

# Relevance, determinants and improvement of interactions in early childhood education and care

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**Discover. Create. Change.**

# Aims of today's talk

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- **What experiences for social and cognitive development are offered to young children in preschool classrooms?**
- **Do interactions with teachers and experiences in classrooms matter for students?**
- **Can observation leverage efforts to improve the richness, quality, and effectiveness of experiences in classrooms?**
- **Can we use observation of teacher-student interactions to improve student learning?**

# Improve quality, impact for young children

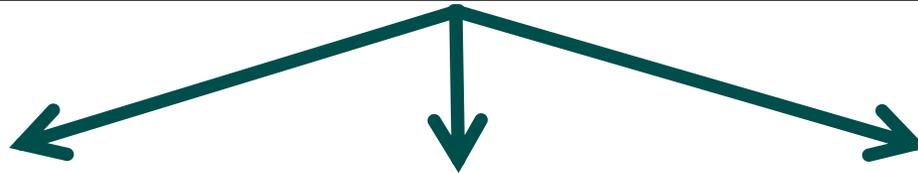
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- Poor children enter kindergarten far behind their peers, despite increased investment in HS and PK
- Even with universal access, learning gaps still exist. Need access to experiences of sufficient intensity to foster learning.
- Interactions between teachers and children are the ingredient that fosters learning and development; Interactions = Quality
- Issue is access *and* quality *and* impact

# Child-teacher interactions matter

- **Early history of relationships with adults forms “infrastructure” for school success:**
  - ❑ Social competence with peers
  - ❑ Self-regulation, emotional self-control
  - ❑ Task orientation, persistence, following directions
- **School readiness is a social process:**
  - ❑ Relationships with teachers are a “medium” for learning
- **Relationships and interactions with teachers and caregivers define quality and value of early education and are the path to improving school readiness.**
- **Standardized, observational assessments**

**Teacher-Child Interactions  
(these matter)**



**Emotional  
Support**

**Classroom  
Organization**

**Instructional  
Support**

# Measuring interactions: CLASS

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- CLASS is a tool for observing and assessing the quality of interactions between teachers and students
- Ratings (1-7) of the *emotional, organizational, and instructional supports* provided by teachers that contribute to children's *social, developmental, and academic achievement*.
- CLASS is used to assess interactions among teachers and students for a variety of purposes:
  - Teacher Professional Development
  - Monitoring and Evaluation of Teacher Performance/ Effectiveness
  - Research

# Dimensions of interaction: CLASS PK-5

- Positive climate
- Negative climate
- Teacher sensitivity
- Regard for student perspectives

