SCHOOL DISTRICT TECHNOLOGY PLAN

This technology plan outlines the following:

 1. Mission and Vision - Antoinette Pinder-Darling

 2. General Introduction/Background - Antoinette Pinder-Darling

 3. Needs Assessment/Goals - Antoinette Pinder-Darling

 4. Funding Plan - Lori Dini

 5. Technology Acquisition Plan - Lori Dini

 6. Access - Lori Dini

 7. User Support Plan - Mary Healy

 8. Staff Training Plan - Mary Healy

 9. Program Evaluation - Mary Healy

1.0. Mission and Vision

Technology is playing a key role in closing the achievement gap and the Bridgewater-Raritan Regional School District (BRRSD) is making its way to the top of the technology ladder. The district will be a leader in student-to-computer ratio in its county, and will operate at the level commensurate with all the other, and in some cases, higher districts. It is the expectation of the district to meet the NJ curriculum content standards in literacy and math and advance to a 1-to-1 initiative at all grade levels. According to the district's website and technology plan, the mission and vision statements are as follows:

1.1. Mission: The three schools inclusive of Bridgewater-Raritan Regional School District (BRRSD), in collaboration with the community, will provide a balanced, challenging, and

comprehensive education that meets or exceeds New Jersey Core Curriculum Content Standards and empowers every student to achieve his or her full potential as a lifelong learner, digital learner and contributing member of society.

1.2. Vision: In 2016, we envision that the three new schools in the Regional District will be thriving, technologically dynamic, and inspirational environments that produces self-directed learners and digitally literate students of all ages.

Each school's vision will place a direct focus on ensuring that students adopt 21st century technology skills. The technological objectives will be based on the New Jersey State Technology Plan's guideline which states, "All school in the district will provide access to the Internet and multimedia content in all learning environments that supports a student-to-multimedia device ratio that is one-to-one, with an ultimate goal of providing one-to-one access for students and staff for anywhere/anytime learning." Therefore, the three schools will support the belief that student's college and career readiness and scholastic performance growth are vitally important to its overall mission and success (Sandholtz, Ringstaff & Dwyer, 1997).

2.0 Introduction and Background

2.1 Profile and Demographics. Bridgewater-Raritan Regional School District (BRRSD) is the largest district in the Somerset County and totals more than 8,800 students across eleven (11) schools. BRRSD prides itself of a high academic performance compared to other schools across the state of New Jersey. Based on its three-year technology plan, it is committed to coordinating K-12 initiatives into an agenda of excellence for children at its seven (K-4) schools, two intermediate (5-6) schools, one middle and one high school. The district's demographics are as follows: the percentage of males is 47.5% and females make up 52.5%. The districts

ethnographic data reports that 79% of its student populace is White, Asian students are 15.7% and 2.4% are Black. Other races make up 1.4%, the Hawaiian and Pacific Islanders are 0.5% and American Indians comprise the remaining 0.2% (Proximity, 2015). The population has increased and three new schools have been added. As a result, the district remains committed to educating its students to achieve high academic scores in language arts literacy and math.

2.2. Planning. The district is amongst the finest in the state of New Jersey and has a very talented pool of faculty and staff. They also boast of strong community support and effective parental involvement which helps to keep students academically and technologically motivated. The district seeks to improve the visual and auditory access of special needs students through assistive technologies; such students are afforded access to iPad apps and Internet resources such as YouTube.

3.0 Needs Assessment and Goals

3.1 Instructional practices. As teachers and students continue to be surveyed, then schools are better able to use technology to solve both old and new problems. Many educational technologies adapt easily to support different learning styles (Gordon, 2000). Based on the 2013 tech survey results, current practices within the district showed mixed usage of various programs and systems. Around 70% of respondents surveyed indicated that they used word processing to access documents regularly and frequently. The next highly used technology was district-owned laptops and mobile devices such as iPads. Online databases and Moodle were the least accessed by users. The school uses data-driven tools to make decisions and evaluates computer purchases based on district learning goals. The district will purchase iPads (including Scoots), chromebooks, and laptops for instructional use.

