

The Moment of Truth

REC Foundation Online Challenges - Girl Powered: In Her Words Storybook Challenge

Here we are: Cecily Powell and Katie Ann Edgeworth in Memphis, Tennessee, gearing up for the first qualifying match of our first robotics competition. Everything we have worked for up to this moment will ideally pay off. All that we have dreamed about this past school year, summer, and spring will be put on the line. The process of getting to the place we are now has been a real adventure—we have faced challenges on every step of the way. It is the moment of truth; we cannot blow it. So much has led us to this point, starting well before we ever joined the team. Our lives over the past couple of years have transformed and eventually put us in the place we were supposed to be: Brentwood Academy Iron Eagles 9364C. How did we get here, you ask?

Fall 2014, Cecily Powell. Dance has become my life, and that is perfectly fine with me. I made FOUR specialty dances this year compared to making ZERO last year. I am improving at such a rapid rate, and my teachers are *finally* taking notice. But then, in a matter of seconds, the absolute worst possible thing that can happen happened. During dance class one innocent Wednesday afternoon, I went for an advanced leap I had never tried before. Then, BAM. Whilst in midair I heard and felt something pop in my back, and I hit the ground immediately. Getting up, I could barely walk. The doctor says that it is fine and a couple months in a soft brace along with resting for a bit will cure it right up. The only issue is that rest is not an option for me. Regionals are less than a month away, and I have no intention of letting my team down. (*Pictured below: me before the injury*)



Fall 2015, Katie Ann Edgeworth. School could not be going worse. No one understands; I can't explain it—something is missing in my life. Jazz band is there, my grades are good, I dance and enjoy art class, but the dreaded walk back to school each day is a nightmare in my head. Nothing to look forward to, nothing to dream about. In fact, hopelessness keeps seeping into my life as intensely as moonlight seeps through my curtained windows in the darkness of night. I can't focus, my life is just a blurry picture in the distance. I know, I know, I'm being just a little dramatic, but there is at least some truth in what I'm saying. *Something* is definitely off; I know that this is not what 'life' should feel like. I just wish I knew what is wrong, but I guess answers don't come easy.

Winter 2014/2015, Cecily Powell. My back is not better. I suppose it's my own fault because I competed in regionals against the doctor's wishes, but I rested the whole month of December and wore my brace frequently. When I went back to dance at the beginning of January, the pain was unspeakable. I left practice in tears. The doctor prescribed three months of rest, but I am supposed to perform in four specialty dances in *addition* to all of my team dances. Three months of rest is going to make it incredibly hard to learn all of the dances by the show day in May, but it is not impossible, and there is no way I am going to give up. Putting my identity in dance is making life pretty difficult when my ability to dance is being slowly stripped away from me. I recognize that and I know I need to do something to fix it, but I do not know what.

Winter 2015, Katie Ann Edgeworth. Earlier today as I leaned against the wall of my house and let the chilly wind freeze my skin, an idea struck my head that could solve all of my problems: I should switch schools! Sounds crazy, but I can't explain it—this was meant to happen. Still in the first semester of eighth grade at my middle school, I'm beginning to picture my future: walking into a new classroom of unfamiliar peers and immediately meeting a new group of wonderful friends. Yes! The idea is perfect; I'm determined to reach my goal. Nothing will stop me—I am going to be a new student in the middle of my eighth grade year. However, I have no idea what school I would transfer to, so I have got to start looking. I've heard nothing but praise for Brentwood Academy before, so I guess I should check it out because it's not far from my house. I really don't know much else about it, but I'm incredibly excited to find out more about this new school. Talk about foreshadowing! ... Well, at least I hope it is foreshadowing...

Spring 2015, Cecily Powell. As I recuperate from my back injury, my little brother, Brock Powell, is competing in high school level robotics competitions as a sixth grader. His other two team members are Hank Roberson and Jon Mason Billington, both seventh graders. I could not be more proud of him, but deep down inside, I wish it was me up there. Of course I would never do anything about this wish though—the average eighth grade girl would never compete in robotics. I will leave that to the boys! And at the moment, the thought of joining the robotics team is the last thing on my mind, even though it might be the answer to my prayers.

