Innovations in Learning

Stories from the Classroom

Rockbridge County Schools 2018-2019

Written for the county schools by

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There is little doubt that society is constantly evolving with each generation of students that crosses our graduation stage. As society evolves, so too, do the workplaces and economic drivers of our world. The dramatic growth of technology over the past 30 years has brought about changes in the types of available career opportunities more quickly than at any time in our history. In fact, due to this rapid change, many students that entered kindergarten in Rockbridge County Public Schools (RCPS) this year will one day be working in careers that have yet to be invented. With this realization, educators needed to learn how to educate students differently to prepare them for the demands of the 21st-century world.

In 2017, the Virginia Department of Education having collaborated with business leaders, developed and released the *Profile of a Virginia Graduate* as a part of the new requirements of the Standards of Accreditation. A critical portion of the *Profile of a Virginia Graduate* is the incorporation of the 5 C's into daily instruction as often as possible. The 5 C's represent furthering skills in Communication, Collaboration, Critical Thinking, Creativity, and Citizenship.

During this same time, through an extensive comprehensive planning process, RCPS also set out to create a road map of the best practices in which to educate current and future students of Rockbridge County. When asked where the focus of the RCPS School Board and school division leadership should be with respect to future goals, 84% of all surveyed teachers, parents, students, local business leaders, and other community members felt the focus should be to expand student-centered learning opportunities by including project-based teaching strategies throughout the curriculum.

All of these factors have played a vital role in focusing our RCPS professional development toward teaching strategies that will better meet the needs of today's students. This book gives a few examples of how these strategies transform teacher-directed traditional classrooms into more student-centered, highly engaging, deeper learning settings for all students. Teachers are connecting students to real-world problems with an overarching emphasis on communication, collaboration, creative thinking, and critical thinking, coupled with a context-rich curriculum, high expectations, and academic rigor. All of this while students are being empowered to take charge of their own learning as teachers release themselves from being the center of instruction.

This type of instruction is truly a shift in the mindsets of students, teachers, parents, and all of public education. This is a shift that can be both challenging and rewarding for all involved, however, we believe that it is an effort that is vital for the future success of all of our students.

In working toward student success, Rockbridge County Public Schools recognizes the value of partnering with local businesses and organizations across Rockbridge County. We look forward to further collaboration by developing partnerships that will open doors of possibilities for our students to explore a variety of work environments. These types of partnerships can provide an invaluable educational experience that can only be found in the workplace helping to better prepare our students for life after high school graduation.

Overview:
Lenna Ojure and Sharon Myrick

As retired educators we are interested in developments in our community schools. We knew exciting teaching was taking place in the county this year and wanted to capture the stories of what teachers were doing and what students were experiencing. This spring we interviewed a sample of teachers involved in innovative learning projects, recommended by principals from all the county schools. We also spoke with their students to gain their perspective on learning by doing projects. What we discovered was inspiring. We found there were common experiences among those we interviewed.

We heard repeatedly from teachers about how challenging it was to implement instruction that was more open-ended than what they had been doing, essentially giving students more control over their learning. However, their agonizing statements were quickly followed by, "but it works!" Students demonstrated amazing growth in skills while creating products that community audiences recognized as impressive. Teachers also commented that doing projects early in the year was a good way to encourage students to think in new ways; later in the year classroom practices become ingrained and students are less inclined to try different approaches to learning.

When students were asked what they found most engaging in learning through completing projects, they listed, "the opportunity to work with others in small groups to share ideas, to look at things in a creative way . . . to solve problems together." At times they also mentioned they had to learn new skills to work well in a group. Some students received feedback about their work from peers and adult audiences, encouraging refinement of their final product. Long term learning was evident in students' recall of details of work completed up to six months prior to our interviews.

It was heartening to realize the significant number of businesses and community organizations who contributed to school projects. Both teachers and students repeatedly acknowledged the support they felt and their sense of belonging to the larger community. Significant collaboration also occurred within the schools among teachers, specialists, librarians, custodial staff, and administrators. The value of everyone pitching in was evident.

The following stories of student-driven projects are organized by grade level, starting with kindergarten and ending with 12th grade.

We began this project late in the spring and could not have finished it in time without the support of Brian Hamelman, year book adviser at RCHS, who jumped on board and created the design of this booklet. He encouraged us with his calm philosophy of "it will all get done." Thanks to Brian, it did!

K– Central Elementary

Kindergarteners Take Charge

On my way to visit Christina Trombetta's kindergarten classroom at Central, by chance I (Lenna Ojure) met one of her students leaving the classroom on some kind of mission. He said hello to me very politely and told me I was welcome and should join "our class." That was my first inkling my visit was going to be quite interesting. When I entered the room I found the students absorbed in various tasks. Several small groups of students were playing math games on the floor. Trombetta herself was sitting with one larger group helping them learn a new math game while two other students were working diligently away at some papers they needed to complete. Everyone was focused and engaged. Students are now so used to adults coming and going in classrooms, that my entry did not break any child's concentration. Soon it was time for the class to leave for library time. Did Trombetta organize them and lead them away? No, the child who was the class leader for the day selected a song to play that would bring everyone together to the rug. She then proceeded to organize the line to go to the library by gently tapping one student after another on the shoulder. Trombetta did lead the way to the library, returning to speak with me about her projects for the year.

Toward the end of our discussion, Trombetta was called to the office. I remained to organize my things. The students entered with the librarian who was off to one side organizing their books. I asked the child who was the leader for the day about the weather project the class had completed. Once I started my questions, she began leading the class in a song that involved organizing themselves on the rug in an orderly fashion facing me, so I could talk with all of them. I was amazed at their poise and control as they sat calmly in rows on the rug facing me. They spoke with me for about 5 minutes until Trombetta returned; they recounted how their weather project had worked and what they thought about it – all positive. Clearly the kindergarteners knew how to take charge of themselves and learn proactively. Trombetta credits this sophistication to doing hands-on learning with many projects during the year, as well as having guest speakers.

All year, the kindergarteners completed activities related to understanding weather, an important Virginia standard of learning for kindergarten. They recorded the weather each week and made a summary every Friday. Two students at a time went to the office to make the weather announcement each Friday morning with a prediction for the weekend. In addition to the weekly logging of weather information, the class also completed a study of conditions in various parts of their schoolyard, comparing sights, sounds, smells, and temperature. For social studies, they created large maps of Virginia after listening to an expert speaker on how GIS, Geographic Information Systems, is used for mapping technology. A major component of the project involved filming a weather report using their maps for a backdrop. Every child participated in the video, mastering communication and language skills. Excitement was high throughout the year with students asking every day when they would be working on science or social studies. The icing on the cake occurred when WDBJ, Channel 7, picked up the video from Central's website and showed it on the evening weather report.

