

Texas Women & Girls in STEM Summit

December 6, 2019

@TxGCP #TXGCPSummit







TxGCP Mission

To connect & support organizations and individuals across Texas committed to informing and motivating girls to pursue careers in science, technology, engineering and mathematics (STEM)

Million Women Mentors – Texas Mission

To support the engagement of STEM mentors (male and female) to increase the interest and confidence of girls and young women to persist and succeed in STEM programs







TxGCP Resources, Programs and Events

- ► Foster connections and collaborations throughout Texas
 - Regional Networking Forums, Google Groups, Leadership Teams
 - Texas STEM Connections STEM volunteer matching system
- Disseminate best practices, resources & curriculum to engage girls in STEM
 - Texas Women and Girls in STEM Summit
 - Monthly eNewsletter and Webinar Series
 - Workshops for SciGirls, Science Action Club, Role Models Matter, etc.







THANKS to our Summit Sponsors

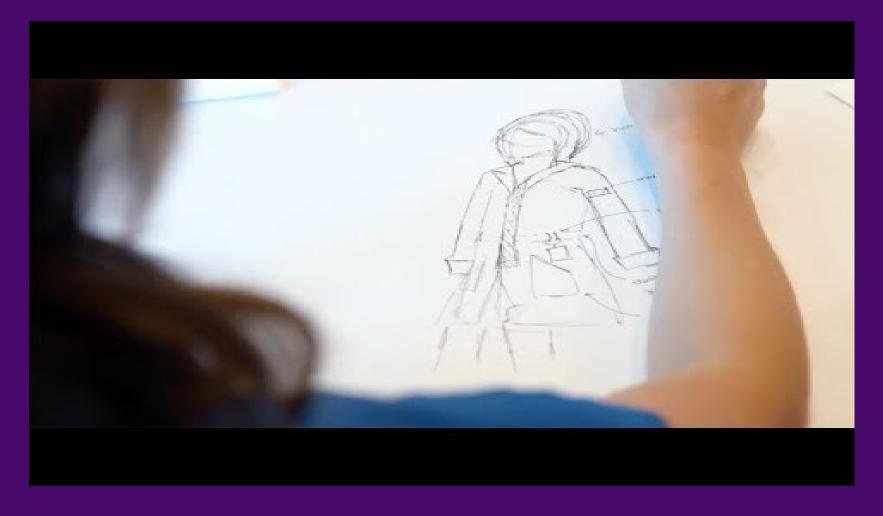








Challenge: Reinventing the Labcoat



https://youtu.be/9e7Luzdydys

Summit Logistics

- ➤ 0.806/0.808 Auditorium Foyer Rooms: Coffee, Tea, Water | Resources | Lunch
- ► Water bottle refill stations near restrooms
- ▶ O's Campus Café upstairs on 2nd floor
- Soda can/bottle vending machines outside RLM
- ➤ Parking validation tickets use the ticket you pulled first, then follow with "chaser ticket"







Summit Logistics

- ▶ Nursing mothers room / quiet room on 2nd floor
- ▶ Breakout sessions in:
 - ▶ 2 rooms on ground floor
 - ▶ 1 room on South Tower 2nd floor
 - ▶ 2 rooms on North Tower 3rd floor
- ► CPE credit sign-in sheets in rooms
- ► Links to presentations, CPE credit certificates, list of summit participants emailed next week







Summit Agenda

- ► MWM-TX Stand Up for STEM Awards
- ► Lightning Talks
- ► Breakout Sessions 1 & 2
- ► Lunch, Networking, Resource Sharing
- ▶ Breakout Sessions 3, 4 and 5
- ► Closing Reception, Networking, Resource Sharing















Stand Up for STEM Awards









2019 Corporate Stand Up for STEM Award

Samsung Austin Semiconductor









2019 Mentor Stand Up for STEM Award

Mansoureh Tehrani TriReach Collaborative









2019 Collegiate Stand Up for STEM Award

Women Mentoring Women in Engineering The University of Texas at Dallas









2019 High School Stand Up for STEM Award

Vandegrift Viperbots Hydra Vandegrift High School, Leander ISD









2019 High School Stand Up for STEM Award

Gouzia Sivarajah Heritage High School, Frisco ISD









2019 Educator Stand Up for STEM Award

Barbara Hewitt
Texas State University









2019 Educational Organization Stand Up for STEM Award







Lightning Talks

- AAAS and Lyda Hill Philanthropies IF/THEN Ambassadors
 - Dr. Amanda Masino, Huston-Tillotson University
 - Jennifer Stimpson, The Hockaday School
- ► Calling all STEMinistas: Elevating the Voices of Girls & Women in STEM
 - Dr. Stephanie Garcia, Intercultural Development Research Association
- **▶** Girl Powered Redefining the Face of STEM
 - Leslie Hughes & Veronica Andrulat, Robotics Education Competition Foundation
- megaGEMS STEAM Enrichment for High School Girls
 - Stephanie Weiss-Lopez, University of the Incarnate Word
 - Jenny Stewart, AVS Research Assistant/Meteorologist
- ► Empowering Girls to Innovate, Create, & Discover Their Potential Through Entrepreneurship
 - Scott Mann, VentureLab







AAAS and Lyda Hill Philanthropies IF/THEN Ambassadors

Dr. Amanda Masino, Huston-Tillotson University Jennifer Stimpson, The Hockaday School





Amanda Masino, Ph.D.

Chair of Natural Science
Associate Professor of Biology
Director, STEM Research Scholars
Program and St. David's Scholars

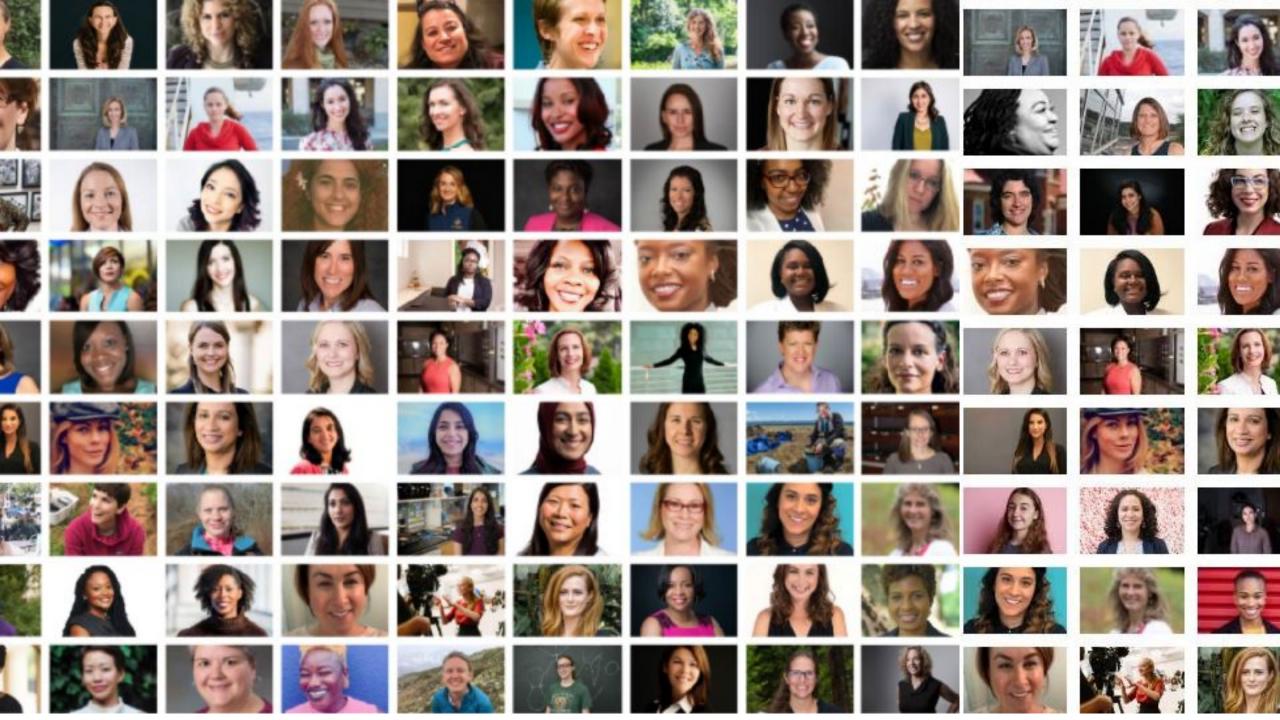
Huston-Tillotson University and The Dumpster Project, Austin TX





Jennifer Stimpson

Middle School Science Teacher
The Hockaday School
Dallas, Texas









IF WE SUPPORT A WOMAN IN STEM, THEN SHE CAN change the world.

REAL WOMEN IN STEM #SEEITBEIT

MEN OUTNUMBER
WOMEN NEARLY
2-TO-1 OF ALL
STEM CHARACTERS.

IF/THEN: THE LYDA HILL FOUNDATION SUPPORT RESEARCH ON GENDER IN MEDIA



#SEEITBEIT

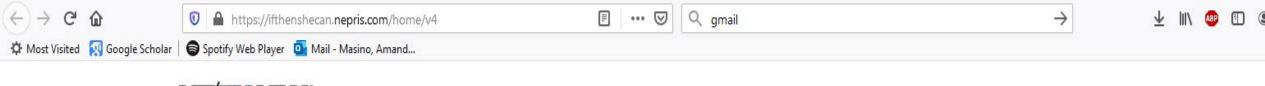
71% OF STEM
CHARACTERS IN
ENTERTAINMENT
ARE PORTRAYED
AS WHITE.

IF/THEN: THE LYDA HILL FOUNDATION SUPPORT RESEARCH ON GENDER IN MEDIA













Welcome to The IF/THEN Classroom Connection

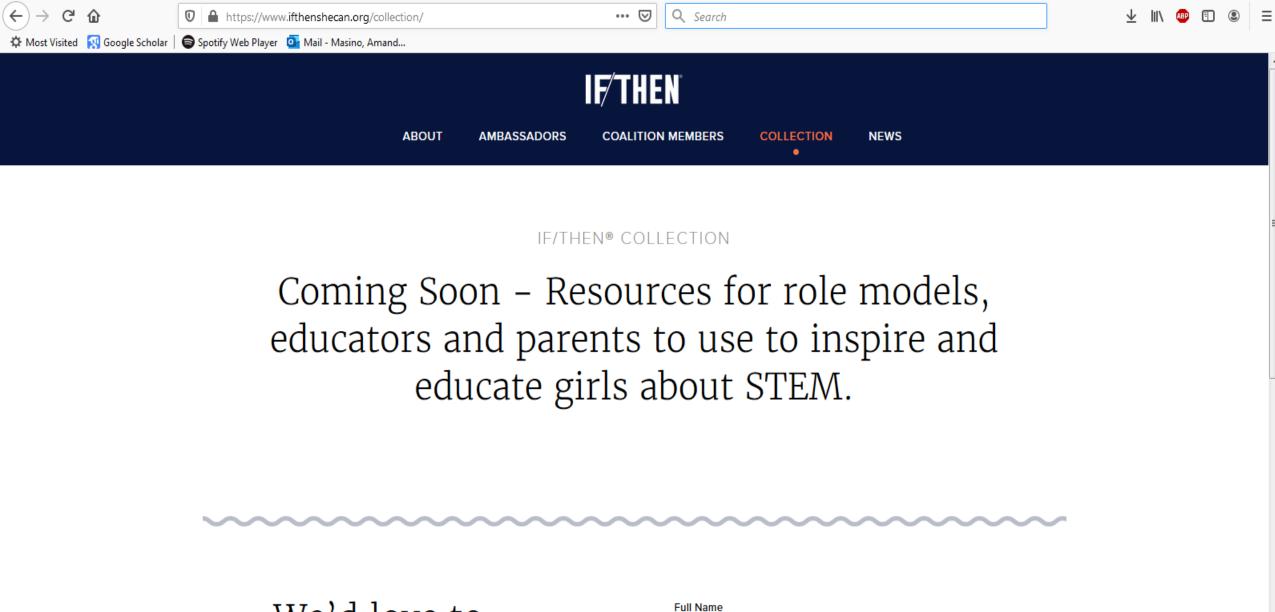


SIGN UP

* LOGIN

PROFESSIONALS ~

The IF/THEN® Classroom Connection is a web-based tool to bring real women STEM role models into classrooms and nonprofit programs. This platform makes it easy for professionals to share their skills and expertise to bring real-world, authentic learning opportunities to all our students to create the next generation of innovators. Through virtual sessions and digital content, professionals can help educators and program providers connect their



We'd love to hear from you!

Email Address

....Teaching students about the wonders and possibilities of science through education and innovation...

Science Educators are motivators





Learning STEM through a figured world



Middle School is a critical time in adolescent development to expose students to real-world science.

