

Chat Transcript for NGCP National Webinar Connecting Out-of-School-Time Activities and Student Interest in STEM

Cheryl Bowden: Cheryl Bowden; ESC Region 11 Fort Worth, Texas - Texas EcosySTEM Lead for my ESC.

Cheryl Bowden: Yes, Education Service Center Region 11

Ranelle Irwin: Ranelle Irwin; Le Mars Public Library, Le Mars, IA

Denise Strickland: Denise Strickland, Design Connect Create, Dallas TX

Emily Beth Langley 2: Emily Beth Langley- Orlando Science Center

Julie Rogers Bascom: Julie Rogers Bascom, National Youth Leadership Council

Bonnie Stahla: Bonnie Stahla, Youth Services Librarian, Crook County Library, Sundance, WY

Becky Arnoux: Becky Arnoux at the Cottage Grove Public Library in Cottage Grove, Oregon

Eileen Koury: Eileen Koury Girl Scouts of Eastern Massachusetts

Alyssa Odango: Alyssa Odango, Youth Services Librarian, Poquoson Public Library in Poquoson, VA

Lindsey Walter: Lindsey Walter - Education Director, Lewisburg Children's Museum, Lewisburg, PA

Mel Hurlbut: Mel Hurlbut: The DREAM Program, mentoring organization that matches youth in low income housing to college student mentors in VT, MA and PA

Karla Nunnally: Hi, I'm Karla Nunnally, with Girl Scout troop #65513

Shannon Riggs: Hi! I am Shannon at Chesapeake Public Library

Heather Roden: Heather Roden - US Space & Rocket Center, Space Camp

Alina Raskopin: Alina Raskopin, Penn State Abington summer camps

Jean Westerfield: hello Jean Westerfield Ohio County Public Library

Teresa Ramirez: Hi, Teresa Ramirez from the American Physiological Society

Kristin Donaldson: Hello, I am an outreach specialist - science educator at the University of Alaska Museum of the North.

Karen North: Karen and TedE from Houston, Texas - NCWIT Houston Affiliate, ISTE CSN, AAUW

Cindy Ziker: Hi I am Cindy Ziker, with Ziker Research. I am a Principal Investigator on an NSF INCLUDES Project called Early STEM Engagement for Minority Males. I also serve as an evaluator for STEM programs.

Mary Weigley 2: Hello I'm Mary from the Richland Library

Shelby Schaefer: Shelby Schaefer from Girlstart, Austin, TX

Kasey Gaylord-Opalewski:Greetings! My name is Kasey Gaylord-Opalewski with EarthEcho International! I'm in Bradenton, FL

Katherine Weber: Katherine Weber from Canadian Collaborative for Equity in STEM

Jennie Mathur: Hi! Jennie Mathur, Girls Inc

Sarah Sparks: Sarah Sparks, UMaine Cooperative Extension 4-H

Kayla Robinson:Hello, I'm Kayla in San Angelo. I'm a STEM program specialist with Girl Scouts of Central TX

Sarah Taylor: I'm Sarah, I'm an informal educator and Scout leader from NC

Adrian flores:Hi, from McAllen TX

Kathy: Kathy from PSU Shenango outreach and Chemistry

TRINA FINLEY: Trina Finley, Harris Co. Dept. of Education, CASE for Kids division, Houston, TX

Trina Williams: Trina W: I am Trina a robotics coach and a girl scout leader. Hartford County CT

Becky Tkacs: Hi! Becky Tkacs , Youth Services Librarian from Upper Moreland Free Public Library (outside Philadelphia)

Sarah Thomas, USC Viterbi K-12 STEM Center: Hello! I'm from Los Angeles at the USC Viterbi School of Engineering's newly merged K-12 STEM Center!

Amy Hale: Amy Hale, Director of Education and Volunteers at the Seattle Children's Museum

Chloe Zinn: Hi! Chloe Zinn, Student at Middlebury College, Co-Chair of The DREAM Program branch at Middlebury!

Bailey Horton: Hi, I'm Bailey Horton a 4-H program coordinator in Davis County, an Extension from Utah State University. I want to increase our STEM involvement and program options.

Claire Stowell: Claire Stowell from Girlstart in Austin, TX

Katherine Weber: I have used the instruments on the AWE website -

<https://www.engr.psu.edu/AWE/misc/about.aspx>

Mary Weigley 2: My children's librarian is also joining us, Katie

Alyce Stiles: Hi everyone. I'm Alyce Stiles from CT Center for Advanced Technology leading STEM and Dream It. Do It programs for CT

Timothy Fowler:Hi! Timothy Fowler with the New York State Network for Youth Success an the NY STEAM Girls Collaborative.

Rachael Van Schoik - Science Action Club:Hi all! Rachael from Science Action Club at the California Academy of Sciences in San Francisco.

Karen Peterson: Welcome everyone!

Karen Peterson: Feel free to ask questions here.

Sarah Thomas, USC Viterbi K-12 STEM Center: Curious, do we know that the people who selected those select few STEM activities that were highly effective are not already interested in STEM? You might be about to answer this now.

Sarah Thomas, USC Viterbi K-12 STEM Center: Thank you!

Karen North: Why do you think Science Fairs were not as effective?

Katherine Weber: Were there any questions about whether or not they had encouragement or support during middle school and then in high school?

Karen North: Thanks for your answer- lack of structure. Yes, would like to have more in-depth research.

Katherine Weber: Were there also any questions related to their self-efficacy?

Amy Hale: Traditional Science Fairs also have a huge variable of parent involvement, from caregivers who basically design and do the project, to those who are unable to support projects, for a variety of reasons

Katherine Weber: Thank you!

Karen Peterson: Exactly Amy.

