

Welcome!

How to influence informal learning: Science, Technology, Engineering & Math

Wednesday, December 16, 2020



Audio

All attendees have been muted



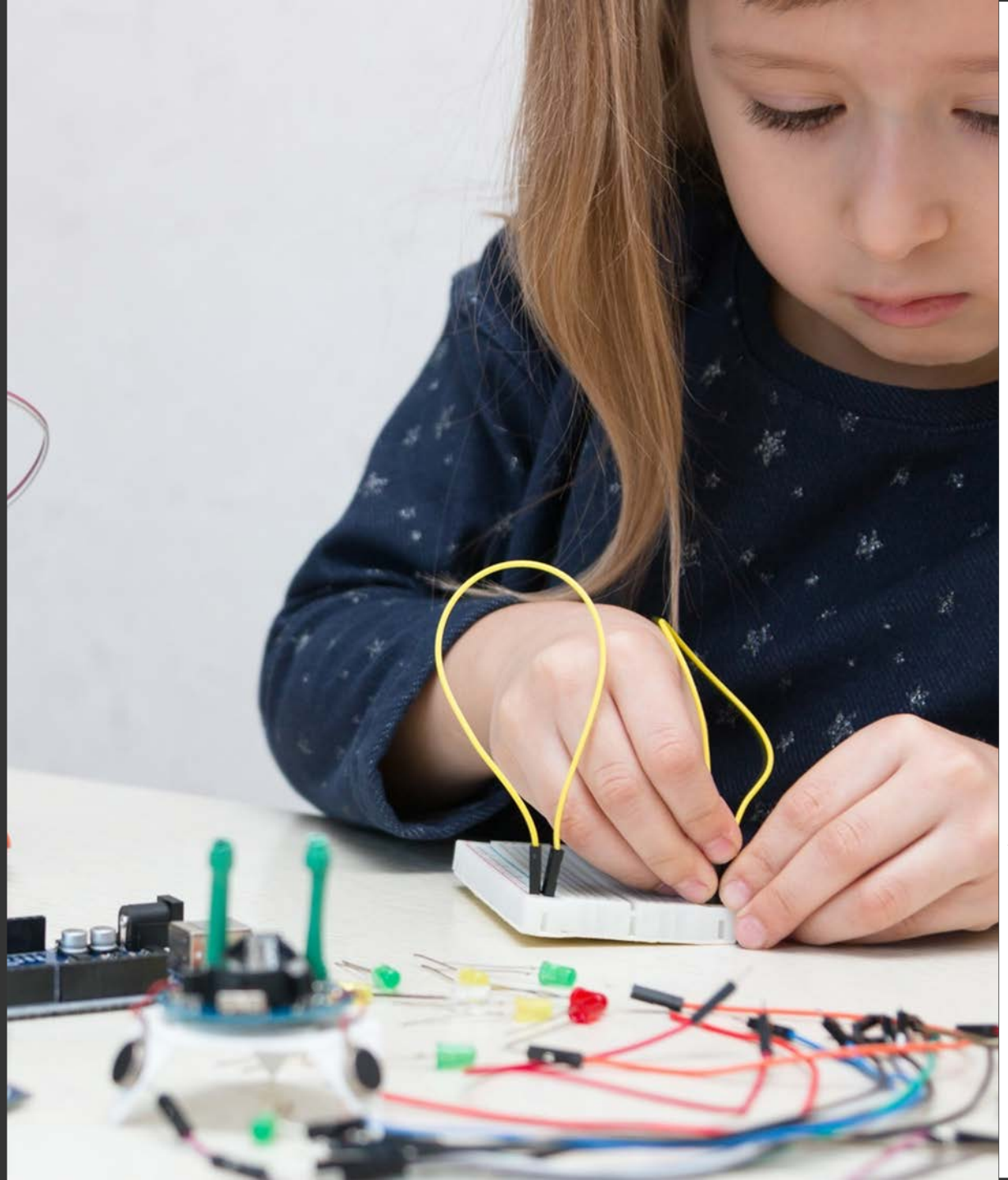
Chat

All Attendees and Panelists
Chat log will be shared



Q&A

Up vote audience questions





Megan Silander, Ph.D.
Research Scientist, EDC



Bill Tally, Ph.D.
Senior Research Scientist, EDC



Gina Millsap
Newly retired and former
CEO, Topeka and Shawnee
County Public Library



Meghan Davis
Global VP Marketing,
bibliotheca



Monitoring chat and questions
Kristy Goebel and Kelly Knutson

EDC at-a-glance

Education Development Center, Inc. (EDC), is a global nonprofit that advances lasting solutions to improve education, promote health, and expand economic opportunity. Since 1958, we have been a leader in designing, implementing, and evaluating powerful and innovative programs in more than 80 countries around the world.



**EDC was founded
by MIT scholars
and researchers.**

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**projects managed
annually by EDC.**

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**million FY19
operating budget**



**EDC has 1,300
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80 countries and in all 50 states
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What should librarians know about STEM learning?