IF she can see her possibilities, THEN she can walk toward her destiny

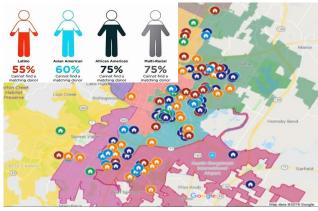
Science + Social Justice at an HBCU





Urban Coyote Research





Health Disparities and Housing Research





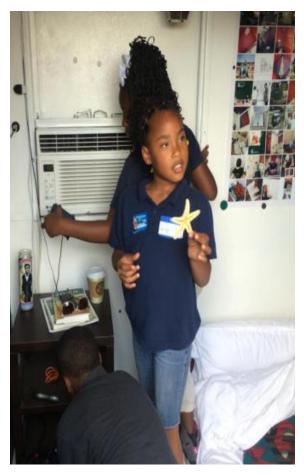
Environmental Justice

The Dumpster Project









Being a Scientist with OCD

"Having OCD is like living with a bully in your head constantly. OCD is not an adjective, it's a serious illness." time to change #OCDAwarenessWeek let's end mental health discrimination



LINKS!

- IF/THEN Initiative ifthen.org
- Geena Davis Institute on Media seejane.org
- Nepris ifthenshecan/nepris.com
- #ifthenshecan on Insta and Twitter
- @steministamanda on Insta or httmasino@gmail.com
- @jstempscience on Insta or jcstimp@gmail.com

IF WE SUPPORT A WOMAN IN STEM, THEN SHE CAN change the world.

STEMinistas: Elevating the Voices of Girls & Women in STEM

Dr. Stephanie Garcia Intercultural Development Research Association

Calling ALL STEMinistas!





WHAT IS A STEMINIST?

STEM + FEMINIST =













"Behind every great woman, is great women!"

STEMinistas Push Back!

- Historical marginalization & structural inequalities
- Tracked out of college preparatory classes
- Excluded from positions of power
- The list goes on...



STEMinistas Benefit From:



- Respecting and valuing women's and people of color's cultural forms, traditions and contributions to the field
- Economic and social mobility
- Access to high-level STEM learning
- The list continues...

RE212

Promote and Advance

Policies and practices that protect these civil rights



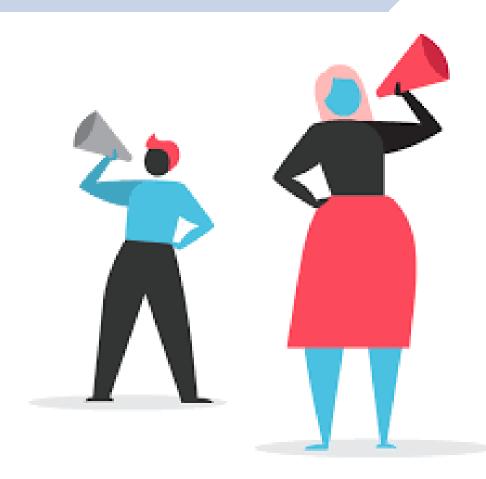
Commit to Community



#GOALS + PLANS → ACTION



AMPLIFY STUDENT VOICE



The future of work is here!

5 most in-demand soft skills in 2019

Creativity

2. Persuasion

3. Collaboration

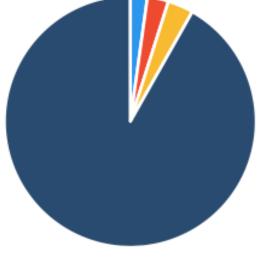
4. Adaptability

5. Time Management

5 most in-demand hard skills in 2019

- 1. Cloud Computing
- 2. Artificial Intelligence
- 3. Analytical Reasoning
- 4. People Management
- 5. UX Design

It is estimated that since 2018, 2.4 million STEM jobs have gone unfulfilled. Minorities are deeply underrepresented in STEM fields. STEM jobs typically pay \$20,000 more annually than non-STEM jobs.

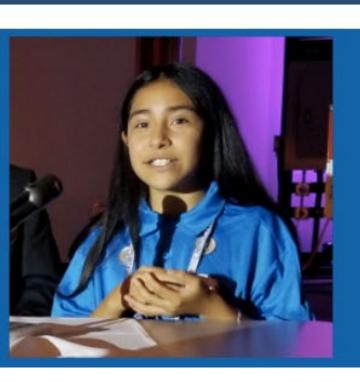


Is Texas Ready?

Native American 3.3%

White and Asian American 91.8%

All students are valuable, none is expendable!



"We are going to open up new opportunities for new kids who maybe never thought they could make it this far. We are going to show them: 'You are somebody, and you will make a great impact on our future."

Middle school Chief Science Officer,
 Alicia DeHoyos, Dwight STEM Academy,
 South San Antonio ISD

"Students value an education that is valuable."
Dr. Paula Johnson



Encourages Peer Collaboration



Amplifies Student Voice



Encourages Community over Competition

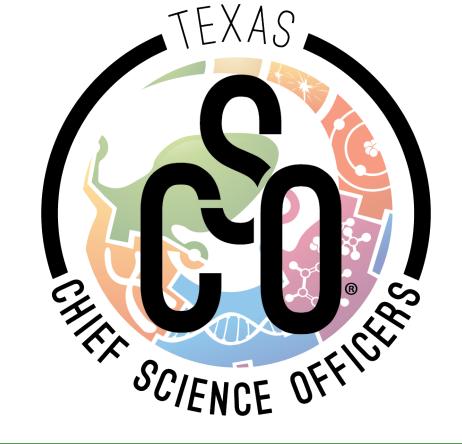


Builds STEM Leadership Capacity



Fosters Creativity and Innovation





Don't Just Hope It Happens, Make It Happen!

87%

of CSOs self-reported progress in inspiring their peers with STEM 95%

of CSOs expressed increased interest in a STEM Career 72%

of adults intend to share the program with their associates after meeting a CSO 90%

of CSOs expressed increased connection with the STEM Community



THANKS!

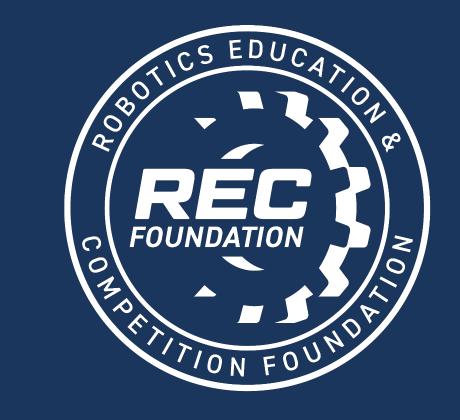
Any questions?