Educators: As teachers become comfortable with the use of technology and put it to effective use in the classroom, it is anticipated that the roles and expectations of both teachers and students will change. Teacher expectations will be informed in two areas: creating a best-practice model (to draw insights from other practitioners whose schools have properly implemented technology plans and collecting information regarding successful and unsuccessful stories. A comparison of both approaches will be based on the data extracted from the needs assessment. Teachers will also be surveyed to see if there are suggestions for infrastructural upgrades in all classrooms of the schools.

Students: Better prepare students for the workplace. The instructional focus will be to address major needs articulated by business leaders, and to prepare students with skills that are transferrable to the college environment by adding a technology strand to the curriculum (Gordon, 2000). Upon the advice of the Principal, a student technology readiness assessment was administered and the results show that teachers and students agree that they need better preparation in the literacy areas (writing, critical thinking, numeracy and digital literacy) to become successful 21st century learners who will become better test-takers and college prospects.

District: Two new positions will be created at the Middle and High School teaching levels and will be expanded to include help-desk responsibilities as a technology resource. These roles will become increasingly important to guide technology use at the district moving forward as well as assist teachers in developing curriculum and applications using technology. Teachers and students will participate in training through webinars, workshops and class projects, and these new staff will be a responsible for managing and troubleshooting technology needs at BRRSD. These positions are a direct outcome of the Needs Assessment feedback and evaluation.

3.2 Goals. New learning technologies are only worth the time, effort, and resources when they are used properly and goals are easily achieved when they are SMART (Gordon, 2000). A questionnaire will be devised by the tech plan committee which will comprise of teachers, administrators, parents and an external community member. The needs assessment survey will target technology that supports the following goals:

Goal 1: Implement a one-to-one initiative that equips teachers and students with technology devices to effectively enhance teaching and learning within the classroom;

Goal 2: Center the curriculum (using technology) to promote project-based learning initiatives that parallel those faced by adults in real world settings;

Goal 3: Enhance students' learning and collaboration in the classroom as they construct meaning using 21st century technology standards;

Goal 4: Foster success for all students' through special technology measures to aid the disabled and the disenfranchised;

Goal 5: Prepare students for online testing; and

Goal 6: Improve students' digital literacy levels utilizing computer modeling and visualization as a powerful bridge between experience and abstraction.

4. FUNDING PLAN

4.1   According to Frazier (2012), a district must commit a considerable amount of funding to provide and support technology in order for the program to be successful. In an effort to create a learning environment that prepares Bridgewater Raritan's children to become productive members of society, every effort was made to design a comprehensive technology funding plan. To reach this end, data was collected on the current technology inventory, budget, and

professional development practices to determine a starting budget for the three new schools. This plan also takes into consideration the new initiatives being implemented, the needs assessment, the district goals and the district mission and vision. The wiring and outfitting of all three new buildings was completed through a school budget referendum and will not be reflected in this plan. The funding sources for this plan include: local tax levy, state aid, grants, and PTO fundraisers.

4.2 The chart below represents the proposed technology budget that incorporates the acquisition, support, and maintenance of hardware, software, professional development and other services needed to implement this technology plan. The budget includes the addition of one Full-time equivalent (FTE) technicians. Part of the role of the technician is to share responsibility on a rotating basis for covering the district helpdesk. The current middle school includes two technicians, one that will be moving over to the new middle school when opened. The other technician will cover the two elementary buildings similar to the current duties of elementary technicians. The current budget items relating to technology will be increased to include the three new schools. These items are: technology services, protection, maintenance, and professional development. To meet the goals of the district to implement a one-to-one initiative the budget includes Chromebooks with a three year warranty, Google support, protective-cases, carts, and Chrome OS license. Due to the lack of textbooks, this budget reflects a total saving of $40,092.00. The district will be incorporating new online learning management systems through Scootpad and Compass Learning's Pathblazer, along with Google Classroom and Moodle that are already in use throughout the district. Each of these programs will help to establish a successful blended learning curriculum, support collaborative project based learning, and enhance 21st century skills.

