness for learning. The greatest potential of games for learning lies in their ability to foster collaboration and engage students deeply in the process of learning.

- o **Learning analytics** loosely joins a variety of data gathering tools and analytic techniques to study student engagement, performance, and progress in practice, with the goal of using what is learned to revise curricula, teaching, and assessment in real time.
- o **Personal learning environments** (PLEs) refer to student-designed learning approaches that encompass different types of content — videos, apps, games, social media tools, and more — chosen by a student to match his or her personal learning style and pace.

2. <u>**Cattaraugus Allegany Distance Learning**</u>
   - The Cattaraugus Allegany BOCES offers many distance learning opportunities for districts, including: virtual field trips, collaborative connections, RealNet courses, online learning courses, and other opportunities.
   - **Classroom-to-Classroom Connections/Collaborations** can be conducted globally or nearby for project sharing, pen pals, cultural exchange, etc.
   - **Distance learning courses** are being offered by many Western and Central New York BOCES schools offer, which include high school and college courses that are available to take or teach "real time" via videoconferencing technology.
   - **Moodle Online Course Management System** allows teachers to create media-rich online courses with organized lessons, archived material year-after-year, and embedded digital content. Moodle enhances 21st century skills and engages students with a blended (classroom and online) learning approach providing access to teachers, students, and parents to course material anytime, anywhere.
   - **Adobe Connect Presenter** is an enhancement to PowerPoint that allows teachers or students to create presentations or run e-learning courses. This allows students, parents, or the community to have access to lectures, assignments or special projects anytime, anywhere.
   - **Adobe Connect Live Meeting** allows meeting presenters to share their screen with anyone, anywhere with real-time or archived presentations. Much like a webinar, the host is able to share files, PowerPoint presentations, or control other users' screens.
   - **Virtual Field Trips** can help students travel around the world, into space, and even back in time. Virtual field trips and collaborations can heighten students' motivation and memory retention, improve communication and presentation skills. The visual connection and interaction leaves a distinct impression and provides a forum for a greater connection with the outside world.

3. **Harvard Extension School**
    *   The Harvard Extension School is one of many individual schools "under the umbrella" of Harvard University. HES provides onsite and distance education to adults seeking education including a certificate, an undergraduate degree, to a master's degree.
    *   HES allows for educational opportunities for many students, often across the world. Distance education is not anything new, but the complex infrastructure that has been created at Harvard for their online classes is second to none.
    *   The videos provide lecture time for distance students, and all course materials are available on the website as well. Creating this basic structure will provide for new educational possibilities in the future for our students in the classroom to "break down" walls of education.
    *   Link: http://extension.harvard.edu

4. **The Metro School**
    *   The Metro School on the campus of The Ohio State University is a public school where students are concurrently enrolled in their home district and Ohio State University. Metro is designed to serve students who want a personalized learning experience that prepares them for a connected world where math, science and technology are vitally important.
    *   The curricular approach to instruction has a dual focus: literacy (math and reading) and real world investigation (social science, life science, and environmental science). This approach emphasizes the importance of a fluent knowledge of mathematical and scientific process, application through more in-depth science exploration, elements and aspects of design, and innovation. Students must demonstrate their ability to communicate numerically, graphically, algebraically, verbally, and in writing their understanding and evaluation of empirical evidence in all that they do.
    *   Metro has a holistic approach to educating the students—focusing on cognitive, social, emotional and physical development through experiential learning, service learning and family and community support.
    *   Metro is expanding the offerings available through its Early College Experiences. Each is open to juniors and seniors at high schools throughout Franklin County.
    *   The Experiences include high school credits for certain subjects, as well as internships and the opportunity to earn college coursework. Students remain at their home schools while participating in the Experiences. These programs give students hands-on learning experiences like no other.

5. **LaGuardia High School of Music & Art & Performing Arts**
    - Specializes in the Arts: Music, Drama, Art (Like Fame), giving the arts equal footing with the academics.
    - Regents and AP courses offered and teaches new Common Core Standards.
    - CFI teams utilize SMART team goals and investigate the practices that are working and not working for particular children. Strategic changes are made, e.g., meet to address new common core learning standards.
    - Teachers recognize the value of interweaving arts and academics in the dual-mission school. "It takes as much time and effort to train a concert violinist as it does a train neurosurgeon."
    - 21st Century Opportunities include actual performances, etc.

6. **Missoula County Public Schools, Montana**
    - The district is in the process of implementing a model of change called the 21st Century Initiative.
    - Change elements include:
        1. Increase student engagement
        2. Transform Learning Environment
        3. Support Early Innovators
        4. Personalize Professional Growth
        5. Enhance Communication
        6. Collaborate to Make Decisions
    - Work groups formed to investigate:
        - Leadership- structure of school and educators
        - Student Outcomes- What should they include? How can students demonstrate mastery? What can teachers do to support them?
        - Instruction/Design/Pedagogy- Ways to foster mastery of outcomes; project-based, authentic assessment, active learning environment
        - Professionalism- Ways to shape expectations for teachers going forward; support them in their professional growth
        - Learning Environment- Technology and community resources; how to arrange classrooms
        - Communicating/messaging- Ways constituents could be supportive to engage

7. **Alignment of the Common Core Math Standards with 21st Century Framework for Learning**
    - There are opportunities to align the Common Core Learning Standards with the 21st Century Framework for Learning.

One example includes:

- The **Standards for Mathematical Practice:**
    - Make sense of problems and persevere in solving them.
    - Reason abstractly and quantitatively.
    - Construct viable arguments and critique the reasoning of others.
    - Model with mathematics.
    - Use appropriate tools strategically.
    - Attend to precision.
    - Look for and make use of structure.
    - Look for and express regularity in repeated reasoning.
- The US Department of Education is funding the development of new common assessments that will include online simulations, performance tasks and project-based assessments. To prepare students for these new assessments, we need to focus our attention on the following:
    - Challenging, non-routine problem solving
    - Provide for interdisciplinary learning and project-based assessments
    - Update our curriculum so that it is in alignment with the CCLS.

8. Career & Technical Education

- Academic Integration Models:
    - CTE courses can fulfill academic requirements and also meet entrance requirements of a community college.
    - California: high school career and technical education courses meet University of California "a-g" Admission Requirements
    - Integrating core academics with career technical education courses raises expectations and increases rigor and relevance
    - Increases the enrollment in CTE courses
- Early College in High School:
    - Early college high schools blend high school and college in a rigorous yet supportive program, decreasing the time it takes to complete a high school diploma and the first two years of college.

- Students can earn both a high school diploma and an associate degree, or up to two years of credit toward a bachelor's degree
- Electives follow a career path
- Based on the principle that academic rigor, combined with the opportunity to save time and money, is a powerful motivator for students to work hard and achieve goals
- 230 schools in 28 states and the District of Columbia (Indiana)
- Career Academies:
  - Small learning communities
  - College-prep curriculum with a career theme
  - Partnerships with employers, the community, and higher education
  - Effective reform due to their rigor, relevance, and relationships
- Middle School
  - Acceleration of CTE/Career Cluster courses in Middle School (Available all over the country, including the Capital Region)

9. **The Montessori School of Schenectady (Interview with Jodi McClenan).**
- Typically, the children are able to work in small groups and teachers can tailor projects to meet the needs of the individual students.
- An integral aspect of the Montessori School entails project based learning allowing for differentiated instruction.

10. **Imagine Schools (www.imagineschools.com) (Interview with Dennis Bakke, CEO and CO-Founder)**
- Imagine School operated 73 Charter School in 12 states, with 40,000 students and 3,500 teachers.
- The Imagine Schools follow a decentralized leadership approach resulting in high levels of employee satisfaction and dedication.
- The Shared Value of Fun at Imagine Schools – decentralized leadership, freedom with responsibility, utilizing each person's gifts to their maximum, and giving decision-making power to people closest to the action. This approach

empowers teachers and staff and gives them the freedom and flexibility to apply the best learning models to meet each student's unique needs.

- Imagine Schools places a heavy emphasis on utilizing learning games for teaching.
- Imagine Schools makes every effort to design each school's educational program to match the needs and interests of the individual students and communities they serve.
- Imagine Schools emphasizes the need for parents and the community involvement in shaping the school. Each year Imagine School conducts an Imagine Schools Family Survey to gauge how the schools are performing relative to the parent's children.
- From classical education to direct instruction, Imagine schools offer a variety of curricula and approaches, with a framework of strong programs and accountability.
- Below is a list of the different curriculum Imagine Schools have implemented at their school based on teacher and parent interests.
  - Standards Based Curriculum
  - Core Knowledge
  - Direct Instruction
  - The International Baccalaureate
  - Micro-Society
  - Great Books
  - Arts or Sciences Focused School
- Imagine Schools measures the students at the beginning of the year and then at the end of the year to assess progress made, learning, proficiency in subjects and character development.
- The school's Measures of Excellence include: Academic Achievement; Positive Character Development; Shared Values (Integrity, Justice and Fun); Parent Choice; and Economic Sustainability.
- Imagine's professional development is strengthened by having a network to share experiences, successes, and techniques for improved learning.
- The Imagine schools deemed exemplary focused on the following themes: consistency of and creativity in teaching; a personalized curriculum; engagement of students; relations with the outside world; and inspirational leadership."

11. Tech Valley High School
- TVHS is a total project-based and interdisciplinary learning environment with a strong emphasis on 21st Century Skills.
- TVHS operates on the premise that if their school was serious about preparing graduates for the challenges they will face after graduation, they needed to consider revamping how they approached teaching and learning.

12. Project Lead the Way
- New Hartford High School has had Project Lead the Way for 12 years. PLTW works with schools and districts to support the implementation of effective Science, Technology, Engineering, and Mathematics (STEM) education programs. As stated in the program description, the PLTW Innovation Zone (aka the classroom) is an engaging and thought-provoking place, where students develop critical thinking skills through hands-on project-based learning, preparing them to take on real-world challenges. Students have the opportunity to create, design and build things like robots and cars, applying what they are learning in math and science to the world's grand challenges.
- PLTW programs are designed to serve middle school and high school students of diverse backgrounds from those already interested in STEM-related fields to those who are more inspired by the application of STEM than they are by traditional mathematics and science courses.
- PLTW classes are taught in school during the school day, and every instructor of PLTW courses receives extensive training as well as ongoing support in the courses they teach. While the STEM subject matter is rigorous, the approach is never rigid. That's because the PLTW program provides a flexible curriculum platform schools can customize to meet the specific needs of their academic environments.
- Over the last several years, numerous academic institutions have released reports confirming PLTW's success in engaging the hearts and minds of students through STEM education. The studies are all unique in how they were conducted. However, the results say the same thing: PLTW is igniting the imagination and innovation of students through learning. In addition, assessment and evaluation are critical components of PLTW's program, which PLTW uses to improve its course offerings.
- PLTW's comprehensive curriculum emphasizes critical thinking, creativity, innovation, and real-world problem solving. Each course curricula represents a complete package, which allows the instructor to focus on teaching, student achievement, assessment and professional development.
- The hands-on, project-based program engages students on multiple levels, exposes them to subjects that they typically would not pursue, provides them with a strong foundation for achieving their academic goals in any chosen field of

study and, if pursued, establishes a proven path to college and career success in STEM related industries.
- The school feels very strongly that the program positions students very well for college. They believe the program was worth the large initial investment.