You can find me at @STEMinistx

Stephanie.Garcia@idra.org

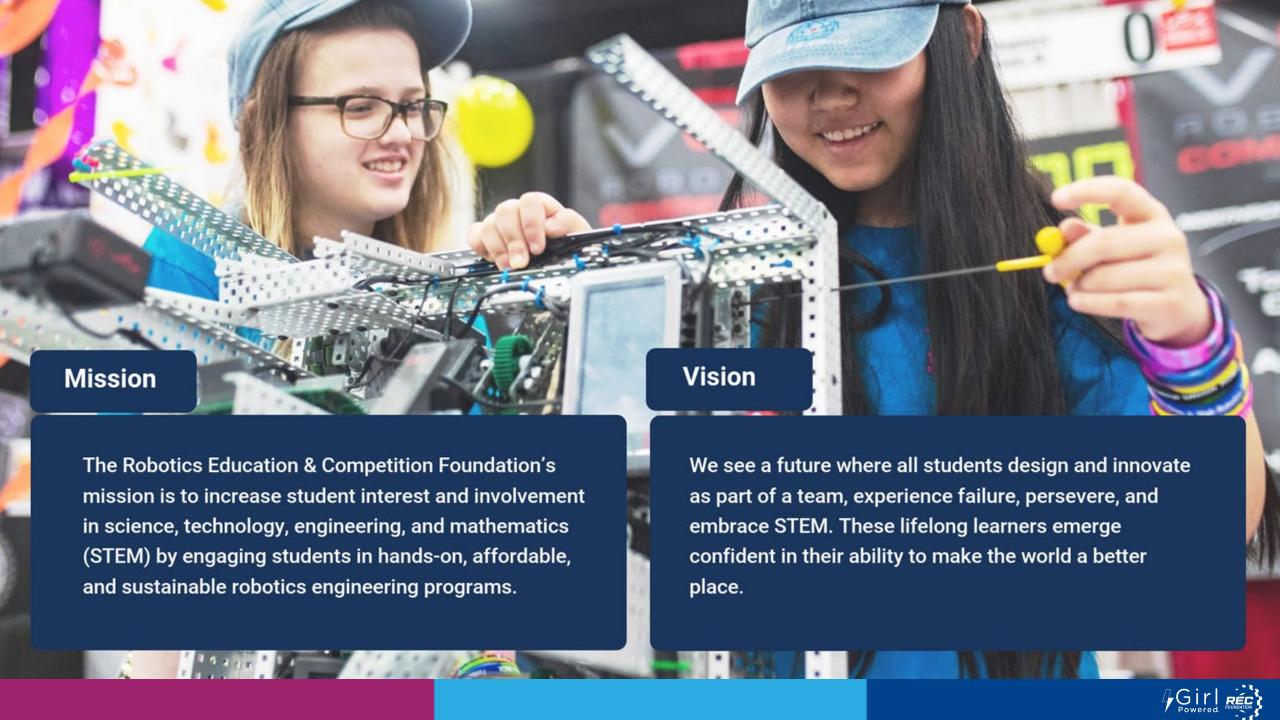
Girl Powered - Redefining the Face of STEM

Leslie Hughes & Veronica Andrulat Robotics Education Competition Foundation

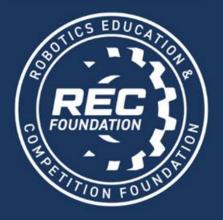


Inspiring students, one robot at a time





IMPACT



The REC Foundation is proud to impact so many within the robotics and STEM communities world-wide.

I can hire these kids who are coming out of these programs directly into the workforce because they have all the skills that we look for. They know how to work on a team, they know how to program, they know how to deal with real-world systems, they also know how to deal with failures more importantly.

Shivakumar Venkataraman, Vice President of Engineering at Google.



