

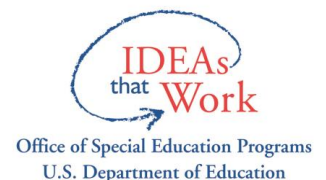


STEM Innovation for Inclusion in Early Education Intro Webinar

Megan Vinh & Chih-Ing Lim, FPG Child Development Institute

Dawn Ellis, Office of Special Education Programs, U.S. Department of Education

May 6, 2019, 2:30-3:30 pm EST.



Logistics

Questions?
Comments?



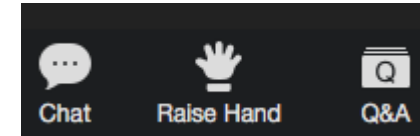
USE THE CHAT BOX



Remember to mute your audio

How to respond in Zoom:

At the bottom of the screen select Q&A



Type in your response

Type your question here...

You can also “Like” and comment on other’s responses.

My Question 01:24 PM

To learn more about child development



Comment





Welcome and Introduction

Today's Speakers



Dawn Ellis

Office of Special Education Programs, U.S. Department of Education



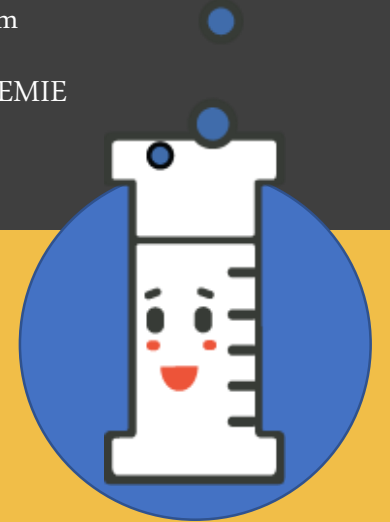
Megan Vinh

Director, STEMIE



Chih-Ing Lim

Co-Director, STEMIE



Who Are We?

FPG, UNC-CH

Megan Vinh
Chih-Ing Lim
Tracey West
Ann Sam
Adam Holland
Christine Harradine
Kellen Reid
Barbara Goldman
Wendy Morgan
Julie Chin

Marsico Institute, University of Denver

Doug Clements
Julie Sarama
Crystal Day-Hess

Public Health Management

Pip Campbell

School of Education, UNC-CH

Janice Anderson

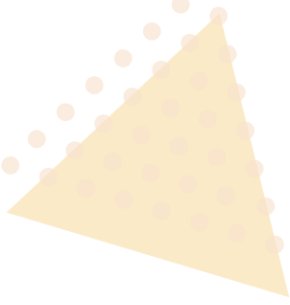
Consultants

Christine Cunningham
Lisa Wadors
Amy Goldman
Susan Sandall

OSEP Project Officer

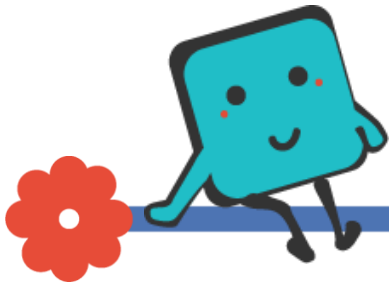
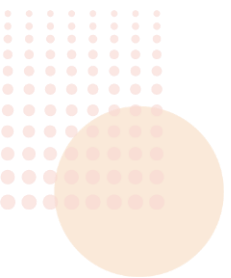
Dawn Ellis





National Impact Team

- Industry leaders
- STEM experts
- Inclusion experts
 - Practitioners
 - Families
 - IHE faculty



Quick Poll: Who's in the Room?

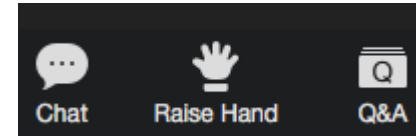


Type your response into the Q and A box. Upvote or comment on others' responses.

- What obstacles do you currently face in accessing and applying content related to early STEM learning especially for young children with disabilities?

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Type in your response

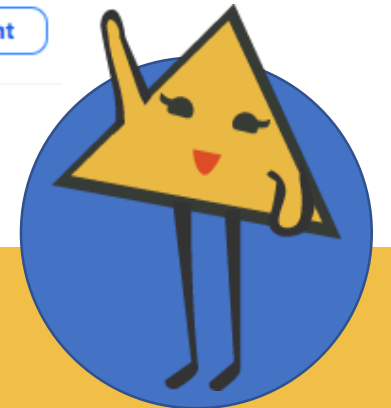
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Today's Agenda

Why This Work is Important

What We Do

How to Connect to STEMIE



Why This Work is Important

What We Know

Children can develop the foundations for STEM learning right from infancy.