13. Schools Replace Textbooks for iPads
- More than 600 school districts have launched one-to-one computing programs with iPads, in which at least one classroom of students is getting iPads for each student to use throughout the day.
- The iPads are economical, generally costing districts $500 each. Schools estimate they spend at least that much every year on textbooks, not including graphing calculators, dictionaries and other accessories they can get on their iPads.
- They include interactive programs to demonstrate problem-solving in math, scratchpad features for note-taking and bookmarking, the ability to immediately send quizzes and homework to teachers, and the chance to view videos or tutorials on everything from important historical events to learning foreign languages.
- iPads are popular in special education classes and for students who learn best when something is explained with visual images.
- Textbook-free schools share experience and insight. Virginia conducted a pilot program putting Virginia's 4th, 7th and 9th grade social studies curriculum on an iPad. The VDOE technology director said they found increased engagement and a lot more opportunities for self-directed learning. "Students clearly liked having access to the apps. They found it very engaging, and they also liked the fact that you could instantly access the internet from the same device. Teachers indicated that with the devices in their hands, students were able to engage in independent learning and were able to get instant feedback based on their own performance. Teachers were able to work with students and groups, and it freed up the teachers to circulate in the classroom."
- It is important to make sure teachers have the support they need so they're not just using the iPads as a textbook replacement. Another challenge was students' desire for more content. "The students wanted more games, they wanted more interactivity- they were engaged so much by what they were doing that often their response was 'Give us more.'"

14. Twenty-One Signs You're a 21st Century Teacher

- Written by Lisa 27 October 2010 243 Comments
- You require your students to use a variety of sources for their research projects...and they cite blogs, podcasts, and interviews they've conducted via Skype.
- Your students work on collaborative projects...with students in Australia.
- You give weekly class updates to parents...via your blog.
- Your students participate in class...by tweeting their questions and comments.
- You ask your students to study and create reports on a controversial topic...and you grade their video submissions.
- You prepare substitutes with detailed directions...via Podcasts.
- You ask your students to do a character/historical person study...and they create mock social media profiles of their character.
- Your students create a study guide...working together on a group wiki.
- You share lesson plans with your teacher friends...from around the globe.
- Your classroom budget is tight...but it doesn't matter because there are so many free resources on the web you can use.
- You realize the importance of professional development...and you read blogs, join online communities, and tweet for self development.
- You take your students on a field trip to the Great Wall of China...and never leave your classroom.
- Your students share stories of their summer vacation...through an online photo repository.
- You visit the Louvre with your students...and don't spend a dime.
- You teach your students not to be bullies...or cyberbullies.
- You make your students turn in their cell phones before class starts...because you plan on using them in class.
- You require your students to summarize a recent chapter...and submit it to you via a text message.
- You showcase your students' original work...to the world.
- You have your morning coffee...while checking your RSS feed.
- You are reading this.
- You tweet this page, blog about it, "like" it, or email it to someone else...
- BONUS 22: You're a member of the *Teacher Learning Community*...or have encouraged a teacher to join!

Appendix C: BH-BL Technology Status Report December 13, 2011:

1. **Fiber Cable Connections**

   Problem: The existing microwave towers have a maximum speed of 45 mbs, thereby limiting existing equipment from functioning at their maximum capability. Internet speed is too slow, thereby negatively impacting our ability to utilize digital media. For instance, as video conferencing providers switched from ISDN to IP connections, teachers have stopped providing students with video conferencing experiences, because connections have degenerated.   Also, heavy rains and/or a buildup of ice have stopped microwave towers from functioning.
   Solution: The elementary schools need to replace the microwave towers with fiber connections. (Middle school and high school are already complete.)
   Estimated cost: $43,200 per year, plus $ 22,000 hardware installation. Hardware installation cost is for first year only. (The district is currently paying $22,000 per year for microwave service/maintenance, which will no longer be needed.)
   Status: All elementary school microwave towers have been replaced with fiber connections for data transmission.

2. **Wiring Closets**
   Problem: The switches in the wiring closets are old, incapable of true gigabit speed and cannot be configured for multicasting (the delivery of information to a group of destination computers simultaneously in a single transmission). The present configuration prohibits BHBL from incorporating video servers, accessing Internet2 resources, and generally moving forward with the latest technologies.
   Solution: All school buildings need updated wiring closet hardware.
   Estimated cost: $245,000
   Status: High school and middle school wiring closets were completely updated with new equipment during the summer 2011. This will allow us to move the better managed smart switches from these schools to replace older, unmanaged switches in the elementary schools in January 2012.

3. **Wireless Infrastructure**

   Problem: Connections to the wireless network is unreliable. The present access points are "home" devices installed in classrooms. This placement of devices does not allow for students and staff to have guaranteed, "any where – any time", connections; the network connection can be lost in an unpredictable manner. This present configuration will prohibit BHBL from moving forward to incorporate new, handheld, wireless technologies.

   Solution: Install professional Cisco wireless access throughout all school buildings.

   Estimated cost: $230,000 (The cost to provide cabling between the wire closets and the wireless access points was not specifically addressed in your report. Neither the equipment vendor (Annese) nor BOCES included these costs; however, they estimated that we could do it for $20,000. Since we have an electrical project at the High School this summer, we have asked the contractor for a price quote and the cost would be aidable under our capital construction costs.)

   Status: Professional Cisco wireless access points were installed in the high school and middle school during the summer 2011. The middle school has been tested and the access points are now being utilized at full capacity. The high school is being cabled and will be operating at full capacity no later than January 1, 2012.   This will allow us to move the present "home" access points from the high school and middle school and saturate the elementary schools, allowing for greater wireless access in the elementary schools in January 2012.

4. **Existing Servers**

   Problem: The file, mail, and web servers presently installed lack the storage space, speed, and overall capacity to move forward with new technologies and standards. For example, we do not have a video server; streaming video as part of the instructional program is erratic. We cannot run the latest version of our email software, First Class, nor install an email archiving solution to facilitate email retrieval in an efficient manner, as required by State and Federal standards. We cannot guarantee teachers and students with the necessary storage space to house their essential curriculum files.

   Solution: Install the necessary new servers and/or migrate to "the cloud", which entails housing the servers at an application provider, e.g., BOCES.

   Estimated cost: $20,000

Status: The district is exploring storage options in the Cloud, at BOCES, and/or purchasing newer servers to be housed at BH-BL with an anticipated implementation date of September 2012.
The video services from BOCES do not appear to be sufficient to fulfill the district's future media production needs. We will install our own media production server no later than Fall 2012.

5. **Telephones**
   Problem: Our phone system is outdated to the point that replacement parts are no longer available, and is unable to support current functions, such as surveillance monitoring, conferencing capabilities, etc.
   Solution: Install a Cisco IP phone system.
   Estimated cost: $245,000
   Status: The upgrades to the high school or middle school will enable us to install a new IP phone system in these buildings.
   Installation cost for the items listed above is $140,000.
   Prepared by:
   Rick Evans
   John Capano

Appendix D 21st Century Instructional Committee Input from Departments and Buildings:

21st Century Input/Bond Referendum
ELEMENTARY SCHOOL INPUT

Using the 21st Century Framework as a lens, what direction would the educational professionals in departments (secondary) and buildings (elementary) like to take during the next 5-10 years in terms of instruction and program to best prepare our students for success?

➢ Increase direct instruction of:
   o Use and application of a variety of media and research sources when writing to inform as well as writing to persuade.

- o Visual learning tools as they relate to content areas, e.g., maps, graphs, concept maps, graphic organizers, etc.
- o Online reading, e.g., how to navigate the Internet and determine reliable information
- o Multi-culture texts – both fiction and nonfiction – in order to provide a global context.
- o High-order thinking and critical analysis skills, e.g., text-to-text connections; text-to-self connections; text-to-world connections; compare/contrast; informational inquiry and evaluation.
- o Online reading and writing.
- o Strategic and capable use of digital media for a variety of purposes and tasks, e.g., learning, communicating, presenting, and enjoyment.
- ➢ Differentiate/Enhance instruction through the use of non-print/ multimedia experiences, e.g., screen reader technology, i-Pads, play-aways (books on MP3), electronic texts, speech-to-text technology, play lists, interactive smart boards.
- ➢ Provide varied opportunities for students to apply their literacy skills, thinking skills, research skills, and presentation skills with different technologies in contexts that are applicable outside of the classroom.
- ➢ Provide THINK time for students - It's critical for promoting creativity and creative thinking as well as for problem solving.
- ➢ Increase use of a variety of student performance data and formative assessments to guide and differentiate instruction.
- ➢ Further use of the ELA curriculum to support tolerance, character development, teamwork, citizenship, and the understanding of other perspectives and cultures.
- ➢ Provide a balance of interpersonal interactions and independent practice in order to build the skill of teamwork, collaboration, problem solving, adaptability, and critical thinking.
- ➢ Embed meta cognitive/self-assessment strategies throughout the ELA instructional program.
- ➢ Monitor and assess the ELA curriculum and instructional program, on an ongoing basis, in order to:
  - o Ensure alignment with the ever-changing social and cultural issues relevant to students of the 21st Century.
  - o Ensure alignment with NYS Common Core State Standards.
  - o Ensure it exemplifies what it means to be a literate person in the 21st Century.
- ➢ Instructional use of individual electronic devices in order to maximize instructional time, engage/enhance learning, and individualize/differentiate instruction e.g., class sets of i-Pads, class sets of e-readers.
- ➢ Continue small/manageable class sizes: 21 or less for the primary grades.
- ➢ Scheduled time in the computer lab, beginning in Kindergarten, with a full-time computer tech at each school to provide direct instruction and support. Full Day Kindergarten program to provide more time for hands-on developmentally appropriate learning and more time for small group instruction to meet individual student's needs.

- More time and resources for kindergarten students to investigate through play, hands-on activities and role play to practice skills such as communication, problem solving, teamwork and creativity.
- Strong two tier RTI intervention options, developing a more comprehensive plan for student with multiple disabilities.
- Better access to assistive technology training, particularly for students with severe communication delays
- More Teacher Assistant support to help implement differentiated lessons; enrichment reading for high achieving students, extra small group support for students struggling with reading, writing and math and for the purposes of inclusion and transfer of skills taught in the special ed setting.
- Restore the Open Door program, so that children in need can be taught social strategies and coping skills.
- Smaller student numbers for group therapy sessions for optimal student progress.
- Better partnership between AIS, regular education, and special education to allow more fluid intervention services.
- A general outline of grade level technology expectations.
- A technology binder of lesson plans and resources.
- More support to teach technology; current and relevant training.
- Restore computer T.A. or hire full time technology instructors to help provide instruction and support teachers if issues arise while implementing technology (e.g., coordinate getting laptop carts unlocked and into classrooms.) Class computer sessions need to be at least 45 minute long.
- More time in the library/research center to learn research skills and grow into readers-library users (not all families can afford to buy books, Kindles, Ipads, etc. to research and read.)
- Restore library clerk or assistant position to help further develop research projects.
- Differentiate literacy and content area instruction through the use of:
  - Electronic readers
  - Electronic textbooks
  - Text-to Speech technology
  - Skype
  - Virtual tours
  - PowerPoint
  - Online remediation tasks/activities

What measures can the district take to provide our staff and students with the space, infrastructure, and technology necessary for success in the 21st Century?
- Space to accommodate full day kindergarten programs.