**Emotional  
Support**

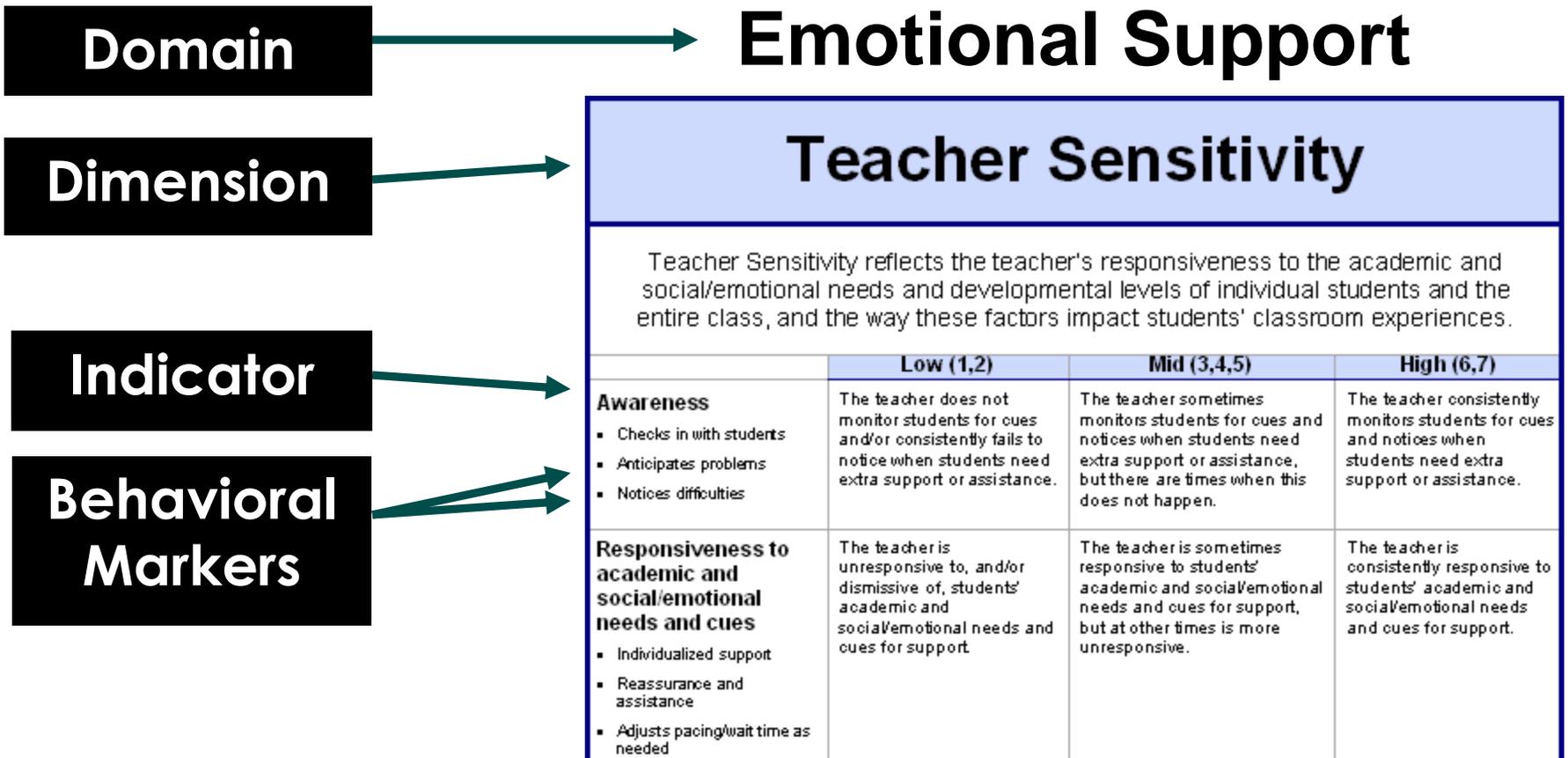
- Effective behavior management
- Instructional learning formats
- Productivity

**Organization/  
Management**

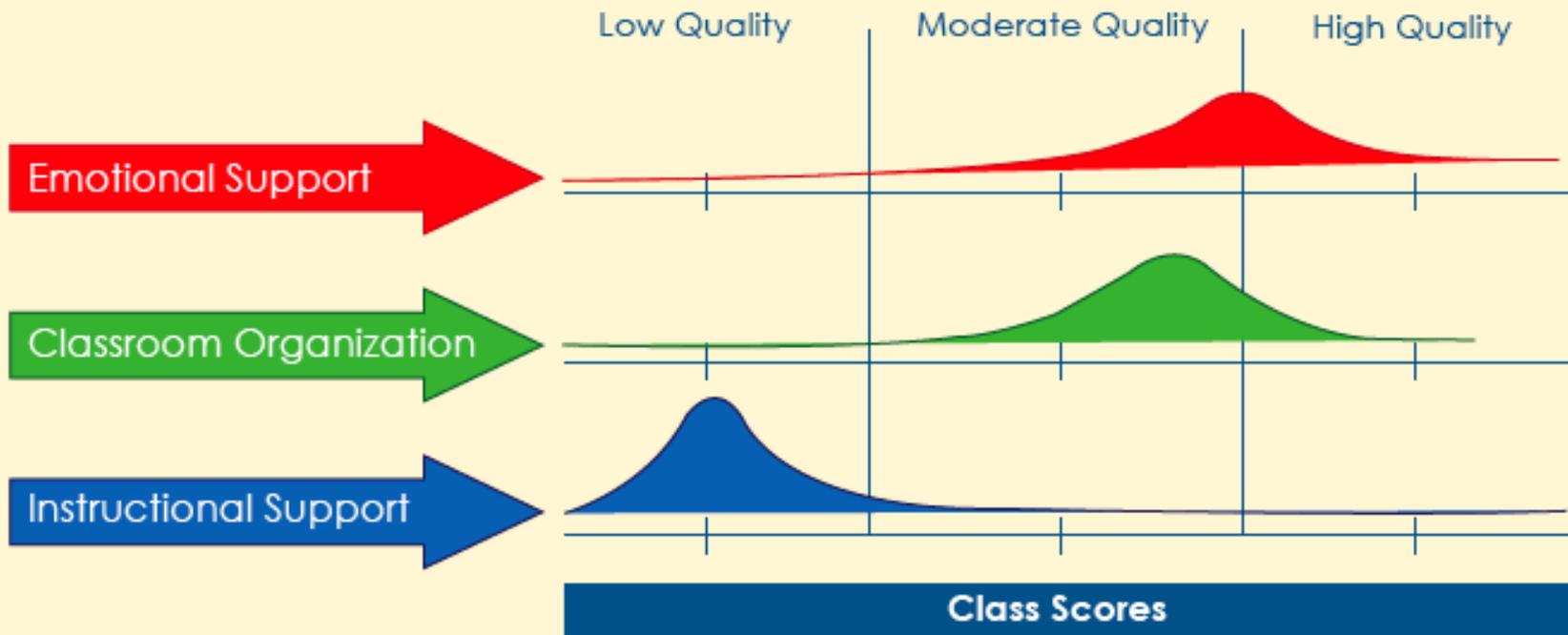
- Concept development
- Quality of feedback
- Language modeling

