



A PUBLICATION OF THE GOOCHLAND COUNTY PUBLIC SCHOOLS

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Edited by John Hendron,
Director of Innovation & Strategy



We Need Your Help!

Changes at the Department of Education this past year have changed their guidance associated with school divisions and their technology plans. We waited three years while these changes finally came to light, and as such, our last technology plan has expired.

We're looking for interested staff members in sitting on our technology committee to complete a draft of our next technology plan. If you're interested in serving on the committee, let Peter and John know.

👁️ [Tell us if you'd like to serve!](#)

Why Projects Matter

Why are projects, specifically project based learning, part of the instructional program in Goochland County?

Looking Back At Our Own Experiences

For the record, growing up, project based learning (PBL) was not a typical pedagogical instrument used in my schooling. The teacher was the authority figure who knew the answers. They held onto knowledge. And they shared that knowledge through talking, videos, worksheets, book reading, and practice. I think I turned out okay. I felt with flashcards I had a great tool to be prepared for tests. I knew as a musician that practicing something—even not musical things—helped me get better at them, even just plain memorization.

The Goochland Way

It's worth taking a look at [our strategic plan](#) first published in January 2014. Specifically, here are some take-aways from the plan:

1. A vision of **inspiring the next generation to make a positive impact**,
2. a mission of **to maximize the potential of every learner**,
3. a belief about excellence that **we believe that instructional excellence occurs when students exceed our expectations for how much they can grow**,
4. a belief about creativity and that we will **emphasize the use of imagination, intellectual curiosity, and human ingenuity in our instruction**,
5. and a primary goal that students will be prepared for life though deeper learning, and specifically, **to maximize each student's academic potential through engaging experiences and deeper**

learning, preparing our students for the challenges of learning and working in the modern global economy.

I could dig in deeper to the plan, but these alone paint the background of a canvas that we metaphorically hand to each teacher, who paints their own version of these ideas using the art and science of teaching.

The words of George Couros, author of the book *The Innovator's Mindset*, and a principal in Canada, resonated with me when I read these on page 9 of his book:

My focus is not on whether kids can knock it out of the park on some science test in grade three. What I care about is that kids are inspired to be better people because of their experiences in my school.

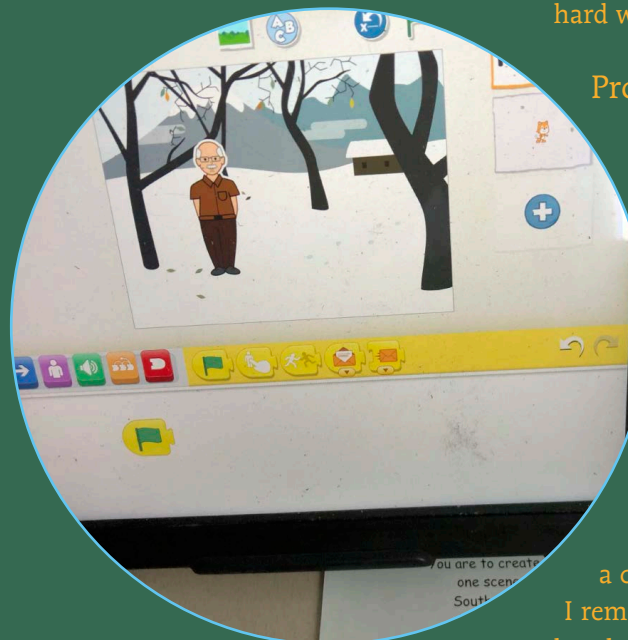
Inspire the next generation, inspired to be better people—both profound and synergistic ideas for what we want for students. Couros quotes William Pollard in his book. I copied the quote because it resonated with me, too.

Learning and innovation go hand in hand. The arrogance of success is to think that what you did yesterday will be sufficient for tomorrow.

There's no reason our education system should stay stagnant in a culture of rapid change. We must be reflective. We must also get outside our bubble and talk to families, to business leaders, to politicians, to scientists, and to one another! And most recently in Goochland, Dr. Geyer led a process of defining what we want when students graduate. It's called the [Profile of a Goochland Graduate](#).



Sarah Prusinowski's students worked with MakeyMakey devices and Scratch to produce interactive children's literature. This project was funded by a GEF Strategic Innovation Grant.