- Infrastructure needs to be able to support 21st century technology (internet speed and reliability). Higher broadband width both in the classroom and the computer lab, newer updated classroom equipment that is reliable.
- Grant applications, donations, purchases of Ipads for students with multiple handicaps and purchases of Sound Field Systems for students with ADD and Auditory Processing Deficits.
- District wide survey to determine what the "family unit" is of our student population to allow us to see the big picture and address the "whole child."
- Find ways to help students with incarcerated parent(s), suffer from domestic violence issues and are from a lower socio-economic status leaving them unable to access technology.
- Increase network capacity; reliable, fast computers in classrooms and the computer lab so students and staff can successfully blog, research the web, play educational games, participate in interactive lessons, skype, create podcasts, practice math facts and spelling. Computers that are slow or crash not only waste time but leave students feeling frustrated with technology.
- Laptop batteries need to be updated. Additional working laptops are needed for the downstairs.
- Make all campuses in the district wireless
- New computers and latest software for all teachers
- Classrooms equipped with:
    - Additional computers/class sets of electronic readers and i-Pads
    - Digital audio books/play-aways
    - Software and applications for tech devices
    - Smart Boards/Computer with projector
    - Skype/Video-Conferencing access and ability – Laptops with camera
    - Tech devices for home use and/or after school computer lab hours

21st Century Input/Bond Referendum
O'ROURKE MIDDLE SCHOOL INPUT

Using the 21st Century Framework as a lens, what direction would the educational professionals in departments (secondary) and buildings (elementary) like to take during the next 5-10 years in terms of instruction and program to best prepare our students for success?

> **In addition to the incredible contributions of the departments, the following suggestions are made to encourage discussions of vision to support curriculum initiatives**

- Current and relevant teaching methodology that include practices that encourage critical thinking and analysis.
- Integrated classrooms grouped heterogeneously with students with disabilities. Looking at co-teaching/inclusion model for delivery of instruction. Addition of Life Skills and Spectrum classes to give the district the option of bringing back students from out of district. Adaptive technologies should be explored.
- Activities that encourage team work, team building, goal setting and communication.
- Opportunity for cultural awareness using technology such as Skype, Video streaming and virtual field trips to explore and meet students around the world.
- State of the art technology and resources available for students
- Opportunity for on-line classes for students
- Opportunities for business/classroom mentorship

To support the recommendations of teachers and departments, administration will look to the creation of a master schedule that accommodates both primary and team time. Investment of solid staff development to introduce new concepts and the use of technology are a priority. The recommendation of an integration specialist was given by the Math department. That position would be ideal for every department.

We have a vision of preparing students to be "globally competent", and able to utilize the most innovative technology to support and communicate their thinking. Middle school students are best served when they are given opportunities to talk and share, integrate their ideas and find purpose and meaning in their learning.

Global competency requires global awareness. Introducing students to more sophisticated media and communications, increasing world language opportunity and exposure will help bring cultural awareness and sensitivity.

Offering STEM or introduction to STEM courses for PACE, advanced students to enhance and explore mathematical and scientific interest.

Re-develop OASIS program to include project-based/work related activities. Offer work-related off-campus activity to support classroom instruction, and give at-risk students opportunities. Mentoring could be provided by local business to help students find meaning and relevance in their school experience.

What measures can the district take to provide our staff and students with the space, infrastructure, and technology necessary for success in the 21st Century?

- Technology, Technology, Technology
- Infrastructure to support technology
- Re-design building layout to accommodate additional classrooms that offer STEM classes, additional computer labs, "media" room with TV's, world access, state of the art technology, access to electronic national databases and libraries for research. (Suites)
- Updated telephone/intercom/security system
- Outdoor classrooms, greenhouses, windmill capability, experimentation in farming methods and energy
- Each classroom re-designed to be laboratories for learning. Equipped with current and relevant resources. Look at appropriate furniture. Could laptops, ipads or netbooks replace our paper and pencils?

21st Century Input/Bond Referendum
BH-BL HIGH SCHOOL INPUT

Using the 21st Century Framework as a lens, what direction would the educational professionals in departments (secondary) and buildings (elementary) like to take during the next 5-10 years in terms of instruction and program to best prepare our students for success?

- Increase instructional methodologies and where appropriate, course offerings in:
  - Real-Time Communication in a variety of settings including virtual tours, video conferencing, global trading and collaboration within our district, state, nation, and world.
  - Technical literacy including technical writing, digital literacy, technical reading, media comprehension, keyboarding proficiency, effective software application, etc.
  - Financial literacy skills
  - Career development skills including resume creation, interviewing skills, career seminars, etc.
  - Science, Technology, Engineering and Mathematics (STEM)
  - Comprehension, analysis, and critique
  - Higher order thinking skills and critical analysis skills
  - Problem solving and critical thinking skills
  - Interpersonal and teamwork skills
  - Develop integrity, ethics, tolerance, responsibility, and citizenship

- o Presentation skills
- o Web/internet navigation for research skills with an understanding of valid, reliable sources of information
- o Use of class sets of individual electronic devices in order to maximize instructional time, engage learners, and differentiate instruction
- o THINK Time for students-a reflective time that provides opportunities for creativity and innovation
- o Increase community partnerships:
  - To provide additional opportunities for students in relevant, real-world experiences through field trips, job shadowing, and internships.
  - To provide opportunities for teachers to partner with post-secondary instructors and professionals to develop relevant, real-world instructional experiences.

What measures can the district take to provide our staff and students with the space, infrastructure, and technology necessary for success in the 21st Century?
- o Facility expansion and upgrades to support 21st century learning (i.e. SMART classrooms; facilities to design and deliver alternative instructional delivery models; music / art computer lab; language lab; renovated media center; renovated gym, track, and locker rooms; fitness center expansion; turf field; additional science labs and classroom space; and green energy for building use and instruction)
- o Infrastructure to support necessary bandwidth and electrical demands of the 21st century SMART classroom
- o One-on-one student computing

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21st Century Input/Bond Referendum
FINE ARTS INPUT

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Using the 21st Century Framework as a lens, what direction would the educational professionals in departments (secondary) and buildings (elementary) like to take during the next 5-10 years in terms of instruction and program to best prepare our students for success?

What do we think it will look like?

The rapid rate of change and evolution in technology and education makes a response to the question about future (5 to 10 years) directions almost impossible to respond to. Educational leaders are asking what students need to know, what they should be taught, how we can better prepare them for the changing future. Recent meetings held by the New York State

Commissioner of Education were wide ranging in scope with new ideas being presented about graduation requirements, college work force preparation, length of school day/school year, how to assess students of today, how to stimulate the mind of the disinterested, and a host of other topics. Nationwide, budgets are being reduced, teachers laid off, competence of administrators and teachers questioned and worried eyes look towards growing third world countries. Technology is growing and changing almost daily. Information volume is overwhelming. The way we communicate at the most basic level has changed in just a few short years. In this context we are asked what it will look like in the future.

As we as art and music educators discussed this topic it became clear that the future will be many faceted. Students will still need to know how to draw, paint, sing, read music, create, interpret, evaluate, and communicate through images and sound. We will still be teaching communication skills, problem solving and critical thinking skills, teamwork and collaboration, how to analyze synthesize and critique information. Creativity and innovation will still be at the core of our being. Our students will learn how to be adaptable and still be very good at productivity in our product oriented discipline. We will still need brick and mortar facilities where the basic concepts of the arts are taught and works of art are created. Art will still be made, performances will still happen, and centuries of visual and performing arts will still be studied. All classrooms will still need the ability to reproduce images and sound, the basic requirements for any art/music study. What will change is the variety of tools used to gain the knowledge, produce the art and share it. What will change is how you participate in the arts and where your audience is located. What will change is the very nature of the products we produce and how we disseminate information about our product, our creations, and our artwork.

In music education we envision music education as a combination of traditional singing, movement, creating, performing and the integration of technology that allows you to see, hear, create and share music from and with the entire world. The music classroom would have traditional classroom instruments, basic sound and image reproduction, as well as technology to compose, create, and explore sound in all its forms. In the secondary years the music student will be exposed to a variety of fields that integrate music and other disciplines and will be making entire animations with sound, movies with sound, video game sound tracks, music videos, and composing electronic and traditional ensemble music using notation software. That same student would also be in the practice room working on a flute solo, band music, and choral music, assisted by a computer that will track progress, assess errors, make reports to teachers from home and school, and generate a fluid accompaniment.

Our visual art classrooms would be very similar in that they too would combine the old and the new to produce students with outstanding traditional foundations and skills and the understanding of how we use them with new tools in new

settings. Skills of basic drawing, 3 dimensional design, creativity and critical evaluation would still be the foundations taught in our classrooms. We will still require basic sound and image reproduction equipment. New technologies such as drawing tablets, I –Pads, drawing software, advertising and design software will enable our students to create and interact with the many electronic sources of art and commerce available in this growing communication age. Our students will use acquired skills to engage in electronic animation, movie making, advertising design, computer based drawing yet still get their hands dirty with glue, paint and clay.

Visual arts and music students would be collaborating in many types of projects in the same space. Art and music, sound and image will come together.   Students in the arts and students in business classes would be collaborating on advertising and marketing as highly visual and sound rich adverting promotions for new products are developed. Students in the arts would be involved in collaboration with business and industry where interns could learn the latest techniques in graphics, advertising, web/game design, movie producing, music industry, arts management, recording industry while still aspiring to be artists and performers.

The famous line "the whole world is a stage" was never more true than it is now. As we look towards the future we will still be on stage performing but recognize that the stage is now worldwide and that the tools to practice our craft are constantly evolving.

Space, Infrastructure and Technology Needs
MUSIC

- Replace Yamaha Music In Education Lab at Middle School

Purchased in 1994, the Yamaha Music in Education keyboard lab is a sequential   middle school general music curriculum where hundreds of lessons utilize small piano keyboards controlled by computer software to deliver and assess musical concepts. Highly successful as an instructional tool throughout the world, our Yamaha system, MIE #1 is obsolete. Yamaha no longer supports the software or supplies replacement parts or service. Yamaha is currently manufacturing the MIE #3 system. As with all technology, the latest generation is vastly improved when compared to what we currently have.

- Construct 3 new SMARTMUSIC equipped practice rooms (in existing space) and renovate three existing practice rooms at the high school to include SMARTMUSIC. Equip two rehearsal rooms and one practice room at the middle school with SMARTMUSIC.