Winter 2015/2016, Katie Ann Edgeworth. But no. A crushing blow. Brentwood Academy had no room. Literally, there was not another locker in sight. Nor a chair. Or a desk. Or paper. Not even a wooden pencil. Okay fine, maybe I'm exaggerating just a tad bit—they probably had a pencil—but that's what it feels like (the locker part is actually true). My hopes had racked up after learning more about the school and praying for the right decision, but of course my luck ran out. I would have to wait until next year. With my dreams crushed, my life came to a halt (...well, I guess not a complete halt, or else I wouldn't have written this). I *know* that Brentwood Academy is the perfect place for me, and now that it is out of my sight for the rest of the school year, I can no longer see the light. Deep down, I know I will make it, but right now it just seems like someone set me up just to see me fall flat on my face while they point their finger and laugh.

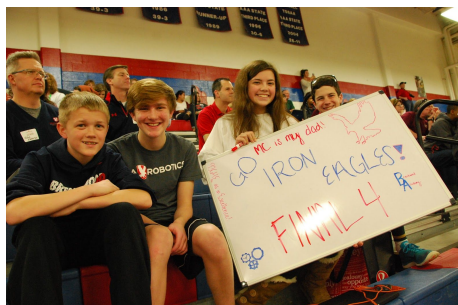
Fall 2015, Cecily Powell. By the time the new school year rolls around, I have basically given up on dance. While I am still on the team, I am no specialty in dances, and I am not even in the dance that we will soon take to the state competition. And of course my back still hurts, too. On the bright side of life, however, my brother's middle school robotics team has been totally dominating the high school tournaments! They were even tournament champions at a recent competition and scored the highest in robot skills. I seriously wish I could do something like that, but none of my friends do robotics and, frankly, it is looked at as quite dorky. While I have never been the kind of person who really cares what others think, I really do not even think I have what it takes intellectually to compete in the world of robotics.

Early Spring, 2016, Katie Ann Edgeworth. Oh well, I keep telling myself. I just need to make it through this year, then I will be completely free of middle school. Wow... free of middle school... sounds unreal! Anyway, I am just going to look forward to next year at Brentwood Academy (if I get in, that is). In the meantime, I can find

out more about my dream school, so that way, when I get there, I will know exactly where my place is. I keep wondering what aspects of Brentwood Academy I will like the most. I will probably stick with jazz band, art, and dance, but I'm looking to branch out a little—maybe try something I've never done before. I guess I will just have to wait and see. It feels so good to have something so anticipating in my life now! (*Pictured below: Brentwood Academy, my future dream school*)



Early Spring 2016, Cecily Powell. Brock just finished the state robotics competition. Though his team was thrilled to make it to Worlds, the tournament did not go as well as his team had hoped. They realized they would have been much more successful if they had a better engineering notebook. Of course, I did not know what that was, but once he explained it to me, I realized I could really excel at creating and keeping up a high quality engineering notebook, which would really help my brother's team score improve. I discussed this with my parents, and they were very enthusiastic about the idea (my mom is such a robotics mom—you know, like, the soccer mom of robotics). I am going to attend the robotics interest meeting in a month, and I'm super excited to finally look into this idea. (*Pictured below: me cheering on my brother's team at the state tournament*)



Late spring 2016, Katie Ann Edgeworth. It's perfect! I toured BA, and guess what? None other than Cecily Powell proudly showed me the many great aspects Brentwood Academy holds. There was definitely a high point in my day, though... We were walking by a row of trophy cases, and we suddenly came to a stop. I looked up when Cecily came to a pause, and all I saw was a huge wall of nothing but the honored Vex parts and trophies shining with their glory and showering their light down as all of it spoke to me like nothing else had before (I may have embellished that line a little). The TV in the corner of the glass case displayed the highlights of the school's most rewarding robotics moments, and I became more excited than I have ever been before. I looked at Cecily, who could only stare up at the awards with a proud smile that revealed her spirit for robotics. She began talking about what robotics was, what it meant to her brother, and how she was planning on joining a team next year. Overall, I'm hooked. This is what I've been looking for, dreaming for, waiting for. Speechless. I was speechless. Except for the fact that this moment was all I talked about for the rest of the day. After today, all I want is to be on a Brentwood Academy 9364 robotics team. *(Pictured below: the trophy case that Cecily showed me on my tour)*