Budget Item	Current Budget	Proposed additional Budget for new schools	Proposed Budget	One Time Expense (1) or Recurring (R)
Personnel - 6 Technicians (FTE)	368,262.00	61,500.00 1 additional Technician (FTE)	429,762.00	R
Technology Services - Utility Tracking Work Order System Monitoring	2,000.00 4,000.00 27,000.00	500.00 1,100.00 7,400.00	2,500.00 5,100.00 34,400.00	R R R
Protection Antivirus Software TW Web-filter Reporter Academic Bundle	15,000 26,100	4,090.00 7,100.00	19,090.00 33,200.00	R R
Supplies - IT Maintenance Computer Supplies and Repair Parts Network Upgrades and Service Software Maintenance	40,000.00 40,000.00 17,000.00	10,900.00 10,900.00 4,650.00	50,900.00 50,900.00 21,650.00	R R R
Professional Development Summer In-Service Fall In-Service Course Training Purchased Development Outside Workshops	12,500.00 12,500.00 2,975.00 10,000.00 13,500.00	3,400.00 3,400.00 820.00 2,700.00 3,700.00	17,900.00 17,900.00 3,795.00 12,700.00 17,200.00	R R R R R
Curriculum Subscription Renewals Support Services	266,470.00 33,000.00	N/A	266,470.00 33,000.00	R R

New				
Chromebooks 1,500		287.00 each 430,500.00	388,500.00	1 1
Protective Case 1,500		20.00 each 30,000.00	30,000.00	1
Online Curriculum Scootpad Pathblazer		10,000.00 20,000.00	10,000.00 20,000.00	R R
Savings Textbooks Elementary		5,370.00 x2 = 10,740.00	40,092.00	R
Middle School		29,352.00		

5. CURRENT TECHNOLOGY AND TECHNOLOGY ACQUISITION PLAN

Current Technology Inventory

Hardware
Desktop computers, laptops
Peripherals
Smartboards, Document Cameras, printers, Smartnet wireless controllers
Curriculum Programs
Brain Pop
Enchanted Learning
School Library Database
Administrative
Powerschool
Oncourse Lesson Planner and Evaluation Systems

IEP Planner
Maintenance
CISCO SmartNet renewal
Helpdesk renewal
Backup software renewal
Protection
Marshall filter
Sophos anti-virus software
Assistive Technologies
Learning Ally
Text-to Speech applications
Study Island

An integral component of successful technology integration is the procuring, maintaining, and supporting it so that teachers trust that the technology will respond successfully when needed (Virginia Department of Education, 2008). When planning for the development of the three properties, the district followed the procedures set forth by New Jersey School Development Authority (NJSDA) in its 2012 *NJSDA* Design Manual. Therefore, the design developer was required to submit drawings that included floor plans with enlargements of plans showing the wiring and placement of all IT systems and outlets. The plans also needed to ensure that proper clearances were indicated on all sides for two post telecommunication racks, server cabinets, free standing floor equipment, wall mounted equipment, power receptacles with NEMA type, overhead cable pathways and conduit entrances (NJSDA, 2012). Through the planning and building process, each classroom will be outfitted with a Smartboard and Desktop computer. All faculty and staff will receive a Chromebook as part of the one-to-one initiative goal set forth in

this plan. Through the use of Chromebooks and the cloud environment students will be able to

participate in a blended learning environment that enhances digital literacy and collaboration

through 21st century technology to increase college and career readiness.

Technology Acquisition		
District Goal	**Technology**	**Documentation-Explanation**
Goal 1: One-to-One Initiative	Chromebooks	Chromebooks will be ordered to be delivered the summer prior to the schools September opening. The Chromebook package includes user support, protective cases, carts and a Chrome OS license.
Goal 2: Project-Based Learning	Chromebooks Scootpad, Moodle, Google Classroom	The one-to-one initiative will enable a project-based blended learning environment. Teachers will collaborate using Google and Moodle to prepare project based learning. The district will acquire Scootpad an online ELA and Math curriculum, aligned with the Common Core Standards, for students in K-8. Scootpad will enable a blended learning environment so that more class time will be spent working in collaborative groups.
Goal 3: Enhance Student Learning and Collaboration with Technology	Chromebooks, Google Classroom, Moodle	Students will use learning management systems to to work in groups and share thoughts and learning with each other. Student's learning will be elevated through personalized learning paths in Scootpad and Pathblazer.
Goal 4: Foster Success for All Students	Compass Learning Pathblazer, Learning Ally, Google applications	The district is committed to providing equal learning opportunities for all students regardless of abilities. Compass Learning Pathblazer provides a personalized curriculum to advance students to grade level equivalent.
Goal 5: Prepare Students for Online Testing	Study Island, Scootpad, and Compass Learning Pathblazer	All three programs use the Core Curriculum Content Standards to provide interactive lessons to prepare students for standardized testing.
Goal 6: Improve Digital Literacy	Chromebooks, School library databases,	Student will engage in a myriad of curricular activities that will enhance their digital literacy.