3rd– Mountain View Elementary

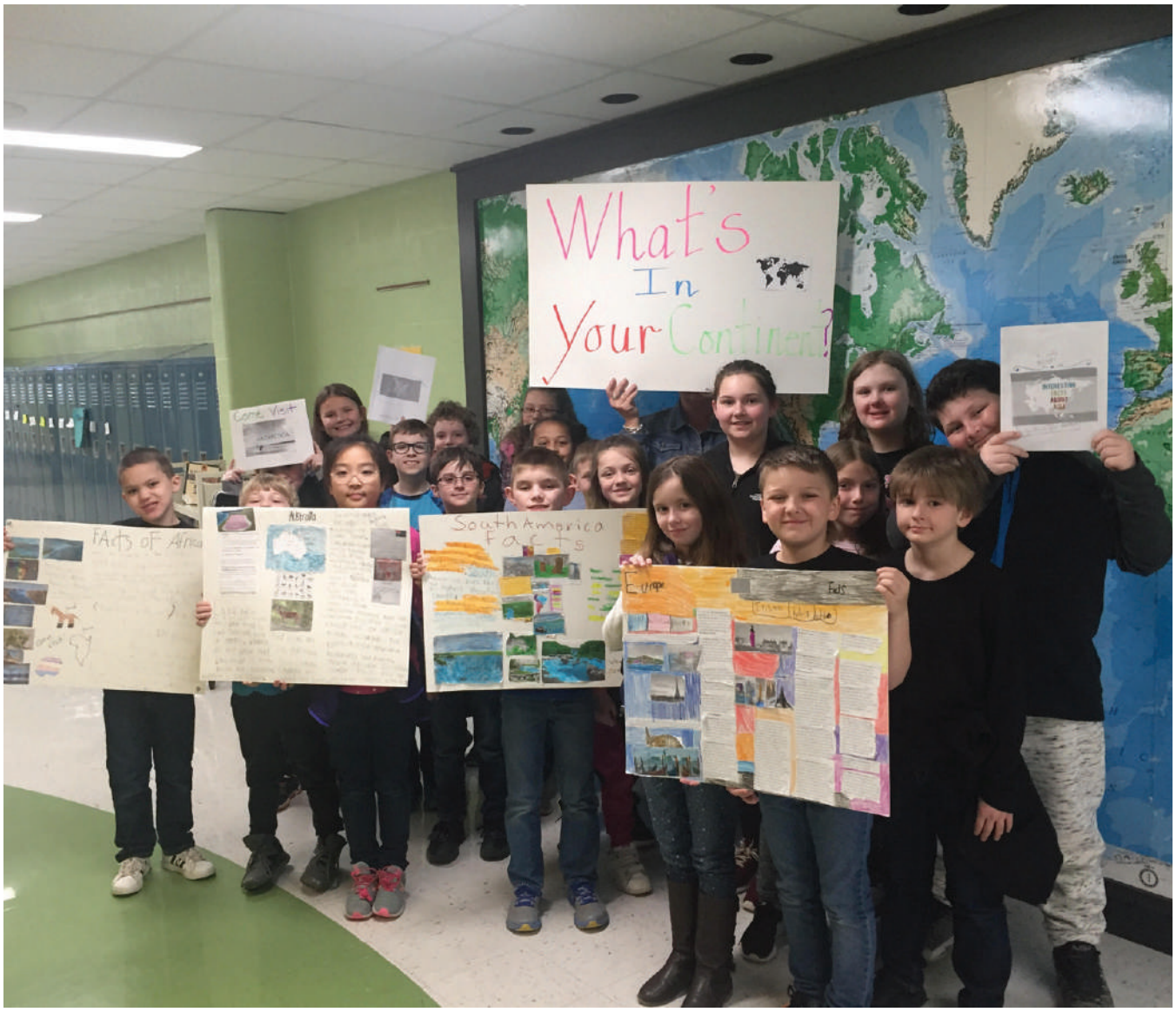
Where in the World?

After learning basic facts about continents, third-graders in Gail Clark's class at Mountain View broke into seven groups to continue learning. Each group explored a continent in depth, looking for points of interest they thought were important to highlight. Their goal was to convince others to visit their continent. During the project, they could be seen absorbed in their research, spread out around the room with their computers or walking respectfully to the school printing room to retrieve pictures or text they had printed. The students followed procedural guidelines in a very mature fashion, being mindful of page limits for printing and working in a way that did not disturb others in the school.

After completing their research, the third-graders determined how best to communicate what they judged to be special about their continent. Students had the choice of creating a poster or a booklet. The class members each had strong feelings about the format they wanted to use. One reported, "Well, the booklet was fun because you made your own book. You made your own story." Of course, there was another point of view, "For our poster we wrote by hand and we used pictures we found. We felt we were successful." Overall, the third-graders were very positive about the products they created.

Group work has it challenges, but the third-graders benefited from working in a group and were able to resolve differences in a positive way, "I liked how we agreed . . . and disagreed and worked it out so we got to good ideas."

The project was an effective way to learn and a worthwhile endeavor, "I liked how I learned some more stuff about South America, because I didn't know that South America had the largest waterfall in the world." Another mentioned, that "It (Australia) has a pink lake. Scientists don't know why it is pink. It is also very salty. . . I want to go there someday.." Overall, the third-graders gave the project a resounding positive review," I really liked doing the poster and booklet and I hope we get to do it again next year."


What's
In
Your Continent?
Come Visit
Facts of Africa
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What's a Decomposer Door?

Ask any 3rd grader at Central Elementary and they can tell you. And the news is spreading fast to other grades as well. The inspiration for this unleashed energy is an outdoor classroom designed by collaboration of the four 3rd grade classes.

The back story for this creation is a conversation with Boxerwood staff who suggested an urban school could benefit from a natural, woodsy space for learning. A neighbor of the school offered just such a possibility, and when the lawyers finished their work the possibility became a reality through the work of 3rd grade students and their teachers.

Students researched school outdoor classrooms to determine what the benefits might be and selected reasons to create such a learning space. The top 10 reasons were: better outdoor skills, better health, improved memory, less stress, better grades, improving your community, caring more about the environment, better behavior inside and outside, better communication skills, and more motivation to learn.

Next, students designed a space large enough for two classes at a time. They used pinecones and sticks to make a model of what they wanted. After clearing the area of growth, they dug shallow holes and placed logs for seating. To prevent erosion, pine straw was distributed across the area. Outside the seating area small wooden doors were spread out in different places. Lifting the underside of these doors reveals a lab for enthralling analysis of decomposers – what they do for us and the soil. Another

discovery by a 1st and 2nd grade teacher was that conducting water volume activities is easier with no need to worry about spilling water. Kindergarteners have also visited the new outdoor classroom with their small whiteboards in hand.

The 3rd grade pioneers engaged in a writing session describing what the area looked like before and what it looks like now. As to how the students feel about the space, they describe it as cool and shaded, quiet soft space, peaceful and less distractions allowing more concentration. And, most fascinating to them, no one can see them.

With a sense of ownership of the outdoor classroom for two more years, the soon-to-be 4th graders have requested reading lessons and more science lessons there next year. They also developed, by democratic vote, four expectations to protect their treasured space which are posted at the outdoor classroom.