SMARTMUSIC is software that allows a student to use a laptop and audio speakers to practice solo literature, ensemble music, and technical drills with the aid of computer playback and evaluation software. Using SMARTMUSIC a student would be assigned an entire piece or segment of Band/Orchestra/Chorus music. That student would log onto his or her profile on SMARTMUSIC in a practice room and engage in guided practice. SMARTMUISC shows the student errors, does evaluation and report, will work at any speed needed, and provides the teacher with a report of time and accomplishment. With 6 practice rooms equipped with this we could see a significant increase in student performance and individual progress. SMARTMUSIC also comes with and option for students to purchase a subscription for home use where they could use their own home computer to engage in guided music instruction with direct report to the classroom teacher. We see this as a tremendous tool to increase home practice.

- Equip all music classrooms and rehearsal rooms in the district with large screen (52 inch in some of the rehearsal rooms) display, easy/direct computer access on the cart or hardwired to the display, and quality audio speakers. Provide one handheld digital audio recorder for each performance room.

One of the most basic requirements for any music classroom is to have the ability to view and listen to performances from the internet or C.D. /DVD in high quality. At this time many of our classrooms and rehearsal rooms do not have this ability or have only part of these capabilities. Some have computers with 15 inch monitors and internal computer speakers. Some have monitors on carts without computers. Some have monitors and computer on carts with very small speakers. Some rooms require that each time you use the playback system you have to run cable from a distant computer to the display device. Few have any kind of quality speakers. A handheld digital recorder will enable teachers to record rehearsals and lessons and playback through the audio system for immediate critique, discussion and evaluation.

- Construct music/art computer lab for use in high school elective music program.

Currently Music Technology and You and Music Theory use P.C. software on various computer labs that are available in that particular bloc. They have used the CAD lab and 105 lab in recent years. There are no keyboards or recording

capabilities so the ability to produce compositions, produce soundtracks, manipulate sound and save it, is very limited. The industry standard is Macintosh platform and associated software such as the I-Suite and Garage Band.

ART

- Replace existing high school art rooms with four full size Studios, adjoining Kiln room hallway display area and art/music computer lab.

    The existing art rooms are not adequate for art instruction and are separated from each other. The kiln area is small and the display area in the vicinity is   inadequate. Current rooms are crowded, have no storage, no wall space for   display, have poor lighting and are often multipurpose with clay and drawing work done in the same area. A shared art/music computer lab would meet the needs of both departments and allow for efficient schedule, interdisciplinary work (movie, animation) and allow both to utilize industry standard (Macintosh) platform.

- Equip all art classrooms and rehearsal rooms in the district with large screen (52 inch in some of the rehearsal rooms) display, easy/direct computer access on the cart or hardwired to the display, and quality audio speakers.

    Similar to the music proposal, the ability to show images with quality sound is basic to each art room. Many of our art rooms do not have this entire capability. Some have carts with computer and large monitor but no quality sound. Some have ceiling mounted projectors with no sound. The ability to show images from CD/DVD and the web as well as and take virtual tours of museums and collections is the desired outcome.

21st Century Input/Bond Referendum
LIBRARY MEDIA CENTER SCHOOL INPUT

Using the 21st Century Framework as a lens, what direction would the educational professionals in departments (secondary) and buildings (elementary) like to take during the next 5-10 years in terms of instruction and program to best prepare our students for success?

    Reinject academic rigor -- seems we have watered down our research requirements – We would like to see every grade level, K-12, use an inquiry-based model for curriculum-related research and related projects. The demands of the 21st century require students to read for information, synthesize, and report in a meaningful way.

What measures can the district take to provide our staff and students with the space, infrastructure, and technology necessary for success in the 21st Century?

 If we want teachers to incorporate more technology and Internet-dependent activities, then we have to boost our technology power -- not with more "stuff" but with more bandwidth and updated machines. Fix and support what we've got before we add to our technology load Also, staff and students need to spend more time learning about the technology we already have here--from Flip cams/movie editing programs to databases to Publisher to whiteboards to Elmos before we focus on adding anything else. We should make sure that all student are proficient in basic computer skills - such as saving and converting files, using the server from home, or a jump drive, etc.

21st Century Input/Bond Referendum
PHYSICAL EDUCATION INPUT

Using the 21st Century Framework as a lens, what direction would the educational professionals in departments (secondary) and buildings (elementary) like to take during the next 5-10 years in terms of instruction and program to best prepare our students for success?

> Increasingly, our schools are critical to bringing our communities together. We want them to serve the public not just during school hours but after hours: to function as vital community centers; places for recreation and learning, positive places where children can be when they can't be at home and school is no longer going on; gathering places for young people and adults alike. Bringing our schools into the 21st century is a national challenge that deserves a national commitment."

> William Jefferson Clinton
> President of the United States
> July 11, 1996

Statement of Philosophy from BH-BL Athletic and Physical Education Director

Sports play an integral role in the physical, emotional, and character development of young people and help to define a school district by virtue of the public representation of its sports teams.

Participation in sports (through Physical Education, Interscholastic Athletics, and Recreational programs) provides an important opportunity for young people to develop good health, competence, self-confidence, and character. Parents, coaches, teachers, and school administrators support accomplishment of these goals, through encouragement, teaching of skills, promotion of teamwork, and demanding commitment.

Interscholastic athletics and other organized sport programs provide young people opportunities to develop themselves as leaders and role models. Student athletes represent their school, community and families. These opportunities allow student athletes to learn and practice ethics and skills that will serve them well later in life. This includes such things as:

- Self-discipline
- Decision-making
- Problem-solving
- Commitment to good health and fitness
- Communication

As Director of Athletics and Physical Education, I believe it is my responsibility to recruit and develop a staff that embraces this philosophy, and to advocate for the provision of appropriate facilities and equipment to insure that the New York State Physical Education standards and National Fitness standards can be met, to help student-athletes maintain competitiveness in interscholastic endeavors; that allow for safety for participants and spectators, and that in their appearance and utility create a sense of pride in students, staff, and the community.

The 1998 and 2003 bond issues brought some improvements to the Physical Education, Athletic and Recreational facilities in the Burnt Hills Ballston Lake School District, however as with any bond issue some projects receive full funding, some partial funding and some no funds at all. Many projects proposed by our department fell into these categories. Projects that received partial or no funding in 1998 and 2003 remain on our list to be accomplished through the 2012 bond. Over the past 10 years, new needs/concerns have also arisen from the Athletic and Physical Education departments and the community. This has resulted in several new proposals being suggested for inclusion in this or future bond issues.

Capital Projects for Bond Committee

While each of the capital improvements projects listed below clearly support the mission and goals of the Athletic and Physical Education Departments, should it become necessary to scale back, items have been organized in order of priority by

the Director of Athletics and Physical Education, in consultation with PE teaching staff, BH-BL coaches, booster club representatives and various community recreation groups.

High School

1. **Replacement of Lockers in both the boys and girls locker rooms**: Replacements for the lockers have been rejected in the previous two bonds projects. These lockers are over 27 years old, and our current capacity only provides for 30% of our student population. Over the last 12 years many thefts have occurred, replacement parts are no longer available and our programs have grown to have over 70% of the student body participating in after-school programs.

2. **Gym Renovation:** *Partially completed in the 1998 and 2003 bonds.* Wall coverings and matting need to be replaced. The 16 basketball baskets are rapidly becoming a major safety concern of the department. The manual operated winching system in use is over 50 years old. This system needs annual repair and/or replacement and is difficult to operate.

3. **Track Renovation:** The current surface has reached its lifetime expectancy. The surface is cracking and texture of surface has worn to a very slick state when any moisture touches it. The District Facilities Use Committee also addressed this project back in 2006. The committee recognize the high usage, need for yearly upkeep, and aging of equipment. Having safe, functional and attractive equipment is a benefit to our entire school and community and should take a very high priority in this bond issue. Failure to resurface at this time presents safety concerns and will result in greater costs to the district in the replacement of the track.

4. **Field Turf replacement of current multi use field:** During the past ten years many local school district's have found it economically sound to add field turf to their facilities. We have our physical education program along with 8 athletic programs that would use this area along with the track. The addition of field turf would also provide maintenance staff relief of trying to provide upkeep to the number of programs (physical education, interscholastic athletics, and recreation) that use that area. Cost savings to the district would be in the tens of thousands through less maintenance and additional revenues. This is a 21st century product that is definitely needed in our district.

5. **New Gymnasium/Classroom/Fitness Center Expansion:** Over the past 16 years our programs have almost doubled in size. The district's physical education and interscholastic programs have been named the best in the state. Recreational use is at an all-time high and other district gymnasiums are maxed out with the after-school adult and recreational programs. Many local districts have added new gymnasiums and have found a great improvement in community relations

with this addition. The new facilities have also boosted another source of revenue to their districts. With the addition of the gymnasium/fitness center expansion, the BH-BL Physical Education department would have a better opportunity to maintain the fitness and wellness level of our students.. Research and the medical community have also placed an emphasis on the physical well being of our adolescents**.**

Current physical fitness testing results at BH-BL indicate that more emphasis is needed in the area of cardio-vascular and strength conditioning. The physical education staff has changed the curriculum to include more time spent on this area but with the lack of equipment and space make it difficult to reach the goals. The proposed facility upgrades will help meet those demands.

This project will include a classroom, athletic trainer room and expansion of the current physical education/wrestling room. The physical education/wrestling room currently serves as a teaching station during the school day and is used for physical fitness testing, yoga, step aerobics, self-defense training for women and low elements cooperative project adventure courses.

Interscholastic Athletics: The new upgrades will also be utilized by our 32 athletic programs, which include over 1450 student-athletes. The upgrades will provide facilities to support the development of each student-athlete's athletic ability. Fitness programs will be able to be designed to enhance individual athletic performance by focusing on drills and exercises in a number of areas. These include: strength, speed, power, agility, flexibility, endurance, body composition, nutrition, and mental toughness. All of these put together will create a student athlete who will perform at their best, as well as create a top competitor for the 21st century.

Today it is simply not enough to practice and play a sport and expect to be in condition to excel on the playing field/gymnasium. To become better athletes, our students need consistent access to appropriate training facilities for the 21st century.

Faculty and Staff: A upgrades would also be opened to our district faculty and staff. Workplace wellness is major goal of the business world. This facility will be opened to district employees to promote a sense of corporate fitness. Faculty use, in concert with student use would provide opportunities of positive faculty/student interaction and exercising faculty members would serve as role models for students with regard to maintaining healthy lifestyles throughout adulthood.

Community Use: The opening of the gymnasium/track/turf field to the community through our adult education courses is also planned. Through its use by adult education, the district could realize some financial gain.

Middle School

1. **Field Renovations:**   Proposed in 1998 and 2003 but not founded. This project includes the creation of a baseball and softball at the Middle School. Currently there are no baseball and softball fields available at our Middle School. Such fields are important to both our Physical Education and Modified sports programs. This project includes the creation of a baseball and softball field and the movement of our current football field to a different location. With the creation of these new fields, all modified programs could be operated at the Middle School location. The project would address current problems of (1) time available for after-school academic assistance, (2) transportation of student-athletes between schools and (3) traffic problems being experienced at Stevens during the spring sports season. It would also promote a greater sense of community at O'Rourke and encourage classmates to attend games.