Students in Sean Singleton's classroom demonstrated their understanding of regions of the United States through storytelling using Scratch, Jr.

Our Profile

The challenge for the next six years in our division will be *how* to develop students that, by the time they graduate, are:

- knowledgeable,
- hard working and resilient,
- critical thinkers and creative problem solvers,
- effective collaborators and communicators,
- ethically and civically responsible, and
- respectful and personally responsible.

To achieve these goals we have to have classroom paradigms that are learner-centered. This is no doubt one of many educational buzzwords, but it means that the action taking place in the room by students isn't passive. It isn't taking notes and listening. It's being an active participant in a variety of learning activities that are designed around student voice and choice.

As it turns out, projects embrace student voice and choice. And they are designed around solving problems, developing communication, and hard work.

Projects As Hard Fun

Raking leaves is hard work. I know when I've raked, I sweat, and the physical exercise is good for me. But I have other things I'd rather be doing. And to be honest, I don't like raking leaves. It's hard, but it's also not fun.

My education hero, Seymour Papert, used to talk about *hard fun*. It's a colloquial way to describe pursuits that are innately interesting to us, but also at a challenge level that is appropriate for us. I remember being given an assignment in college by my composition teacher. He'd arranged to have a singer perform a piece I'd write. I had

several weeks. I had to write a piece for piano and soprano.

It was hard. But it was also fun. I got lost in the pursuit, relying upon my creativity to "solve" the problem of setting text to music. It's all I thought about for a long time.

Projects require us to think differently about planning for instruction. At first, projects may seem daunting for a teacher to orchestrate. But with experience and support, projects can be opportunities for deeper learning. Specifically,

- projects can allow students to engage with content in a more realistic way,
- projects can allow us to combine learning across multiple disciplines,
- projects can allow students to develop interpersonal skills and work on collaboration and communication while working together,
- projects can be personalized for students by allowing students to solve problems, develop creativity, and make important decisions.

Projects Are Deep

In Goochland, our strategic plan calls for preparing students that are both college *and* career ready. And while the last test students take may not be in Goochland High School, real life looks a lot more like a project than it does a traditional twentieth-century schoolhouse lesson. I may be preaching to the choir, but our educational system today is stronger for giving students multitudes of different, challenging experiences that develop the resilience called for in our profile.

That said, **projects aren't the only game in town.** But they should remain in the short term an important instrument for learning across grades and academic disciplines. Deeper learning specifically is targeted at satisfying

student curiosity and giving them more than an exposure to facts. Students have the world at their fingertips and the real world, since Dewey, has been something we've been challenged to bring inside the institutions we call schools.

James W. Pellegrino (see [National Research Council \(2012\). Education for Life and Work: Developing Transferable Knowledge and Skills in the 21st Century](#). Washington, DC: The National Academies Press) has described deeper learning as the process through which an individual becomes capable of taking what is learned in one situation and applying it to new situations. The Hewlett Foundation defines deeper learning around mastery of core academic content, the application of twenty-first century skills as part of the learning process, students learning how to learn, and students developing academic mindsets. At a basic level, we view deeper learning as student-initiated ("I'm curious about this, and I want to learn more"). We view it as open-ended (there may not be a "test" at the end) and the experience, at best, is personal to a child (what one child learns about the water cycle may be different from what another child learns).

Projects, in the end, are a mechanism for practicing and developing skills by using that "core academic content" for something beyond regurgitation on a test. We believe projects are what fuel our capacity for being respectful, responsible citizens. We want the world to be a better place, for ourselves, and for our kids. And that's what it means to grow here in Goochland County, Virginia.