1. *Stay on the paths*
2. *Nature stays in nature*
3. *Harm no living things*
4. *Always be respectful*

For more information about the project, the following teacher collaborators would be happy to share with you their enthusiasm for the project: Susan Mahood, Becky McFaddin, Sonja Cauley, Melanie Hickman, and Amy Henson.

4th– Fairfield Elementary

We Can Give Back

While practicing skills in interviewing adults, 4th graders in Fairfield learned that volunteer jobs in the community are extremely important to community members. Students asked many questions about one agency, Project Horizon. Some students were familiar with the good work of Project Horizon, one saying, "I go to counseling with them – they're awesome." Responding to student enthusiasm, science teacher Stephanie Tuttle asked, "What could we do to give back to Project Horizon?" The youthful responses included: "Raise money; Ask our parents to donate money; Sell some stuff; Have a plant sale." The last one seemed relevant to students' experiences participating in prior years planting of the school's spring garden. In the end, they decided to hold a plant sale to raise money for Project Horizon.

Their research in science class began to answer questions: "How long do plants germinate to maturity? Which plants grow in Virginia? How much do seeds cost?" Their previous list of 60 types of plants they wanted to grow dwindled to 20. Students developed a survey and sent it home to school parents to determine what the community would want to buy. They also asked two local businesses to donate supplies for raising plants….students asked, not teachers or parents. Success in obtaining resources, even more than they asked for, ignited more energy. Thank you letters to the businesses were signed by every student.

One student asked the class, "How will everyone know what's happening?" A focus on advertising (flyers, posters, a radio ad, and personalized invitations) resulted in assistance from teachers in art, STEM, and the library. Another student asked, "What if it rains?" He then successfully lobbied for his analysis of the most effective location for the sale – the volunteer fire department.

The favorite part of the project for students was two master gardeners from the community who spent a day teaching students potting and caring for plants. "I wish we could have had more time to learn from them," was a frequent comment from students.

Students wanted to ensure they raised a significant amount of money for Project Horizon. Math class with Trina Leonard was where they figured out profit made from their enterprise and impact of donations from community businesses.

Plant sale day students escorted shoppers to help them find what they were looking for. A large number of parents came out because their children talked with them about the project for months.

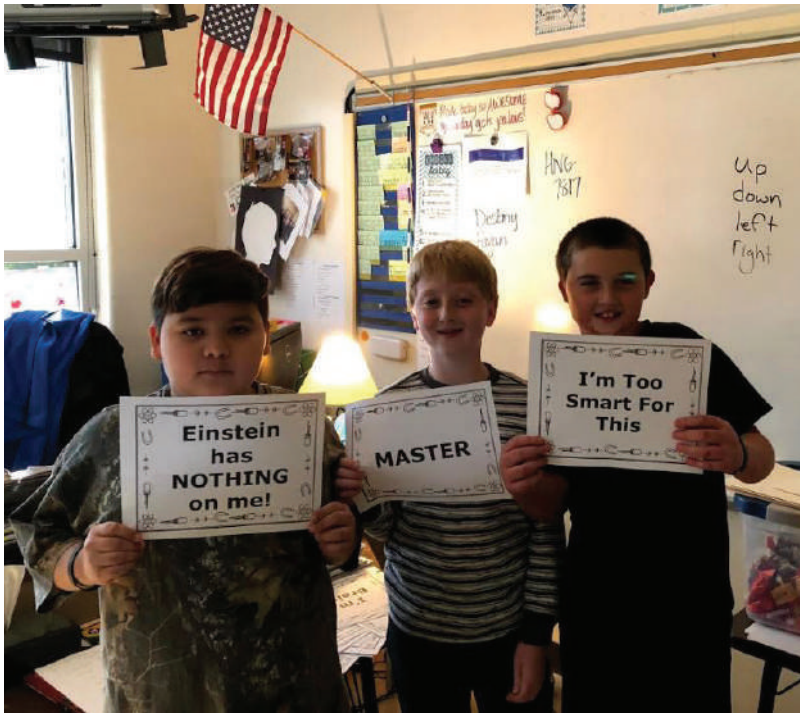
The cost of plants purchased was "by donation". Students had explored the various options for pricing the plants and decided that approach would be the best opportunity for raising the most money.

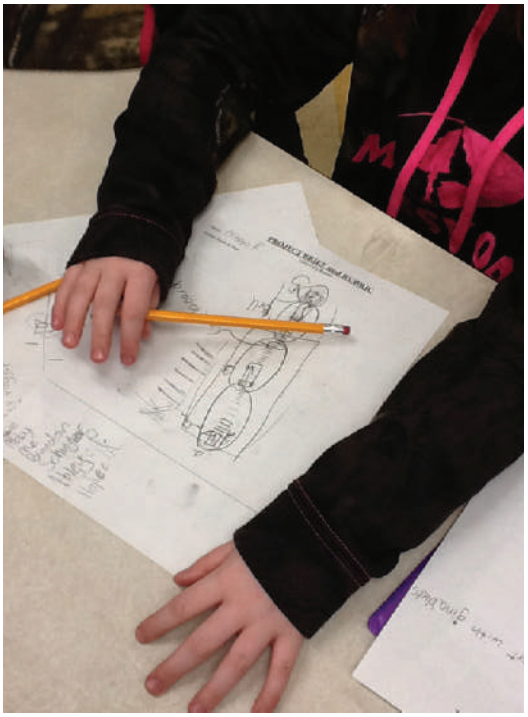
Teachers said to students, "You're only in 4th grade, but look at what you can do!"

Junior Meteorologists

How do school systems determine the number of snow days to insert in the school calendar? This was the question that launched an extensive project in Kelly Rapoza's fourth grade science class at Natural Bridge Elementary. Working in groups of three or four, the fourth-graders researched the relationship between clouds and precipitation in conjunction with weather systems and storms. They also studied how meteorologists take weather data and make predictions. As part of the process, they participated in mini-lessons Rapoza provided when they needed more information to continue with their projects.

Once they had mastered some of the weather basics, the students invited Randy Walters from Rockbridge County's central office to explain how he makes calendar decisions for the school. They asked him to detail the process for determining how many snow days to include in the calendar. After hearing him, the students concluded that, "It's complicated." However, in spite of the complexity of weather prediction, they forged ahead with enthusiasm and filmed weather reports explaining their prediction for the 2019-2020 school year, using their analysis of previous years' weather data from the National Oceanic and Atmospheric Administration (NOAA).





For many of the groups, working together with peers was one of the highlights of the unit. One group, in particular, commented on how they felt they were a great team, because they each had a unique interest or talent to bring to the video. Indeed, they felt their production was more successful and enjoyable than if they had each worked alone, "We all had certain things and . . . when we put it all together, it makes something that is really good . . . and it's all about working together." Group work takes some skill but the fourth graders were excited by the opportunity to learn in groups. They indicated they were up to the task. When interviewed, they expressed fairly sophisticated concepts about the requirements of good group work, "If we argued, we would try to come up with a compromise."

