

## Innovation Awards: Final Evaluation 2017-2018

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4<sup>th</sup> Grade: FAB LAB

### **Summary of Project:**

With the shift to the rigorous and exciting NGSS (Next Generation Science Standards), the students of room 30 had the unique opportunity to enhance their overall learning experience by utilizing the FAB LAB (fabrication lab) on a weekly basis. The FAB LAB allowed them to be thinkers and creators while also exploring talents they never knew existed. My students made the most of this FAB LAB by putting their wildest thoughts, most creative ideas into action. The FAB LAB (with its various supplies) pushed the students to think outside the box when it comes to science and engineering.

The FAB LAB was used in various ways: Classroom/whole group directed lessons, such as building a volcano (and documenting the eruption). Each table group had to work together as a team to successfully build a volcano that would simulate a true eruption (using baking soda and vinegar). Additionally, the FAB LAB was independently used by what we call "early finishers" in the class. Students who were up-to-date with their classroom assignments could visit and utilize the FAB LAB independently, using task cards as guidance. Lastly, and most often, the FAB LAB was used every Friday, (in partners). Partners would choose a topic and would then develop their creation together. Students also documented their creations on using their ipads. The energy in the classroom during these FAB LAB sessions is undeniable. 100% of the class is engaged. 100% of the students are bursting with creativity. 100% are totally immersed in their current task at hand. This is an amazing sight to see.

### **Measurable Goals:**

Prior to creating/beginning the Innovation Award project within my classroom, the students had minimal amount of time and resources to be engineers and creators. They had brief interactions with hands-on-science. The students of room 30 did not have the proper resources available to allow them to truly use science and engineering in a unique way. At the start of the school year, we did a few STEM activities in the classroom, but the

supplies were limited. Often times students would ask for particular items, certain supplies that "would have" helped them become more successful with the task at hand. These limitations hindered their true abilities. The FAB LAB has opened up new doors for ALL of my students, allowed them to take paths of developing, testing, and improving ideas, from start to finish, all within one learning session.

**Project Success:**

The FAB LAB was a major success. The fire, the spark, the excitement, the movement within my classroom during our FAB LAB sessions is/was remarkable. I never realized how much students would enjoy the process of "tinkering" and "making things." I saw students come out of their shells and really shine, when in other areas of their academics, they were overlooked. This in itself was beyond powerful. Their creations and inventions were outstanding. The level of enthusiasm for each and every activity and every lab session made me realize that I just tapped into something amazing. Something worth while.

As a teacher, you wonder and question, on a daily basis if you are "making a difference." The FAB LAB this year completely and whole heartedly proved, once again, that I am making a difference. Just like the painting on my classroom door states: "The future of the world is in my classroom." And by adding the FAB LAB, I believe I just helped "our future" develop a few more engineers, a few more fabricators, a few more scientists, and a maybe a few inventors.

**Money Spent:**

Harbor Freights Tools (cart and various supplies)	152.14
Lake Shore Learning (cart organization, tubs, supplies etc).	244.51
Dollar Tree (random supplies)	47.42
Teacher Pay Teachers (curriculum)	64.45
Total:	\$508.52

**Colleagues:**

Many teachers on campus have come by to see my FAB LAB. Many of my colleagues have mentioned wanting to start their own maker-space labs within their classrooms as well. I appreciate the inquiries from fellow

teachers and I appreciate their willingness to create innovation within their own classrooms as well. The usefulness of the FAB LAB isn't limited to just science, but rather, should be looked at through the lens of useful "educational creativity."

### **Next Steps:**

The FAB LAB has already received a face lift in the past month or two of operation. The FAB LAB has expanded from just a cart, to now an entire wall of our classroom. The supplies have now extended onto the floor! The task cards are organized neatly on the FAB LAB wall. Students are now printing out photos of their inventions and creations and posting them to our FAB LAB area of the classroom, as well as Google Classroom.

Next year, my vision is to have students turn in photographs of their projects for credit, while also asking permission to display their work for a short time in the library. Additionally, I plan to have "FAB LAB" books made so that students can jot down ideas, map out their plans, modify their creations, and document all of their FAB LAB work in one place. I would also like to invite other 4<sup>th</sup> grade classrooms to participate in our FAB LAB. I believe that allowing the students to collaborate with other classrooms would be a great way to foster growth, collaboration, and communication within the grade level. I can't wait to see how the FAB LAB continues to grow in the years to come.

### **Suggestions:**

Without the help from the Escondido Education Foundation, I (and my students) would not have had the opportunity to introduce my students (and colleagues) to a maker/tinker space. The FAB LAB is one of a kind here at North Broadway and the lab has provided my students with the chance to explore science, test out ideas, and make visions become a reality. Our students today need to continue to branch out of their comfort zones and realize that truly, the sky is the limit. By providing them with numerous learning opportunities like the FAB LAB, we as a community are preparing our students for meaningful career paths, and overall, helping build a strong future for all. Thank you again to all of those inside (and outside) of the foundation that made this "idea" a reality for myself and for my students.

FAB LAB in action:

