Science, Technology, Engineering, Art, and Math (STEAM) for Everyone!

March 17, 2020

Presenters:

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Jani Kozlowski, NCECDTL

NATIONAL CENTER ON Early Childhood Development, Teaching and Learning

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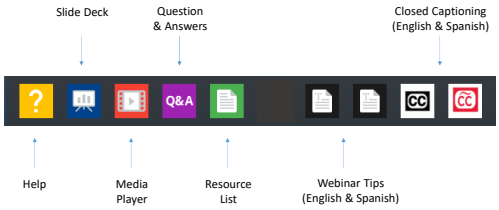
Webinar Features



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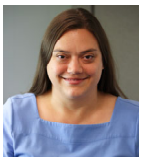
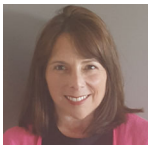
Welcome!
We are so happy that you are here!



Jessica K. Hardy, Ph.D.



Jani Kozlowski, MA

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Session Agenda

Here s what we re doing today:

1. What is STEAM?
2. High-Quality Inclusion and the House Framework
3. Strategies for Supporting Success for Children with Disabilities in STEAM
4. Resource Share

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Session Objectives

At the end of this presentation, you should be able to:

- Describe what STEAM is and why it is important for children ages birth to five with disabilities or suspected delays.
- Describe strategies for supporting children with disabilities or suspected delays in STEAM activities.
- Identify resources to support STEAM learning.

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What is STEAM?

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What is STEAM?

- Science
- Technology
- Engineering
- Art
- Math

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What is STEAM?

Observe

Design

Create

Plan

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What is STEAM?

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What is STEAM?

Design

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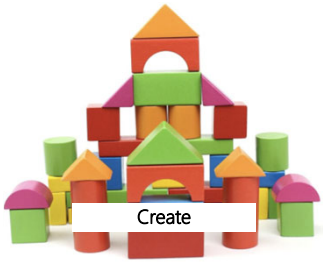
What is STEAM?



Create

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What is STEAM?

Plan

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What is STEAM?

Why is STEAM important for children with disabilities?

- Facilitates inclusion
- Develops peer relationships
- Allows access to important academic content

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High Quality Inclusion and the House Framework

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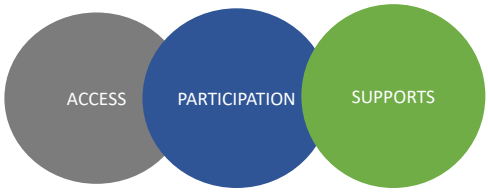
High Quality Inclusion



—DEC/NAEYC Joint Position Statement on Inclusion (2009)

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Effective Teaching Practices

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The House: Focus on the Roof

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Strategies for Supporting Success for Children with Disabilities in STEAM

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Strategies for Supporting Success

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Ensure Access

- Involve all children
- Plan small-group and/or activities for pairs of children rather than large-group activities

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Ensure Access

- Monitor participation

	Monday	Tuesday	Wednesday	Thursday	Friday
Science center—morning					
Math center—morning					
Science center--afternoon					
Math center—afternoon					

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Innovations in Block Play

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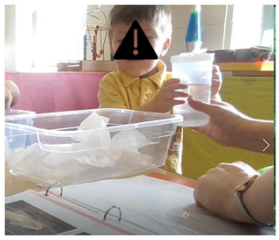
Support Engagement

Teach material use



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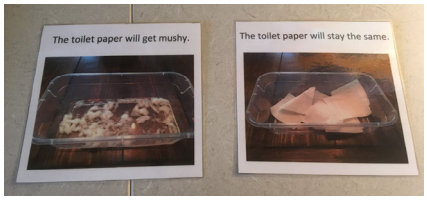
Support Engagement

Use visuals



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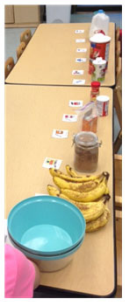
Support Engagement

Use visuals



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Support Engagement

Provide choices

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Support Engagement

Engage with peer support

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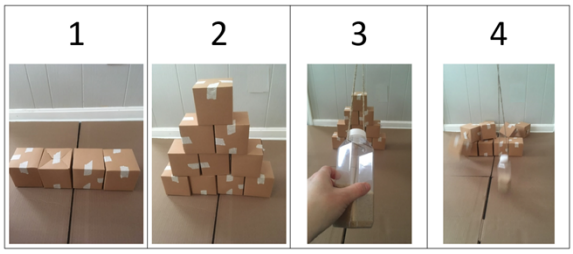
Consider Specific Learning Needs