The learning that occurred in science when studying weather this way encompassed other subjects, as well. The fourth-graders were aware they were integrating information and skills from other disciplines, "Math, reading, and social studies kind of came together with the science . . . it was really good." Rapoza gave the students one brief test at the end of the unit to measure how much students had retained. She was very pleased with the results. In her estimation, the results were "fantastic." She could tell from the students' videos they had a learned a great deal, but it was particularly reinforcing for her to see that all the students, even those who normally did not score well on science units, demonstrated a high level of knowledge. The overall assessment of the students was voiced by one student clearly, "Weather is cool to learn."

5th– Fairfield Elementary

History Comes to Life

Fairfield 5th grade students visited the Frontier Culture Museum in Staunton on a mission to evaluate what makes for a good exhibit. The students decided they learned the most when they were involved, doing something, and interacting with the adult storytellers. The youth used this understanding to create a Colonial Museum at school with exhibits in which they were actors and involved visitors in how people lived in the early American colonies.

Substantial independent research by learners addressed questions such as the motivation of early Americans to colonize, environmental resources, and economic specialization. Based on their findings each person chose the roles they wanted to play and *became* the people in their chosen colony through dress, tools, storytelling and demonstrations.

Working in groups of three is an ideal number for this type of project in the experience of their teacher Cathy Whitesell. “Working together on a team is great” and “We got to know team members better,” said students. Student colonists decided what sets to create and ways to interact with visitors to demonstrate colonial daily life. Appreciating their opportunity to be “hands on with things,” colonists wanted to share their experience with museum visitors. For example, the young colonists representing Georgia showed how cotton was grown and museum visitors were able to harvest cotton from student made cotton stalks and place it in baskets made by the colonists.

Working in small groups allowed students to actively problem solve, think about what makes a good team member, and practice overcoming challenges working within a group. In line with others, one person said, “It boosted my imagination up a lot.” Whitesell observed that each group had novel ideas and high standards for making their project “just right.” At Colonial Museum day other students, parents, and community members saw the colonists demonstrate their increased sense of competence and pride in learning.

5th– Natural Bridge Elementary

US Colonies for Sale

Imagining themselves as Colonial real estate agents, the fifth graders in Jason Mazingo's social studies class at Natural Bridge Elementary (NBES) brainstormed what they would need to know to be a successful Colonial realtor. Their goal was to sell their Colonial region to the 4th graders at NBES. To accomplish their mission, they consulted with a contemporary real estate agent in Rockbridge County. He explained what an agent needs to know and highlight about a property to sell it. Armed with this information, they investigated the three main regions of the Colonial period: New England, Mid-Atlantic, and the South. They gathered data on the elements that were critical to know for making a sale. After breaking into groups, they chose a region to market. Their assignment had some guidelines, but most groups researched on beyond what was required. They were determined to be successful at promoting their region.

Each group produced a commercial highlighting their area. The requirements for the presentation were determined in part by the demands of the Virginia standards of learning for the 5th grade. As a class, they reviewed the standards and made lists for themselves of what to include. After that, they went off on their own, adding features they felt would make their region more attractive. Students indicated that

this process of research was highly effective for them, “He (the teacher) didn’t tell us; we were teaching ourselves and the fourth graders . . . we learned more through research . . . it was hands-on and you feel like you were right there (in Colonial times).”

While students found making a commercial engaging, they also viewed the process as hard work, requiring significant concentration. The groups had to do a number of retakes because invariably someone would forget a line or a prop. As a result, the students learned a great deal about maintaining focus and producing a quality product, all valuable skills.

The project also included a significant portion of self-reflection and evaluation. Groups evaluated their commercials in terms of whether they met the goals they had established after analyzing the standards of learning. Students also evaluated themselves individually using criteria for participation in group work and for learning the fifth grade standards.

When asked if they would like to do a project like this again, all of the students interviewed answered in the affirmative. They were 100% clear that learning this way was engaging and effective for them. One stated that he liked the process because, “I was in charge.”

6th– Maury River Middle

GMO, What Do You Know?

Sixth-graders in Gretchen Dowless' life science class at Maury River Middle School can discuss at length GMOs, genetically modified organisms. They tackled research on the complex topic of GMOs in the fall to learn accurate facts about their origin and purpose, using internet and library materials. Overall, the students preferred investigating specific questions about GMOs, rather than using a textbook alone. As one student commented, "The research let me cover the main questions but also go off on my own into parts that were really interesting to me." Another student felt the research was powerful, "The research was so helpful; all of my notes helped me when I worked on my poster." Still another student expressed satisfaction with the flexibility of doing research, "On my Chromebook, I did not have to wait for a whole group to complete one thing. I could go ahead on my own and learn more."

Their knowledge was tested when they had to explain GMOs in discussions with guest teachers who came to their classes. Once the six- graders were confident they had a good understanding of GMOs, they each chose a way to convey the information to others students in their school and in other schools in the county system—options included brochures, posters, videos, PowerPoint slides, and website posts. Several students came up with ideas the teacher had not thought of; for example, one student proposed the option of creating a detailed flip chart with questions and answers about GMOs. Another suggested they use the school public service announcement system to broadcast facts on GMOs and the school's Facebook page. The class felt having choice as part of the assignment was instrumental in their learning, "For me, creating stuff with technology is better than doing a poster, so I liked having a choice." Group work was also key, "I liked how we could be so creative with all of our minds together."

The final phase involved students pairing up to produce drafts before creating their final products. Once the drafts were completed, the six-graders provided all their classmates feedback and suggestions for revision, both through an activity the teacher led and through conversations with each other while working. The students reported learning a great deal about the pros and cons of GMOs through creating their projects. "I did not know any of this, but now it is stuck in my brain because of doing something fun." One student summed up the effect of the project this way, "it encourages you to learn."

There's a Lot of Math in Basketball

Physical education teachers Tasha Polly and Vicki Black joined forces with math teacher Heather Floyd to help 6th graders at MRMS gain a deeper understanding of mean, median, and mode. As the students involved in the project will tell you, "math is used in sports all the time." The students each joined a group that became their team. They recorded each team member's success at free throw trials. Through the data they collected, they completed graphs and then computed the mean, median, and mode of the results. Using these initial computations, they learned how to bracket out the team results, as if they were college officials determining the winner of the March Madness tournaments. Students found the project enlightening, "I never knew math and basketball had so much in common." Learning math this way increased the students understanding of how math is applied and simultaneously increased their interest in physical education – a victory, indeed.

The students' knowledge of bracketing was applied to a reading program, as well, Read to Feed, initiated by Susan Petriella. Polly and Black assisted here as well. Students kept track of the number of books read per class and then created brackets similar to those of March Madness to determine a class winning team. The project helped raise money for food for families in poor countries and also earned the winning class delicious milkshakes from the Cook-Out restaurant in Lexington.