**Instructional  
Support**

# How is the CLASS organized?



## Average Ratings of Interactions in Pre-K - 3rd Classrooms



**Observations at the population level in US early education**

# Interactions and children's PK development

	Emotional Support	Instructional Support	ECERS-R Total	Structural
Receptive Language		✓		
Expressive Language		✓	✓	
Rhyming		✓		
Letter Naming		✓		
Math Skills		✓		
Social Competence	✓			
Behavior Problems	✓			

**Changes in children's development from beginning to end of preschool**

Mashburn, et al. (in press)

## PK interactions and performance in K

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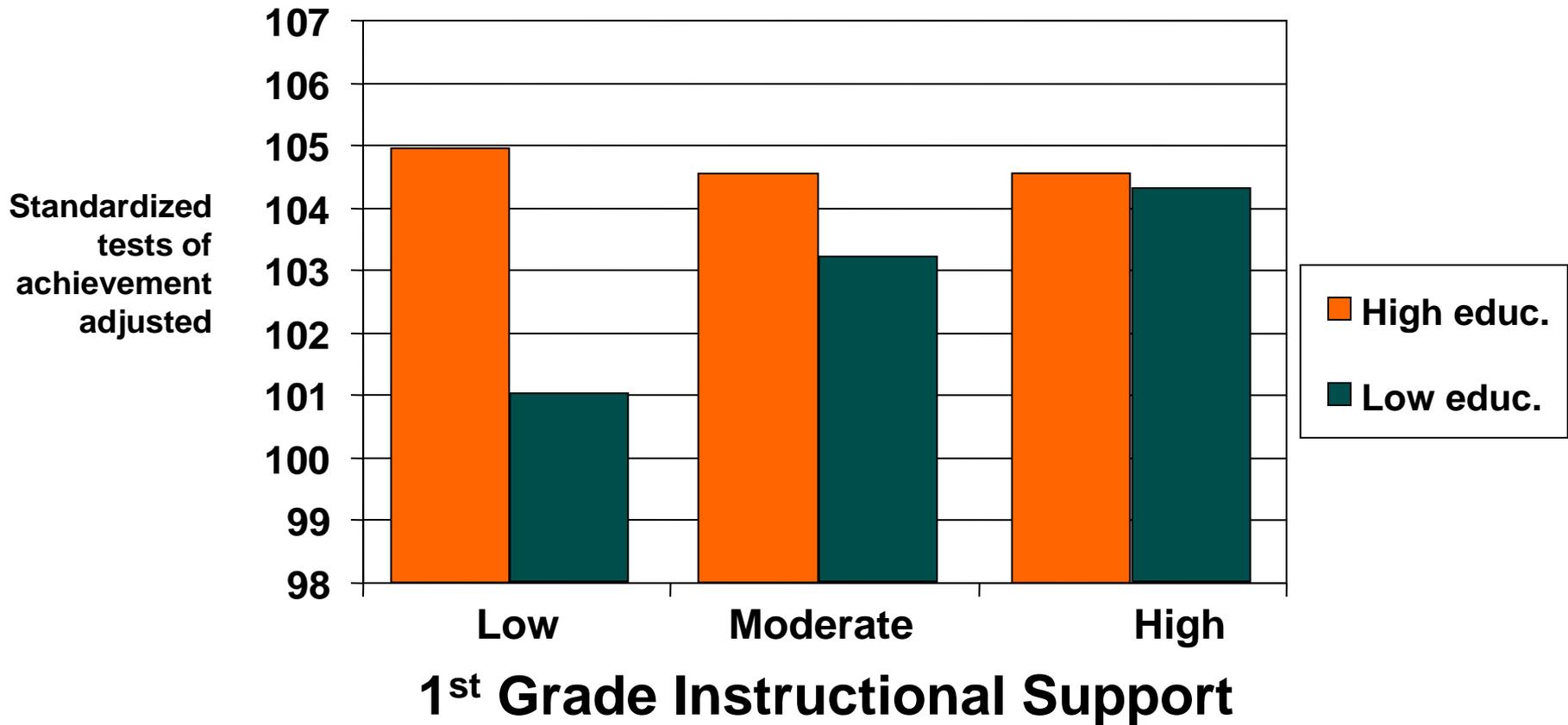
- Children in pre-k classrooms offering higher levels of Instructional Support displayed better language skills at the end of the kindergarten year.
- Kindergarten IS made an independent contribution to gains in children's language and math abilities.
- Quality Rating and Improvement Systems (QRIS) are a policy vehicle to measure, invest in, and improve quality. Many indicators used.
- And when QRIS include observations of interactions, they predict readiness. Otherwise not.