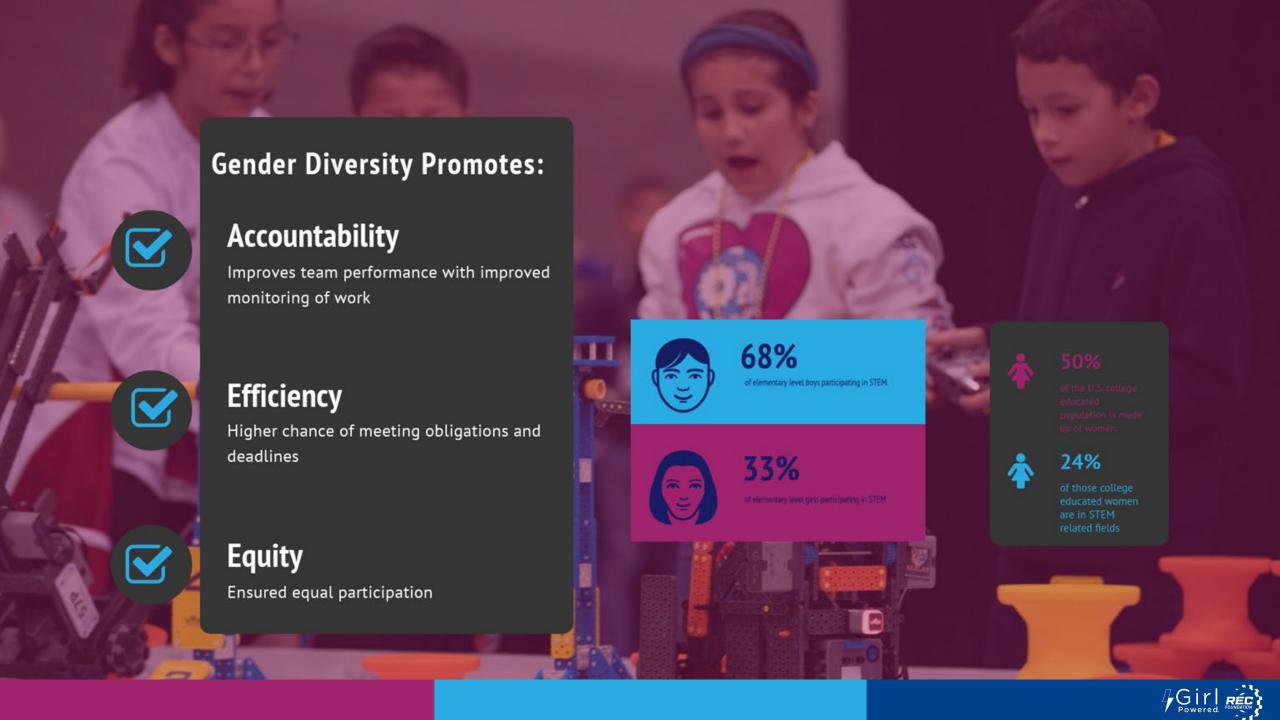




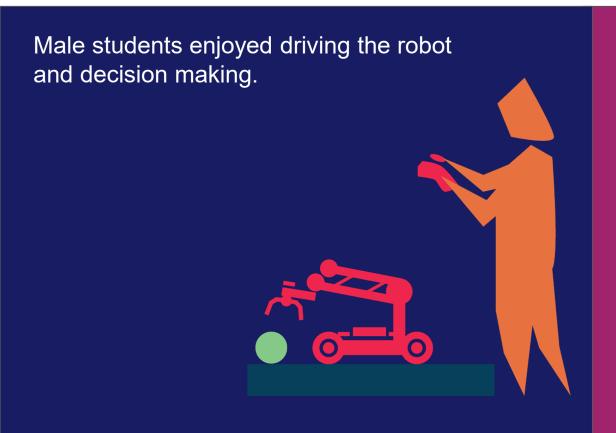








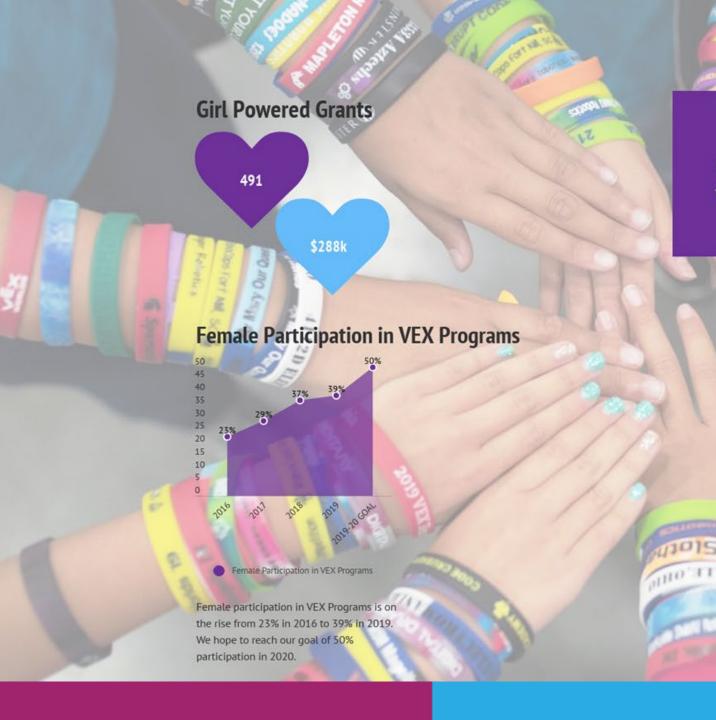
Gender Comparison Research



Female students enjoyed programming the robot and attending competitions.





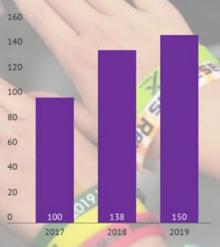


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Robotics and STEM should be about building everyone within the community up and valuing each person's voice and opinions.

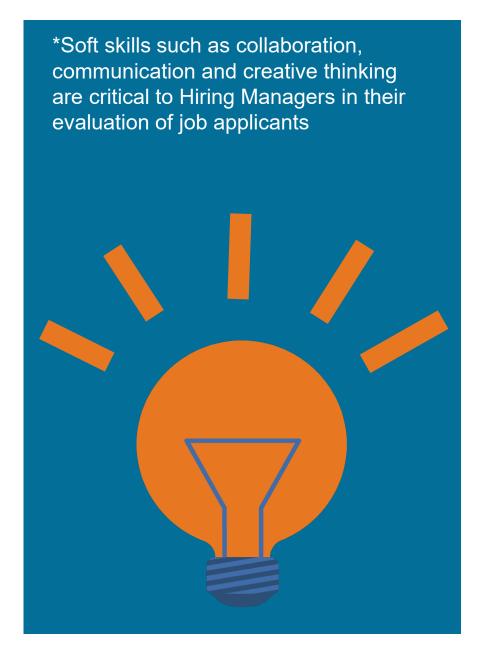
Jaden Baldwin, VEX Robotics Mentor

Girl Powered Workshops



Girl Powered Workshops empower women and their communities to engage in STEM activities, hear from inspirational female speakers, and build friendships.





SKILLS GAINED THROUGH ROBOTICS

- 1 TEAMWORK
- COLLABORATION
- 3 CREATIVE PROBLEM SOLVING
- TIME MANAGEMENT
- 5 CRITICAL THINKING
- 6 COMMUNICATION



It turns out that the global business world agrees that creativity is a critical skill for the future workforce



World Economic Forum:

Complex problem solving, critical thinking and creativity are the three most important workforce skills required to thrive in 2020 and beyond.

Bloomberg:

Creative problem solving, communication, strategic thinking and leadership are the most desired but hardest to find skillsets VRC positively impacts student growth in 95% of students in the areas of producing creative solutions to difficult problems, seeing possibilities, and opportunities in design challenges.

Source: Georgia Institute of Technology - An Evaluation of the VEX Robotics Competition



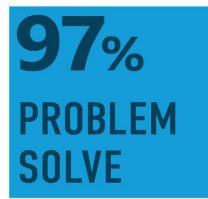
Creative problem solving skills are critical to future career success in an age of automation

69% of educators agree that there is not enough emphasis on creative problem solving in today's curricula

These skills are not being nurtured in school due to lack of time to create; lack of teacher training on new software, outdated standardized tests and more.

Source: http://cps.adobeeducate.com

DUE TO THEIR PARTICIPATION IN VEX ROBOTICS, STUDENTS LEARNED HOW TO



VISUALISE

A SOLUTION

IN THEIR MIND

91%

WORK BY
TRIAL AND
ERROR

MOST OF THEIR TIME

889

REACH AN AGREEMENT

MAKE THE

89%
KEEP
THEMSELVES
AND THEIR
TEAM
MOTIVATED

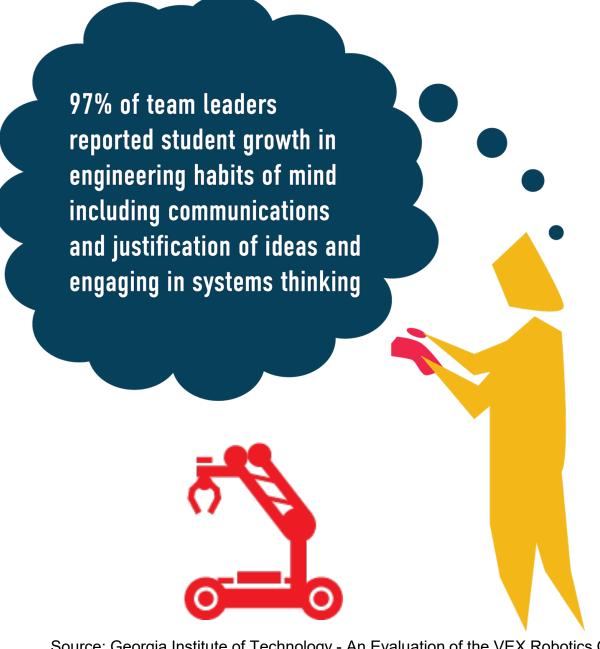
Source: Upfront Consulting 2012 Evaluation Report



89% of students and 93% of teachers agree that creativity is going to play an integral role in solving today's global challenges.