As it turns out, there is also a lot of math in an individualized fitness program. The motto for MRMS physical education is "Own your own health." Students are able to use an IHT wrist heart monitor to track their individual progress at improving their endurance and strength. Students can see graphs of how their heart rate is changing through exercise. They can learn to monitor their own level of fitness and increase or decrease their level of activity based on keeping their heart rate within a positive work out range, neither too low nor two high.

Students have the opportunity improve their fitness through a number of activities in PE class such as games and dancing. However, they are also able to learn more about outdoor sports they can continue throughout their lives. The PE department owns 40 mountain bikes thanks to a grant MRMS received. Often 15-20 6th graders enter MRMS with little biking experience. They are taught to ride in PE with assistance of the Lexington Police. The PTA generously funds kayak rentals so that the students can learn kayaking. While out kayaking, the students also engage in science by performing water testing. Hiking and biking in the woods and trails in Rockbridge County afford students the opportunity to gather samples for biology.

Math, science and English pop up all the time in PE. Indeed, for Polly and Black all subjects can be seen as connected.

8th– Maury River Middle

Do You Believe in Your Abilities?

We often hear, “I can’t make change happen – nobody will listen to me.” That belief was challenged by a series of activities in five 8th grade English classes taught by Courtney Diette.

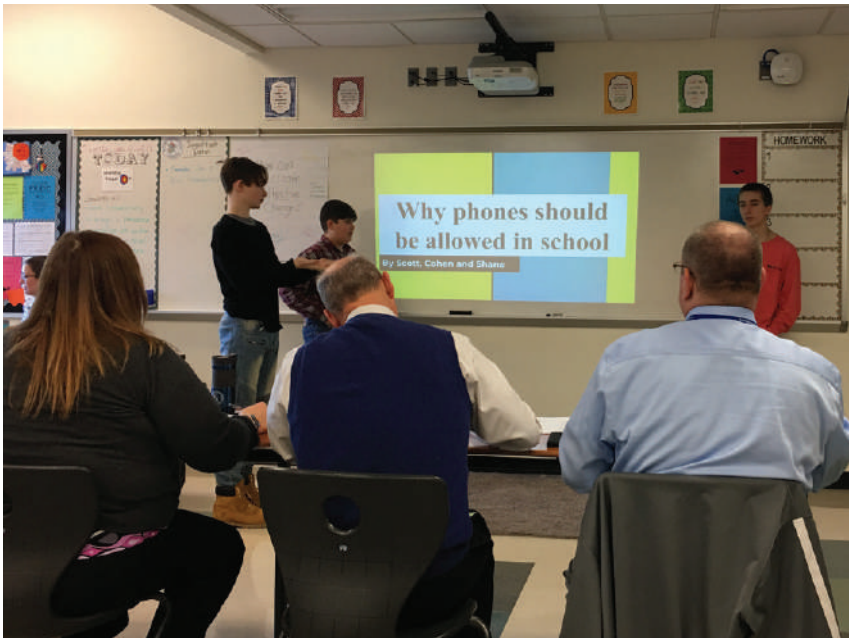
Initial inspiration for the young teens came from reading a biography of Claudette Colvin. As a 15 year old, she took action in the Civil Rights movement similar to, but before, Rosa Parks. Students encountered a complexity to the story they thought they already knew, creating excitement to learn more. Each chose an event or person comparable to Colvin’s actions to dig deeper in understanding how change comes about.

Research assistance was provided by librarian Sarah Edwards. Students used a new digital database which allows saving notes to a personal account, easily highlighting information, with citations indicated. The main research challenge is learning to analyze questions and identify key words that will be effective in searching. Students were surprised and excited to find information they did not know about, constantly questioning and sharing what they learned with others. Most importantly, they expressed ideas in their own words, their own voice, increasing confidence in “I think…”

Diette asked students to display their learning by writing 1-2 paragraphs for three separate days on the background of the topic, how their topic related to the Colvin story, and whether the topic is still going on today. Putting all three writings together, students were impressed by their accomplishment. “I never thought I could write a four page research paper,” many said in different ways.

Class discussion led to identifying common elements from all the events and people, and how situations were effectively changed.

From one story – to many stories researched and discussed – students were prepared to analyze their own situation and issues. Using the *Student Handbook*, the classes comprised a LONG list of what's not fair or right about school. Examples from a wide variety of concerns included: homework, more time between classes, cell phones, dress code, food in classrooms, and bathroom use during class time. Each student identified their top three concerns. Groups of 3 to 4 students were formed to focus on one interest they had in common. Each group's mission was to work independently and come up with a written document of what they do not like about the existing policy, a viable alternative, and a public presentation to a panel of three people who could influence a change in policy (such as school board members, school administrators, and college education instructors)



Presentation formalities were followed in room setup, dress, style of speech, and responding to questions. Prior to the formal presentations each group practiced with critique from other students. Most groups took peer feedback seriously and made presentation revisions.

Diette was "extremely proud to see how the students rose to the occasion." She attributes the success to the fact that presentations were something the students wanted to do and understood it was their job to convince people who could make a difference. Students were surprised that people actually came to listen to them.

Spoiler alert : Rumor has it that one of the student recommendations for change is presently under consideration to be changed for the next school year. Congratulations to student change makers!

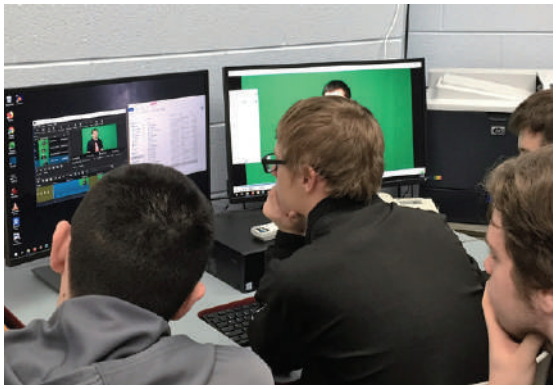
The Library Media Center: Where Learning Projects Happen All the Time

Economics students track events of the 2008 financial crisis through a documentary film and discussion of the complexities of what happened.

Students research a history topic of their choosing using e-books, subscription databases and websites.

Scientific observations via a Nature's Notebook app.

Data collected by Environmental Science students goes into a national database.



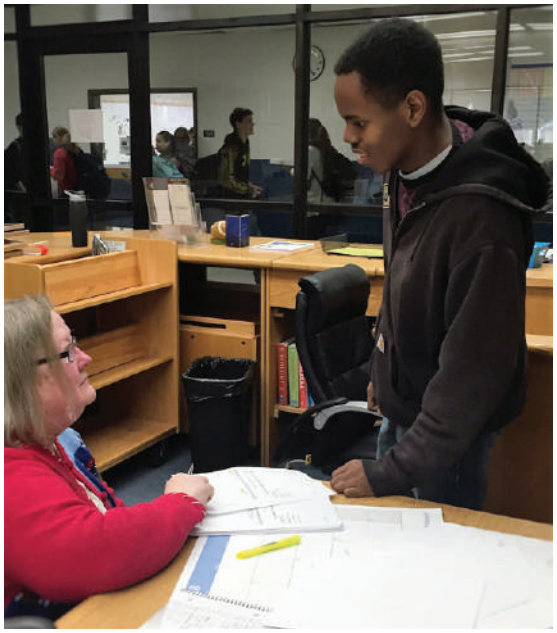
Students produce a video for Environmental Science class and edit using Shot Cut software.