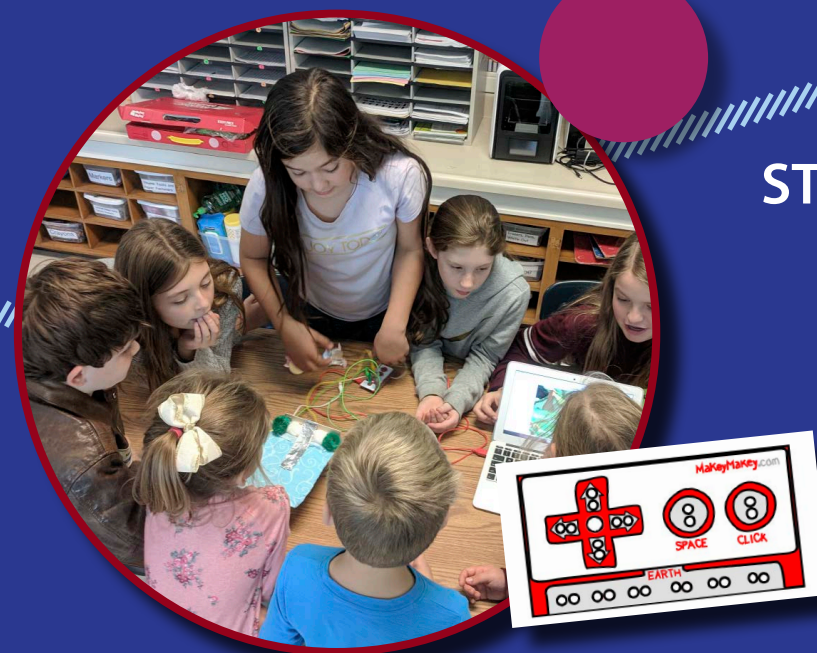


Projects typically end with an exhibition of student artifacts or through a performance. Projects can be coding projects, but they can also be a skit, a dance, or the performance of music.



STREAMing with Makey Makey

Contributed by Krystle Demas



WHAT IS STREAM? AND HOW COULD IT POSSIBLY CONNECT WITH USING THE MAKEY MAKEY? STREAM is redefining STEAM to include *reading*. Check out the way that Ms. Sarah Prusinowski's Class is redefining literature and **bringing stories to life**.

Students were tasked with bringing a popular picture book to life by using **Scratch** and the **Makey Makey**. The Makey Makey uses objects as a replacement for keyboards and mice. Students explored Makey Makey by building pianos out of play dough, testing the conductivity of various objects, and even playing FlappyBird in teams. This exploration time gave students an opportunity to **tinker and play** with this new tool to discover its possibilities. **This period of play is important to allow our brain the time it needs to make connections not previously acquired.**

Once groups decided on a picture book to bring to life, they got to work **storyboarding** their ideas. Mrs. Prusinowski provided the students **mini lessons** to encourage enhancements and refinements throughout the project. The students worked hard to make changes so kindergarten and 1st grade students could experience their story with minimal assistance. The finished interactive stories were **put on display** for students to explore during a Mini Makey Makey Fair.

The students' hard work and thoughtful design is evident even to visitors outside of the school. Dr. Manorama Talaiver, a pioneer in STEM education (and who first taught coding at Goochland Elementary School some thirty years ago, then as a member of the Math/Science Center), had the following to say about her experience attending the Mini Makey Makey Fair:

"Every team project exemplified the integration of science, engineering, design thinking, math, reading, and computational thinking. When my husband and I requested for explanation about their creation the students articulated the goal and got us involved in retelling the story to understand how everything worked. The elementary teams are well on their way in acquiring 21st century competencies. I was beaming with joy because Scratch was an integral component of at least five of my funded projects here and abroad."

Ms. Prusinowski and her 5th grade team comprised of Mr. Joe Beasley, Ms. Nicole Carter, Ms. Amanda Steele, and student teacher Ms. Mary Frances Roll received a strategic innovation grant from the Goochland Education Foundation to allow them to explore learning with the use of the Makey Makey. Stay tuned to see what other fun and creative ideas they explore this school year!

Makey what?

[MakeyMakey](#) is a simple circuit board you connect via USB to a computer. You can think of it as an external controller. Touching the metal parts of the device helps close a circuit and then the device sends regular characters to the computer, such as the arrow keys, space bar, or a letter. But things get interesting when you connect metal wires to the board, extending the "reach" of the electricity. Students attached the leads, for instance, to fruit. Touching the fruit with an animal (lead embedded) closed the circuit. Students use Scratch to program what the inputs will do.