Source: http://cps.adobeeducate.com





Source: Georgia Institute of Technology - An Evaluation of the VEX Robotics Competition





Host or Volunteer at a Girl Powered Workshop

Girl Powered Workshops are meant to engage and inform young women about STEM and robotics!

Workshops may include:

- Hands-on activities
- Robotics demonstrations
- Girl Powered Pledge Station
- Female STEM Speaker

Resources and materials are available at girlpowered.com/workshops including:

- Sample Schedules
- Activity Guides
- Coaches Guide
- Downloadable Assets







Join our Executive
Advisory Committee for the
VEX Robotics World
Championship

- Planning and Implementing Public Relations
- Fundraising Leadership
- Development of Program Policy







megaGEMS - STEAM Enrichment for High School Girls

Stephanie Weiss-Lopez, University of the Incarnate Word Jenny Stewart, AVS Research Assistant/Meteorologist

megaGEMS

STEAM ENRICHMENT SUMMER PROGRAM FOR HIGH SCHOOL GIRLS
THE UNIVERSITY OF THE INCARNATE WORD

JENNY STEWART & STEPHANIE WEISS-LOPEZ

STEAM...

- NUTRITION
- CODING/PROGRAM
- WEB DESIGN
- ROBOTICS
- CHEMISTRY
- BIOLOGY
- PHYSICS
- ENGINEERING
- METEOROLOGY

Reaching to new boundaries...

Judson ISD

San Antonio ISD

Southside ISD

Girls Inc.

Northeast ISD – new for 2020



Transportation...

- Daily to & from UIW
- No cost to campers



Nutrition...

- Breakfast
- Lunch
- Snack & take home snack



Future chefs...

The science of cooking



Daily Activities...

megaGEMS	Monday	Tuesday	Wednesday	Thursday	Friday
Time	17-Jun	18-Jun	19-Jun	20-Jun	21-Jun
8:30-9:00am	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast
9:00-11:00am	Icebreakers/	EV3	GEEK BUS	Trevino	Meteorology - activity
11:00-11:10am	Break	Break	Break	Break	Break
11:10-12:30	Slime/ Toothpick tower	Creative Programming	GEEK BUS	Trevino	EV3
12:30-1:30pm	Lunch	Lunch/Guest Speaker	Lunch	Lunch	Lunch/Guest Speaker
1:30-2:45pm	EV3	GS (Dr. Labay)	GEEK BUS	Creative Programming	Nutrition sushi
2:45-3:10pm	Snack	Snack	Snack	Snack	Snack
3:10-4:00pm	EV3	EV3	GEEK BUS	EV3	EV3
4:00-4:15pm	Clean up & Journaling				
4:15-4:30pm	Pick up snack & Load bus				
	Monday	Tuesday	Wednesday	Thursday	Friday
Time	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun
8:30-9:00am	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast
9:00-11:00am	Egg Drop	Creative Programming	Dr. Kumari	Creative Programming	FII Obstacles
11:00-11:10am	Break	Break	Break	Break	Break
11:10-12:30	Elephant Toothpaste	FLL Obstacles	Dr. Kumari	FLL Obstacles	Competitions
12:30-1:30pm	Lunch	Lunch	Lunch	Lunch/Guest Speaker	Lunch/Nutrition
1:30-2:45pm	Nutrition muffin	FLL Obstacles	Dr. Kumari	Green Screen	Posters
2:45-3:10pm	Snack	Snack	Snack	Snack	Snack/Posters
3:10-4:00pm	EV3	FLL Obstacles	Dr. Kumari	FLL Obstacles	Posters/Pictures
4:00-4:15pm	Clean up & Journaling				
4:15-4:30pm	Pick up snack & Load bus				

Research Camp

Took personal interest of the girls and related it to STEAM fields.



Haptic Research...

Dr. Thomas M. Evans

University of the Incarnate Word President



Solar Research...

Solar pizza oven & healthy nutritious recipes



Unmanned Aerial Vehicle (UAV)

16 year old - FAA Licensed Drone Pilot



What is research?

Writing and Presenting
Scientific Research



Special visits...

HEB Beauty Department

Promoting healthy body and mind



Congressman...

William Hurd
Texas 23rd
Congressional District



Acknowledgments and Funding...

- UIW Deans Office of the School of Mathematics, Science and Engineering
- UIW Office of Mission and Ministry
- Mathworks for their gifts
- Festo for their BioFishes
- Aramark Cleaning Services Staff
- UIW Shuttle Services
- ▶ Dr. Michael Frye
- ► UIW AVS Lab
- For more information: gemssatx@gmail.com

- ► HEB
- ► Texas Workforce Commission
- San Antonio Area Foundation
- Rackspace
- Najim Family Foundation



Empowering Girls to Innovate, Create, & Discover Their Potential Through Entrepreneurship

Scott Mann, VentureLab

Empower Girls to Innovate, Create, & Discover Their Potential through Entrepreneurship

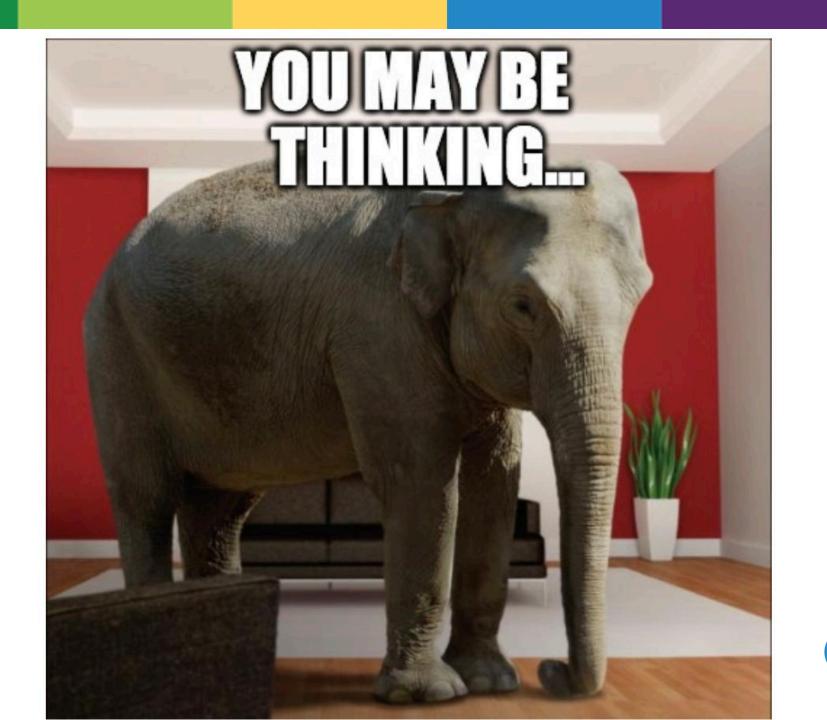
Scott Mann, Director of Education | VentureLab Texas Women and Girls in STEM Summit Lightning Talk 2019