## **Interactions are really important for...**

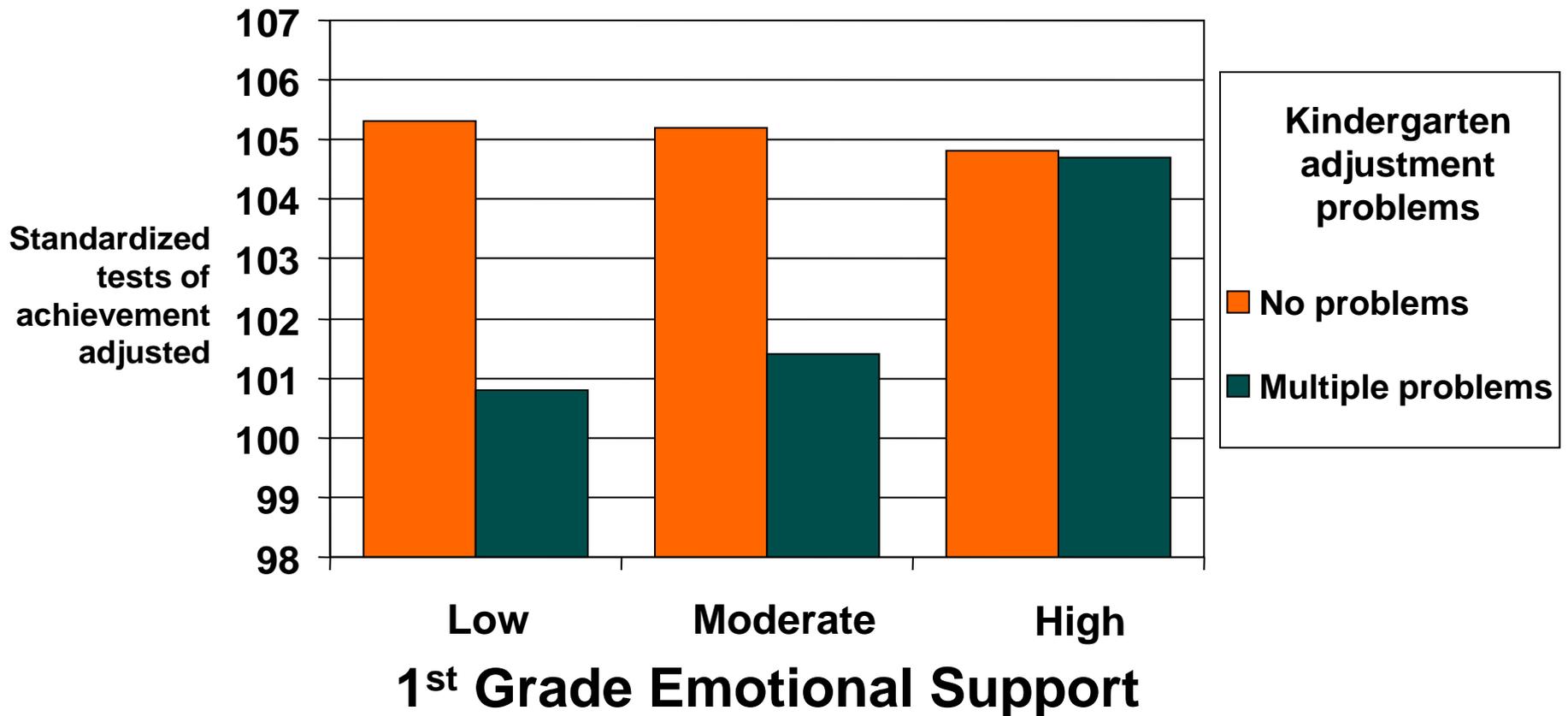
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**...children from low-income families and those who have difficulty adjusting to classroom environments may particularly benefit from exposure to high quality early learning environments as defined by the CLASS.**

