TEF Grant Final Report

All Thompson Education Foundation (TEF) grant recipients must submit a final report to TEF by **October 31, 2025**. The final report is required. If you do not submit a final report for this grant by the due date, you will not be allowed to apply for future TEF grants.

Name: Lauren Schafer/Jenni Leinweber
School: Riverview PK-8
Grant Type: Great Idea Grant
Project Name: Makey Makeys

Objective of project as stated in the grant application:
To support creativity, innovation, and 21st century skills - the purpose of this project would be to get Makey Makey coding devices for our school. In both our upper elementary grades and our middle school electives, we'd like to further develop their coding and computer skills. The Makey Makeys would support students application of coding and allow them to create various projects through what they coded. The Makey Makey projects are cross-curricular which would also support students in other areas as well; for example they could code music composition then use the Makey Makeys to play it or kids could code a speech recording to support their oral communication and presentation skills. The Makey Makey program also connects to a handful of "apps" that would also support cross-curricular connections - there are writing, reading, science, social studies, music, art, and engineering projects kids could complete to combine their tech skills with content. Overall, this project would help kids develop their innovation skills by providing them opportunities to explore and engage coding in a very hands on way. The Makey Makeys can be used again and again so there are endless options of what kids could create. The current goal would be for kids to get use the devices as a support through coding and then be able to display their codes visually through the Makey Makey actions. I currently have ideas of where to start (mentioned below) with multiple grade levels then after the introductory project of that, kids could have more reign to design things they would like to. With that openness for creativity, kids could really develop their creativity and critical thinking skills. One thing I love about the Makey Makeys is they combine hands on work with their tech creation instead of being all computer-based.

1. Describe how you implemented your project.

We started our project with learning about the block coding used in the coding program Scratch. They learn about actions used in coding such as sequence, loops

and conditional statements. They created mazes that included actions instigated when specific keys were pressed on the keyboard of the chromebooks.

We then took a look at circuits and how they work. We learned about open and closed circuits, switches and conductors vs. non-conductors. Makey-makeys are circuit tools that allow students to turn everyday objects into an extension of their keyboards because many common materials can conduct electricity, students can connect these items to the Makey Makey board to act as input keys. Students used playdough, bananas, paperclips, and even their own jewelry to demonstrate creativity and critical thinking skills. Using this concept, students can design and build mazes that are controlled by these conductive materials, turning ordinary objects into buttons, sensors, or controllers. This hands-on process helps students understand electrical circuits, conductivity, and creative problem-solving while making their maze projects come to life through interactive, real-world, accessible materials.

2. Please provide the results of your project. This information needs to correlate to the "measurements" provided on your original grant application. If you changed your measurements of success, please detail the reason for the change with your results.

Students were able to create their mazes working with block code in Scratch. After learning about circuits, students were also able to connect the two concepts and use the circuit concept to create external game controllers with the makey-makeys. The use of the makey-makeys in collaboration with block coding, allowed each student to modify the project to demonstrate their own strengths and to scaffold the project as needed to suit their individual needs. Many students were able to demonstrate their learnings with the maze and by using the device as an external maze control. Those students that thrived on deeper learning and demonstration, were able to create more complicated mazes with more complex sequences and conditions. For added layers of creativity, they were able to turn ordinary items into controls for the maze. We even had some students creating wearable conductive items to provide hands -free grounding!

3. Did anything surprise you or your students during the implementation of your project?

I have been surprised by the diverse response to using this "new-to-us"tool. There are several students who, when met with confusion or struggle, shut down. They recognized the challenge and turned away. Of course, with guidance and added support, they are able to gain confidence and grow from the learnings. I have been incredibly proud of their resilience and eventual accomplishment in overcoming their challenges. I have been surprised by some students who I predicted would turn toward the challenge and yet turned away.

On the other side, I have been equally surprised by those that seemed to perceive the challenges as a welcome game. Their relentless ability to try new things repeatedly and truly get curious about both the coding and the circuits has been exciting and rewarding.

What is also super interesting is that some students thrived in learning and executing the block coding, while others did well with the concept of the circuit and the makey-makey controller. This also gave students an opportunity to shine in their own areas.

4. Please provide a copy of the final budget for the grant (you may attach a separate sheet of paper). All copies of receipts must be submitted.

Please see attached

5. Do you feel the project can be easily replicated in additional classrooms in Thompson School District, and, if so, is there any advice you can share?

Due to the incredibly flexible nature and interdisciplinary nature of makey-makey devices I would absolutely recommend these in classrooms in Thompson School District. I think for all students, I would recommend taking time with multiple activities with each component of the project. Diverse scaffolding is required for each component. As I learn as an educator through this product and this project, I will continue to improve how I teach and scaffold these lessons and apply to other activities and concepts.

Makey Makeys can be useful in any classroom/content area. Whether it's a coding based activity through Scratch or using the hands-on materials, there are a ton of ways to utilize them. For example, students can record their voices on Scratch then program

the Makey Makey in particular ways to present the sounds. The Makey Makey website also comes with a bank of lesson ideas for various grade levels and subjects making them adaptable to so many TSD curriculum lessons.

Optional:

6. Comments for the grant committee or TEF board.

Thank you so much for this wonderful opportunity! I am also humbled by Eowyn's willingness to help me as I completed this process. Your support will support the learning of our students across many age groups and disciplines. We are so grateful for your support!