	Google apps, Study Island, Scootpad, Compass Learning Pathblazer	The curriculum will build on skills so that by the end of 8th grade students are prepared for independent research and study.

6. ACCESS

BRRSD is committed to providing equitable distribution of resources to support student attainment of 21st century skills.

6.1   To achieve that end the district is piloting a one-to-one Chromebook initiative in the three new buildings. Both the faculty and students will be provided with a Chromebook to enhance the teaching and learning experience. The Chromebook will provide access to all district curricular applications such as Google Classroom, Moodle, online textbooks, and newer learning initiatives such as Scootpad, Compass Learning Pathblazer, and Study Island. In an effort to provide equal access to all, families that indicate lack of resources or ability to pay for internet service will be provided with an internet account via EveryoneOn. This national nonprofit works to reduce the digital divide by providing access to high-speed, low cost internet service. In New Jersey plans are available for $10.00 a month (EveryoneOn, 2015). If paying this fee is still an obstacle PTO moneys or grants through the Bridgewater Raritan Education Foundation will be utilized.

6.2   BRRSD current Student Use of Computers and Computer Networks policy defines acceptable use and lists: "appropriate online behavior, interacting with other individuals on social networking sites and in chat rooms, cyber-bullying awareness and response" as topics covered in the district curriculum. The policy also defines inappropriate use of equipment as unacceptable when it is "purposeful and mischievous in nature." The examples of what the district deems inappropriate use protects confidentiality of student, teacher and school data,

maintains the integrity of district technology systems, and addresses illegal or dangerous communication via electronic or internet communication.

The current policy also addresses damage to software, hardware, and peripherals, stating that any damage is considered damage to school property and the student's parent or guardian will be financially responsible. Both the student and the parent are required to read and sign the Acceptable Use Policy as both parties are responsible. A discipline code is included for handling infractions of the policy. A student handbook will be created that reiterates the acceptable use policies along with a guide for the use of the Chromebook and general precautions and appropriate storage procedures to reduce to the extent possible damage to the device. The District Media Centers and Technology Department promote adherence to copyright laws through informative student lessons, website faq's and guides. Library Media Specialists provide professional development at monthly department curriculum meetings.

6.3 According to Frazier (2012), protecting computers from viruses and other threats must be a priority. BRRSD uses web security and filtering applications to protect its resources, students, and staff. Access permissions and user rights based upon user type are configured and assigned by the Technology Department to regulate Internet activities by blocking or restricting websites as appropriate. The District uses the Sophos anti-virus software and the Marshall filter for security and filtering. These licenses will be expanded to include the three new schools.

7. USER SUPPORT PLAN

"Teachers and staff frequently need on-site and on-demand technical assistance, both with equipment and software and with the implementation of the technology in the classroom" (Frazier, 2012, p.66). As such, BRRSD is committed to providing support to faculty, staff, and

students. This plan budgets for one extra school technician who will split time between the two new elementary schools. The new buildings are wired according to the highest NJSD standards, which should provide quick and uninterrupted access.

A dedicated helpdesk is a single point of contact that will assist users with questions or problems. Helpdesk technicians will take responsibility for each issue until resolution is reached. Technicians from the Information Technology Department will staff the helpdesk, which will operate Monday through Friday from 7 a.m. until 5 p.m. Users can reach the helpdesk by phone or email. Repair tickets will be submitted through the district's Website and will be directed to the technician assigned to the user's building. The technician will visit the user's location to assess the problem and resolve it as soon as possible to minimize disruption to the learning environment or work environment. As hardware and software are acquired, service plans will be purchased as well. As hardware and software breaks down, technicians in the Information Technology Department will manage repairs or replacements. Attention will also be given to supporting end users' instructional needs and their use of instructional software, LMS's instructional hardware (smartboard, etc.)

