

Section I.F.

Cross-Cutting Themes

Educational Technology

In addition to including technology strategies across the Master Plan aligned to State and local technology plans, this local school system Master Plan Update outlines specifically how all sources of funding are used in meeting No Child Left Behind Statutory Goals:

- To improve student academic achievement through the use of technology in elementary schools and secondary schools.
- To assist every student in crossing the digital divide by ensuring that every student is technologically literate by the time the student finishes the eighth grade, regardless of the student's race, ethnicity, gender, family income, geographic location, or disability.
- To encourage the effective integration of technology resources and systems with teacher training and curriculum development to establish research-based instructional methods that can be widely implemented as best practices by State educational agencies and local educational agencies.

Based on data from the Maryland Technology Inventory, local data and data from any other relevant sources, Somerset County reports as follows:

1. Evidence of Progress toward Meeting Educational Technology Goals

a. Staff knowledge and skills in the integration of technology and the Maryland Technology Standards increased in 2008-2009.

- All professional staff are required to pass SCPS's Level I Technology Assessment within 2 years of their being hired. By the end of the school year, 100% of the professional staff had taken the assessment and 96% earned their Level I Certification by passing. There were only 11 staff members who did not successfully complete the entire assessment. Six of the eleven schools (this includes the central office), had 100% of their staff pass the assessment.
- The summer of 2009 was the fourth summer the Level II Tech Academy was offered as part of the Technology Certification Program. There have been 143 completers as of the end of August 2009. Although some of those teachers no longer work in Somerset County, 139 of them will be returning to Somerset County classrooms this year. This represents almost half of the professional staff.
- Staff that have completed the Tech Academy are then eligible to participate in the 12 hour Integration Seminars. There have been 76 teachers who have completed these seminars and are working on the final part of their Level II

Certification. This represents 67% of the teachers who are eligible to participate.

- Level III Certification has only been available for 2 years. A pilot program was offered in 2007-08 in which 5 teachers participated. Last year it was opened up to all teachers who have completed their Level II Certification. Eighteen teachers signed up to participate in this two year program. All have completed the requirements of year one and are continuing in the program in 2009-2010.
- A new Level II for Administrators program was added this year. There were 17 administrators who participated in at least some of the sessions. This represents 63% of all administrators in the schools system. Administrators participating included the Superintendent, Assistant Superintendent, 5 Supervisors, 7 Principals, 2 Vice Principals and an Instructional Facilitator. There were 10 administrators who completed all of the sessions. That represents 59% of the participants and 37% of all administrators.
- In the spring of 2009, classroom teachers, library media specialists, school based administrators and other professional staff were asked to complete the *Maryland Teacher and Administrator Technology Inventory*. The results showed that 100% of Somerset administrators are technology proficient. Overall, results for the professional staff (other than administrators) showed that 91% are technology proficient.

b. Equitable access to appropriate technology resources improved for both students and staff.

- The 2007 Maryland Technology Inventory indicates that Somerset schools exceeded or met the state targets for technology with a student to computer ratio of 3.1:1 and 100% of classrooms with high speed Internet access. Our local inventory shows an increase of 330 student laptops which will improve the ratio when the 2008 Maryland Technology Inventory data is released.
- Local funds were used to improve the infrastructure in order to increase available bandwidth for our staff and students. Additional internal T-1 lines were added; a second external T-1 line was added; and, service was switched to Verizon. In addition, eleven switches were upgraded in the telecommunications closets to increase speed of our networks.
- Elementary students and staff received new equipment in their schools during the 2008-09 year. Promethean Boards were installed in all 5th grade classrooms; all 5th grade teachers were given laptop; a mobile cart with 20 laptops was given to each 5th grade team to share along with a set of 5 digital cameras. Each 5th grade teacher was also given a video Flip camera, a document camera and an LCD projector.