Combining strategic thinking with enjoy games such as chess has been a library tradition for many years.

Print library collections keep users abreast of current events and new literary trends.

The library sends curated books and articles into the classroom.

Beyond absorbing information, reflection in comfortable space produces student synthesis of meaning.



Student library assistants enjoy autonomy, responsibility, and many other work skills, building a resume while in high school.

"We give young people quality information in a lot of different formats, so they have choices."

The media center can be transformed for many uses, including a makeshift recording studio for students to film for a class project.

The audio visual room is now for digital photography.

A writing center is used by students making an audio recording. They create a voiceover for a film version of a Shakespeare play.

Editing a voice recording using Audacity software.

Come see us in action any day!

9th–RCHS

Freshman Academy

What's "Freshman Academy"? Well, it focuses on academics, but not in the usual way of specific content – rather, critical skills underlying all learning. Why 9th graders? To give them a jump start in directing their own learning, identifying what they care about, and acting on their interests as they negotiate through high school.

In the early days of school last September, Morgan McCown, the Freshman Academy teacher, detected a strong message from a wide range of students: "I hate to come to school." Since the class was designed for project based learning, she decided the appropriate response was to explore the feelings in a very concrete way. They took a tour of the school, with each person deciding "three specific areas you are unhappy with about this schools' space." Students were deeply invested in the topic and jumped into a real issue for them, doing research of what other schools were like, and seeing possibilities for their next four years.

Small groups were formed based on common interests for changes in the school. Students decided roles needed for their group and who would do what, with contingency plans if someone was absent. Each person in a group made an initial presentation, with assistance from note cards, to their peers in the other groups. Classmates provided feedback in the form of two likes plus one suggestion and team members revised their presentation based on the feedback. Second round presentations were to an "authentic audience" such as adults in the field of education. After second revisions, school administrators were the third audience with presenters required to meet time restraints and not allowed to use notecards. Evaluation of students was the result of the teacher using a rubric provided (50% of grade) and evaluation by team members who had developed a rubric at the start of each group (50%).

Grades it turned out were not important to students. Performance did matter to them. Initially, there were many comments expressing terror about presenting to adult professionals, but by the end comments were made like, "I feel like I could do that again." Students felt listened to about their concerns, so when constructive feedback was given by a member of the public, the response was, "He's right, I should be making eye contact with the people I'm talking with." Caring about one's personal reputation is like caring about certain topics – both are inherent motivation.

In the last stage of presentations, a range of administrators responded in open-minded fashion to 25 different proposals on topics such as: longer lunch times, making classrooms more colorful through painting over the summer, and the idea of murals – of particular interest to the administrators.

Based on the success of this project in the first semester, McCown proposed to the new group of second semester students a follow-up: researching costs of implementing ideas, who would be involved in the implementation of ideas, and what resources in the community might be available. However, the students in the second semester did not "own" the projects selected by the first semester, so they were not invested or interested in follow-up work. As a talented teacher, McCown identified the problem and moved on to other projects the second semester students would want to engage in.

A closing project for the second semester academy class was students reflecting on personal characteristics, skills, values, interests, and actions they might take now toward a career path. Again, they prepared and received feedback from three audiences. As one of those in the second level of audience, I (Sharon Myrick) kept thinking they demonstrated maturity beyond customary expectations for their age: inspired reflection, openness to feedback, feeling in charge of their life, willing to connect the dots of influences in their life, and empathy for others.

Team building at Boxerwood

9th–RCHS

Follow Your Bliss

Some students in a 9th grade English class struggled with reading. One said, “I’ve never read a book before from cover to cover. I pretended to, but I never did.” The teacher, David Simms, began asking individuals what they liked. Confused, students replied, “Nobody has ever asked what we like.”

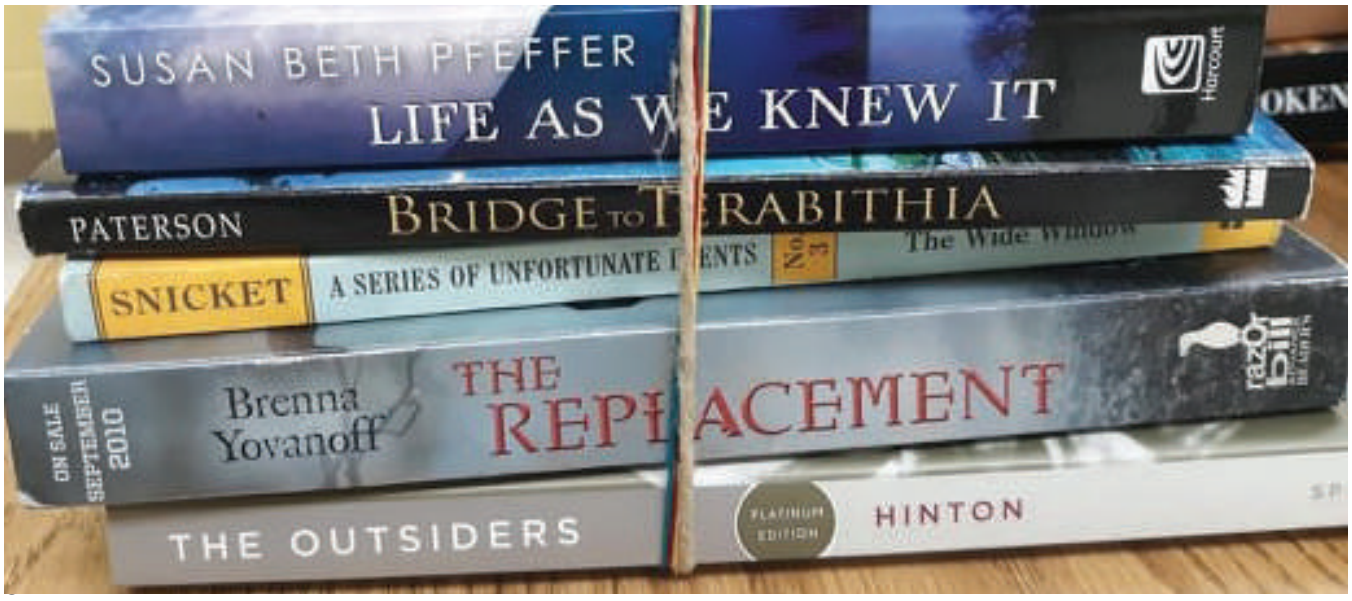
It took a long time for students reading at a 3rd, 4th, or 5th grade level to be able to articulate why they like specific books. They began speaking and writing about events, characters, and issues in books which related to experiences in their lives.