Calling All Teachers

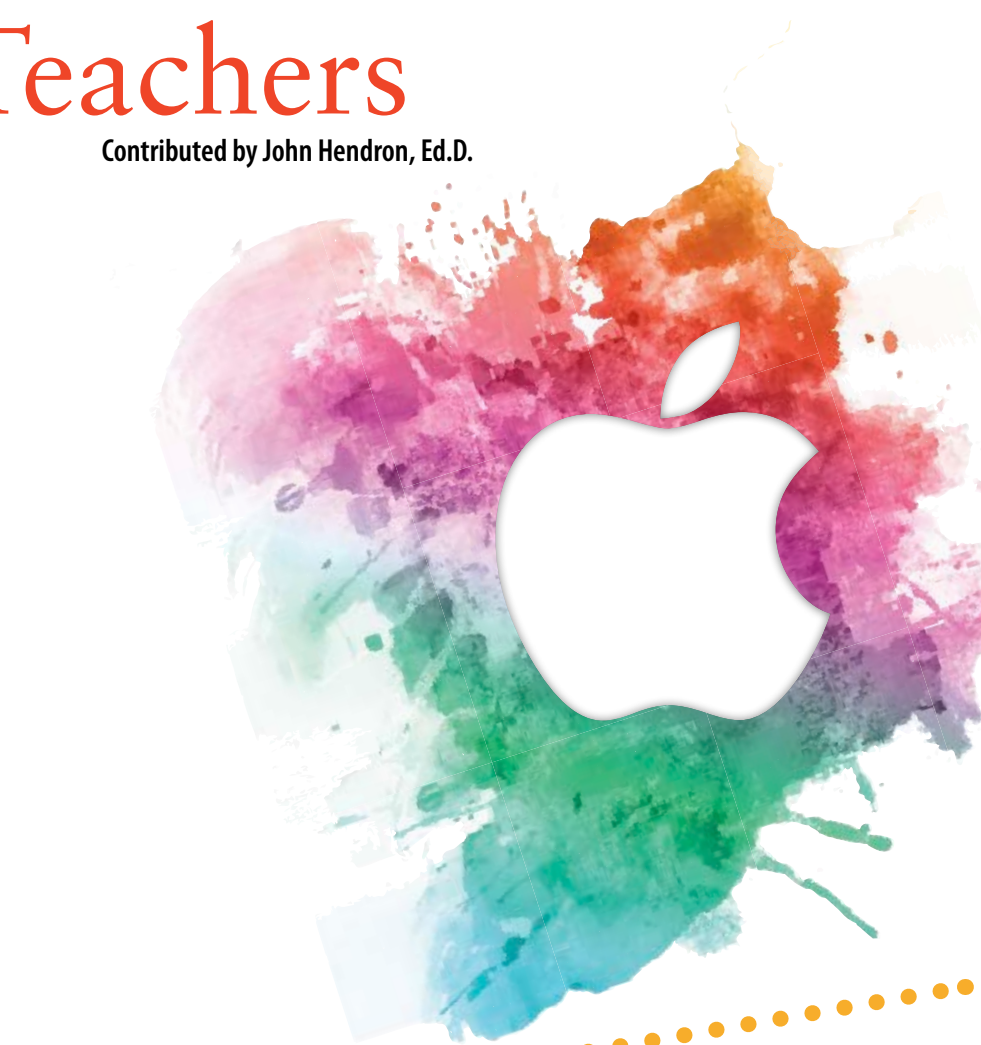
Contributed by John Hendron, Ed.D.

IT WASN'T THAT LONG AGO that posters began appearing on classroom walls proclaiming that Goochland's schools valued five things: excellence, creativity, courage, honor, and optimism. These values speak as much about who we are as how we learn. And as many of you who joined us at GMS, RES, GES, and BES on our quest to become Apple Distinguished Schools know, we also borrowed some tenacity and became Apple Certified Teachers by showing Apple we knew a thing or two about the apps on iPad and Macbook.

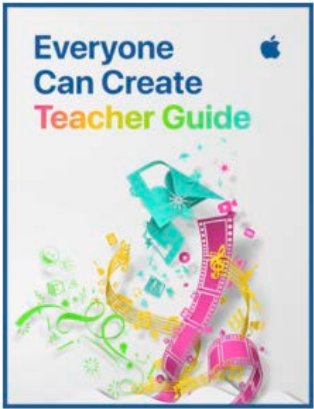
This year Apple has released a series of well-produced, free digital books around how to encourage creativity in the classroom through photography, videography, and music. These guides go beyond just how to use the apps such as GarageBand, Photos, or iMovie. They engage the reader through video examples that not only will inspire you on how to modify your next lesson, but will also give students the step-by-step instructions they need to create something they'll remember and want to show a real audience.