What We Know



Engaging in early STEM learning activities raises later reading, writing, literacy, and math scores.

Yet...

There is a STEM
opportunity gap for
vulnerable children.

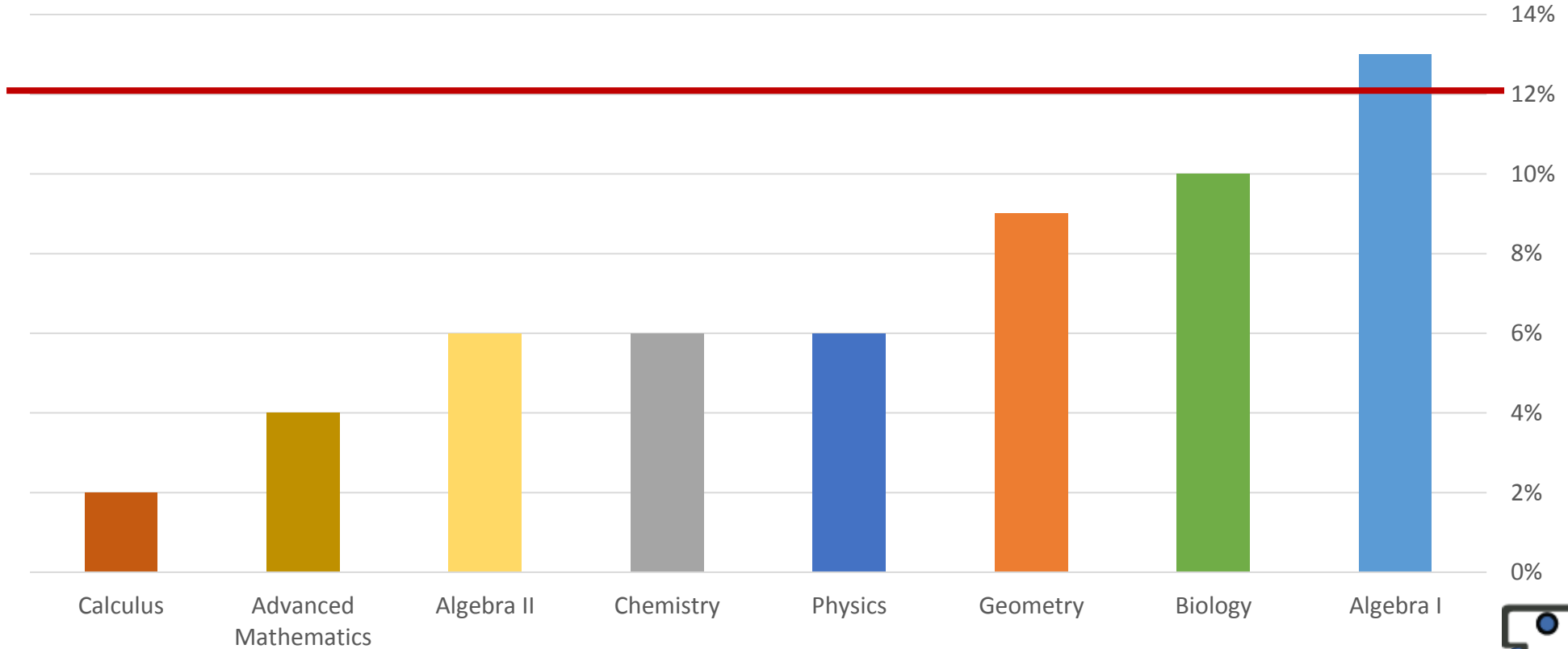


Children with developmental delays and disabilities are especially denied opportunities to learn STEM learning.

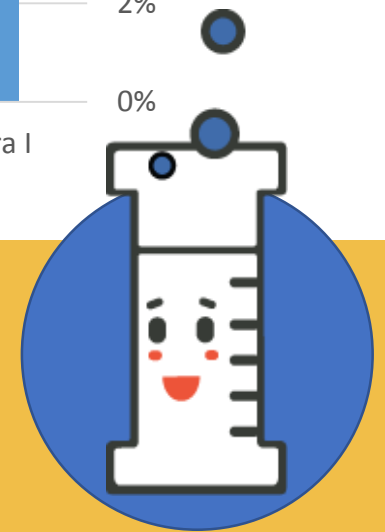


Percentage distribution of students enrolled in high school mathematics and science courses, by disability (IDEA)

High school enrollment of children with disabilities



SOURCE: U.S. Department of Education, Office for Civil Rights, Civil Rights Data Collection, 2015–16.