Discussion



The Importance of Early Science

- | Early science experiences can provide a foundation for a variety of skills.
- | Disparities in science knowledge start early and widen
- | Early Childhood and elementary science instructional time in schools tends to be minimal

Parental Involvement in Early Science

- | Parents can play an important role in improving their children's literacy and math learning.
- | Similarly, parent involvement could be vital in improving children's science learning—especially given many early education programs do not address science.



Confidence

Percentage of Parents Who Feel “Very Confident” in their Ability to Help Their Children Learn Age-Appropriate Skills

75%



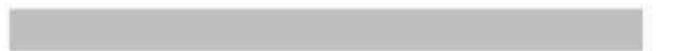
Reading and writing skills

73%



Math skills

71%



Behavioral, social, and emotional needs

54%

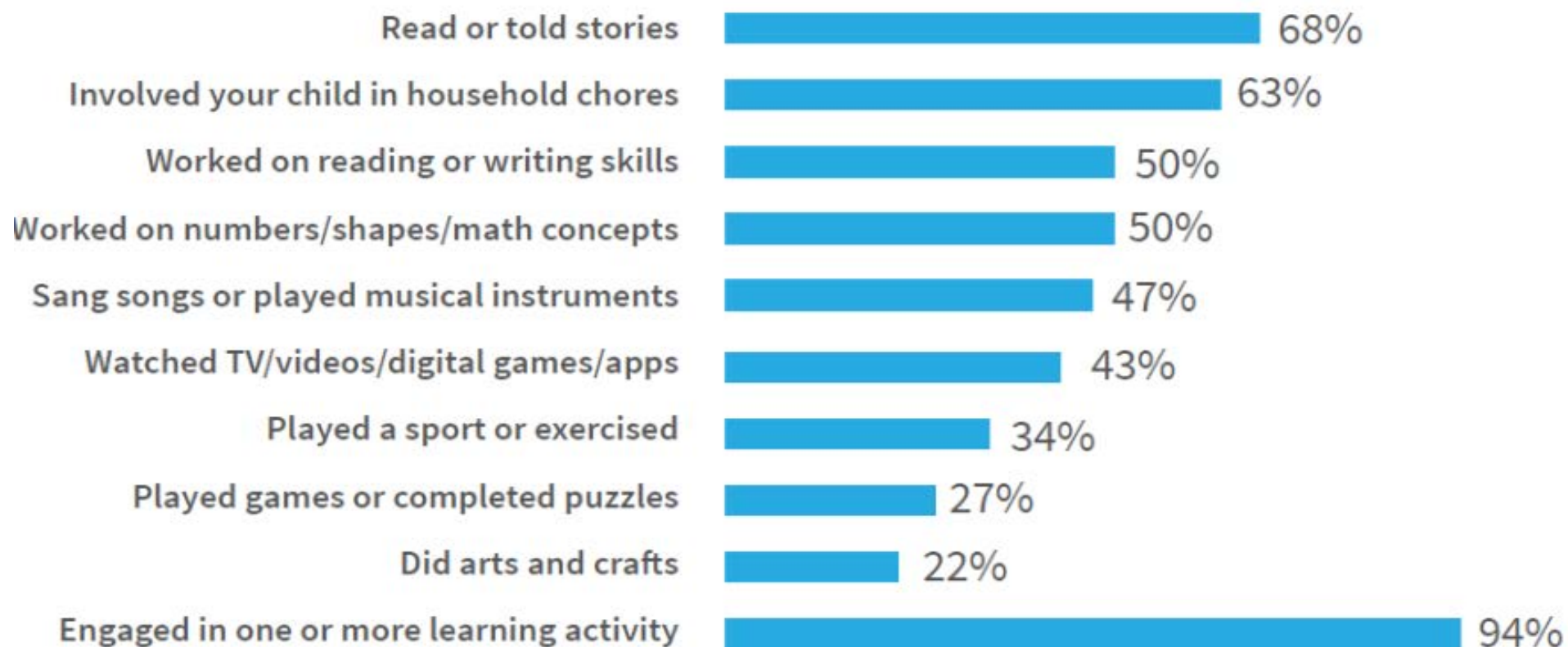


Science skills

Learning Activities

Percentage of Parents Who Report Engaging in Learning Activities With Their Child Daily

General Learning Activities



Science Activities

Percentage of Parents Who Report Engaging in Science-Related Learning Activities With Their Child Daily

Science Learning Activities



Supports

Percentage of Parents Who Reported That a Given Support
Would Help “a Lot” in Doing More Science at Home



How can librarians help parents feel more confident about their ability to help their children learn about science and other STEM topics?



Discussion



Playful science engagement

- | Parents are interested and invested in their children's education.
- | Many may not recognize the role they play in science exploration.
- | Inspiration, encouragement, ideas and accessible resources may help.

Media might help engage families in science

- | Media that are well-designed can improve children's science learning
- | Media can also support parents and caregivers



What media resources are most effective in supporting STEM learning for preschool and grade school age children?



