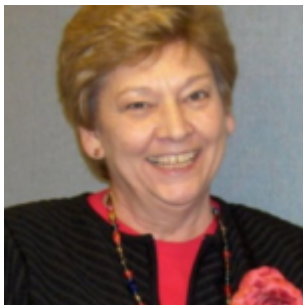


Measuring The Technology Return on Instruction, Part I



Members of the VSTE Board of Directors will be taking time to periodically share their ideas and passions with the VSTE membership. In this edition, Board member Janet Copenhaver describes how Henry County Public Schools measured their Return on Instruction as they implemented a 1:1 program. Next week, Board members Meg Swecker will talk about the approach used by Roanoke County Public Schools. Janet and Meg have worked together on many projects in technology that benefitted the school divisions in the Commonwealth. Their designs are easily replicated and measurable.

How Two School Divisions Measured a Return on Instruction for their Technology

Part 1: Henry County Public Schools

In today's world, most school divisions have chosen a device to use instructionally with their students. After the device is implemented, the real question becomes, how do you prove real outcomes on your investment for instruction? A successful implementation that is instructional driven is much easier to chart outcomes. As you move forward with technology, there are many measures you can use to calculate your Return on Instruction. IThis blog is a discussion on how two school divisions measure their Technology Return on Instruction!

The first school division is Henry County Public Schools and how they used devices and students, and new learning spaces to measure their ROI.

In my years as a technology innovator I found several factors weigh heavily on usage, student improved achievement, student engagement and your real outcomes our your ROI (Return on Instruction.) In 1998, my division implemented one of the first laptop initiatives in the Commonwealth. The laptops went home with students and had an external wireless card.

One of the many things I remember when starting our wireless laptop initiative was other technology personnel calling us "radical" and wondering why anyone would want a wireless laptop. Yes, that was just a short 18 years ago. Imagine what would have happened in technology if those of who chose to think differently had listened to people who called us radical and told us to stop what we were doing with new technologies. We quickly discovered that laptops were not durable enough to go home with students every day so brought the laptops back into school and used them in carts for teachers to checkout with their class. This was our first ROI as these devices were used instructionally in all core classes and used for online testing. Move forward a few years and our school division was one of four divisions chosen to try the Virginia Department of Education's "Beyond Textbooks Pilot. " We were allowed 40 devices (iPads) and 40 digital textbooks. Two determining factors and questions were to be determined by the pilot. The first one was, Are divisions ready to adapt to digital textbooks? and the second was, Are textbooks companies ready and willing to supply digital textbooks? The pilot ran a year and data was collected to determines successes and challenges. As a division, we decided to implement two grade levels with the digital textbook and device so purchased an iPad for each third and fourth grade student.

We also contacted the textbook company and they allowed us to use the digital copy on all of our devices. We also worked with other textbook companies until we were able to use some form of digital textbook in all four-core subjects. This became our second ROI as all third and fourth grade students had their textbooks digitally on their device. The device

went home with the students so no heavy book bags were needed.

A survey was conducted with parents to determine if students read more, did their homework more quickly, and was more engaged with their digital books and device. The answers were not surprising. Most parents stated that their student was more engaged at home with their device. Parents also added comments that the device opened up a new channel of communication between parents and students on many subjects including homework and being a digital citizen. The return on Instruction was measured on engagement and homework with our students.

Check out our video on our implementation from the eyes of a former fourth grade student: <https://youtu.be/b-v880ZeRfs>

Still moving forward a few years, we implemented a 1:1 device in grades 3-8. However, we found that textbooks companies still did not have the desire to implement textbooks that could be downloaded on the devices to be used without Internet access. Our next step was to find activities that our students could use the devices in school and after school hours. We began in our libraries. Librarian purchased eBooks, which could be checked out on the devices. Teachers researched and added appropriate grade level apps and activities on the devices. Our devices were used as a tool for instructional activities 24/7 and could easily be tracked for homework activities.

As we moved forward, we decided our devices needed new environments.

We first changed our library environment spaces to challenge our students to collaborate, think critically, communicate and create. This is a sample of how our media center looks at this time. Notice the stage that students can sit on and listen or read. We redid the tile, painted the walls, and added new

technologies. This video shows an elementary library that has been transformed into a learning commons space. Notice the stage that students can use to sit on rather than their chairs. <https://youtu.be/iLEtRplmQWw> In some instances just getting new paint, new tiles, new furniture and branding the new collaborative center with technology and maker spaces encouraged the students to use their devices to create and to share activities with their peers. Moving forward, the librarians were trained on coding and other STEM activities and integrated these into their lesson plans for all elementary grade levels.