Simms gives a preview or snapshot of a book to allow an individual to choose whether they are interested in reading it. As follow up, he uses the Amazon approach of “If you liked that book, you’ll like this book.”

For books to be read by the whole class, he selects authors with universal appeal whose stories can be analyzed at a college level or an elementary level. High interest level books tend to narrow the gap in reading skills among students. Reading based on interests has increased engagement and learning among all students in the class.

The capstone project for the class is for each individual student to decide a care package for a freshman who will be coming into 9th grade English next year. The package will be a compilation of favorite books selected by a student from this year, writing why they liked each book, and signed with their name.

The students most passionate about this project are the students who started off the year struggling with reading. Simms’ analysis is this experience of achievement that they can recommend books to someone else is new for them. “I love this book and now I can tell somebody else about it.”




LIFE AS WE KNEW IT
REPLACEMENT
MORTAL ENGINES
THE LIGHTNING THIEF
THE HUNGER GAMES
UNBROKEN
LAURA HILLENBRAND
ROALD DAHL
ashes
CHILDREN OF BLOOD AND BONE
MOON
WESTERFELD
A DOG'S PURPOSE
GAIMAN


Kipling
WATERMILL
L'ENGLE
LOWRY
MORPURGO
WAR HORSE
THE THIRTEENTH
DIANE SETTERFIELD
UNBROKEN
LAURA
ILLENBRAND

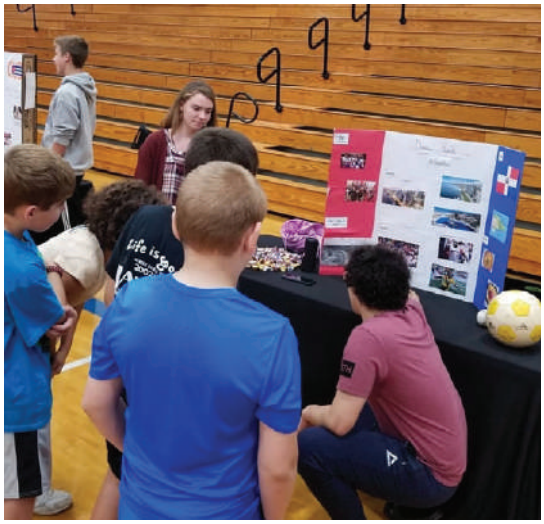
Students Teaching Students

Visualize 19 booths arranged in a large square in the Rockbridge County High School gym. Two 2nd year Spanish students at each booth are portraying cultural features of a different Spanish speaking country through costumes, skits, videos, demonstrations, foods, and engaging their audience. The audience is 5th graders from all the county elementary schools who are visiting the booths for a half day as a jump start to their study of Spanish explorers and the impact on countries around the world.

Rotating around to all the booths, the 5th graders experience interactive presentations by the high school students:

- A different commonly used Spanish phrase at each booth expands visitors' Spanish speaking ability;
- Discussion of the World Cup while a presenter spins a soccer ball on his finger and gets down at a 5th grade level intrigues their attention;
- Girls learn to tie a skirt of striking fabric akin to the dress of that country;
- Sampling foods associated with different countries;
- Responding to questions asked by 5th grade students and their teachers.

After the tour, the younger students voted on which booth did the best job of selling their country. In general, they preferred hands-on activities, while high school Spanish 1 students on the tour were attracted to the use of technology in the presentations.



Doing the best job was the self-imposed goal for the Spanish 2 presenters. They were all in, invested in their country which was randomly chosen by each partner group at the start of weeks of intensive work:

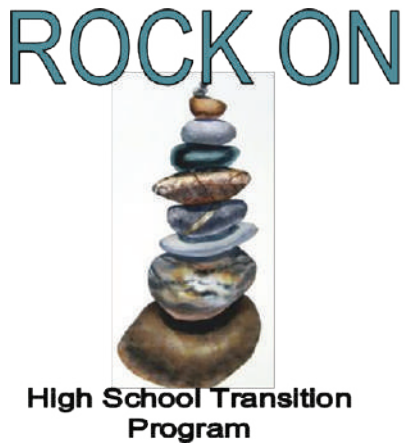
- A signed team contract
- Researching sources pointed out by the school librarian
- Guided by the question, "What would a 5th grader find interesting?"
- Watching travel videos of non-Spanish countries to see pitches used to attract interest
- Writing and presenting a sales pitch
- Creating a travel booth (energy surged at this point)
- Learning to give positive feedback to classmates
- Revising presentations based on peer feedback

Reflecting on the project, the 2nd year Spanish students appreciated: having the freedom to create content and decide what they wanted to do; enjoyed doing something outside the classroom; and, loved interacting with 5th graders. Even though the pressure to present to 5th graders terrified them, many said it was their favorite school project.

Their teacher, Jamie Vest, believes the project was successful because the students wanted to do the project and, therefore, worked extremely hard. It seems Jamie Vest successfully answered the question, "What would a 2nd year Spanish student find interesting?"

11th–12th– RCHS

ROCK ON



The Virginia Career and Technical Education (CTE) program specifies curriculum expectations for each class. Examples of competencies listed for the Life Planning class include:

- Applying problem solving processes to life situations
- Creating and maintaining healthy relationships
- Developing career, community, and life connections

The RCHS Life Planning class decided to address concerns about transition to and through high school. Their mission statement is: "We want to make sure that all students feel safe, comfortable, and wanted."

The transition from eighth grade to ninth grade stood out as the greatest challenge for students. For rising ninth graders high school represented a great unknown with more than a thousand students, a larger campus to learn their way around, and those terrifyingly large seniors who seem so confident.

To assist the transition, the Life Planning students propose a full day tour of the high school near the end of eighth grade for students from the two middle schools. Each rising 9th grader would shadow a rising 11th or 12th grader through a regular day of all their classes. The younger students would learn their way around the school in a natural way, conquer the fear of first time in the lunch room, observe a diversity of classes, and experience the general calmness and comradery achieved by the end of a school year. Most important, they would begin a relationship with a person that would be their mentor, a go-to person for answering questions and problem solving through the transition. The mentor would touch base the first day of school and be available to help out as issues arise. The 9th grade "pebble" would have an upper class person as a "rock" of support.

ROCK Time

The Life Planning members also propose ROCK TIME. This set time of the day could be used in a variety of ways to support students at all grade levels to ROCK ON. Learning needs of 9trh graders might be: turnitin.com, MLA, Google training, how to fill out lunch forms, or benefit from Talent Search resources. 10th graders could prepare to take the writing SOL, review course selection options, consider future plans, different diploma options, and PSAT. 11th grade transitions involve the writing SOL, college visits, SAT/ACT, and career visits. 12th grade students might want to consider options through Independent Study or internships, the ins and outs of college applications, and FAFSA.

Tackling the above academic transition issues could be important early in the year of ROCK TIME. Other options throughout the year could be: a time for pebbles and ROCKS to meet; club meetings; tutoring; speakers from the community; and many other options.