- The eighth grade academy students and staff were given similar technology for their classrooms. Promethean Boards were installed in each classroom, Each teacher was given a laptop, a document camera and an LCD projector.
- The largest project was at the Intermediate School where a 1-1 student laptop program began in the spring of 2009. Each of the 220 7th grade students was assigned a laptop to use throughout the school day. Laser printers along with storage and recharging carts were placed in each classroom.
- Somerset County was able to continue the 4 year replacement cycle for desktop computers. Approximately 170 computers were replaced in 2008-09 as scheduled.
- The students and staff in Somerset County have access to many digital tools and resources. All teachers have access to *United Streaming* which provides video content based on the student standards. Students and staff also have access from both home and school to several online databases provided by the school system. They include: *SIRS Discoverer*, *SIRS Researcher*, *Culture Grams*, and *Thompson Gale's Science Resource Center*.

2. The Practices, Programs or Strategies and Professional Development which Contribute to the Progress of Educational Technology

a. PROGRAM: Continued the Technology Certification Program

Somerset County Public Schools implemented a three level Technology Certification program in 2005 and expanded the offerings in 2007. The program is designed to move all teachers from the basic level of knowing how to use the technology available in their building to seamlessly integrating technology into instruction. Level I is a certification in technology competency which is earned by successfully completing a performance based assessment designed to assess skills in File Management, *Word*, *PowerPoint*, *Excel*, *Front Page*, Email and Using the Internet. Level II is certification in technology integration. This certification is earned through a series of required activities designed to increase teachers' understanding of technology integration. The first step is to attend a five (5) day technology academy that teaches skills necessary to produce a multimedia project. The next step in Level II Certification is to attend 12 hours of Integration Seminars which concentrate on developing lesson plans that integrate technology into the curriculum.. Upon completion, teachers are required to be observed teaching three lessons using technology with their students. The final level of Certification, which became available to all teachers in 2008-09, is designed to move teachers into a role of a technology master teacher role by working with the *Maryland Teacher Technology Standards*, mentoring a new teacher and completing a technology project.

b. PRACTICE: Continued local support for Technology

The support of the State, the Board of Education and the Somerset County Commissioners in the form of funding for technology is clearly responsible for the progress made by the school system. In 2008-09, funding was included in the local budget to support the following initiatives:

- The 1-1 laptop initiative
- The 8th grade “High Tech” classroom initiative
- Infrastructure Upgrades
- Technology Certification Program
- 4 year Replacement Cycle
- Professional Development

Grants from MSDE provided funds to support the following:

- Technology Academy
- 5th Grade “High Tech” Classrooms
- Additional *Promethean* Boards in 7 classrooms

<i>CATEGORY</i>	<i>STRATEGY, PROGRAM, OR PRACTICE & PD</i>	<i>FUNDING SOURCE AND COST</i>
Professional Development	Level I Tech Assessment	Source: Title II, Part D Ed Tech Formula Grant Cost: \$1,530
Professional Development	Tech Academy	Source: Local Cost: \$25,000 Source: Ed Tech Grant Cost: \$29,000
Professional Development	Integration Seminars	Source: Ed Tech Grant Cost: \$8,160
Professional Development	Level III Certification	Source: Local Cost: \$11,840
Professional Development	Promethean Board Training for 5 th Grade Initiative	Source: Ed Tech Grant Cost: \$1,170
Professional Development	<i>Promethean</i> “Trainer” and “Installer” Certification	Source: Ed Tech Grant Cost: \$6,256
Professional Development	Level II for Administrators	Source: Ed Tech Grant Cost: \$1,755
Equipment	Infrastructure Upgrade	Source: Local Cost: \$18,655
Equipment	5 th Grade “High Tech” Classrooms	Source: MSDE Ed Tech Supplemental Funding Cost: \$150,000
Equipment	1-1 Laptop Program	Source: Local Cost: \$240,000
Equipment	8 th grade “High Tech” Classrooms	Source: Local Cost: \$132,000
Equipment	4 year replacement cycle	Source: Local Cost: \$111,125

3. Evidence of Challenges in Meeting Educational Technology Goals

a. **Results of the Maryland Teacher and Administrator Technology Inventory indicate “Data Analysis” is an area of weakness for principals, vice principals and teachers.**