2. **Tennis Courts:** The project would include the renovation of five courts at O'Rourke. In their current condition, two of the courts are not usable. These tennis courts are used for Physical Educations classes (100% of the student body effected), by the Junior Varsity tennis teams, and for a spring intramural program for Middle School students. Community members also consistently use the courts during after-school hours.

3. **Storage Addition:** Proposed in 1998 and 2003 but not funded. The Middle School is in desperate need of increased storage capacity. The project would help meet this need by adding additional space to the back gymnasium. This storage would be divided into two areas for ease in storage and access of equipment that is used indoors and outdoors.

The current inadequate storage facilities lead to damage and loss of equipment.

21st Century Input/Bond Referendum
CAREER AND TECHNICAL DEPARTMENT INPUT

1. **Using the 21st Century Framework as a lens, what direction would the educational professionals in departments (secondary) and buildings (elementary) like to take during the next 5-10 years in terms of instruction and program to best prepare our students for success?**
2. **What measures can the district take to provide our staff and students with the space, infrastructure, and technology necessary for success in the 21st century?**

3. MIDDLE SCHOOL TECHNOLOGY

Examples of future directions include but are not limited to:	Connection to 21st Century Framework / Future Direction of NYS / US Dept of Education	District measures needed for success
1. Continuous creation/revision of cutting-edge technology education units based on solving human and societal problems (ie. currently teaching robotics, alternative energy sources, GPS navigation systems, etc) • Ie. Utilize cell phone technology for instructional purposes	• <u>Skill</u>: Problem Solving / Critical Thinking • <u>Theme</u>: Global Awareness <u>Guiding Questions</u>: Engaging Learners	• Expand / reconfigure tech facility with at least 2 computer rooms and one manufacturing room • Include state-of-the-art equipment essential for real-life learning experiences
2. Integrate STEM connections across the curriculum	• <u>Themes:</u> Global Awareness; Energy and Sustainability • <u>Skills</u>: Problem Solving / Critical Thinking; Manage, Analyze and Synthesize Information	• Equipment and resources • Curriculum and professional development time
3. Collaborate with math and science to create interdisciplinary STEM activities	• <u>Guiding Question</u>: Partnerships • <u>Themes & Skills</u>: All as appropriate	• Have tech teachers be members of academic teams • Expand / reconfigure tech facility with at least 2 computer rooms and one manufacturing room • Include state-of-the-art equipment essential for real-life learning experiences • Time to team with math and science
4. Communicate in real-time (ie. adjacent room, globally, etc) communication)	<u>Theme</u>: Global Awareness <u>Skill</u>: Communication Duplicates how a product is developed from design phase to manufacturing to consumer use (communicate like an expert in the field)	• Expand / reconfigure tech facility with 2 computer rooms and one manufacturing room • Include state-of-the-art equipment essential for real-life learning experiences
5. Align MS technology curriculum and HS curriculum	<u>Themes</u>: Global Awareness; Energy & Sustainability; Meaning/ Purpose/ Passion; Desire to Learn <u>Skills</u>: Where appropriate	• Equipment, resources, technology necessary for implementation • Time to team with HS tech • Curriculum and professional development time

6. Increase community partnerships to enhance courses	• <u>Guiding Questions</u>: Partnerships	• Time to collaborate with partners
7. Continue to support academic achievement through application of academic skills through project-based learning.	• <u>Skills</u>: Collaboration / Teamwork • <u>Guiding Questions</u>: Partnerships	• Have tech teachers be members of academic teams
8. Increase project-based learning and assessment	• <u>Guiding Questions</u>: Apply 21st Century learning to real-life situations	• Resources and appropriate technology where necessary
9. Increase purposeful instruction, integration and assessment of 21st Century Skills and Themes within the context of relevant real-life situations	• <u>Skills and Themes</u>: Where appropriate	• Time for collaborative creation of rubrics
10. Use of valid and reliable rubrics to assess skills and project-based learning	• <u>Guiding Question</u>: Assessment of 21st Century Learning	• Time for collaborative creation of rubrics

MIDDLE SCHOOL Family & Consumer Sciences

Examples of future directions include but are not limited to:	Connection to 21st Century Framework / Future Direction of NYS / US Dept of Education	District measures needed for success
1. Continue to be on the cutting edge of career planning, development and exploration • Include a Job Shadowing experience for all 8th grade students	• <u>Themes</u>: Global Awareness; Meaning/Passion/Purpose; Desire to Learn • <u>Skills</u>: Those that are needed for job success	• Remodel department by connecting rooms 107 and 109 to be multi purpose rooms including a series of student computer stations
2. Use technology to maintain supply inventory for food labs, recipes, nutritional analysis research	• <u>Skill</u>: Manage, Analyze and Synthesize Information	• Several student computer stations • Software to maintain inventory
3. Community service day becomes a FACS department-sponsored interdisciplinary project rather than a NHS project	• <u>Themes</u>: Ethics, Civic & Personal Responsibility; • <u>Guiding Questions</u>: Partnerships	• Resources necessary to continue implementing the Community Service Day
4. Work with the district to continue to be the main delivery system for current character education initiatives such as bullying.	• <u>Theme</u>: Character Development	• Curriculum and professional development time
5. Continue to update and deliver essential life skills such as financial literacy, consumerism, human relation skills, nutrition and wellness and other knowledge and skills necessary for success now, in high school and in the future	• <u>Themes & Skills</u>: All, wherever appropriate	• Professional development through content-specific professional organizations • Access to updated equipment,

		hardware, and software to support curriculum
6. Continue to support academic achievement through application of academic skills through project-based learning.	• Skills: Collaboration / Teamwork • Guiding Questions: Partnerships	• Have FACS teachers be members of academic teams
7. Increase in community partnerships to enhance courses	• Guiding Questions: Partnerships	• Time to collaborate with partners
8. Increase project-based learning and assessment	• Guiding Questions: Apply 21st Century learning to real-life situations	• Resources and appropriate technology where necessary
9. Increase purposeful instruction, integration and assessment of 21st Century Skills and Themes within the context of relevant real-life situations	• Skills and Themes: Where appropriate	• Time for collaborative creation of rubrics
10. Use of valid and reliable rubrics to assess skills and project-based learning	• Guiding Question: Assessment of 21st Century Learning	• Time for collaborative creation of rubrics

HIGH SCHOOL BUSINESS EDUCATION

Examples of future directions include but are not limited to:	Connection to 21st Century Framework / Future Direction of NYS / US Dept of Education	District measures needed for success
1. Financial literacy for all students prior to graduation	• Skill: Financial Literacy	• Student scheduling
2. Resume creation, interviewing skills, career seminars, etc. for all students prior to graduation	• Skill: Communication • SED & US Dept of Ed: *College & Career Readiness* initiative	• Student scheduling
3. Communicate in real-time (global trading)	• Theme: Global Awareness	• Appropriate technology
4. Continuous creation/revision of cutting-edge business education courses (units) based on the skills and knowledge needed in life, post secondary education, and real business operation / ownership • Ie. Integration of video game design into existing course • Ie. Integration of nanotechnology across the curriculum • Ie. Look toward higher ed for examples of business courses	• Skills & Themes: Where appropriate	• Maintain 2 updated computer labs including hardware, software and memory • Equipment and necessary wiring as appropriate (ie video) • Curriculum and professional development time
5. Simulate Wall Street Stock Trading Floor	• Mirrors what is being done at the college level	• Modification of one business classroom
6. Teach keyboarding in the elementary schools utilizing (not in	• Skills: Communication (electronic);	• Scheduling

addition to) the elementary curriculum	Productivity; Collaboration	• Time to team with elementary teachers
7. Participate in internal and regional business education competitions	• Skill: Real-life problem solving • Skill: Teamwork / Collaboration	• Resources necessary for participation
8. Utilize Distance learning for College Accounting course • We are capable of being the school delivering the instruction.	• SED and US Dept of Ed: *College & Career Readiness* initiative	• Technologically-equipped Distance Learning Room • (This will also provide revenue for the district)
9. Increase college credit-bearing business courses • Ie. Quantitative Math Applications	• Align with SED's *Potential Revision of High School Graduation Requirements*: Provide flexibility in meeting high school requirements • NYSED's & US Dept of Ed: *College & Career Readiness* initiative	• Curriculum and professional development time including workshops sponsored by the business professional organizations
10. Investigate the use of specialized courses in Business • Ie. College Accounting, Quantitative Math Applications	• As per SED's *Potential Revisions of High School Graduation Requirements*: Provide flexibility in meeting high school course requirements	• Local BOE approval
11. Administer industry-based assessments in Business	• As per SED's *Potential Revisions of High School Graduation Requirements*: Provide flexibility in meeting high school assessment requirements	• Cost of administering industry-based assessments (Ie. NOCTI is one company that markets these assessments)
12. Increase in community partnerships such as *Junior Achievement* to enhance courses	• Guiding Questions: Partnerships	• Time to collaborate with partners
13. Increase project-based learning and assessment	• Guiding Questions: Apply 21st Century learning to real-life situations • As per SED's *Potential Revisions of High School Graduation Requirements*: Provide flexibility in meeting high school assessment requirements	• Resources and appropriate technology where necessary
14. Increase purposeful instruction, integration and assessment of	• Skills and Themes: Where	• Time for collaborative creation of

21st Century Skills and Themes within the context of relevant real-life situations	appropriate	rubrics
15. Use of valid and reliable rubrics to assess skills and project-based learning	• Guiding Question: Assessment of 21st Century Learning	• Time for collaborative creation of rubrics

HIGH SCHOOL TECHNOLOGY EDUCATION

Examples of future directions include but are not limited to:	Examples of Connection to 21st Century Framework / Future Direction of NYS Education	District Measures Needed for Success
1. Create an interdisciplinary STEM program: ie. pre-calculus, physics and engineering courses	• Skill: Teamwork / Collaboration • Skill: Problem Solving / Critical Thinking	• Scheduling • Multipurpose classroom / lab space in Technology Dept • Equipment and necessary wiring • Curriculum and professional development time
2. Communicate (designing to manufacturing to consumption process) in real-time (globally) • With other schools using the same design software	• Theme: Global Awareness	• Appropriate technology
3. Integrate STEM connections across the curriculum	• Themes: Global Awareness; Energy and Sustainability • Skills: Problem Solving / Critical Thinking; Manage, Analyze and Synthesize Information	• Equipment and resources • Curriculum and professional development time
4. Continuous creation/revision of cutting-edge project-based technology education courses (units) based on solving current human and societal problems • Ie. New and Emerging Technologies • Ie. Integration of nanotechnology across the curriculum	• Skills & Themes: Where appropriate	• Multipurpose classroom / lab space in Technology Dept • Equipment and necessary wiring as appropriate • Curriculum and professional development time including time to learn operation of new equipment
5. Investigate the possibility of creating two career paths • Ie. Trades; Engineering	• Align with SED's *Potential Revision of High School Graduation Requirements*: Provide flexibility in meeting high school requirements	• Curriculum and professional development time