Katherine Weber: From my experience in a Tech Ed classroom, kids really are not aware of the vast opportunities in STEM. They have a lot of misconceptions and stereotypes of STEM careers.

Karen North: Is that awareness of free activities? Does cost play a factor? Very interesting research.

Timothy Fowler: It looks like STE are impacted by hands-on experiences, and professional role models/mentors. So promote both of those. I wonder why math results seemed so different...?

Michelle Sedberry: Will we have access to this slide deck?

TRINA FINLEY: What did the career experiences look like?

Katherine Weber: It would be interesting to survey teachers to see what types of messages they are conveying to students about STEM field and careers, both at the elementary, middle school and high school levels.

Sarah Thomas, USC Viterbi K-12 STEM Center: I'd love to know more about why there is such a gender divide in interest increase for "vacation or summer camps".

Katherine Weber: Not just encouragement but also the awareness of what STEM is... some teachers, especially at the elementary level, do not fully understand the scope of STEM.

Leona: Was there any definition for what meeting a person in a STEM career looked like? For example: hearing someone talk about their career vs. actually meeting them, listening to them talk, a demo of what they do?

Sarah Sparks: This is very program specific question, but I would be interested to know if participants were able to break down some of their experiences (ex. 4-H had low impact, but if their 4-H program was led by a college student or involved internship or at a STEM summer camp, was that not represented as 4-H participation?).

Heather Roden: Observation rather than question, but what are your thoughts? It seems like completely unstructured (as you mentioned with the science fair) are not as successful, but neither are activities that are too structured (like citizen science) it would appear that the trick is finding the balance between the two extremes in our activities...

Amy Hale: I think this information supports the emphasis in our Children's Museum's focus on collaborative, inquiry-based explorations being of value. I would like to find more ways for my organization to draw young children and their caregivers into regular use of the Children's Museum as a resource. Right now camps and some programs are the small opportunities we have to engage over time.

Alyce Stiles: Can you further expand on the impact of girls only activities and their impact?

Sarah Taylor: Is there any thoughts of looking at this change in interest at a younger age? I've frequently heard that interest in STEM is already been lost by middle school, particularly in girls.

Katherine Weber: I have conducted girls only camps in the summer with my university students and middle school girls. It is a great way to create awareness of different STEM fields. The impact is very positive.

Amy Hale: Past research has looked at 4th grade.

Katherine Weber: It would be interesting to replicate this study with a group of students who are in STEM programs

Katherine Weber: To see if there are differences in the responses.

Jackie Doyle: jacqueline.doyle@cfa.harvard.edu

Susan Sunbury: ssunbury@cfa.harvard.edu

Timothy Fowler: I am surprised at the impact of learning about STEM careers...I did not think that was important, but I guess I was thinking of it often being not hands-on.

Karen North: I did research in 2009 with solutions, <https://cscurriculum.shutterfly.com/29> - What is the chance of bringing mentors to classroom teachers?

Alyce Stiles: Definitely validation of higher impact activities: exposure to careers, connections with mentors, tours

Sarah Sparks:absolutely - thinking about those indicators that had a strong effect on increased interest could impact program design, being intentional to bring some of those pieces in. reinforces some strategies currently using.

Mary Beth:Wondering if I need to do a better job of explaining what a STEM program is...I assumed everyone would know these days, but it sounds as if there are still many who are unsure about it.

Karen North:I am thinking of paid staff.

Sarah Taylor:Has anyone looked at whether the gender of the STEM professional that the students interacted with made a difference?

Mary Beth:Exactly!

Mel Hurlbut:what are your thoughts on STEAM (adding the Art)?

Michelle Sedberry:I was a few minutes late to the webinar, but did you mention how many students were in the study. (size of study)

Jackie Doyle:N = 15,725

Timothy Fowler:What do people think of when they add the A for STEAM? I think of design, but curious what others think of

Michelle Sedberry:Thank you Jackie

Timothy Fowler: I mean A for ART LOL

Katherine Weber: I think it as design... there is a lot of overlap

Karen North: Here are my thoughts on STEAM: <https://knorth.edublogs.org/science/stem/>

Mel Hurlbut: I feel like it is inclusive of the "other side of the brain" so to speak

Alyce Stiles:yes. here in CT, we have some companies adding the M for medicine

Michelle Sedberry:I represent a department of education and we focus on STEM because we are aligning to STEM careers (SOC CODES)

Amy Hale:dedisn, art, and application in the world?

Timothy Fowler: Thank you for that link Karen North

Alyce Stiles: Eager to keep learning more. THANK YOU!

TRINA FINLEY: thank you for sharing!

Mary Beth: Very interesting, thanks so much!

Shelby Schaefer: Thank you!

Bonnie Stahla:Thank you

Chloe Zinn: Thank you so much!

Heather Roden:Thank You!

Timothy Fowler: Thank you!

Kristin Donaldson: Thanks!

Rachael Van Schoik - Science Action Club: Thank you!

Katherine Weber: Thank you for sharing!

Amy Hale: thank you so much! this has been very thoughtful.

Michelle Sedberry: This was very informative.

Cheryl Bowden: Thank you!!

Stephany gallegos: Thank you!

Karen North: Thank you, very interesting research. Looking forward to seeing the action plans from this.

Valerie Wright: Thank you!

Kameco de los Santos: I think that the A is built into the other areas. It depends on how STEM is presented so that it comes through to reach students with an Art mindset.

Katherine Weber: Very cool! This webinar looks interesting!

Alyce Stiles: is the link to register up?

Kathy Thomas: <https://ngcproject.org/the-stem-effect-a-collaborative-action-agenda-for-understanding-the-long-term-impacts-of-stem-progra>

Alyce Stiles: you rock!

Kameco de los Santos: Thank you all!

Katherine Weber: Thank you!