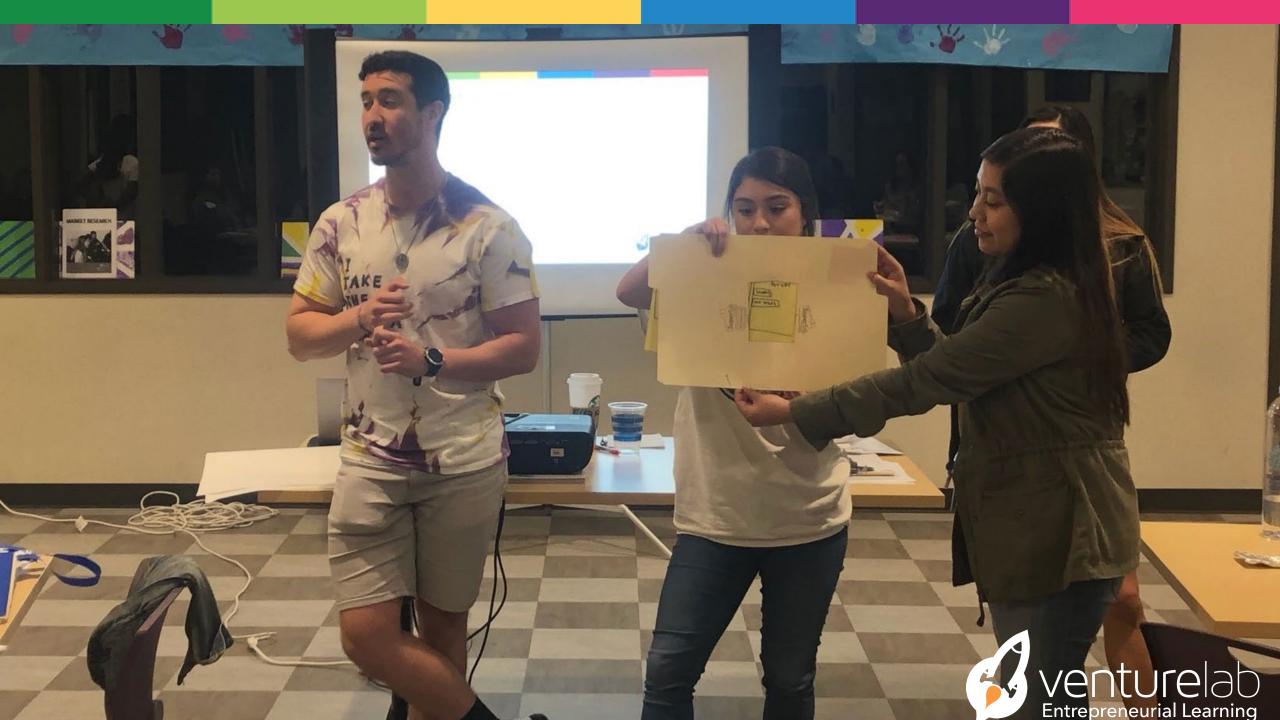


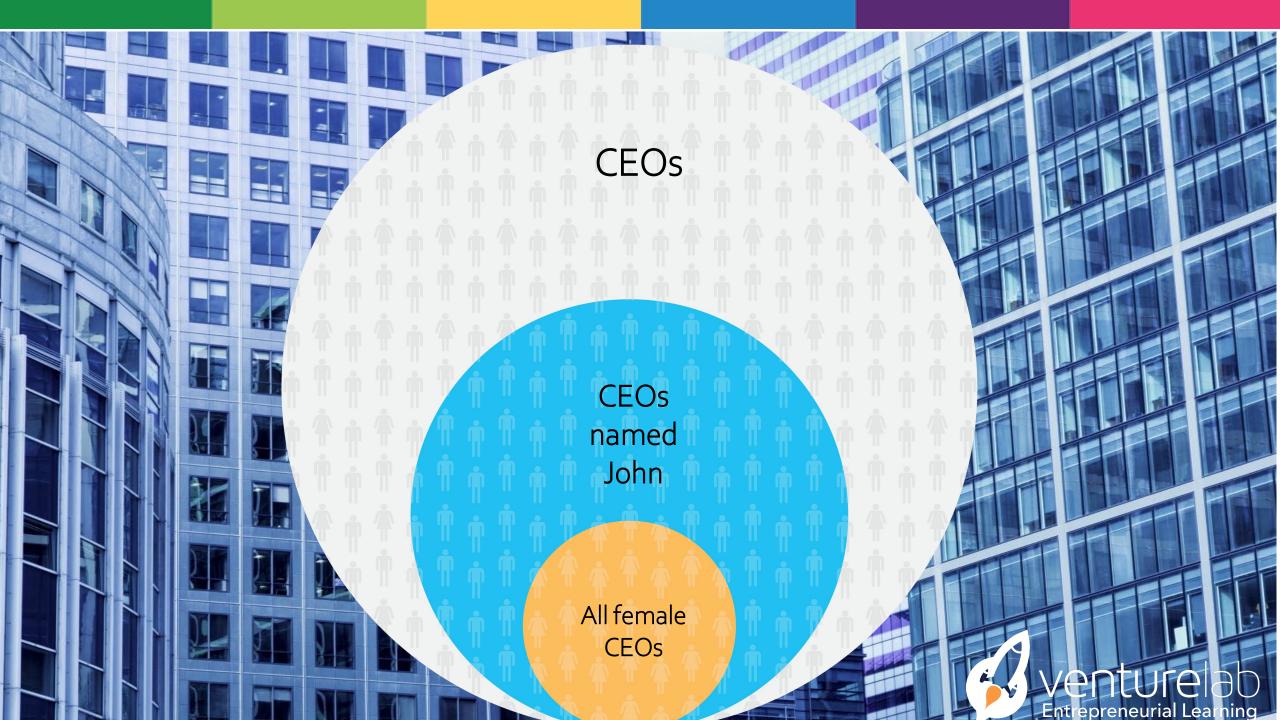
WHAT IF...

