Welcome!

NGCP National Webinar:
Learn to Be an Ally to Girls and Women in STEM
Learn to Be an Ally to Girls and Women in STEM

June 6, 2023
NGCP Vision

The vision of the National Girls Collaborative Project is to support and create STEM experiences that are as diverse as the world we live in.
Our Goals

Connect + Create + Collaborate

1. Build and sustain a network of advocates to provide equitable and inclusive STEM opportunities.

2. Catalyze equity in STEM from research to practice by providing actionable knowledge that transforms the STEM experience.

3. Increase our collective impact by strengthening organizational effectiveness and enhancing our fiscal sustainability.

Learn to Be an Ally to Girls and Women in STEM
NGCP Activities

- Network Partnerships
- IF/THEN Collection
- FabFems
- Youth Advisory Board
- State Leadership Teams
National Webinars

- Offered monthly on topics to help our networks grow and thrive
- Speakers include educators, researchers, authors, and diverse STEM professionals
- Sign up: https://www.ngcproject.org/events-announcements

"I have gotten more out of this than the dozens of other presentations I have attended this summer."

"I found this useful and enjoyable."

"I really like all the resources placed in the chat that I can go and flip through to find what is most helpful to my organization."
NGCP Newsletter

• National in-person and online events
• STEM resources for engaging girls and youth, professional development opportunities for educators, and opportunities for youth
• Research and reports related to STEM and equity, informal STEM education and learning
• NGCP updates and events, including webinars, knowledge products, and tools
Learn to Be an Ally to Girls and Women in STEM

June 6, 2023
Speakers

Joanne Esch

Snehal Bhakta

Joshua Sneideman

Learn to Be an Ally to Girls and Women in STEM
THE IDEA YOU DON'T HAVE IS THE VOICE YOU HAVEN'T HEARD.

NCWIT. Inclusion changes what's possible.
Why Focus on Men & Majority-Group Allies?

“85% of our leaders are men in this company, and if they are not gender advocates then the culture won’t change.”

✓ Women report that support to pursue and persist in STEM careers often comes from men

✓ Diversity and inclusion should involve everyone
Setting the Stage for Success
These strategies are not limited to men

✓ But **position** and **identity** DO matter

✓ Sometimes in a better position to make change
Majority-group allies are needed

✓ Women & men **not** homogenous groups

✓ **Shifting Allyship:** Sometimes an ally; sometimes could use one
What allies and advocates do

- Listen, learn, and reflect
- Promote inclusive environments
  - Dismantle barriers
  - Recognize and interrupt bias
- Not about “helping” or “fixing” individual women

HERE I COME TO SAVE THE DAY!
It’s ok to make mistakes!

I DON’T ALWAYS SAY THE WRONG THING

BUT WHEN I DO I AWKWARDLY KEEP TALKING AND MAKE THINGS WORSE.

This is not bubble rap...

It's a MINE FIELD!!!!
Start Small, Start Now!

Things You Can Do Starting Today

NCWIT’s Male Ally Toolkit
www.ncwit.org/ma-toolkit
Listen to women’s stories

“We were in a big meeting and…she made a comment about how difficult it was for her to be a leader in the organization as a woman. And so, here is someone who I literally was putting on a pedestal saying this…And I…was like, ‘Wow!’

So I asked her after the meeting… ‘Hey I want to go to lunch with you, I want to understand this!’”
Talk to other men

“I run into plenty [of men]...where they’re open to the conversation but they don’t feel a compelling need to do anything about it. They lack awareness that they have the ability right now to change it.

And when I talk to them about it and engage with them, many of them...start thinking about it differently...just a little bit more openness.”
Recognize and Push Back Against Bias

“I’m only creating the design ideas,” Barbie says, laughing. “I’ll need Steven’s and Brian’s help to turn it into a real game!”
Bridge the Encouragement Gap

- Encouragement from parents, teachers, coworkers, mentors, and supervisors makes a measurable difference for persistence in STEM.