6. Integrate in courses more of the tutorials in the software *Solidworks*, that is used in industry (that integrate STEM Standards)	• <u>Skill</u>: Manage, Analyze and Synthesize Information	• Maintain updated computer lab including hardware, software and memory • Professional development time to learn software programs
7. Align HS electives / course content with MS technology education curriculum • Ie. Robotics; Green Energy	• <u>Skills & Themes</u> where appropriate	• Equipment and necessary wiring as appropriate • Curriculum and professional development time including time to learn operation of new equipment • Time for HS and MS teachers to meet
8. College credit-bearing technology courses	• Align with SED's *Potential Revision of High School Graduation Requirements*: Provide flexibility in meeting high school requirements • <u>NYSED's & US Dept of Ed</u>: *College & Career Readiness* initiative	• Curriculum and professional development time
9. Investigate use of specialized courses in Technology • Ie. Principles of Engineering	• As per SED's *Potential Revisions of High School Graduation Requirements*: Provide flexibility in meeting high school course requirements	• Local BOE approval
10. Increase in community partnerships to enhance courses	• <u>Guiding Questions</u>: Partnerships	• Time to collaborate with partners
11. Increase project-based learning and assessment	• <u>Guiding Questions</u>: Apply 21st Century learning to real-life situations • As per SED's *Potential Revisions of High School Graduation Requirements*: Provide flexibility in meeting high school assessment requirements	• Resources and appropriate technology where necessary
12. Increase purposeful instruction, integration and assessment of 21st Century Skills and Themes within the context of relevant real-life situations	• <u>Skills and Themes</u>: Where appropriate	• Time for collaborative creation of rubrics
13. Use of valid and reliable rubrics to assess skills and project-based learning	• <u>Guiding Question</u>: Assessment of 21st Century Learning	• Time for collaborative creation of rubrics

HIGH SCHOOL Family & Consumer Sciences

Examples of future directions include but are not limited to:	Examples of Connection to 21st Century Framework / Future Direction of NYS Education	District Measures Needed for Success
1. Student-maintained garden, greenhouse and/or hydroponic gardening to grow food for foods laboratories	• Themes: Energy & Sustainability; Life Balance & Wellness • Skill: Financial Literacy; Productivity; Teamwork / Collaboration	• Designate inside space for gardens (check possibility of roof outside 209) • Relocate fashion lab from 209 to make space for inside gardening • Designate outside space for gardens
2. On-site child care center (college-level experiences for child psychology students)	• Theme: Life Balance & Wellness • Guiding Questions: Partnerships	• Designate space for child care center • (This will also provide revenue for the district)
3. Industry-based software and equipment for fashion, textiles and interior design	• Skill: Manage, Analyze and Synthesize Information	• Set of classroom computers • Designate classroom space for fashion, textiles, & interior design lab
4. Industry-based software to maintain supply inventory for food laboratories, modify recipes for healthy eating, etc,	• Skill: Manage, Analyze and Synthesize Information	• Series of student computer stations
5. College credit-bearing food, nutrition and wellness courses	• SED and US Dept of Ed: *College & Career Readiness* initiative	• Maintain updated food laboratory facilities and equipment
6. Investigate interdisciplinary health, nutrition and wellness connections with Health and PE	• Guiding Questions: Partnerships	• Scheduling • Food laboratory space
7. Communicate in real-time (globally)	• Theme: Global Awareness	• Appropriate technology
8. Distance learning for college credit Child Psychology (our enrollment trend in Child Psychology indicates we are capable of being the school delivering the instruction)	• SED and US Dept of Ed: *College & Career Readiness* initiative	• Technologically-equipped Distance Learning Room • (This will also provide revenue for the district)
9. Continuous creation/revision of cutting-edge, project-based, relevant and engaging Family & Consumer Sciences courses	• Themes & Skills: Where appropriate	• Curriculum and professional development time

(units) based on: - Preparing students for current and future careers, and post secondary education - Helping to address problems of individuals and families - Ie. Food Science - Ie. Integration of nanotechnology across the curriculum		
10. Investigate use of specialized courses in FACS Ie. Food Science	• Align with SED's *Potential Revision of High School Graduation Requirements*: Provide flexibility in meeting high school requirements	• Local BOE approval • Relocate fashion & design lab from 209 to make space for food science lab experiments
11. Increase in community partnerships to enhance courses	• <u>Guiding Questions</u>: Partnerships	• Time to collaborate with partners
12. Increase project-based learning and assessment	• <u>Guiding Questions</u>: Apply 21st Century learning to real-life situations • As per SED's *Potential Revisions of High School Graduation Requirements*: Provide flexibility in meeting high school assessment requirements	• Supplies and appropriate technology where necessary
13. Increase purposeful instruction, integration and assessment of 21st Century Skills and Themes within the context of relevant real-life situations	• <u>Skills and Themes</u>: Where appropriate	• Time for collaborative creation of rubrics
14. Use of valid and reliable rubrics to assess skills and project-based learning	• <u>Guiding Question</u>: Assessment of 21st Century Learning	• Time for collaborative creation of rubrics

21st Century Input/Bond Referendum
ENGLISH LANGUAGE ARTS INPUT

As a 6-12 English/Language Arts Department, and a 6-12 Academic Intervention Services (AIS) Department, we continually review, revise, and refine our comprehensive curriculum and instructional program. It is a dynamic process that is guided by student assessment/performance, student need/interest, BH-BL expectations, NYS mandates, and research based best practices. However, the more sophisticated literacy skills, abilities, and competencies that our students must possess in order for them to successfully meet the demands of a global, 21st Century community are unmistakable. As departments, we

know that these challenges and opportunities require more than the revision of our curriculum - they require visionary, forward thinking.

Listed below are our thoughts/ideas/visions regarding the types of programmatic changes, and the infrastructure needed to accommodate those changes, that we believe are necessary for our students to be active participants in a global society as well as
life-long learners.

MIDDLE SCHOOL ENGLISH:

Using the 21st Century Framework as a lens what direction would our department like to take during the next 5-10 years in terms of instruction and program to best prepare our students for success:

- Increase direct instruction of:
    - ✓ Informational/nonfiction reading and writing with a focus on comprehension as well as on analysis and critique.
    - ✓ High-order thinking and critical analysis skills, e.g., text-to-text connections; text-to-self connections; compare/contrast; literary analysis; position/persuasion; informational inquiry and evaluation.
    - ✓ Online reading and writing.
    - ✓ Strategic and capable use of digital media for a variety of purposes and tasks, e.g., learning, communicating, presenting, enjoyment.
    - ✓ Web/Internet navigation and validity of information.
    - ✓ The value of evidence in reading, writing, listening, speaking and, its use and application in supporting /defending a position; explaining/understanding a concept; persuading an audience; researching a topic and presenting findings; and learning in general.
- Differentiate/Enhance instruction through the use of non-print/ multimedia experiences, e.g., screen reader technology, i-Pads, play-aways (books on MP3), electronic texts, speech-to-text technology, play lists, interactive smart boards.
- Instructional use of individual electronic devices in order to maximize instructional time, engage/enhance learning, and individualize/differentiate instruction e.g., class sets of i-Pads, class sets of e-readers.
- Provide varied opportunities for students to apply their literacy skills, thinking skills, research skills, presentation skills, and facility with different technologies in contexts that are applicable outside of the classroom.

- Increase use of, and variety of, presentation modes, e.g., PowerPoint, Skype, graphic representation, public speaking, video, music/i-Pod play lists.
- Connect/communicate/Interact with students down the hall, across the district and around the world as well as draw connections between literature/text and real world events (virtual tour of the Globe Theatre, The Iditarod) without leaving the classroom, via Skype, video conference.
- Flexible assessment with a balanced focus between learning and the final product/test.
- Provide THINK time for students - It's critical for promoting creativity and creative thinking as well as for problem solving.
- Increase use of a variety of student performance data and formative assessments to guide and differentiate instruction.
- Further use of the ELA curriculum to support tolerance, character development, team work, citizenship, and the understanding of other perspectives and cultures.
- Provide a balance of interpersonal interactions and independent practice in order to build the skill of team work, collaboration, problem solving, adaptability, and critical thinking.
- Embed metacognitive/self-assessment strategies throughout the ELA instructional program.
- Monitor and assess the ELA curriculum and instructional program, on an ongoing basis, in order to:
  - ✓ Ensure alignment with the ever-changing social and cultural issues relevant to students of the 21st Century.
  - ✓ Ensure alignment with college and work expectations and NYS Common Core State Standards.
  - ✓ Ensure it exemplifies what it means to be a literate person in the 21st Century.

What measures can the district take to provide our staff and students with the space, infrastructure, and technology necessary for success in the 21st Century?

- Increase network capacity
- Increase wireless access points
- Classrooms equipped with:
  - ✓ Additional computers/class sets of electronic readers and i-Pads
  - ✓ Software and applications for tech devices
  - ✓ Smart Boards/Computer with projector
  - ✓ Skype/Video-Conferencing access and ability – Laptops with camera

- Increase availability and reliability of computer labs
- Flexible/Block Scheduling

HIGH SCHOOL ENGLISH:

Using the 21st Century Framework as a lens what direction would our department like to take during the next 5-10 years in terms of instruction and program to best prepare our students for success:

It is important to note that we recognize the need to enhance and ensure the instructional integration of 21st Century learning skills while maintaining the integrity – and uniqueness – of the BHBL High School English curriculum. We believe the following components are necessary for engaging and empowering our students as well as preparing them for the demands of a global society.

- Enhance, and for those courses where applicable increase, the instruction of:
    - ✓ Informational/nonfiction reading and writing with a focus on comprehension as well as on analysis and critique.
    - ✓ Technical writing, i.e., digital literacy and Technical reading, i.e., media comprehension.
    - ✓ High-order thinking and critical analysis skills, e.g., text-to-text connections; text-to-self connections; compare/contrast; literary analysis; position/persuasion; informational inquiry and evaluation.
    - ✓ Online reading and writing.
    - ✓ Strategic and capable use of digital media for a variety of purposes and tasks, e.g., learning, communicating, presenting, enjoyment.
    - ✓ Web/Internet navigation and validity of information.
    - ✓ The value of evidence in reading, writing, listening, speaking and, its use and application in supporting /defending a position; explaining/understanding a concept; persuading an audience; researching a topic and presenting findings; and learning in general.
- Differentiate/Enhance instruction through the use of non-print/ multimedia experiences, e.g., screen reader technology, i-Pads, play-aways (books on MP3), electronic texts, speech-to-text technology, play lists, interactive smart boards.
- Instructional use of individual electronic devices in order to maximize instructional time, engage/enhance learning, and individualize/differentiate instruction e.g., class sets of i-Pads, class sets of e-readers.