8.   PROFESSIONAL DEVELOPMENT PLAN

Educational professionals in the 21st century need to keep pace with tech savvy students as well as use technology effectively and efficiently in the classroom. Given that improving student learning and performance is essential, professional development for teachers will focus not only on learning specific programs, but also on integrating technology into instructional practices (Frazier, 2012). BRRSD is committed to providing relevant, high-quality technology-

based training for all stakeholders. As such, administrators, teachers, staff, and students will develop technology skills aligned with national standards developed by ISTE.

8.1   Provisions for increasing the use of technology in the classroom and media center by training teachers to:

- promote the integration of technology into everyday curricular needs;

- use of SMART technology in elementary and intermediate schools;

- use of Chromebooks and curricular applications.

As new programs, software, and hardware devices are acquired, training will be offered to administrators, teaching faculty, support staff, technical staff, and students. However, "[n]o professional development program will be successful unless it acknowledges the skills people already have and what they already know" (Frazier, 2012).   The School Improvement Committee in each building will consult with the Director of Technology, Supervisor of Instructional Technology, library media specialists, and building technology teacher as needed "to formulate goals or implement targeted instruction with, or in, technology". Professional development opportunities will take into consideration the skill level of the targeted learners. Training options will include:

AUDIENCE	CURRENT TRAINING OPPORTUNITIES	PROPOSED ADDITIONAL TRAINING OPPORTUNITIES
Administrators	Annual Administrators' Retreat Monthly Meetings Professional Conferences	Online webinars, how-to videos Small group/individual instruction by supervisor or technology
Teaching Faculty	District-wide Professional Development Days Spring/Fall Teachers' College	Online webinars, how-to videos Small group/individual instruction by supervisor of technology

	(CEU) After-School Monday Meetings College/University Accredited Courses	Peer-to-peer training
Support Staff	Clerical Staff: In-District Training Technical Staff: Out-of-District Training	Online webinars, how-to videos Peer-to-peer training

Because training is a priority, almost $70,000 has been allocated in the technology plan budget.

Professional development opportunities can take place within the district as well as outside of the

district. Depending on need, learners can take advantage of both types of resources.

Internal Resources		External Resources
BRRSD Technology Help Desk	Building Computer Labs	Accredited Colleges/Universities (online or on site)
BRRSD Teachers' College	Mobile Labs	Professional Conferences (NJEA, ISTE, NJAET)
Professional Development Committee	Interactive SMART Boards	NJ Department of Education
	Peripheral Devices	
Information Technology Department	Overhead Projector/Presentation Software	
Internal Staff	Internet/Web-Based Programs	
	Moodle	

9. PROGRAM EVALUATION

Monitoring the use and effectiveness of technology is essential to meeting established goals. "Staff, teacher, and student use of technology must be regularly monitored and assessed for progress" (Frazier, 2012, p. 147). Learning analytics will be collected and tabulated by the Information Technology Department. Members of the District Technology Committee will develop and administer surveys, define learning outcomes, and implement evaluation rubrics for their individual building so that data can be collected and analyzed.

In the event that changes need to be made, the District Technology Committee will make necessary adjustments as the need arises though monthly observation, reflection, and discussion.

District Goal	Technology	Evaluation
Goal 1: One-to-One Initiative	Chromebooks	Monitor calls to Helpdesk, count number of repair tickets, survey teachers and students regarding ease of use; check teacher lesson plans
Goal 2: Project-Based Learning	Chromebooks, Scootpad, Moodle, Google Classroom	Monitor calls to Helpdesk; count number of repair tickets; survey teachers and students regarding ease of use; check teacher lesson plans → Moodle analytics to evaluate systems activity by lesson, unit, or a specific tool. (Discussion board, blog, assignments, etc.)
Goal 3: Enhance Student Learning and Collaboration with Technology	Chromebooks, Google Classroom, Moodle	Monitor calls to Helpdesk; count number of repair tickets; survey teachers and students regarding ease of use; check teacher lesson plans
Goal 4: Foster Success for All Students	Pathblazer Compass Learning, Learning Ally, Text-to-Speech Applications	Learning analytics through the programs; teacher interview; survey students
Goal 5: Prepare Students for Online Testing	Study Island, Scootpad, Pathblazer Compass Learning	Learning analytics through each program; teacher interview; survey students
Goal 6: Improve Digital Literacy	Chromebooks	Monitor calls to Helpdesk, count number of repair tickets, survey teachers and students regarding ease of use

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