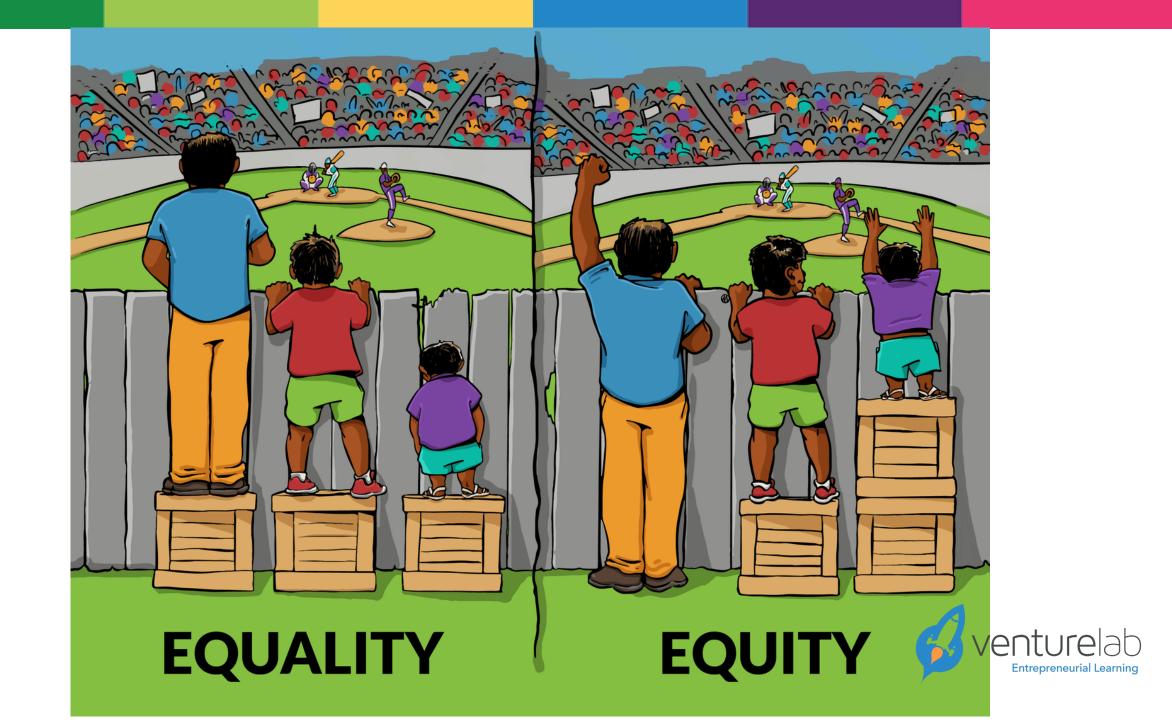












Entrepreneurship brings STEAM to life





What is entrepreneurship? Who is an entrepreneur?







Entrepreneurship = Mindset + Skillset



Entrepreneur = Anyone & Everyone

The entrepreneurial mindsets and skills

- Curiosity
- Growth Mindset
- Courage
- Persistence and Grit
- Opportunity-seeking
- Creative Problem Solving
- Redefining Failure
- Optimism
- Resourcefulness
- Adaptability
- Empathy



- Creativity
- Teamwork
- Idea Generation
- Opportunity Analysis
- Market Research
- Design Thinking
- Prototyping
- Business Model
- Pitching
- Public Speaking





Professional Development & Trainings

- Entrepreneurship + STEAM = Tying together all of the disciplines
- Preparing youth for workforce (college and career) success
- Promoting entrepreneurial mindsets and skills in afterschool (OST/ELO)
- Engaging families through entrepreneurship

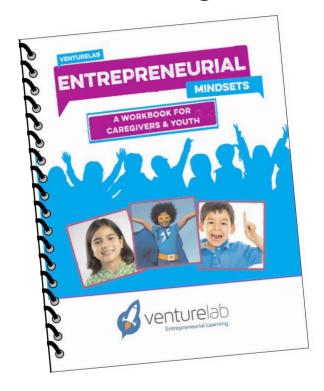


K-12 Entrepreneurship Curriculum

- Flexible to fit any schedule
- Simple implementation
- 21st Century Skills
- Hands-on activities
- No entrepreneurship background needed

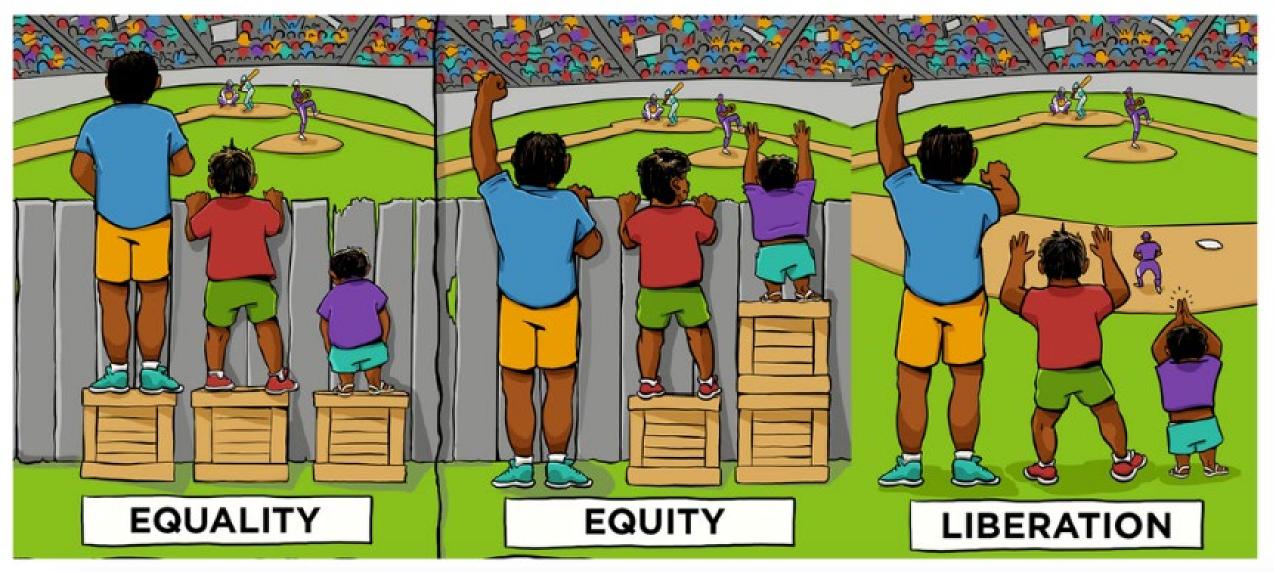
Family Engagement Resources

- Mindset-focused and available in English and Spanish
- 2 Generation learning Caregivers or Mentors WITH kids













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