Discussion

Features of media that relate to learning:

- | **Motivate and engage** initially and over time (through humor, stories and characters)
- | **Model behavior**, ways of thinking, talking, and cooperating
- | Provide **feedback** to children and invite their active response
- | Use a **variety of visuals, sound, language** to reinforce important concepts



Developmentally appropriate and target critical skills including **problem solving, experimentation and collaboration**

Manipulate, observe **scientific phenomena** and simulations that are difficult to explore in the physical world



High-quality media should also attend to context

- | Accessible
- | Connect to **children's prior experiences** and knowledge
- | Invite **social interactions**
 - | **Engage parents** and support them to better understand the early learning content that is developmentally appropriate for young children
- | Support transfer to the **real world**



PEEP Family Science

- | Apps with parent videos, live-action and animated videos and hands-on activities
- | 4-week units
- | Ramps, sounds, colors, shadows

The Cat in the Hat Knows A Lot About That!

- | Videos, games app and real-world activities
- | Physical science
- | Use for about an hour/week over 8 weeks



Similar Apps!

- | PEG + CAT
- | Early science with Nico & Nor
- | Early math with Gracie & friends
- | Cyberchase
- | Play and Learn Science



How can librarians become more knowledgeable about STEM learning resources for kids? What's worth investing in?



Discussion



How to pick the best STEM resources

- | What kind of thinking and learning do the resources or activities support?
- | Is the content meaningful, important and developmentally appropriate?
- | Is there a problem to solve, and multiple ways to solve it?
- | What can children do and engage with, and can they try out different strategies and ideas?
- | Do the resources promote collaboration, sharing of findings or other social interactions?

Are there "techie kids" and "non-techie kids?"



Discussion



Audience Q&A

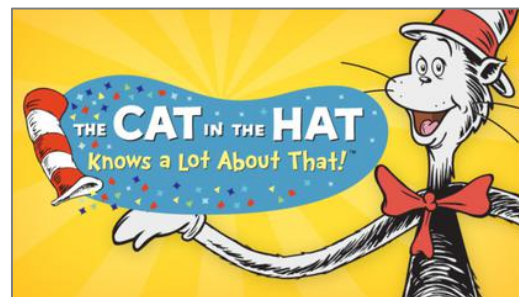
If you could give just one tip, action step or piece of advice for all the librarians out there, what would it be?



Discussion

Resources

Science professional learning organizations and a selection of our work



The NSTA website banner features the NSTA logo (National Science Teaching Association) in the top left corner. Below the logo is a search bar with the placeholder text "Search for anything" and a magnifying glass icon. To the right of the search bar are links for "Donate", "Log In", "Join", and a "Menu" button. The main banner image shows four diverse adults (three men and one woman) smiling and looking at a laptop. Overlaid on the right side of the image is a dark blue box with the text "Save on the Resources You Need" in large white letters. Below this text is a smaller white box with the text "Take \$10 off ANY NSTA MEMBERSHIP OPTION with promo code CYBER20". At the bottom of the banner is a blue button with the text "Get Started". At the very bottom of the page are three tabs: "Discover", "Learn", and "Network".

The article cover for "Bringing Science Home with PEEP" from the Education Development Center (EDC) features the EDC logo in the top left corner and the date "March 2019" in the top right corner. The title "Bringing Science Home with PEEP" is prominently displayed in the center. Below the title is a photograph of a woman and a young boy looking at a smartphone together. The woman is holding the phone, and the boy is pointing at the screen. Below the photograph is a blue box with a cartoon chicken character (PEEP) on the left and the text "Using Digital Media to Foster Family Engagement in Science at Home" on the right. At the bottom of the cover, the authors are listed: "AUTHORS: Megan Silander, Michelle Cerrone, Leslie Cuellar, Lindsey Hiebert & Jennifer Stiles".

The header for the Early Childhood Science Interest Forum (ECSIF) blog features the title "Early Childhood Science Interest Forum (ECSIF)" in a large, bold font. Below the title is a paragraph of text: "Welcome to the NAEYC Early Childhood Science Interest Forum Blog! This is a blog to connect early childhood educators - those who are new to science and those who are passionate about teaching - for the purpose of creating a national dialogue around issues related to science teaching and learning." Below the text is a navigation bar with a "Home" button. To the left of the navigation bar is a search bar with the text "Search This Blog" and a "Search" button. To the right of the search bar is a date stamp: "Wednesday, October 12, 2016". Below the date stamp is a section titled "Sessions and discussion on science and engineering in early childhood coming up at the NAEYC 2016 conference".

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* Which webinar did you attend or watch on-demand?

* How did you hear about this webinar?

- ☐ bibliotheca Account Manager ☐ Word of mouth ☐ Email
☐ Listserv or email discussion list ☐ Social media ☐ bibliotheca website
☐ Other (please specify)

* How informative did you find the webinar?

0 (Not informative)

5 (Very informative)

☐

* How interested are you in implementing one of the solutions discussed at your library?

1 (Not interested)

5 (Very interested)

☐

* Would you like a member of the bibliotheca team to reach out regarding solutions discussed in the webinar?

- ☐ Yes
☐ No

Do you have any additional comments or questions?



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