

Introduction

Tawni:

Hi, I'm Tawni Slade!

Elena:

Ya'a'teeh, Elena Klopfenstein yinishye.

Riyana:

Maru naam Riyana Patel che

Tawni:

Our crescendos start with us: the students

Elena:

Our path will always be a struggle but we find our reasons to stay

Riyana:

Because we are the CocoNuts

Tawni:

And together we've learned...

Everyone:

We can do hard things

Outreach

Elena:

We see the struggles we personally experience reflected in our community. Half of the Coconuts are people of color and many of us didn't have STEM access growing up. To bring STEM closer to the kids that need it most, we created the ¡También Lo Puedo Hacer! and Dine People are the Future fairs. In the last three years, we have reached over 800 kids from Title One elementary schools.

Riyana:

To keep our efforts sustainable, we empower new members to take ownership of our outreach, like a 'Nut training to take over a STEM fair after only being a member for 3 weeks. Because

the Coconuts are such an integral part of our community, my teacher encouraged me to switch schools and join them; he knew that they could help me reach my fullest potential.

Tawni:

The CocoNuts are tireless in our mission to bring STEM to all: from pasta towers to catapults to Junkyard Robots - parades to the county fair and the Super Bowl, we have reached forty-seven thousand people at over 100 events in the last three years. In addition, we are combining our favorite STEM activities in a children's coloring book that is "A wonderfully Inventive Tale of Robots, Squirrels, and Nutty Adventures". And last month, Flagstaff recognized us as champions for STEM equity by naming us STEM Community Partner of the Year!

AZFTC

Elena

The CocoNuts are FTC's Program Delivery Organization **for the entire state of Arizona**, a role usually filled by colleges and nonprofits. We allocate funds to all aspects of running a tournament, traveling as a team to events, and training new host teams and volunteers until that tournament has its own sustainable volunteer base. We keep the cost of AZFTC low and provide a registration relief grant for teams in need. In the last 3 years, we've donated 27 hundred dollars to 19 teams.

Riyana:

This season we created two new FTC qualifiers to give rural teams easier access to competition. We've helped teams go from box to bot in less than an hour and created engineering portfolios from scratch. AZFTC has grown exponentially, this year alone we had 21 new teams for a total of 87 competing in 10 statewide qualifiers. Forty eight teams took **CENTERSTAGE** at our two-division state championship. Refereeing and queuing at these tournaments has allowed me to become the role model I always wanted. Others can see a successful colored girl in STEM and know that they can do hard things.

Tawni:

We go the distance to support FIRST at all levels across Arizona. Every team deserves an expert dedicated coach, but they can be hard to find. So we created FLL in a Nutshell to coach coaches on the intricacies of running teams; Nutshell resulted in 21 new teams in the past three years, and attending teachers can earn 12 Professional Development hours. We mentor 16 FLL and FTC teams in Flagstaff, and in the last three years, we've run 34 FIRST events and supported 35 others, for a total of twelve thousand five hundred hours; equivalent to volunteering for almost a year and a half straight!

Advocacy

Elena:

Three years ago, we began attending the National Advocacy Conference in Washington D.C. giving us the honor of singularly representing the entire state of Arizona. Through meeting with the offices of Senators Mark Kelly, Kirsten Sinema, and Representative Elijah Crane, we contributed to the passing of the CHIPS Act and fully funding the Every Student Succeeds Act. CHIPS provides funding for after school STEM programs nationally, and creates new tech jobs in Arizona with a brand new microchip facility. NAC is empowering because we see that our voices can affect change at a national level.

Riyana:

To address Arizona's number 48 ranking in education funding we created the Arizona Advocacy Conference. Through NAC we know that more voices result in greater change, so we rallied 7 other FIRST teams from across the state and trained them in the art of advocacy. Teams worked together to demonstrate robots on the capitol lawn and met with 18 different legislators.

Tawni:

After a day of discouraging conversations, we walked into our penultimate AAC meeting. We discussed our achievements in FIRST with Representative Cook and he put CPR and the Coconuts in the **state budget** for \$30,000 **each** over the next 3 years! And, to continue getting teams involved and building relationships with our policy makers, we are hosting the 2nd annual AAC in May! Before joining the Coconuts, I never imagined advocating about something that matters, but now I know I can do hard things.

RezBotics

Elena:

We have seen success with our advocacy efforts, but there are still a lot of barriers to STEM that have more complicated solutions. 36% of all Native American students nationwide drop-out of school. Less than 3% of people on the Navajo Reservation ever leave because we love our home. Getting an education and coming back is a way I can give back to my people, but since I live on the Rez, I have to spend over 3 hours on a school bus every day to be part of the CocoNuts; STEM is just not available here.

Riyana:

Only 0.4% of the STEM workforce is indigenous, so kids on the Rez never see themselves in STEM. Because this is so personal for so many of us, we knew we had to be a part of changing that mindset.

Tawni:

When we met the Navajo Transitional Energy Company (NTEC), we knew we finally found an ally in our mission. NTEC had the funds, we had the expertise. Together we created RezBotics.

Elena:

Without dedicated mentors, robotics teams fail. So we hosted a hands-on FTC workshop for 40 new Rez coaches close to home. But our support could not just end there.

Riyana:

Tribal delegates only meet every three months, so it is a long and difficult process to get funding. To make it easier, we advocated to FIRST for rookie grants to cover registration fees and NTEC sponsored robot kits for 12 new teams.

Tawni:

Because the Navajo Nation is larger than the state of West Virginia, these new teams are hundreds of miles from each other and the nearest tournament. We built a communication network for these coaches, so they had a reliable resource.

Elena:

However, there is still this long-standing mindset that we don't belong. Rez teams feel intimidated by more experienced outside teams. After FTC team TONKIS arrived, reluctant to compete, we empowered them to TRY. They competed at their next event, but they showed up with a bot made of illegal parts! We helped them rebuild their bot and got them ready for their third qualifier.

Riyana:

The Coconuts hosted the **first ever all-indigenous robotics qualifier** on the Navajo Nation at Dine College in Tsale for over **150 students**. By hosting the tournament on the Rez, we leveled the playing field and reduced travel time for teams by an average of 6 hours. TONKIS ended up being the captain of the winning alliance and this is just one example of a Rez team whose narrative has changed from "we can't" to "we can!"

Tawni:

We even got the Vice President of the Navajo Nation to this tournament! We've begun changing the minds and hearts of not only the students, but also the tribal elders. And, to rally native communities around STEM success, we advocated to FIRST to let us advance the Inspire award winner, Rockasisan Tech, ~~here~~ to WORLD CHAMPIONSHIPS!!!

Elena:

When I became a CocoNut, for the first time in my life it wasn't enough just to show up and participate; I was expected and encouraged to be better. By helping to create RezBotics, I am showing my people that they are capable of far more than they believe they are because we can do hard things. This is the dawn of a new era of STEM education on the Reservation. We are applying for grants to fund more teams, recruiting more schools ~~next week~~, and bridging the cultural gap between **the** Rez and FIRST.

Conclusion

Riyana:

Through all of our hard work every single member of the Coconuts have had their lives changed.

Tawni :

Who would've thought that my words could show kids that they really could do STEM too

Elena:

Who would've thought that a girl from the Rez would be a Deans List Finalist

Riyana:

Who would've thought that little me could drive a mars rover and see that her dreams are possible

Tawni:

So, take a deep breath. We're going to crescendo again...together. Because I can do hard things

Elena:

Yeego shi nantlaango adeeethiit

Riyana:

hum sakhata vastu o kari sakum chum

Everyone:

WE CAN DO HARD THINGS!!!