Many early childhood teachers need more supports to build the foundations of STEM learning, especially for young children with developmental delays and disabilities.





What We Do





The **STEM Innovation for Inclusion in Early Education Center (STEMIE)** aims to:

- Develop and enhance the **knowledge base** on engagement in STEM learning opportunities for young children with disabilities (0-5), and
- Implement **high-quality TA/PD** to increase engagement for young children with disabilities in STEM opportunities.



Priorities

- Increased body of knowledge of current evidence-based practices (EBPs) for early STEM learning, including early computer science learning for young children with disabilities.
- Increased use by early childhood programs, providers, and families of the current EBPs in early STEM learning for young children with disabilities.
- Increased awareness by faculty in IHEs of the current EBPs in early STEM

Expected Outcomes

Young children with disabilities participate and benefit from high quality STEM teaching and learning.

Industry professionals consider the needs to young children with disabilities when designing early STEM Products.

Key Principles



Building on and integrating existing work and resources



Innovation



Building strong partnerships



Use of learning trajectories



Use of improvement and implementation sciences

Key Activities

- Knowledge Development and Research
 - STEM Incubators
 - State of STEM Analyses
 - STEMIE Model
- High-Quality TA processes
 - Networked Improvement Communities
 - STEM Leadership Institutes
 - Multidisciplinary Student Fellows
 - Virtual Doctoral Fellows

State of STEM Activities



Scoping Review



Analysis of ELGs



State of STEM survey



Scoping Review

...“are an ideal tool to determine the scope or coverage of a body of literature on a given topic and give clear indication of the volume of literature and studies available as well as an overview of it’s focus.”





Scoping Review Steps



- Develop an inclusion/exclusion criteria
- Develop a search strategy
- Compile a list of all sources you intend to search
- Conduct the search
- Exclude research based on title and abstract using inclusion/exclusion criteria (conducted separately by 2 people)
- Download the full text for each included piece
- Develop a code book
- Review and code research collection using codes (conducted by 2 separate people to review for agreement)

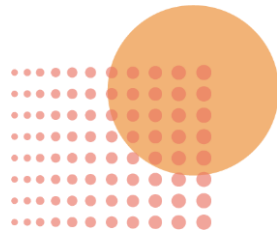
ELG Review

- To review State Early Learning Guidelines (ELGs) to understand how states are including STEM content.
- “State ELGs exist across states to help early childhood educators identify the developmental and learning outcomes and goals that children should achieve during early years.”