Consider structure



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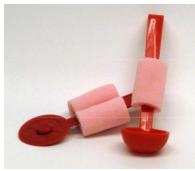
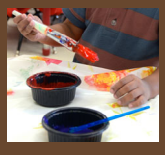
Consider Specific Learning Needs

Consider physical materials



Larger or brighter



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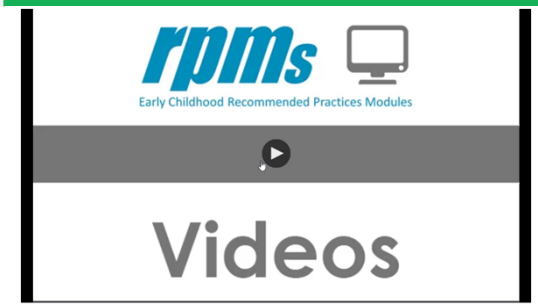
Consider Specific Learning Needs



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Consider Specific Learning Needs

Support language comprehension and expression

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Consider Specific Learning Needs

Support language comprehension and expression with assistive technology

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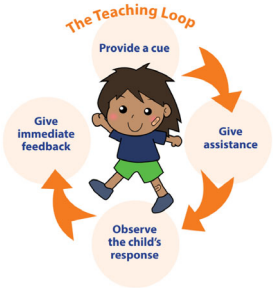
Use Teaching Loops



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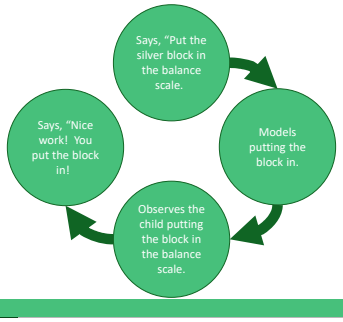
Teaching Loops



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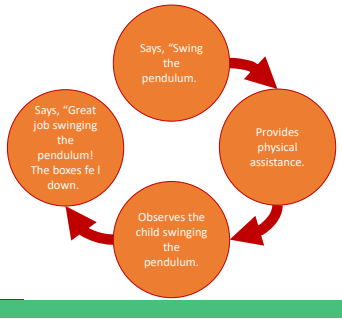
Use Teaching Loops



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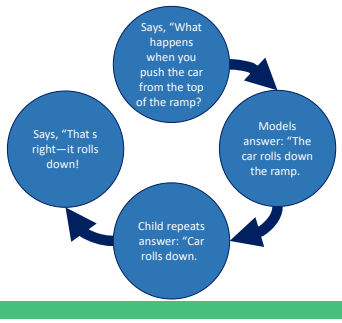
Use Teaching Loops



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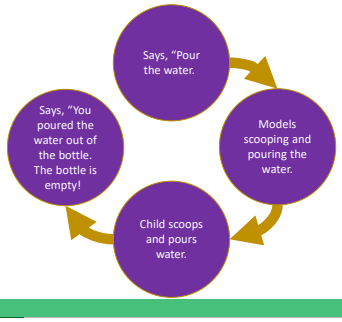
Use Teaching Loops



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Use Teaching Loops

Plan

- Target behaviors
- Cues
- Assistance
- Feedback
- Teaching loops for each step
- When, where, and how often

Teaching Loop Planning Sheet

Child: _____

Target behavior step(s):	Cue:	Assistance:	Feedback if correct:	Feedback if incorrect or no response:
		☐ Gesture/point ☐ Verbal hint ☐ Verbal model ☐ Visual model ☐ Physical model ☐ Physical support	☐ Descriptive praise ☐ Token ☐ Toy, sticker, etc.	☐ Repeat assistance ☐ Provide more intensive assistance

Where to provide instruction:	
When to provide instruction:	
How often to provide instruction:	

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Use Teaching Loops

Target behavior step(s):	Cue:	Assistance:	Feedback if correct:	Feedback if incorrect or no response:
Predicting	"Make a prediction. What will happen when we mix toilet paper and water? Point to the picture."	☒ Gesture/point ☐ Verbal hint ☐ Verbal model ☐ Visual model ☐ Physical model ☐ Physical support	☒ Descriptive praise ☐ Token ☐ Toy, sticker, etc.	☐ Repeat assistance ☒ Provide more intensive assistance
Putting toilet paper in bowl	"Put toilet paper in bowl."			
Adding water	"Put water in bowl."			
Mixing	"Mix it up."			
Communicating results	"What happened?"			
Evaluating prediction	"Was your prediction right?"			