Late spring 2016, Cecily Powell. Our first robotics meeting was this morning! There were lots of people there but I know what team I want to be on. My brother has decided to stay on a middle school team, so he is not going to be with Jon Mason and Hank anymore. I, however, still want to join forces with Jon Mason and Hank since I know them pretty well. Also, a girl who goes to my church, Katie Ann Edgeworth, is going to join the robotics team when she comes to school here next year, and she seems so sweet and smart. She should definitely be on our team, too. What really excites me is how our coach, Mr. Allen, describes the position of "technical writer". As soon as he mentioned it, I perked up. That is what I want to do; I even have a color scheme and an

organizational system decided for the notebook! Under the question “What position are you interested in doing?” on the robotics team application, I wrote in all caps, “<3 TECHNICAL WRITER!!”. I think I got my point across.

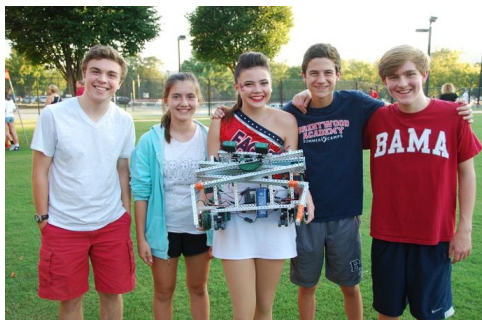
Early summer 2016, Katie Ann Edgeworth. I have been accepted into Brentwood Academy! *And* I’m on a robotics team with Cecily! I can't believe any of it, it's all too good to be true. I don't understand—I have no idea where all of this luck came from. Normally, I have the worst luck out of anyone; you know, I used to be that little 5-year-old kid who accidentally tugs on a stranger’s shirt and says ‘Daddy, come look!’ before realizing that the stranger is not their Daddy. Then the typical panic comes and I would run away screaming to find my real parents. But that’s just when I was little—over the years my luck went downhill from its already low point. This change, however, is truly incredible. Not only is life and luck looking up, but so is my team—Cecily Powell, Jon Mason Billington, Hank Roberson, and Will McClellan. The boys have all been here before and know what they are doing, so Cecily and I can learn a lot from them everyday as we both take our first plunges into the world of robotics. Sometimes it's hard, though. I’ve never done anything like this, so the terms and tools that seem simple and easy to others are things I have never heard of in my life (literally, as of now, the vocabulary here is like a bunch of tongue-twisters to me). Even though I still feel like the only one who doesn’t understand much, I have hope to grow in my knowledge of robotics and to eventually become a prominent member of my team. I guess I will just keep asking questions, no matter how silly they seem. I can only go up from here, right?

Early summer 2016, Cecily Powell. My team is finally official, and I could not be more excited! Not only am I with my brother’s friends, but there is also another girl on the team and a senior boy who is very experienced in robotics. I can already tell it is going to be a great year and we have barely even begun. Our first practice was this morning. We began brainstorming for our robot and setting up the engineering notebook. I have one or two ideas for the robot, but I am a little scared to say them because though everyone is very welcoming, they seem so smart and like they know what they are doing. I, on the other hand, feel like a fish out of water and have no clue what anyone is talking about. It is like a foreign language: aluminum c-channels, torque, stripped motors, omni wheels. I mean, what the heck is going on here?! Honestly, though, I cannot wait to find out.

Late summer 2016, Katie Ann Edgeworth. Good news! I just started an online Vex programming course, and since we have a couple of programmers on our team, if I have questions, answers are easy to get! It’s a long

course, but I am excited to learn how to program all of the many sensors that apply to our team's ideas for robots. Not only that, but I am also continuing to learn more and more about building everyday! From high speed motors to 84 tooth gears to mecanum wheels, my vocabulary and ability to build keeps becoming consistently better (even with the occasional slip up). So far, our team is still planning out our design process and Cecily is working on setting up our engineering notebook. Teamwork is a big deal on this team, so every day we assign different roles to each person that will contribute to the productiveness for that day. It's impressive how much we get done when we all work together for a bigger goal! I can't wait to see where our team is headed.