# Gains in grade 1 achievement in instructionally supportive classrooms



# Gains in grade 1 achievement in emotionally supportive classrooms



# Teacher and child stress and interactions

- Emotional sensitivity of teachers leads to **decreases** in child stress hormones (cortisol) over the day and year.
- **Higher teacher stress reactivity** predicts poor interactions and reduces value of interactions for children's learning
- “Banking Time” intervention increases teacher sensitivity
  - Focused training for reading child cues
  - Seeing decrease in cortisol for both teachers and children
  - Increases in child engagement, affiliation, cooperation

# Improving interactions and their value

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- **Specifically link supports to teachers with how they affect interactions with children – Building quality**
- **CLASS – specific definitions of interactions – a target**
- **Video Library – analysis of others’ interactions**
- **Coaching – ongoing analysis/feedback on own interactions**
- **Course – knowledge and analytic skills**
- **All tested in experiments**

## CLASS Video Library

Welcome to our video library of CLASS constructs. Listed below are the 11 areas of CLASS that we have chosen to focus on and explain further through video demonstrations. You'll get a chance to view teachers interacting with their students in a real-life class setting, while displaying some of the positive behaviors we associate with the various CLASS categories.

### CLASS Construct List

**\*\* Use pulldown menu to select**

Positive Climate

Select from the pulldown or pick one of the main categories below.

