In evaluating our performance on this project, we used the engineering design process effectively and efficiently. The practical application in mind was for the kite to be a beacon, in which it would have lights on it to signal to people below. For this beacon idea, we had to design a kite that would reach a high altitude and it would be stable enough for people to see from far away. Then we built the kite using wooden dowels, glue, duct tape, and tarp. And finally, we tested our kite, which took some tweaking and adjusting to the kite to get it to fly correctly. When we first discussed the design of the kite, we thought a modified sled kite would be ideal because the overall shape of the kite creates lift. Before we designed this kite, we used our decision matrix to ensure that we chose the best kite, and that was a parachute. However, when building this kite, we did not have the correct materials to make the curved frame of the parachute (only had wooden dowels, no plastic to bend into the curved shape). We then went back and consulted our decision matrix and chose the next best one, a sled kite, but modified a little bit.

We first sketched our ideas on paper, and we then built a prototype of our modified sled kite out of paper, straws, string and tape. We tested this prototype by holding the strings attached to the kite and letting it fly and move in front of a box fan. This showed us how effective our design was and what we should tweak for the real kite model.

Next, we put our design to work and built our kite. We measured and cut wooden dowels, sanded them, and attached them using wood glue, and then reinforced with duct tape. We measured and cut the clear tarp and put it around the kite and secured it with duct tape. After the building was finished, we took the kite outside to test it. Our first test did not go as smoothly as planned because the strings all fell off and we had to reinforce them. Our second test went okay, but we later realized that the strings would work best if they were attached to the middle dowel and not just the corners of the kite. After a few more tries despite the lack of wind, our kite finally took flight.

In the end, we effectively and efficiently used the engineering design process to design, construct, and test a model that will be useful in the field of signaling.