Late summer 2016, Cecily Powell. Today. Was. Epic. I went straight from school to dance practice. We reviewed our dance and got our hair, makeup, and costumes on for the performance at the football game later. Some dance moms then brought in dinner for everyone. While the food looked great, I had bigger and better places to be! I ran across campus in my dance costume and jazz shoes to get to the robotics scrimmage in the quad. I got there just in time for my team's second match—which we totally won. It was awesome. We competed in a few more matches, and—get this—the only team that beat us was my little brother's team. Talk about sibling rivalry! This scrimmage was also a bit of a wakeup call for me. There are a lot of things I should have been doing in the notebook that I did not even know about, like page numbers and tabs. Though there is a lot to work on, none of it should be too difficult to fix. From the scrimmage, I went straight to the football field and killed it in our pom dance. I have to admit, it feels really cool having my dance teammates ask me how my robotics scrimmage went. They are dancers--that's what they do, and they are really good at it, too. But I love sharing a different world with them. I love that I am now getting involved in other activities besides just dance—it is really fulfilling. (*pictured below: our team at the scrimmage*)



Fall 2016, Katie Ann Edgeworth. I finished the programming course! It feels so good to know what I am doing finally, and it's rewarding to know that my work has paid off. It's been extremely useful to know how to program so that when we get to the autonomous, I am all set and know what to do. As for the process of designing a robot, our team has done a whole lot of brainstorming. For instance, we started with a catapult idea, wanting the robot to catapult stars over the fence in a catapult bucket. We went from this idea to a scissor bot. Before deciding on a final action point, we analyzed and listed the pros and cons of both ideas. After weighing all of our conclusions, we chose the scissor bot. So far, this has been really successful for us in practice! It gets stars over the fence with amazing ease, and our autonomous consistently gets multiple points! All of these experiences in robotics have really made me think—I might want to pursue a career in this area. I've been researching all of the types of engineers, and my heart is pulled toward computer sciences and engineering. It would be fascinating to become a software engineer, and all of my practice in programming would be the perfect boost for college! I had no idea how much of my future would open when I came into robotics and Brentwood Academy in general. I hope everyone can have the opportunities I have—it has truly been life-changing.

Fall 2016, Cecily Powell. I have really tried to include a lot of tables, pictures, drawings, and organization in our notebook. I even used a highlighter to accentuate important ideas and topics on each page, so I think our team can agree that the notebook has really improved from before the scrimmage. One thing I never expected to enjoy as much as I am is building. It is so cool to learn how to build an entire moving robot from a bunch of different parts! In addition, the programming aspect of robotics is so inspiring to me. This is the part of robotics that I never really understood before joining, so I am so proud of the progress I have made in this area. Overall, my robotics experience thus far has been a lot of trial-and-error, learning, and growth. Looking forward in my future, I think it would be fantastic to pursue a career in making prosthetics, and robotics has been a huge inspiration for me to pursue this field. I am even considering pursuing a PhD, which had never crossed my mind before. Half a year ago ago, I wanted to be a dance teacher (which would still be fun). For the most part, though, my aspirations have done a full 180. I still want to dance and perform, but it is not my total identity anymore.

Our first tournament, Memphis, Tennessee. Walking past other teams and parents, it is so funny to watch them do a double take when they realize that we, two girls, are on a robotics team. That will never get old!

Though we are full of excitement, the pressure is intense. We want to do well *so* badly. Some teams seem to pass us off as an easy win, but their prejudices are proved fallible when our robot dominates the field. It was awesome to do so well and prove that girls can make a difference. Before, we never really comprehended the lack of gender diversity in robotics and STEM all over the world—that is, until it appeared right in front of us - to us, even. So, instead of taking offense to these stereotypical behaviors and assumptions, we used it as a fuel to make us even better. This tournament also brought our team much closer as we spent so much time together. We know that our fellow male team members support us and our love of robotics whole-heartedly. After today, our team is officially dedicated to spreading the message of gender equality to everyone we encounter and to hopefully encourage, influence, and convince many more girls to join robotics and pursue careers in STEM that they might have been afraid to go for. We really want to see our life-altering stories in the lives of others if they are experiencing the hardships that we also encountered before being placed where we were supposed to be. And no, we are not talking about the ‘hardship’ of thinking a stranger is your Dad (no matter how terrifying the experience might be). But in truth, we are incredibly thankful for the chance to be in robotics and the path that it is taking us.

Credits

Entrants: Katie Ann Edgeworth and Cecily Powell

Team Number: 9364C

Storybook Title: The Moment of Truth