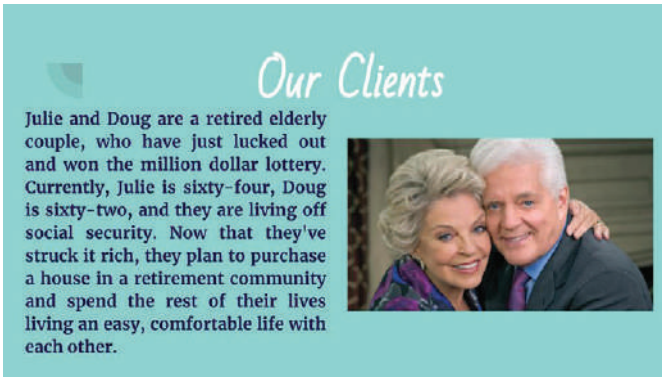
ROCK Solid

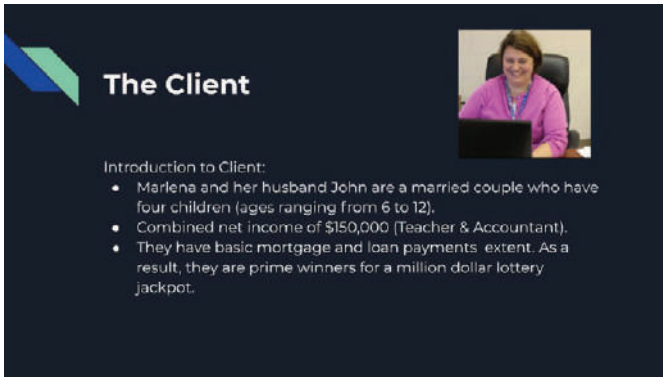
Another component to the ROCK ON vision proposed is ROCK SOLID, to recognize people in a variety of accomplishments. Nominations would be recruited from, and for, teachers and students. Even alumnus could be included and featured.

These three innovative proposals developed by the Life Planning class taught by Robyn Sherman will require more detailed planning as well as tasks assigned for accomplishment. It should be noted that this vision of ROCK ON, ROCK TIME, and ROCK SOLID is student generated, with their teacher serving as a resource for information and inspiration. The rising seniors in the class are committed to helping with the implementation of these ideas.

Advice for Winners of Million Dollar Jackpots

Problem: 70% of lottery winners go bankrupt in 5 years. How does this happen? The answer appears to lie in the fact that winners often have poor financial advice and underestimate the tax burden their winnings will incur. The juniors and seniors in Sue Seaman's Pre-calculus class decided to take on the challenge of trying to act as financial planners to help jackpot winners stay solvent. After mastering the formulas for compound interest, the students worked in groups to act as financial planners for one of four jackpot "winners." Several teachers and individuals from the community volunteered to act as winners, creating different back stories with varying financial situations and life goals.





When speaking with the winners, the students had to gather extensive information about their client's expenses, income, debt, and goals. Early on in the process, the financial planners had to design their own interview questions based on their client and the information they required to provide relevant advice. For many of the students, the interview was one of the highlights of the project. The winners put a great deal of energy and creativity into their roles and kept the students on their toes in a way that was engaging. As one student put it "it (learning to interview) opens doors to communication skills" one can use in the future. Another student felt she gained a great deal of confidence from completing the interview process.

The next step required students to reach out to local banks to investigate what savings options were available. Investing in stocks was encouraged because of the possibility of losing a client's money, but one group did choose stocks as an option. Students approached the banks in different ways. Some used phone contacts, some email, and some went in person to the banks. Many found this part of the assignment to be eye-opening because they did not realize how low interest rates were on most savings accounts. However, a number of the students found this part particularly meaningful in a different way; they were enrolled in the economics and personal finance class at the same time as pre-calculus and were

able to make connections between the two. They felt they gained a richer understanding of interest and savings through what became a cross-curricular experience for them.

Once the students had gathered their facts, they had to create a financial plan with a budget that outlined what their client could spend, should save, and could invest in a long term account. The government takes 25% of lottery winnings right off the top. In the next tax year, the IRS taxes the remaining portion at 39%, so winners have to plan carefully in order to be able to meet their tax obligation. Students produced extensive plans that combined earning money through savings and spending carefully to prevent their clients from going bankrupt. Each group made a presentation about their plan to be reviewed by the class with ideas for revision. After they had revised their plans, they presented them to their clients and other individuals outside of the class.

Many of the students thought it challenging to create a good package for their clients. However, when they completed the project, they expressed a strong sense of accomplishment. They noted that, "financial planning is a good place to have more knowledge." One student commented that he liked "the ability to make it (the financial plan) your own (creation)." The members of one group all concurred that they felt proud when they finished because they could say to themselves, "I did all this." For others the project was powerful because it let them see how math can be applied. They liked that they learned how the math was instrumental in problem solving. They saw "math as the piece that will get your there (to the answer)." All in all, students were unanimously positive about the project and felt Seaman should continue to include it in her course.

Support is Key

As can be seen through the stories we have presented, learning through project work is a challenging but worthwhile endeavor for teachers, and an exciting process for students at all grade levels. However, for teachers to teach this way, they need administrative support through professional development and on-going mentoring. All the teachers we interviewed had completed an extensive training during the previous summer with a nationally recognized educational organization specializing in learning through project work.

Teachers found mentors by continuing relationships with some of the instructors at the summer institute and by taking advantage of individuals within the Rockbridge County administration. A number of teachers mentioned how helpful it had been to them to have access to the institute's instructors during the year, especially one named Ted who was also a teacher. In addition, many commented they had gained useful advice from their own administrators as well as county administrators who are acting as a district leadership team for the project based learning initiative. The team listens to teacher's concerns and then develops workshops or mentoring opportunities to meet their needs. Teachers have expressed concerns over how to assist students in critiquing each other's work, how to help students work well in groups and how to initiate student engagement in a project.

Ricky Bain, an administrator at Natural Bridge Elementary School and a member of the leadership team, explains his role this way. "I've always been told the word principal comes from principal teacher but then they dropped the teacher part. I see myself like that. I am a principal but I'm also here as a teacher." When assisting a teacher, Bain begins with a conversation because he thinks dialogue is a very important part of mentoring. "We discussed what (the teacher) could do, how time could be found and then the project took off . . . That's how I support the teachers here. I encourage them. When they have a question, I answer it. . . I tell them they are the rock stars. I am the roadie who helps them get where they need to be."

The process of launching a project in the classroom also starts with a conversation sparked by a question. One teacher Bain coached started his project with a question they had formulated and the result was, "I started a conversation with the question we talked about. I just gave them the question and . . . they literally listed every SOL I have to teach. I did not have to tell them a thing."

If this kind of instruction is to continue, on-going support and training will be critical. As Bain notes, "This is not a sprint . . . this is a slow, steady process. Project based learning is not an initiative that is going to be dropped. It is good instruction."