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Endeavour: Engineering Design Reflection

The past five months in Engineering Design have been unexplainable. I came to Engineering Design as a first year Endeavour Student and was astounded when I realized that the Endeavour Academy wasn't like the other typical generic science classes. It is a class that is vital in our preparation for our lives after high school. We did not only learn about the basic principles of physics, but also worked in the fields of electronics and programming. Towards the end of our final trimester, we were given freedom to become our own engineers where we were able to create many successful projects such as a solar panel car, a cracker box amplifier, a revised LED kit, and the Inventeam '09-'10 website.

We started off the year by piecing together the previous year's LED project. It was a completely new experience, where I learned skills such as soldering. Once assembled, the Inventeam assessed the LED kit, and brainstormed ways to better the Kit. Together we created a new design, and created a market plan. This took a lot of diligence, for everything has to be precise. Due to limited time, the Inventeam proposed to have the revision of the LED kit as a side project and move forth to Robotics.

Robotics, to say the least was quite difficult. Having absolute no prior knowledge to programming or robotics, I was excited to learn a new field of engineering. We began the robotics unit with basic lessons in programming. Then we started the WAM series. There we

assembled our Boe-Bot and learned how to program it to do different things, such as go in a certain direction. It was a long and complicated unit, but was rewarding in the end. There was a competition at the end of the unit, and although my team didn't win, it was fun seeing the different techniques used by different teams.

After the robotics unit, we started the Hot Air Balloon project. To me, this project was by far the most interesting one of all. Being a first year student, I had no idea what the project entailed. All my teammates knew exactly what to do and how to do it. I was lucky enough to have great team members, who let me learn everything step by step. To begin the project my team had to come up with a balloon and gondola design. We had to narrow three choices down to one which wasn't easy. My team finally decided upon a cube (although it seemed most impractical). After we chose the shape we had to calculate the dimensions of the balloon in order for it to float. The calculations were pretty easy, and my team agreed on the most practical measurements. Once our design was finalized we started the construction of the balloon. The construction of the balloon was done in a productive manner. We had divided the balloon into sections and glued each section separately. Once all the sections were dried, we glued all of them together and our final outcome was a successful balloon.

Once all classes of the Endeavour Academy were completed with their balloons we did our flight day. We separated into groups, where we had recorders, flight managers, and distance recorders. Once everything was set in place, we began the balloon flights. That morning we saw both success and failures of balloons. I am glad to say that my team's balloon was one of the success stories. We won greatest height and left with a very good video. The Hot Air Balloon Project showed me that working with your team members is more effective and productive than

working against them. I observed the different teams, and can say that you should always choose people you work well with. I really was fortunate enough to be with reliable peers.

Our final project of the year was our design project. This project began at the start of our final trimester. We were given the opportunity to explore the world of engineering and business, and come up with a product to build/create and market. I had chosen Morgan Farnior as my partner. Seeing that both she and I see eye to eye on most situations, we both felt that we would come up with a well-thought practical project. Researching different ideas, we decided upon creating an herbal ointment to heal burns as our project. We researched the different ingredients and methods on making the ointment and came up with a final design. Due to the time constraint and the other projects presented in the classes, the inventeam decided against it.

Hearing the other design projects presented, Morgan and myself, decided to join Cameron Munroe and help build the Inventeam Website. We felt that we needed to create a through, well designed website so we could show off our work to the community. Once Cameron had given me the site layout, Morgan and I worked on the actual creation of the website. Every day the website team constructed the site, adding all the work from the whole year into it. The website is and will be a great reminder to the wonderful tasks I did in the Engineering Design class.

In the Endeavour Academy, every project we undertake prepares us for the future. I didn't only learn how to solder, program, or build a hot air balloon, but learned how to be a leader. During the different projects, I also learned a great deal about myself. I discovered both my strengths and my weaknesses and most importantly discovered what I want to do in life. I intend to further my education in engineering and hope to apply the skills I learned in this class

to better the world. I hope to attend Cal Poly, where I will double major in Music and industrial technologies. Thanks to this class, I am sure of my future and where I will be going. The Endeavour Academy is and will always be the greatest class offered at Paso Robles High School.