- Facilitate collaborative online learning.
- Provide varied opportunities for students to apply their literacy skills, thinking skills, research skills, presentation skills, and facility with different technologies in contexts that are applicable outside of the classroom.
- Increase use of, and variety of, presentation modes, e.g., PowerPoint, Skype, graphic representation, public speaking, video, music/i-Pod play lists.
- Connect/communicate/Interact with students down the hall, across the district and around the world as well as draw connections between literature/text and real world events (virtual tour of the NYS Museum, Art of Literature/Prentice Hall) without leaving the classroom, via Skype, video conference, blogging.
- Flexible assessment with a balanced focus between learning and the final product/test.
- Provide THINK time for students - It's critical for promoting creativity and critical thinking as well as for generating new ideas and addressing/solving problems.
- Increase use of a variety of student performance data and formative assessments to guide and differentiate instruction.
- Further use of the ELA curriculum to support tolerance, character development, team work, citizenship, and the understanding of other perspectives and cultures.
- Provide a balance of interpersonal interactions and independent practice in order to build the skill of team work, collaboration, problem solving, adaptability, and critical thinking.
- Embed metacognitive/self-assessment strategies throughout the ELA instructional program.
- Monitor and assess the ELA curriculum, course offerings, and instructional program, on an ongoing basis, in order to:
  - ✓ Ensure alignment with the ever-changing social and cultural issues relevant to students of the 21st Century.
  - ✓ Ensure alignment with college and work expectations and NYS Common Core State Standards.
  - ✓ Ensure it exemplifies what it means to be a literate person in the 21st Century.

What measures can the district take to provide our staff and students with the space, infrastructure, and technology necessary for success in the 21st Century?
- Increase network capacity
- Increase wireless access points
- Classrooms equipped with:

- ✓ Additional computers/class sets of electronic readers and i-Pads
- ✓ Software and applications for tech devices
- ✓ Smart Boards/Computer with projector
- ✓ Skype/Video-Conferencing access and ability – Laptops with camera
- Increase availability and reliability of computer labs
- Department Server
- Form partnerships with outside vendors, e.g., Chip Fab Plant, Empire State College, UAlbany, ACC, HVCC etc., in order to assist with technology funding as well as to provide career and work readiness opportunities for students.

MIDDLE SCHOOL/HIGH SCHOOL AIS:

Using the 21st Century Framework as a lens what direction would our department like to take during the next 5-10 years in terms of instruction and program to best prepare our students for success:

It is important to note that the 6-12 AIS program provides supplemental and differentiated instruction – which is guided by individual student need – across the content areas. It is a congruent program that is closely aligned with regular classroom instructional programs. As a result, content area skills and curriculum are embedded throughout the AIS instructional program. Therefore, the types of programmatic changes and infrastructure needs that are noted above are ones that are equally essential to a 21st Century AIS program. This is particularly pertinent given the specific, and changing, academic needs of at-risk 21st Century learners. Given its ultimate goal of developing independent and successful 21st Century learners, thinkers, readers, writers, mathematicians, scientists, etc., the AIS program will encompass the programmatic changes of the classroom content area curriculums, with targeted instruction and focus skills such as:

- Increase direct instruction of:
  - ✓ Informational/nonfiction reading and the different skills needed to interact with, and comprehend, nonfiction texts.
  - ✓ Use and application of a variety of media and research sources when writing to inform as well as writing to persuade.
  - ✓ Higher order thinking and critical analysis of informational, persuasive, and literary texts.

- ✓ Research-based literacy strategies in order to differentiate content area literacy instruction as well as content area curriculum.
- ✓ Visual learning tools as they relate to content areas, e.g., maps, graphs, concept maps, graphic organizers, etc.
- ✓ Online reading, e.g., how to navigate the Internet, determine reliable information
- ✓ Multi-culture texts – both fiction and nonfiction – in order to provide a global context.

- Differentiate literacy and content area instruction through the use of:

  - ✓ Electronic readers
  - ✓ Electronic textbooks
  - ✓ Text-to Speech technology
  - ✓ Skype
  - ✓ Virtual tours
  - ✓ PowerPoint
  - ✓ Online remediation tasks/activities

- Infrastructure Needs:
  - ✓ Classroom computers
  - ✓ SMART board
  - ✓ Reliable laptop mobile labs
  - ✓ E-readers
  - ✓ Content area electronic textbooks
  - ✓ Digital audio books/play-aways

The wide range of abilities, competencies, and literacies that are required of our students are compelling as well as integral for full participation in an inclusive 21st Century community. Our vision, along with the evolution of our curriculum, assessments, and instructional practices/delivery will ensure that BHBL students are provided with the wide range of literacy skills needed in order to successfully and meaningfully participate in a global society.

21st Century Input/Bond Referendum
MATH DEPARTMENT INPUT

Using the 21st Century Framework as a lens, what direction would the educational professionals in departments (secondary) and buildings (elementary) like to take during the next 5-10 years in terms of instruction and program to best prepare our students for success?

- Creation of an independent Computer Science Department which teaches all computer courses in the district. Our district does not offer a complete, quality CS program. This field has been and will continue to be an emerging technology and a field that offers excellent career opportunities for all students at any academic level.
- Create new STEM course offerings that include 21st Century skills and emerging technologies. We are currently in an area that is ready to explode with new career opportunities and corporate sponsorship that will support this. Applied Mathematics and Geometry will need funding and support.
- Smaller class sizes to effectively utilize technology – Our class sizes are too large to manage the amount of students when they are running in the high 20's or low 30's.
- A part-time Technology Integration Specialist to work with the department on integrating computer software into our coursework and lesson plans. This person could also work with other departments to integrate subject areas (i.e. Geometry and Design & Draw or Engineering). This would train all department personnel much quicker and more efficiently.
- More department staff development time. Ability to work and learn new technology and design projects in place of district staff development, during team time and other designated times; the District needs to allow for this development to take place at some time other than on the professionals' personal time.
- Increased summer curriculum time and/or Embedded Staff Days for work on integration of new teaching methods and technologies.
- Make conference and training opportunities more easily accessible to teachers. Increase conference funds and make the process of attending those conferences easier for the teachers (i.e. district pay upfront costs vs. the teacher who gets reimbursed)
- More training and certification of BHBL teachers in AP or National Board to make Burnt Hills more attractive to new residents.

What measures can the district take to provide our staff and students with the space, infrastructure, and technology necessary for success in the 21st Century?

- o The department felt that addressing infrastructure was the number one priority. Working in a clean, safe, nurturing environment that promotes 21st century skills must be accomplished before adding technology.
- o Department would like to see the district look into expanding the bldg with a new mathematics wing with state of the art technology as well as electricity and lighting, internet hookups, phone.
- o We are way behind in technology when compared to other districts. In order to implement fully within the department, we would need projectors, Smart boards, Promethean Presenters, Elmo Document Cameras, CRS (clickers), and tablet PCs to interact with a Smart board in the majority of the classrooms.
- o Multiple class sets of laptops for the department preloaded with specific software including Google Sketchup, Geometer's Sketchpad, MiniTab, Maple, and other Texas Instruments tools that can be utilized in the classroom (i.e. TI Navigator)
- o Newest models of graphing calculators available for all students (TI Inspire)
- o District Learning Lab – BHBL teachers can host classes where other district can attend. We would have the latest technology and most qualified and trained teachers to teach these classes.
- o Scanners & printers for each classroom
- o Photocopier
- o CBLs for lab activities

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21st Century Input/Bond Referendum
PACE INPUT

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Using the 21st Century Framework as a lens, what direction would the educational professionals in departments (secondary) and buildings (elementary) like to take during the next 5-10 years in terms of instruction and program to best prepare our students for success?

Increase in PACE programs and opportunities:
Primary program (K-2) in both ELA and Math
Addition of grade 3 PACE Math program
Increase weekly time allotted to PACE Math 4 and 5

While the PACE Math 4 and 5 program allows students the opportunity to enrich their math abilities, skills, and interests, a full-time program would allow for daily instruction. By adding a daily class, students would be enrolled in PACE Math as their primary math program, adding a fourth group in grades 4 and 5 to the current leveled math groups. This would not only allow for daily, consistent instruction, but also allow for targeted instruction, in smaller groups, across the grade level.

What measures can the district take to provide our staff and students with the space, infrastructure, and technology necessary for success in the 21st Century?

Technology and space:

PACE programs are always in search of teaching space. Having a fixed classroom would allow PACE programs to store supplies, projects, and other classroom materials. In addition, the consistent use of space fosters a strong classroom community.

The majority of PACE programs integrate the use of technology, including the internet, Excel, and Word. Students are expected to use the internet for research (i.e. Stock Market, County project) and to organize, analyze, and display collected data and information. PACE classes continually struggle to secure computer usage due to our assigned teaching spaces. In order to better align PACE programs with the District's 21st Century Framework we must secure consistent access to computers and the internet on a daily basis.

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21st Century Input/Bond Referendum
SCIENCE DEPARTMENT INPUT

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Using the 21st Century Framework as a lens, what direction would the educational professionals in departments (secondary) and buildings (elementary) like to take during the next 5-10 years in terms of instruction and program to best prepare our students for success?

- o Integrate STEM that include 21st Century skills and emerging technologies into current curriculum. We are currently in an area that is ready to explode with new career opportunities and corporate sponsorship that will

support this. Students need to become more familiar with these career opportunities and need exposure within their science classes.

- o Smaller class sizes to effectively utilize technology – Our class sizes are too large to manage the amount of students when they are running in the high 20's or low 30's.
- o A part-time Technology Integration Specialist to work with the department on integrating computer software into our coursework and lesson plans. This would train all department personnel much quicker and more efficiently.
- o Staff development time. Ability to work and learn new technology and design projects in place of district staff development, during team time and other designated times; the District needs to allow for this development to take place at some time other than on the professionals' personal time.
- o Increased summer curriculum time and/or Embedded Staff Days for work on integration of new teaching methods and technologies.
- o Reassignment of duties to better serve department. Staff science resource center!
- o Equipment/furniture – State of the art lab tables and chairs.
- o More training/certification of teachers in AP or National Board to make BH-BL more attractive to new residents.
- o Develop a recycling program.

What measures can the district take to provide our staff and students with the space, infrastructure, and technology necessary for success in the 21st Century?

- o The department felt that addressing infrastructure was the number one priority. Working in a clean, safe, nurturing environment that promotes 21st century skills must be accomplished before adding technology.
- o Department would like to see the district become more vested in energy efficiency. NYS and the Federal government have numerous programs and tax saving for replacing aging equipment and systems with energy efficient systems. We currently have solar panels on the roof that are not being used to store potential energy. In addition, there are programs for replacing windows and doors.
- o We are way behind in technology when compared to other districts. In order to implement fully within the department, we would need projectors, Smart boards, Promethean Presenters, Elmo Document Cameras, CRS (clickers), and tablet PCs to interact with a Smart board in the majority of the classrooms.
- o Multiple class sets of laptops for the department preloaded with specific software to make presentations more dynamic and student centered.
- o Scanners & printers for each classroom

<h1 style="text-align:center">21st Century Input/Bond Referendum
SOCIAL STUDIES DEPARTMENT INPUT</h1>

Using the 21st Century Framework as a lens, what direction would the educational professionals in departments (secondary) and buildings (elementary) like to take during the next 5-10 years in terms of instruction and program to best prepare our students for success?

- Advocate for continued state mandates in Social Studies
- Along with concentration upon various Global issues, continue to stress citizenship, civics democracy, integrity, ethics, responsibility and diversity.
- Summer enrichment opportunities for staff on line.
- Web based Instruction, such as ICivics.
- Continue to stress fundamentals, cause and effect, making connections, position papers, literacy.
- Interdisciplinary classes and combinations.
- Multi-teacher classes.
- Continue to stress importance of historical relevance, while maintaining rigor and high expectations of students.
- Tap into current trends that peek interest levels in students.
- Be prepared to create and implement new curriculum ideas, content, lesson plans to coordinate with 21st century skills and themes.
- Continue to use the SED as a guide to assist staff in moving into the future: http://www.p12.nysed.gov/ciai/socst/pub/ssovervi.pdf

What measures can the district take to provide our staff and students with the space, infrastructure, and technology necessary for success in the 21st century?

Each ideal Social Studies classroom would include: (could be replaced using computer and web access with projector)
Overhead projector
Digital Projector
Computers w/ DVD drive, software

High Speed Internet connection
Printer
Access to a computer lab
Projection screen/SMART Board
Scanner
CD/tape AM/FM player with Digital Music input
Chalk or dry-erase board
*Pull-down maps.
Cable Television Access

Other ideas :

- Laptops/tablets for all students
- Ongoing training
- Embrace low cost items-allowing outside tech in building
- Contracted tech support
- Centralized air conditioning
- Electrical infrastructure overhaul
- Green options for energy (solar)

21st Century Input/Bond Referendum
SPECIAL SERVICES DEPARTMENT INPUT

Using the 21st Century Framework as a lens, what direction would the educational professionals in departments (secondary) and buildings (elementary) like to take during the next 5-10 years in terms of instruction and program to best prepare our students for success?

Elementary- There is a need for a more seamless continuum of services for students through both general education and special education. Better partnerships between regular education, AIS and special education need to be formed to allow for

more fluid intervention services. Tier II and III interventions need to be established and consistently provided for at-risk students in each school building.

Additionally, within each elementary building, there should be the ability to serve the majority of students with IEPs who require Resource Room, Consultant Teacher, Special Class or a combination of these, in their home school building. Currently, some students who require special class for reading and math are often recommended to go to another elementary school to access these services. It is recognized that there are some students who require the services of a specialized program, for example, CDS, Spectrum and PMI, who without these programs at BH-BL would likely be served in out of district placements, and therefore attending a school within BH-BL that is not their home school is considered a less restrictive placement versus attending a program outside their school community. However, students who need a smaller instructional setting for some subjects should be able to be programmed for in their own schools. Also, further development of the consultant teacher and integrated co-teaching model would provide students with supports and curriculum modifications necessary to be successful while providing them access to the general education curriculum in the least restrictive environment. Necessary staffing and planning time would need to be in place to allow for this to happen. Some providers indicated the need for a full day Kindergarten program to allow students in need of extra interventions to receive them, while not missing out on core curriculum and instruction.

There needs to be the development of a comprehensive plan for our students who have multiple disabilities. This plan needs to insure programs are available to these students as elementary, middle school and high school students. The program needs to provide better access and training in terms of the latest assistive technology available to students with severe communication impairments. There also needs to be a clearly articulated life skills curriculum that continues to be provided to these students as they move from elementary to middle and high school. There are some students who have academic needs that can be met in the skills program, but have social/daily living skills that aren't being addressed in their daily middle school schedule. With the development of a middle school program that offers a life skills curriculum during a portion of the day, there would be a number of students who could access this program at those times, while remaining in their appropriate academic program.

Middle School- Special service providers at the middle school level have identified the need for special services team time to work collaboratively within the department on program evaluation and improving their continuum of services to insure students are provided with opportunities to increase independence, learn self-advocacy and pre-vocational skills. Middle

school special education teachers share that they feel they have lost their connection with each other as learning specialists in the efforts to increase content area curriculum mastery. A balance of the two is a desired outcome.

There are a number of students in need of adaptive technology and FACS courses. Some students with cognitive disabilities find these courses to be too fast paced or even at a higher level of understanding appropriate for them. There are many topics and skills that could be taught and addressed with adapted versions of the current courses, while allowing these students to be active participants within their own school community.

A middle school schedule that is more conducive to providing students with special needs with the enrichment of FACS, band, technology and art. Currently, if a student requires the services of Resource Room everyday in grades 7 and 8, they have to give up access to something else. Block scheduling would be much more conducive. Integrated Co-Teaching classes instead of pull out services could prove to meet the needs of more students, provide services in the least restrictive environment and help reduce the social stigma of special education.

Middle School special service faculty reiterate the need identified at the elementary level for insuring that a program is in place for students transitioning to the middle school from the CDS and Spectrum programs who require a sound social skills and adaptive curriculum.

High School- High School special service providers indicate the need for additional training for students with disabilities on the skills and knowledge of software and technology of the 21st century.

What measures can the district take to provide our staff and students with the space, infrastructure and technology necessary for success in the 21st century?

Space:

Elementary- Finding available space for implementing testing accommodations continues to be an area of high need. Also, adequate space needs to be considered for services such as Occupational and Physical therapy. As more and more students require sensory movement and input, space is needed to house this equipment and safely deliver these services.

Middle School- The need for space for implementing necessary test accommodations was echoed by middle school special educators. Additionally, the location of the CSE Chairperson's Office and very small conference room was an area of concern. Families are required to walk the entire length of the school to attend a meeting. This was an area of concern with the middle school's previous psychologist and is reiterated by our current one.

High School- The need for space for implementing necessary test accommodations was again, echoed by high school special education teachers.

Electricity and Wireless Access:

Elementary- Basic infrastructure challenges are another area of need. Some buildings report that electrical issues are a big concern, where multiple classrooms are on the same small circuit breaker and outlets are hard to come by. Small changes in electrical demand between 3 or 4 classrooms can cause a circuit breaker to trip. Wireless access and connectivity is also problematic. Teachers can be seen walking down hallways with laptop computers to get closer to a functioning hub so they can save their work.

Middle School- Providers at the middle school reiterate the need for improved infrastructure, including consistent wireless access.

High School- Improved infrastructure providing adequate heat and lighting is an ongoing area of concern at the high school.

Software/Hardware and Current Technology:

Elementary- Additional updated computers are needed. The few laptop carts devoted to special education classrooms to share see heavy use and batteries quickly become subpar. Newer technologies like Smartboards and IPADS are desired by many special education providers. Sound Field Systems for students with Auditory Processing deficits would be another area of need for newer technologies. However, these are currently seen as secondary to addressing the basic infrastructure needs in buildings. It was suggested that a district-wide survey would be helpful in determining which students are at a disadvantage in terms of technology access in their home environment, to allow us to find ways to help them access this possibly by way of grant funding and donations with disabilities.

Middle School- Additional laptop carts are needed for special education programs/classrooms. Teachers are left making arrangements to borrow computers between classrooms on a daily basis. IPADs and Smartboards were also identified as

integral to educating students to have necessary 21st century skills. E-books or Tumblebooks were also identified as ways to provide additional reading options for students.

Teachers indicated the need for ongoing professional development on the use of current technologies in their classrooms that focuses on integration into the curriculum vs. one time trainings on how to operate equipment or hardware.   Another area identified as a need is the acquisition of necessary technology to facilitate meetings with teachers and staff from other buildings, parents or even outside agencies who would not otherwise be able to attend. This could also cut down on the need for substitute teachers and transportation issues.

High School- Teachers indicated a need for the increased availability of IPADs and e-readers for students to allow them access to textbooks and novels. They also shared that outdated computers for both teachers and students contribute to wasted instructional time as they wait for computers to start up and/or function.

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21st Century Input/Bond Referendum
STAFF DEVELOPMENT INPUT

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What new skills and/or topics should the SD Committee be addressing in order to prepare/support the changing needs of the district's professionals?

- Common Core Standards for Math and English

- APPR and using student data to evaluate teacher performance and effectiveness

- 21st Century Learning and the District's Framework

- Bullying/Dignity for All

- Literacy in the content areas K-12

- Progress monitoring (F & P)

- RTI

- Tech education and exposure

- Communication among colleagues about common students

- Understanding changing families dynamics and provide what is necessary for teachers to address those needs/issues/dynamics

- Ensure basic needs for employees is being met (heat in rooms)

- Address a key budget concern, which is how to maintain the current program or improve upon the current program with current and future budget cuts

- Cooperative teaching /project-based learning

In what ways can the district and/or the SD Committee convey/support/address the changing needs of the district's professionals?

- Webinar and online learning

- Skyping

- Telecommunications

- Share PD with other districts/BOCES

- Creative payment ideas/options

- Use of in-house experts

- Bank of training for people to access when needed or when time is available

- Share subscriptions, resources, expertise

- Cooperative teaching and project-based learning

- Continue to build/support PLC/CTD

TECHNOLOGY COMMITTEE INPUT

What direction would the educational professionals like to take during the next 5-10 years in terms of instruction and program to best prepare our students for success?
*These are expected to change as technological advances occur.

1) student created content
2) mobility in computing/researching/presenting -iPad? or mobile
3) web 2.0 (using social media in the classroom)
4) interactive projects (Internet 2) https://k20.internet2.edu/projects/index.php
5) Skype with Globe Theatre
6) eBooks
7) tech literacy & typing v. cursive. Have formal typing instruction at 5th grade level.
8) movies-student created/performances
9) technology instructor - cohesive technology teachers
10) online classes
11) 3d Printers
12) Communication with parents
13) Mobile access for students (bring in laptops/mobile devices)
14 Parent/Community training
15) transform approach to adult learning staff/parents
16) tables v. desks
17) interdisciplinary classes/programs eg. science research
18) downloaded books to student devices
19) expand/rethink our concept of school work (when and where we do this)
20) manufacturing (CNC machines)
21) stock trading(business classes)
22) FACS daycare for staff
23) Science lab work

24) Use cloud-based, collaborative tech such as Google Docs, EtherPad, etc.
25) Teach students to program from an early age (elementary school)
26) Work in interdisciplinary teams

What measures can the district take to provide our staff and students with the space, infrastructure, and technology necessary for success in the 21st century?
 1)Interactive Whiteboard
2) projector (replacement of large TV's)
3) iPad/Mobile devices (class sets if possible)
4) Students to sign out devices(laptop or tablet)
5) more tech support-staff/teachers/students
6) technology PD (equipment)
7) staff "listserv" for issues/support with technology
8) subscription to service
9) automated library scanners

21st Century Input/Bond Referendum
WORLD LANGUAGE DEPARTMENT INPUT

To further align our department with the 21st Century framework, especially in terms of improving our students' communication skills and increasing their global awareness, the World Languages (WL) department would recommend the following:

➢ Begin WL instruction in the elementary schools, ideally as young as Kindergarten.

➢ Continue to provide choice of languages to our students by offering French, German and Spanish.

➢ Increase our instructional time at the 7th grade level to full-time instruction.

➤ Offer lesser-taught languages (Chinese, Arabic, etc.) through on-line courses or the Distance Learning model at the HS and have this course taught by a certified language teacher.

➤ Create a fully-dedicated language laboratory at both the MS and the HS with computers, software and ancillary equipment to allow for our students to have access to listening and speaking exercises, websites, blogs, etc.

➤ Provide greater financial support for all of our World Languages exchange programs. That support could include: a car for visiting teachers; 3-4 busses provided for field trips; obtain international phones to be used by the teachers abroad on exchanges; set up a credit card for World Languages' teachers ease of use of their monies in their budgets, etc.