- Provide encouraging messages to girls and boys early, often, and equally.
### Promote Growth Mindset

<table>
<thead>
<tr>
<th>Fixed Mindset</th>
<th>Growth Mindset</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>View of intelligence and ability</strong></td>
<td><strong>Can be developed:</strong> experience/exposure</td>
</tr>
<tr>
<td>Fixed traits: born that way</td>
<td></td>
</tr>
<tr>
<td><strong>View of effort</strong></td>
<td><strong>Working hard is an important part of being good at something</strong></td>
</tr>
<tr>
<td>It should come naturally; if it’s hard you might not be “good at it”</td>
<td></td>
</tr>
<tr>
<td><strong>Your goal</strong></td>
<td><strong>Learn</strong></td>
</tr>
<tr>
<td>Look smart &amp; capable</td>
<td></td>
</tr>
<tr>
<td><strong>How you accomplish it</strong></td>
<td><strong>Mistakes are learning opportunities; take more risks</strong></td>
</tr>
<tr>
<td>Hide mistakes and deficiencies; take fewer risks</td>
<td></td>
</tr>
</tbody>
</table>

Improve Group Dynamics

✓ Solicit opinions of quieter group members – now OR later

✓ Intervene when someone is interrupted or not getting credit

✓ Find an ally who can support and help notice these things
Interrupt Everyday Biases

✓ Patterns in task distribution in groups: “Sarah can do the design”

✓ Gendered expectations: “Not a risk-taker; not very confident; not a natural leader”

✓ Doubt Raisers: “Need to see more evidence”
Sponsor and Mentor

**SPONSORS ACT**

*Sponsors...*
- connect protégés to career opportunities.
- advocate for protégé's advancement.
- support risk-taking.
- publicly endorse protégés.
- expect high performance in return.
- help protégés confront and interrupt bias.

**MENTORS ADVISE**

*Mentors...*
- reduce isolation and stress.
- navigate unwritten rules.
- build confidence.
- provide tips and strategies.
- promote inclusion to company.

Mentoring helps traverse the organizational maze but **sponsoring** helps to **change it**.
“Every person that becomes an advocate had to go through that door where they take the first risk and realize, ‘Oh, that wasn’t so bad.’

Take the plunge
Learn more at ncwit.org

www.ncwit.org/ma-toolkit

www.ncwit.org/maleadvocatesindustry
THE IDEA IS THE
YOU VOICE
DON'T YOU
HAVE HAVEN'T
HAVE HEARD.
Take the Plunge

Learn to Be an Ally to Girls and Women in STEM
Why?

- Clark County School District is building young girls’ interest and bridging the gender gap of Women in STEM and Technology careers.
My Why?
Feedback + Action

• Low % of Increase in Enrollment
• Ask Students Why?
• Make Adjustments

• Two Common Themes
  • Frequency of Access/Opportunity
  • Outside Support – Family, Parents, Caregivers, etc.
Making Changes

• Afterschool, Evenings, Weekends, and Summer Events

• Involving more Allies/Advocates to include Males and others that are involved in an individual life

• Learning as we go is okay…, failure may be required
Incorporating the idea of “Ally”

Thank you for supporting women in film, and empowering us to continue to fight for the future of women & girls who dream big.

Pioneers in Skirts is an inspiring film about the obstacles that can limit a woman’s pioneering ambition, and what we ALL can do about it. The film is a 60-min multi-award-winning impact documentary made to encourage a healthy dialogue about the gender bias women confront in their careers, and what we ALL must do — both women & men — right now to change this.

pioneersinskirts.com
Thoughts…

• Getting input, data, etc… is great

• However, without change and inclusion…

• It’s hard to move forward.
My Inspiration
What Does the Research Say?
The Importance of Career Exposure

“...brief exposure to a woman scientist role model enhances female students’ identification with and interest in STEM.”

(Ramsey et al., 2013; Stout et al., 2011).
Early socialization provides the first departure point in gender disparities in engineering.

(Chanderbhan-Forde et al., 2012).
THE CSI EFFECT

Exposure to crime scene investigators through a national television show led to a 2000% increase in enrollment at universities in forensic studies.

Exposure to careers leads to increased interest in these careers.
The Perkins V Act specifically requires career exploration in middle school:

- Section 135 (b) (1) says to “provide career exploration and career development activities through an organized, systematic framework designed to aid students, including in the middle grades, before enrolling and while participating in a career and technical education program, in making informed plans and decisions about future education and career opportunities and programs of study.”