Scott-Little, Kagan, & Frelow, 2009



Developing a **STEMIE** model

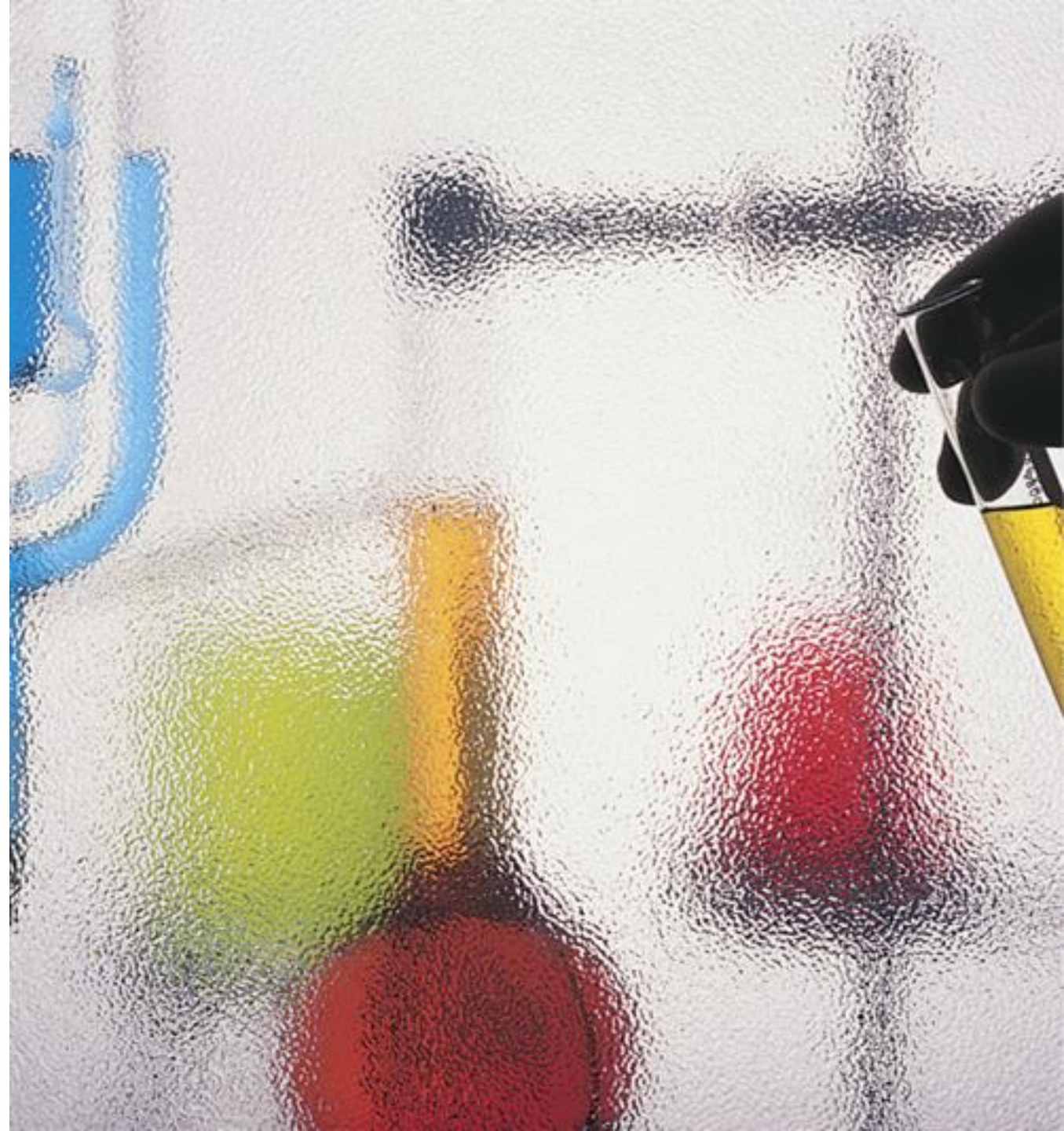


“Any good teacher starts with where the child is. Then, the obvious question is: how do you identify where a child is going? You have to have an idea of the path, the road or trajectory, through which children develop these math ideas...”

– Doug Clements

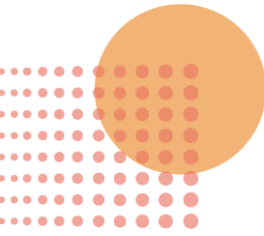
Incubators

- What are they?
- What do we hope to gain?



Activities in the Later Years

- Networked Improvement Communities
- Resources including E-learning and video exemplars
- STEM Leadership Institutes
- Multidisciplinary Student Fellows
- Virtual Doctoral Fellows

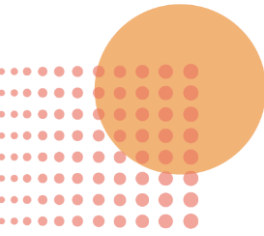


Going from

But he cannot learn STEM
because it's too difficult...

to

How can I support him so he can fully
participate in the STEM activities?



Going from

Young children with disabilities?

to

How can we design our product so that young children with disabilities can engage just like their peers?

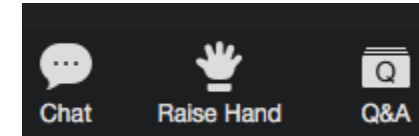
Type into Q and A. You may also upvote others' responses

What excites you most about STEMIE?

How does the work of STEMIE connect to your current work?

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Announcing the STEMI²E² Center!

Ensuring young children with disabilities can engage fully and benefit from high quality STEM (science, technology, engineering, and mathematics) teaching and learning

ABOUT THE CENTER

stemie.fpg.unc.edu

WHAT WE DO



Inclusion in STEM



Learning Trajectories



State of STEM



Incubators



<https://www.facebook.com/STEMIIEE/>



<https://twitter.com/stemiiee>

Contact us: stemie@unc.edu

Quick Poll

Where do you access information?





Evaluation:
<https://tinyurl.com/stemie-eval>

Thank you

The contents of this webinar were developed under a Cooperative Agreement between the U.S. Department of Education, Office of Special Education Programs (OSEP) and the University of North Carolina at Chapel Hill. # H327G180006. These contents do not necessarily represent the policy of the U.S Department of Education, and you should not assume endorsement by the Federal Government.

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