Welcome to the National Girls Collaborative Project
National Webinar
Lessons Learned for Effective Evaluation of Girl-Serving CS Programming
September 29, 2016
Agenda

• NGCP Overview
• Google and Evaluation
• CS OPEN Overview
• Cathy Law, OSU STEM Academy
• Yvonne De La Peña, CodeNow
• Questions and Closing
NGCP Vision

The National Girls Collaborative Project (NGCP) brings together organizations that are committed to informing and encouraging girls to pursue careers in science, technology, engineering, and mathematics (STEM).
1. **Maximize access** to shared resources within organizations interested in engaging girls in STEM.

2. **Strengthen the capacity** of programs by sharing exemplary practice research and program models.

3. **Use the leverage of a network** to achieve gender equity in STEM.
National Network of Collaborative Teams
K12 Evaluation Team at Google

**Our Mission:** Build an evaluation culture within Google and throughout the K-12 CS education community through resource development, training, and funding

**To achieve our mission we...**

- **Elevate the quality and usefulness of evaluation at Google**
  Work with individual teams across the company to develop and implement high quality evaluation

- **Promote evaluation at Google**
  Encourage teams across the company to conduct evaluations to improve programs and inform decisions

- **Inform the field**
  Share evaluation resources with CS education leaders and others to help them improve and grow their programs

- **Make evaluation tools accessible**
  Create a system for organizing key research and resources and a feedback system to identify, curate, and share the best work
CS OPEN: Computer Science Program Evaluation Network

- 12 girl-serving CS programs
- Community of Practice
  - Monthly Community Meetings
  - Shared Google Site
- Access to evaluation experts
- Funding to implement evaluation improvements

http://ngcproject.org/cs-outreach-program-evaluation-network-cs-open
Speakers

Dr. Cathy Law

Dr. Yvonne De La Peña
STEM Academy
Oregon State University

Self-funded program that reports to the Department of Precollege Programs

In-School Outreach: local schools with high numbers of underserved and underrepresented students

Summer Camps: 3rd-12th grades; approximately 30 camps/year

Girls Science and Engineering Clubs: elementary, middle school, & high school

Workshops and Internships: in conjunction with other programs
Evaluation at STEM Academy

• Project (Garfield Elementary in Corvallis)
  • **K-2nd grade classrooms**: four Lego robotics sessions per classroom; 1-day field trip to OSU for all 2nd grades (tour, intro to Scratch w/ CS professor in CS lab); additional CS programming in some classrooms
  • **3rd-5th grade classrooms**: Sessions using Scratch, Code.org, and Lego Robotics
  • **Parent Nights** (English and Spanish)

• History
  • No comprehensive program evaluation before CS OPEN
  • Surveys only (no longer helpful with this K-5 CS program)
Key Evaluation Questions (12)

• How is a CS-going culture at an elementary school with high numbers of low-income/underrepresented students built?

• What can students, parents, teachers, mentors, and principal tell us about capacity building in this CS K-5 Program?
Key Finding 1

Parents, teachers, principal, and mentors reported that the LEGO Robotics/Computer Science program has impacted students in the following ways:

- Increased confidence in CS
- Increased interest in CS
- Improved behavior, patience, ability to concentrate, and leadership/group skills
- Greater acceptance of the range of opportunities available to them
Key Finding 2

The following school-level changes have occurred as a result of the program:

- Shift in school culture that all students can and should engage in computer science
- Equal engagement of girls and boys
- Increased teacher confidence in CS
- Positive changes in school climate
- Positive connection between the school and local industry/community partners
- Increased interactions between diverse mentors and students
- Equal access for all students, including offering the program in both English and Spanish
Questions and Discussion
Yvonne De La Peña, Ph.D.
Director of Learning & Engagement

CODENOW | Creating the Developers of the Future!
Overview of Program

- We partner with tech companies
- We introduce HS students to programming
- We have worked with 1800+ students
  - 76% receive free or reduced lunch
  - 61% self-identify as African-American and/or Hispanic
  - 47% are young women
  - 75% have little or no programming experience
  - 89% interest in studying computer science-related degrees in college
Evaluation Prior to CS OPEN

- Surveys to students and volunteers
- Two main questions:
  - Student population
  - Workshop satisfaction
- Open-ended questions
- More general questions
Lessons Learned

Important to ask nuanced and specific questions:

- Goals are met
- Easy to know participants
- Enjoyed working in pairs
- Felt accepted
- Instruction was helpful
- Help was readily available
- Trainer was well prepared
- Trainer encouraged participation
Thank You!

Help Us Create The Next Generation of Innovators!
Get Involved with NGCP

• Follow us on social media
• Attend local events and national webinars
• Join your local Collaborative leadership team
• Collaborate to serve more girls in STEM.
• Celebrate our birthday!

How has NGCP helped you increase your collaboration? Join us as we celebrate the power of collaboration "NGCP style" using the hashtag #NGCP14Yrs.
Upcoming NGCP Webinars

- October 13, 2016: Changing the Game for Girls in STEM, with Chevron and Techbridge
- November 2, 2016: Smithsonian Latino Virtual Museum - Day of the Dead Celebration and Resources

http://ngcproject.org/events