

**2021 Greater Chambersburg Chamber Foundation**  
*Technology Innovation Grant Challenge - funded*

**Fairview Elementary Coding Experience**

Fairview Elementary - Waynesboro Area School District, Franklin County; Keith McCray Jr.

**SUMMARY:** The goal of the Coding Experience Project is to increase student engagement/achievement in STEM activities by introducing 21st Century technology into the classroom. The project will use Sphero BOLT, a programmable robot ball that student can drive and code, providing endless opportunities for students to be creative and have fun while developing fundamental STEM skills. Learning programming empowers kids. Coding puts children in control of the computer and through experimentation builds mastery in sequencing skills, counting, problem solving, logical thinking, cause and effect, and critical thinking. The project also includes professional development and coaching for teachers. Led by a certified Sphero Lead Educator who is the Director, the project will measure the increase in engagement and academic achievement through school attendance records, pre/post surveys of students, and test scores. We are requesting \$2025 to support this project.

**DESCRIPTION OF PROJECT:** The Coding Experience Project will be used to initiate student learning of robotics and the fundamentals of programming. The project will use Sphero BOLT, a programmable robot ball that students can drive and code, providing endless opportunities for students to be creative and have fun while developing fundamental STEM skills. When used in a STEM curriculum, this educational robot lets students learn programming skills, complete hands-on activities, and share their creations with the classroom. Sphero BOLT programmable robots teach students programming while completing educational activities. Fifteen BOLTS will be shared among 30 students at a time in each classroom.

**NUMBER OF STUDENTS AFFECTED:**

- o 216 Fairview Elementary School students in grades 3-5.

**Story Corps: Greencastle Edition**

Greencastle Antrim High School – Greencastle Area School District – Franklin County; Meagan Brockway and James Thomas

**SUMMARY:** Blue Devil Scholars (Greencastle chapter of the Rho Kappa Social Studies National Honor Society) will work independently and cooperatively to record, edit, and create an online base for the residents of Greencastle to share their oral histories, memories, and stories. The project is based on the StoryCorps model developed by NPR and will utilize the basic concepts to “create a sustainable community program around storytelling”. Students will work in conjunction with Greencastle Chamber of Commerce to set up an area in the town square during Old Home Week and potentially within the

Chamber building. The area will be designed based on the StoryCorps DIY best practices guidelines to allow for residents of the town to share their memories, stories of relatives who have passed or special memories of our town. One aspect that we would like to tie into a recent project is the recording of oral histories and the stories from Greencastle veterans or family members who are featured on the Hometown Hero banners. We would use these stories to further our Google map virtual tour of the banners. Technology will be an integral part of this project as students will learn to record, edit, and publish the stories from residents.

**DESCRIPTION OF PROJECT:** Using the technology provided and resources within the StoryCorps DIY course, students can capture and preserve oral, localized history in an innovative way. Providing the community with a means to share their stories and memories allow for local historians, teachers, and future generations a direct source to local oral accounts that are short-lived when not preserved. Our Rho Kappa members will be creating and directing a unique and advanced project that can be shared with a worldwide audience. A former superintendent W.P. Conrad published a book in the 1970's detailing the history of Greencastle from the roots upward, but this history is not complete and does not include the personal, oral histories of residents. Students should be adding value to this book and other accounts of Greencastle and a more complete picture of our local treasured history through the oral recollections of the people.

Students:

There are approximately 25 Rho Kappa members

### **Bring Coding to Life**

Chambersburg Area School District – Elementary Schools – Franklin County; Elementary School Librarians in cooperation with lead Susan Berrier.

**SUMMARY:** Chambersburg Area School District's elementary school librarians would grow and expand on a project that one of us first had success with three years ago. While it had exciting results, the potential for much further-reaching effects is far greater now. After lessons and activities on coding (computer program language), we've seen that many of our elementary students are eager to learn coding and are interested in pursuing it further. This grant would provide us with Dash robots for students to apply the basic principles that they have learned about coding and challenge them to apply coding to real objects. The coding lessons are offered to students as enrichment during library classes, but all subject areas stand to benefit, as coding and programming these robots will challenge students' problem-solving, logic, persistence, and collaboration skills.

**DESCRIPTION OF PROJECT:** This project has a broad timeline and a very broad potential audience, as we will be offering several scenarios in which these robots will be used. The "big picture" is to expose students at every Chambersburg elementary school to computer coding, then enrich their experience by giving them Dash robots for opportunities to apply their coding skills. All seven of our elementary school librarians are already experienced with Code.org and the high-quality, no-cost materials they provide for K-12 students to learn the fundamentals of coding. These online lessons and activities and the in-person trainings have been funded by technology companies, as part of their effort to get more students considering the possibility of computer programming as a career. Our experiences with the Code.org materials, training, and curriculum have been extremely positive, with all of us dedicating a unit of

library lessons to coding each year. Librarians could integrate the Dash robots into lessons during that unit. Some of our elementary librarians in the Chambersburg Area School District have a day of “flexible scheduling,” meaning we aren’t teaching back-to-back library classes like the other four days of our schedule. On our “Flex Day,” we have the freedom in our schedule to collaborate with classroom teachers in many ways: co-teaching research projects in the curricular areas: teaching the technology skills needed for classroom projects; offering enrichment activities that we don’t have time for during the regular library periods. Those lessons sometimes revolve around STEM activities — another opportunity for the Dash robots to be used.

Other situations when the Dash robots might be used by our elementary students across the district:

- \* STEM days
- \* After-school clubs
- \* Summer programs
- \* One day each week when students don’t have library, music, art, or phys. ed. classes.
- \* Special academic and/or behavior reward days
- \* Indoor recesses

Students:

Students in grades 2— 5 in the Chambersburg Area School District — currently that would be 2,694 children.

<b>Technology Innovation Challenge Grant - Rubric</b>						
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Score</b>
<b>Innovative</b>	Dated Program	A little behind the times	Standard Programming	Advanced Programming	Highly Innovative	
<b>Value Added to the Curriculum</b>	Not linked to Core Curriculum areas such as Math, English, Science, History, Art, Music, Etc.	Loosely linked to Core Curriculum areas such as Math, English, Science, History, Art, Music, Etc.	Somewhat linked to Core Curriculum areas such as Math, English, Science, History, Art, Music, Etc.	Linked to Core Curriculum areas such as Math, English, Science, History, Art, Music, Etc.	Strongly linked to Core Curriculum areas such as Math, English, Science, History, Art, Music, Etc.	
<b>Advanced Academic in Nature</b>	Program is general or remedial	Program loosely Advanced Academic for the subject area it adds value to	Program somewhat Advanced Academic for the subject area it adds value to	Program Advanced Academic for the subject area it adds value to	Program significantly Advanced Academic for the subject area it adds value to	
<b>Total</b>						