We believe it is very important for students to use technology in an environment that is conducive to collaboration and creativity. These new learning spaces are ways our students use their technology for return on Instruction.

In our two high schools students may opt to attend one of our academies based on the New Tech concept. Students are issued a laptop to use 24/7 and are required to work with their peers to design and create projects. These two academies use devices to solve and create solutions for the community as well as for the school division. Their return on instruction is helping businesses in our community with web pages, instructional artifacts, and creating schedules for activities. Their technology is used every day for collaboration, communication, creativity and think critically.

Janet Copenhaver is the retired Director of Technology from Henry County Public Schools.

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MEASURING RETURN ON INSTRUCTION FOR

ROANOKE COUNTY SCHOOLS.

For over a decade, RCPS has maintained a robust 1:1 program in grades 9-12. In recent years, the 1:1 program was piloted in our middle schools. Currently, grades 7-12 are involved in our 1:1 program, and we hope to expand the program in future years.

Feedback from parents, local businesses, and higher Ed institutions indicate that Roanoke County students are better prepared for a life after graduation based on their participation in the 1:1 program. Regular use of Microsoft Office programs and 24/7 learning via Blackboard familiarize our students with skills they will need as they move on to college or into the workforce, and access to a laptop 24/7 deepens learning opportunities that many students, and their families wouldn't otherwise have. But our instructional practices take students beyond the Virginia standards and support the development of less measurable soft skills, as well. 21st Century skills are a focus of our comprehensive plan and embedded in RCPS instruction.

An example of this is a year-long program that was implemented during our 8th grade 1:1 pilot. The **Be the Change** project challenged 8th graders to identify, research, and connect with, agents of change. The students selected change agents based on their own personal interests and passions. Cultural diversity, animal rights, hunger, clean water, special needs, and women's health, were just some of the topics that students connected with. Based on this description, you might be inclined to think that the parameters of this project were not that different from other good projects for students of this age. But the technology involved, and the way it was used, gave us a much deeper ROI.

Using their personal interests and passions, the students in

the **Be the Change** project selected historical change agents to research. They were then added to a group of students who were studying the same historical figure. Each group was comprised of students in their own school, although not necessarily from their own class, as well as students from our neighboring district, Roanoke City Public Schools. The groups met at local public libraries on three occasions throughout the year, but the rest of the work happened digitally. Students collaborated via Office 365 to accomplish their tasks.

Students worked collaboratively to research and presented information about their historical agent of change. The presentations were well done, but the overall impression was that these individuals were somehow above the norm. The students didn't really connect with the idea that their actions could create positive change in the community.

The next phase of the project was closer to home. Based on the original interest that the students in each group selected, local agents of change were identified. These individuals were working in our own communities to make positive changes. The teachers approached these individuals, explained the project, and asked the local change agents to mentor a group. The response from our local community was overwhelming positive. In our second face to face meeting, groups met their mentors, interviewed them, and learned how regular people from their own communities worked every day to make a difference.

The culminating project for each group involved designing a 30 second PSA based on the information gleaned in the interview with each mentor. The PSA needed to be developed for the mentor's target audience and had to be easily shared via social media or television. The students used Office Mix to create artifacts that were broadcast ready. Most were unfamiliar with Office Mix, however, and had to learn how to use this tool. Once students understood how to use Office

Mix, they created tutorials for their counterparts in Roanoke City. The tutorials were also shared with mentors who expressed interest.

To celebrate the completion of this project, community leaders, mentors, family members, teachers and students met on a Sunday afternoon at a public library. The students shared their PSAs and talked visitors about the changes that were occurring in our community. It was a celebration that inspired all of us. The students had transformed. They knew they could make a difference, and they knew how. [Special Olympics PSA](#) [Angels of Assisi PSA](#)

The ROI from this project goes far beyond the development of research skills and the use of software. Students from very different social cultures worked together, based on shared passions. Working together helped them embrace the differences in their cultures and they developed a respect for each other that otherwise might never have existed. They collaborated in a digital workspace and overcame the challenges associated with not working together in a physical environment. They connected with experts in the community and created artifacts that would further positive changes in our area. More than all of this, they students learned that they had a voice and the ability to make a positive change in their own communities and beyond.

Quality instruction has always been a focus for Roanoke County Public schools, and the meaningful integration of technology has played a major role. The **Be the Change** project is just one example of deeper learning that could not have happened without technology.