- Only 57% of principals and 25% of vice principals scored proficient in the Data Analysis category on the *Maryland Administrator Technology Inventory*.
- Only 76% of Teachers and 72% of Other Professional Staff scored proficient in the Assessment for Instruction category on the *Maryland Teacher Technology Inventory*.

b. **Implementation of the Student Technology Standards resulted in only 50% of the 7th grade students meeting proficiency on the Maryland Measure of Student Technology Literacy.**

- Overall results for Somerset County 7th graders showed that 50% of the students met proficiency.
- Breaking out the results by skill module shows that Databases had the lowest percent proficient at 28%, Multimedia Presentations was second lowest at 38%, Systems & Fundamentals was the third lowest at 40% and Spreadsheets was below the average at 48% proficient.

4. Tech Integration Skills of 7th & 8th Grade Teacher

a. All 6th & 7th grade students and teachers are housed in the new Somerset Intermediate School. This high tech school emphasizes the use of technology on a daily basis. There is a 1-1 laptop program for 7th grade students which began in the spring of 2009. Professional development for 7th grade teachers has centered around technology integration since the school opened in January of 2008. These teachers have been prioritized for participation in the Level II Technology Academy. In fact, 84 % of all Somerset Intermediate teachers have already completed this requirement. The remaining teachers will be encouraged to participate in the summer of 2010.

b. The following is a list of professional development activities for 2009-2010:

- The school Technology Facilitator worked with teachers for 2 days in July 2009 on developing lesson plans which integrated the use of the student laptops.
- The 7th grade teams meet weekly with the Technology Facilitator during planning time to discuss issues related to the use of the student laptops.
- A consultant from the *Anytime, Anywhere Learning Foundation* spent 2 days in October working with teachers on teaching in a 1-1 laptop environment. The consultant also works with the Technology Facilitator on coaching strategies for working with teachers. The consultant will be working with the Technology Facilitator online over the next few months and returning in February for another 2 days to work with teachers.

- The content area teachers will be meeting virtually with similar content area teachers who have experience teaching in the 1-1 environment. This is being arranged through the *Anytime, Anywhere Learning Foundation*.
- The Leadership team at the school will doing walk throughs looking for technology integration through out the school year. Information is shared with the teams through the Technology Facilitator and principal at team meetings.
- All secondary schools in Somerset County have a weekly 75 minute professional development session after school. Somerset Intermediate uses many of these sessions to do technology related professional development.

It should be noted that 6th grade teachers participate in all of the above mentioned professional development as well.

- c. The 8th grade students and teachers are housed in our two high schools. In the fall of 2010 the plan is to expand the 1-1 laptop program to the 8th grade in the high schools. Teachers will be working throughout 2009-10 on technology integration skills in order to prepare them for teaching in a 1-1 environment. There is only one 8th grade teacher who has not completed the Level II Technology Academy. This is a new teacher who will be encouraged to participate this summer.
- d. The following is a list of strategies that are being used to prepare the 8th grade teachers:
 - Each 8th grade team has been given a wireless laptop cart to share among teachers this year. The use of the cart will give teachers an opportunity to begin to integrate the use of laptops into specific lessons.
 - One 8th grade teacher in each school has been designated as the “lead technology” teacher who is willing to work with the other teachers on their team in the use of technology.
 - Intermediate School teachers will be paired up with an 8th grade teacher (similar content areas) as a “technology mentor”. These teachers will meet face to face several times during the year and will communicate electronically when needed.
 - Every 8th grade teacher will be scheduled to observe a similar content area class at the Intermediate school where they are using laptops every day.
 - All secondary schools in Somerset County have a weekly 75 minute professional development session after school. Several of these sessions will provide time for 7th and 8th grade teachers to meet and work on lessons using the laptops.
 - The same consultant from the *Anytime Anywhere Learning Foundation*, who has worked with the Intermediate school, will be brought in work with the 8th grade teachers.