The series is called *Everyone Can Create* and contains both a teacher guide and student-facing books. It's really simple to get started: visit iBooks on your iPad or Mac, search for the title, and download the eBook. Just like the book we produced to showcase your school, these books contain interactive elements and include video examples that showcase realworld examples of artifacts you can use using apps on the iPad.

So here's our challenge: Apple knows you're Apple certified. But how can we showcase some of the apps available on iPad to show our students and their parents that **creativity** is alive and well across the Goochland Schools?



"At the end of the day, I'm in charge of instruction and what my students are learning. And these guides help empower my students to be the creators, the inventors, and the ones who will be challenged by solving problems. I get to focus on pedagogy, they get to focus on their learning."



Both teacher curriculum guides and student-facing books are available in the Apple Bookstore for free.

Developing a Game Plan

The Virginia Department of Education allows for up to forty points each re-certification cycle for an "educational project." Teachers can take on a research project and produce an artifact that demonstrates the fruit of their work. Goochland would love to award our teachers points who independently use these new guide books to develop a lesson or project that uses one or more of the apps and ideas from these books in their class this year. And it's as simple as following the steps below.

1. **Talk with your principal** that you plan to take on an Educational Project. Be sure you will only be submitting one project per re-certification cycle.
2. [Download the project checklist.](#) Use this to document the time you spend developing your lesson or PBL.
3. [Use our template to plan your lesson.](#) Use photographs to document both your instructions for other teachers (if applicable) and to document student activities in your classroom.
4. **Write a reflection** using our guide on the lesson, highlighting any tips for other teachers doing your lesson.
5. **Meet with your instructional tech coach** to go over everything and get feedback. This can count as your technology class for the school year.
6. **Submit your lesson and accompanying media to John Hendron** by May 15, 2019. We reserve the right to share your submission with other teachers as part of a digital book. Please ensure that student work or student images may be shared outside your school.

3

Inquire. Explore. Respond.

- Students will be able to:**
- Create a short video story in response to a guiding question.
 - Provide supporting evidence for their responses.
 - Integrate basic story elements into their videos.
 - Use pan and zoom to highlight important details.
 - Add context to their stories using labels and Live Titles.

Students will use Clips to create a video response to a guiding question, backed by exploration and research.

Overview

Telling stories helps students develop strong communication and creation skills, which are integral elements in the shift from passive exercises to active learning experiences. Creating videos with basic story elements in mind, such as who, where, what, and how, helps learners show their audiences what they know or think in compelling ways.

Before you begin

Students should complete the "Tell a Story" activity in the Video chapter of the Student Guide. They'll learn how to add pan and zoom effects to photos and videos, use Live Titles, and integrate basic story elements into their videos.

Students will apply these skills when exploring a curricular topic related to a guiding question, and share their discoveries in a video that uses a simple story framework.

Video | Inquire. Explore. Respond.

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The teacher guide goes beyond making videos or pictures. It highlights the skills students will use, practicing important twenty-first century skills that promote deeper learning.

Ah, there’s the Rubric

TO RUBRIC OR NOT TO RUBRIC? THAT IS THE QUESTION...

Why do teachers need rubrics? I think the better question is, **why do students need rubrics?**

A good rubric gives students agency over their own work. By setting concrete expectations for the quality of student products or performances, rubrics let students strive to perform with clear view of what the teacher is looking for. With a rubric, the conversation moves from, “My teacher gave me this grade,” to “My work is at this level and I can improve by...” At the same time, a rubric often prevents the after-the-fact handwringing that sometimes afflicts teachers when their students produce work that is far off the mark. In these situations, teachers become discouraged with projects in general, assuming they are not worth the time investment given the student outcomes. But, what if we set the conditions to ensure student work meets our standards?

Of course, creating a rubric is time-consuming. However, we do have tools that help our teachers work smarter, not harder, and reuse the rubrics they create. With that in mind, let’s look at the benefits of rubrics.

“A rubric must provide enough information for students to make informed decisions about their performance based on teacher expectations.”