- Learning Blade meets this need.
Learning Blade Missions

Students

Contextualized Learning for Students, Tailored to their Interests

Teachers

Reinforcing Academic Standard while Providing Resources that ANY Teacher can use

www.learningblade.com/States
“Missions” involve a societal challenge that interests students

<table>
<thead>
<tr>
<th>Mission</th>
<th>Challenge</th>
<th>Career Clusters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car Manufacturing</td>
<td>Use modern manufacturing techniques to design and build a new concept car</td>
<td>Advanced Manufacturing</td>
</tr>
<tr>
<td>Dolphin Rescue</td>
<td>Help rescue rehabilitate an injured dolphin, including creating an artificial prosthetic tail</td>
<td>Biomedicine, Marine Science</td>
</tr>
<tr>
<td>Energy Sources</td>
<td>Evaluate alternative or upgraded energy sources for a city that currently has an old coal-fired power plant</td>
<td>Energy Production, Environment</td>
</tr>
<tr>
<td>Entrepreneurship</td>
<td>Set up a new business with a focus on entrepreneurship</td>
<td>Finance, Business</td>
</tr>
<tr>
<td>Flu Outbreak</td>
<td>How health and IT professionals can use data warehousing and analysis to predict flu outbreaks using GIS and social media data</td>
<td>Information Technology</td>
</tr>
<tr>
<td>Fresh Food</td>
<td>Consider methods to increase production of local foods in a community</td>
<td>Agriculture</td>
</tr>
<tr>
<td>Hack Attack</td>
<td>Learn about methods to create and protect website, apps and social media after a school’s website and media are hacked</td>
<td>Computer Science</td>
</tr>
<tr>
<td>Haiti Orphanage</td>
<td>Design and build an environmentally-sound orphanage for children left homeless by an earthquake in Haiti</td>
<td>Construction, Sustainability</td>
</tr>
<tr>
<td>Heart Surgery</td>
<td>Conduct heart surgery and therapy for a child with a heart defect; evaluate the use of artificial hearts or heart components</td>
<td>Medicine</td>
</tr>
<tr>
<td>Lightweight Aircraft</td>
<td>Design a lightweight and easily maintained aircraft for distant missions</td>
<td>Lightweight Metals Manufacturing</td>
</tr>
<tr>
<td>Rescue Robots</td>
<td>Explore technology used for robotics design, such as sensors, electrical circuits, industrial design and computers</td>
<td>Electronics, Computer Science</td>
</tr>
<tr>
<td>Transportation Congestion</td>
<td>Evaluate new transportation methods for a city that has a traffic congestion problem</td>
<td>Transportation</td>
</tr>
</tbody>
</table>
Engineering Careers in Learning Blade

**Engineering Careers**
- Agricultural Engineer
- Automotive Engineer
- Biomedical Engineer
- Civil Engineer
- Environmental Engineer
- Industrial Engineer
- Logistics Engineer
- Mechanical Engineer
- Nuclear Engineer
- Power Engineer
- Transportation Engineer

**Intro to Engineering Careers**

**Tools**
- Designing Electric Circuits in a Home (M)
- Designing an Orphanage (M)
- How a Nuclear Power Plant Works (Sc)
- Mechanical Advantage & Efficiency (M)
- Stand your Ground with Surveying (M)
- What is Power and Energy? (Sc)
- Why Waste Energy- Energy from Animal Waste (M)

**Teammates**
- A Day in the Life of a Mechanical Engineer (E)
- A Day in the Life of an Automotive Engineer (E)
- A Day in the Life of an Environmental Engineer (E)
- Female Firsts in Computer Engineering (SS)
- What is a Biomedical Engineer? (SS)
- What is an Industrial Engineer? (SS)
Interactive lessons introduce careers while reviewing academics.
Learning Blade Statewide Implementations

Arkansas
Arkansas Department of Education, & The Arkansas Public School Resource Center

Missouri
Missouri Department of Elementary & Secondary Education (DESI)

South Carolina
South Carolina Department of Education, Office of Career & Technical Education

Louisiana
Louisiana Department of Education

Alabama
Department of Education Office of Career & Technical Education & Alabama Works

Tennessee
Tennessee Chamber of Commerce

Idaho
Idaho STEM Action Center

Mississippi
University of Southern Mississippi, Mississippi Department of Education

Arizona
Office of the Governor Doug Duvey, AZonTrack, & Generation Schools Network

New Hampshire
New Hampshire Department of Education

www.learningblade.com/States to get your free license
A Book Series to Inspire Girls in STEM

http://stemsuperheroes.com/shop/
Dr. Sherilyn Williams-Stroud
GEOLOGIST, CARBON CAPTURE & SEQUESTRATION
Illinois State Geological Survey
www.stemsuperheroes.com
Michelle Rodriguez-Pico
MECHANICAL ENGINEER
Oklahoma Gas & Electric

Mackenzie Gillan
POWERLINE TECHNICIAN

www.stemsuperheroes.com
Q & A

We’ll take questions from the chat and from people using the ‘hand raise’ function.
Learn to Be an Ally to Girls and Women in STEM

Learn more at ngcproject.org