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Use Teaching Loops

Where to provide instruction:	Science center
When to provide instruction:	Morning and afternoon center time
How often to provide instruction:	One time in the morning, one time in the afternoon

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Use Teaching Loops

Implement

- Provide instruction
- Collect data

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Use Teaching Loops

Target behavior	Date				
	1/6				
Predicting	A	A	A	A	C
Putting toilet paper in bowl	A	A	A	C	C
Adding water	A		A	C	C
Mixing	A	A		C	C
Communicating results	A	A		A	C
Evaluating prediction	I	A	A		A
Total C	0/6	0/6	1/6	3/6	5/6
Total A	5/6			3/6	
Total I	1/6	0/6	0/6	0/6	0/6

Key:

C	Correct without assistance
A	Correct WITH assistance
I	Incorrect with assistance

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Use Teaching Loops

Evaluate:

Look at child progress

Monitor implementation

Target behavior step	Date				
	1/6	1/7	1/8	1/9	1/10
Predicting	A	A	A	A	C
Putting toilet paper in bowl	A	A	A	C	C
Adding water	A	A	A	C	C
Mixing	A	A	C	C	C
Communicating results	A	A	A	A	C
Evaluating prediction	I	A	A	A	A
Total C	0/6	0/6	1/6	3/6	5/6
Total A	5/6	6/6	5/6	3/6	1/6
Total I	1/6	0/6	0/6	0/6	0/6

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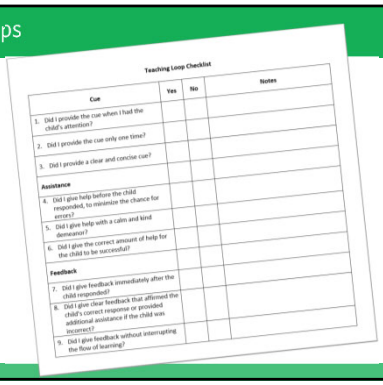
Use Teaching Loops

Evaluate:

Monitor implementation



Teaching Loop Checklist

Cue	Yes	No	Notes
1. Did I provide the cue when I had the child's attention?			
2. Did I provide the cue only one time?			
3. Did I provide a clear and concise cue?			
Assistance			
4. Did I give help before the child responded, to minimize the chance for errors?			
5. Did I give help with a calm and kind demeanor?			
6. Did I give the correct amount of help for the child to be successful?			
Feedback			
7. Did I give feedback immediately after the child responded?			
8. Did I give clear feedback that affirmed the child's correct response or provided additional assistance if the child was incorrect?			
9. Did I give feedback without interrupting the flow of learning?			

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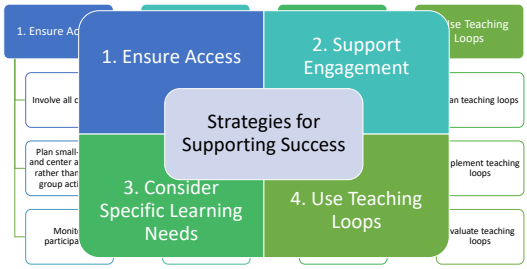
Strategies for Supporting Success



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Resource Links

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Links to ECLKC resources

- Highly Individualized Teaching and Learning In-service Suites (includes Curriculum Modifications suite) https://eclkc.ohs.acf.hhs.gov/children-disabilities/article/highly-individualized-teaching-learning
- Resources on Practices that Support Individualization
  https://eclkc.ohs.acf.hhs.gov/children-disabilities/article/resources-supporting-individualization
- Standards in Action Briefs
  https://eclkc.ohs.acf.hhs.gov/program-planning/article/standards-action
- ELOF Effective Practice Guides and Crosswalk
  https://eclkc.ohs.acf.hhs.gov/school-readiness/effective-practice-guides/effective-practice-guides
  https://eclkc.ohs.acf.hhs.gov/sites/default/files/pdf/no-search/elof-epg-class-pre-k-crosswalk.pdf

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Links to additional resources

- Head Start Center for Inclusion
  http://headstartinclusion.org/
- National Center for Pyramid Model Innovations
  https://challengingbehavior.cbcs.usf.edu/
- ECTA Center
  http://ectacenter.org/
- Connect Modules
  https://www.connectmodules.dec-sped.org/
- Recommended Practices Modules
  https://rpm.fpg.unc.edu/welcome
- Cultivate Learning
  https://cultivatelearning.uw.edu/

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Thank You!

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Please complete your evaluation!

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RESET