Sometimes, teachers share sample projects with students to give them guidance. This is a great idea when assigning complex projects that require multiple steps or have many different requirements for completion. A sample gives students something to go by. However, teachers run the risk of stifling creativity. It

is possible that as a result of sharing a sample, instead of getting unique student products, teachers get close-to-exact replicas of the sample they shared. By sharing a rubric in addition to a sample project, teachers leave the door open to **creativity**.

“rubrics let students strive to perform with clear view of what the teacher is looking for...”

Another approach to setting expectations is to give students a list of requirements for project completion. I know this is a very common approach to grading projects and performances. This, however, leaves a lot open to interpretation.

While a list with the corresponding point values gives students a guide to what they must include in the project, this focuses on quantity without giving much guidance on quality. A list is a pathway to compliance, but not necessarily a roadmap to good quality work. It is a common misconception to call these checklists a rubric, but by definition, they are not. A rubric must provide enough information for students to make informed decisions about their performance based on teacher expectations. It sets forth levels of performance for students to exercise their own judgment regarding their work.

While students are executing a project, this rubric provides guidance. After the teacher assesses the project, the same rubric provides constructive feedback that shows students the path to improved performance.

Let’s look at a sample rubric a teacher and I created as part of a project we planned for her class. This is a three-part project, and this rubric is specifically for the first part. It involves research and writing, plus some creative design elements to create a brochure.

by Bea Leiderman

Criteria	Excellent	Very Good	Good	Needs Improvement
Completion and Accuracy	Document includes all the required information with good details and examples. The information is correct.	Document includes most of the required information, could use more details and examples. There are a few incorrect statements.	Document is missing some information and has few details or examples. There are many incorrect statements.	Document is missing important information and is not accurate.
	30	20	10	5
Presentation and Creativity	The document is readable and attractive. It was produced with close attention to detail.	The document has issues with formatting that make it difficult to read.	The document does not look like much effort was put into it.	The document is messy and difficult to read.
	10	8	6	3
Language	The language used in the project is proper. The paper is written with Standard English, spelling, and grammar.	The language used in the project is appropriate. The paper is written with few spelling and grammar mistakes.	The language is not appropriate and there are a few spelling and grammar mistakes.	The language is not appropriate and there are many spelling and grammar mistakes
	10	8	6	3
Professionalism	The student made good use of the time allocated to work on this project and worked without disrupting classmates.	The student made good use of the time allocated to work on the project but disrupted classmates.	The student did not stay on task and disrupted classmates.	
	10	8	3	

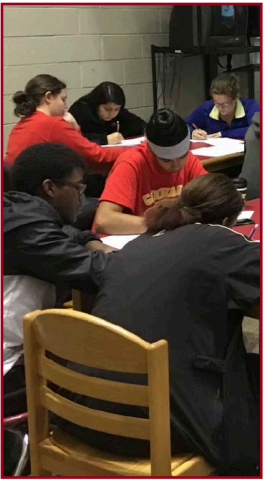
You can see that the rubric does give students guidance on what the project should include. In addition, it gives students an idea of what their score will be at each level of performance. Of course, different projects will require different criteria, but every rubric should describe what is expected at each level. And yet, this rubric, despite its detailed nature, does not dictate what the project should look like, so students have latitude to make some choices on their own.

Of course, creating a rubric can be time-consuming. Luckily, we have tools to help our teachers with this task. Within Schoology, rubrics can be created and saved for future use. **If you have not explored this option, let your Technology Coach know. We can help you create a rubric you can save and use multiple times.**

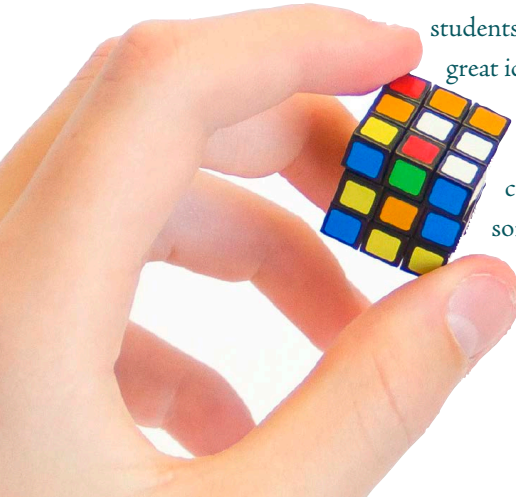
What if your project will not be turned in using

Schoology? You can still use the tool. As part of the assignment, have students write a brief reflection on their learning, or maybe a teamwork evaluation, and turn it in via Schoology. Then, you can assign the grade for the whole project using the rubric attached to the reflection.