5. Changes and adjustments to address the challenges in meeting Educational Technology goals.

DATA ANALYSIS FOR ADMINISTRATORS AND TEACHERS

a. **ADJUSTMENT: Review and focus the Level III Certification course Standard IV assignment on Data Analysis to improve skills in this area.**

ADJUSTMENT and TIMELINE	RESOURCE	CATEGORY AND FUNDING
Strengthen the Standard IV Assignment in the online course, and provide feedback to teachers Timeline: August 2009-September 2009	Director of Technology time	Cost:\$0 Source: Staff time
Increase the number of teachers completing Level III Certification in order to improve Data Analysis skills. Timeline: August 2009 – June 2010	Director of Technology time	Cost: \$0 Source: Staff Time

b. **CHANGE: Create a Level III for Administrators in order to cover the *Maryland Technology Standards for Administrators*.**

ADJUSTMENT and TIMELINE	RESOURCE	CATEGORY AND FUNDING
Develop course description and syllabus for Level III for Administrators aligned to the Technology Standards for Administrators. Timeline: August 2009-October 2009	Director of Technology time	Cost: \$0 Source: Staff Time
Develop course materials for Level III online course for Administrators Timeline: August 2009-June 2010	Director of Technology time	Cost: \$0 Source: Staff Time

Data Analysis for Administrators

A needs assessment on Data Analysis Skills will be developed and administered to Administrators at a monthly A&S meeting. Results will be used to plan and conduct additional training for administrators in the application of Performance Matters, our data warehouse, to identifying subject and class weaknesses and specific areas for instructional intervention.

c. **ADJUSTMENT: Offer additional training for Administrators in the use of Performance Matters**

ADJUSTMENT and TIMELINE	RESOURCE	CATEGORY AND FUNDING
Develop a needs assessment on Data Analysis Skills to be administered to Administrators at	Performance Matters	Cost: \$38,264

a monthly A&S Meeting. Timeline: August 2009- October 2009	Coordinator	Source: Local
Develop a series of training sessions on the use of Performance Matters for Administrators Timeline: October 2009-December 2009	Performance Matters Coordinator	Cost: \$38,264 Source: Local

The ADJUSTMENTS listed in part C above is to offer the training sessions listed on Performance Matters. The \$38,264 is the cost of the Performance Matters contract to house all of our data. There is no cost for the actual training since it would be done during contract time by our Performance Matters Liaison. The cost is listed twice in the chart.

STUDENT TECHNOLOGY PROFICIENCY

- a. **CHANGE: Replace teaching Assistants with Certified Teachers in the elementary computer labs in order to plan lessons and teach skills related to the Student Technology Standards.**

ADJUSTMENT and TIMELINE	RESOURCE	CATEGORY AND FUNDING
Develop a job description for Elementary Computer Lab Teacher Timeline: July 2009	HR Department	Cost: \$0 Source: Staff Time
Hire 3 certified teachers for the elementary computer lab positions Timeline: July 2009-August 2009	HR Department	Cost: \$169,705 Source: Local

How will we ensure that technology skills are not taught in isolation in the elementary computer labs.

The elementary computer lab teachers are working together with the Director of Technology to develop a common scope and sequence of skills to be taught in the computer labs. The skills taught are followed with activities that are related to the grade level curriculum. The lab teachers meet with grade level teams to plan activities that use the skills being taught in the classroom. The lab teachers send weekly reports to the Director of technology listing the skills taught and activities used. Classroom teachers are also able to schedule additional lab time to have classes work on projects or activities in the content areas.

- b. **ADJUSTMENT: Revise scope and sequence for computer classes, grades K-5, in order to ensure the Maryland Student Technology Standards are being mastered.**

ADJUSTMENT and TIMELINE	RESOURCE	CATEGORY AND FUNDING
Meet with computer lab teachers to match the current scope and sequence to the standards. Timeline: August 2009- October 2009	Director of Technology	Cost: \$360 Source: Local
Develop a method of tracking the mastery of standards for individual students. Timeline: August 2009- October 2009	Director of Technology	Cost: \$0 Source: Staff Time
Monitor the mastery of standards by collecting data from teachers on a quarterly basis. Timeline: September 2009-June 2010	Computer Lab Teachers time	Cost: \$0 Source: Staff Time