If you are interested in reading more about rubrics, or see some excellent examples, [visit the Berkeley Center for Teaching and Learning](#). The site is full of excellent ideas, mostly developed for higher ed environments, but easily adapted to younger learners. I particularly like the page dedicated to [alternatives to traditional testing](#), which fits in perfectly with [Virginia's Performance Based and Local Alternative Assessment initiative](#). Any of the project ideas listed, accompanied by a thoughtful rubric, would make an excellent entry to this year's G21 Faire.



Whether or not your projects take on a high-tech approach, rubrics—and especially those in Schoology—make assessment easier for you and more meaningful for students.



Byrd Students Participate in Book Club

Contributed by Morgan McMullin, BES

THIS FALL, Byrd Elementary kicked off Byrd R.E.A.D.S, a weekly book club. Students in grades 2-5 were asked to vote on their top 3 book series of interest. HeadStart through first grade voted as a class. Listed below are some of the books students read:

- Clifford
- Ranger in Time
- I Survived
- American Girl
- Little House
- Puppy Place
- Percy Jackson
- Dr. Seuss

On Fridays, Byrd students move to their book club location and discuss their book with a teacher mentor. **The hope is that students will also work on building relationships, literacy skills, and use technology to enhance their love of reading.**

Book Clubs happen at every grade level! First grade students used Ozobots with Dr. Raley to help understand a wind up mouse. Mr. Hopkins’ book club, used Book Creator to recreate their own stories using Byrd teachers, from the series, My Weird School. The titles chosen were Mrs. Beatty is Greedy and Mrs. Burton is Certain.

Students in the A-Z Mysteries club enjoyed a visit from a Goochland Deputy to learn about fingerprinting. Mrs. Jones worked with kindergarten students exploring Ezra Jack Keats books and finished by using green screen to put students in The Snowy Day. The Ranger in Time book club picked a time in history they wanted to send Ranger to and then created that story in Scratch Jr.

Students took a deep dive into survival of disasters with research in the I Survived series. The Magic Treehouse book club completed several STEM challenges making connections to the story, The Knight at Dawn. Students asked to continue the challenge the following week with ideas for improvement.



Mrs. Johnston led a first grade group of students through a study of Tomie dePaola books. Students focused on character traits and sequencing events. Tomie taught us to “Always be proud of who we are and to always be kind!” The American Girl study taught young girls to be brave and adventurous. The study concluded with an American Girl tea party.

Students and staff thoroughly enjoyed our first book club of the school year! I cannot wait to see what our next book club brings to life.

Coding Curriculum in Play at GMS

Contributed by Andrea Burton, GMS

Over the summer a group of educators worked together to collect various coding resources for coding instruction in all of our schools. They created a “matrix” of coding resources which are organized by grade level. Very soon (2019!) Virginia school divisions will be responsible for teaching coding aligned to the Virginia SOL for Computer Science.



Karen Harden’s Digital Input Technology class has begun working through the 6th grade curriculum this marking period and began with using Apple’s Swift Playgrounds. **Swift Playgrounds teaches you to write Swift code in a fun, interactive way.** They are beginning with the “Learn to Code 1” program and will also complete “Running Maze” within Swift Playground as well. Eventually they will have experiences with Ozobots, Code HS, Scratch, Micro:bit, and more.

“I think that it is cool because we can see how some of our apps and games work so that we can maybe learn to code in the future and make a selling game.” - Sam Caldwell

Wyatt Davidson explained, “In this you have to keep repeating it over and over to try to figure out how it will work. You have to keep making adjustments—” but then was interrupted by Sam yelling in enjoyment as he FINALLY passed the level he had been working on for 2 days.

The team that worked on the list of resources included Dr. Hendron and this summer’s C&I Team:
Jennifer Carr, BES
Morgan McMullin, BES
Krystle Demas, GES
Ariel Perry, GES
Henry Jones, GMS

[Access our matrix via Google Sheets!](#)