#### Teacher Sensitivity



#### Positive Climate



#### Regard for Student Perspectives



#### Behavior Management



#### Productivity



#### Concept Development



#### Instructional Learning Formats



#### Literacy Focus



#### Quality of Feedback



#### Children's Engagement



#### Language Modeling



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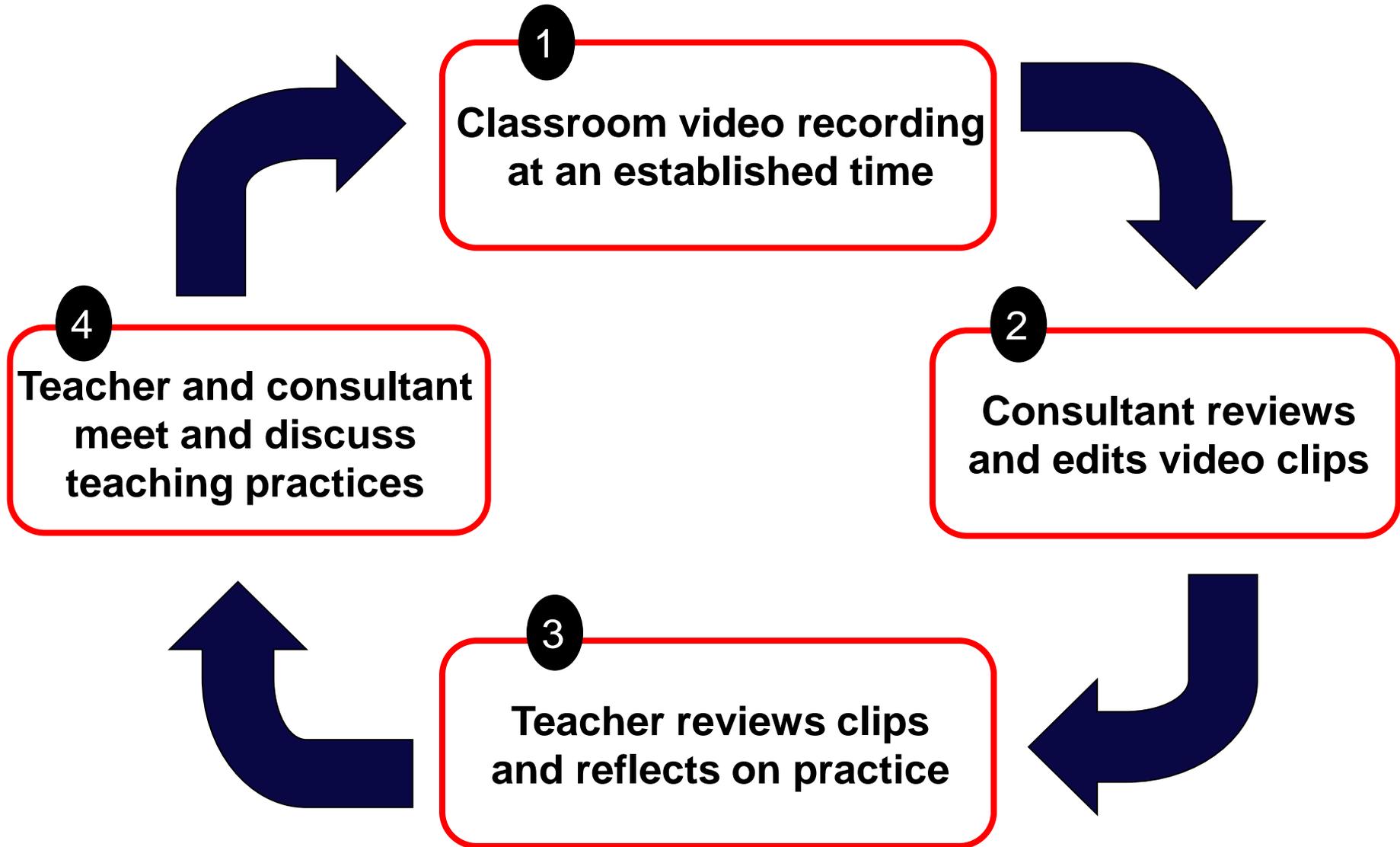
## Class Video Details: Teacher Sensitivity



### Teacher Sensitivity to Child's Shyness

A child who is asked to talk to the group is reluctant to respond in front of the group. To maximize the child's feeling of success and encouragement, the teacher uses verbal and non-verbal strategies, such as touch and a gentle tone of voice. The teacher's close physical proximity appears reassuring to the child. The teacher begins with an open-ended question and moves to a yes/no question when the child is hesitant to respond. The teacher goes further to provide the information to the class on behalf of the child. She ends the child's turn with an extra touch of reassurance, and a thank you. This child is probably more likely to respond to these types of requests than if she was not offered this support, and maybe the next time she will speak more.

&lt;&lt; GO BACK



VIDEO CLIP 1 OF 2

## Nice Work .

### PROMPT #1:

When teachers anticipate and respond to students' academic, emotional, and social needs, they demonstrate Teacher Sensitivity. What do you see yourself doing in this clip that reflects your understanding of the difficulty the students may have in writing their personal narratives?



### DIMENSION FOCUS:

Learn more about [Teacher Sensitivity](#) before reviewing this clip and submitting your response.  
*\*\* Clicking on this link should open up a new browser.*

### <<<PLAY VIDEO :

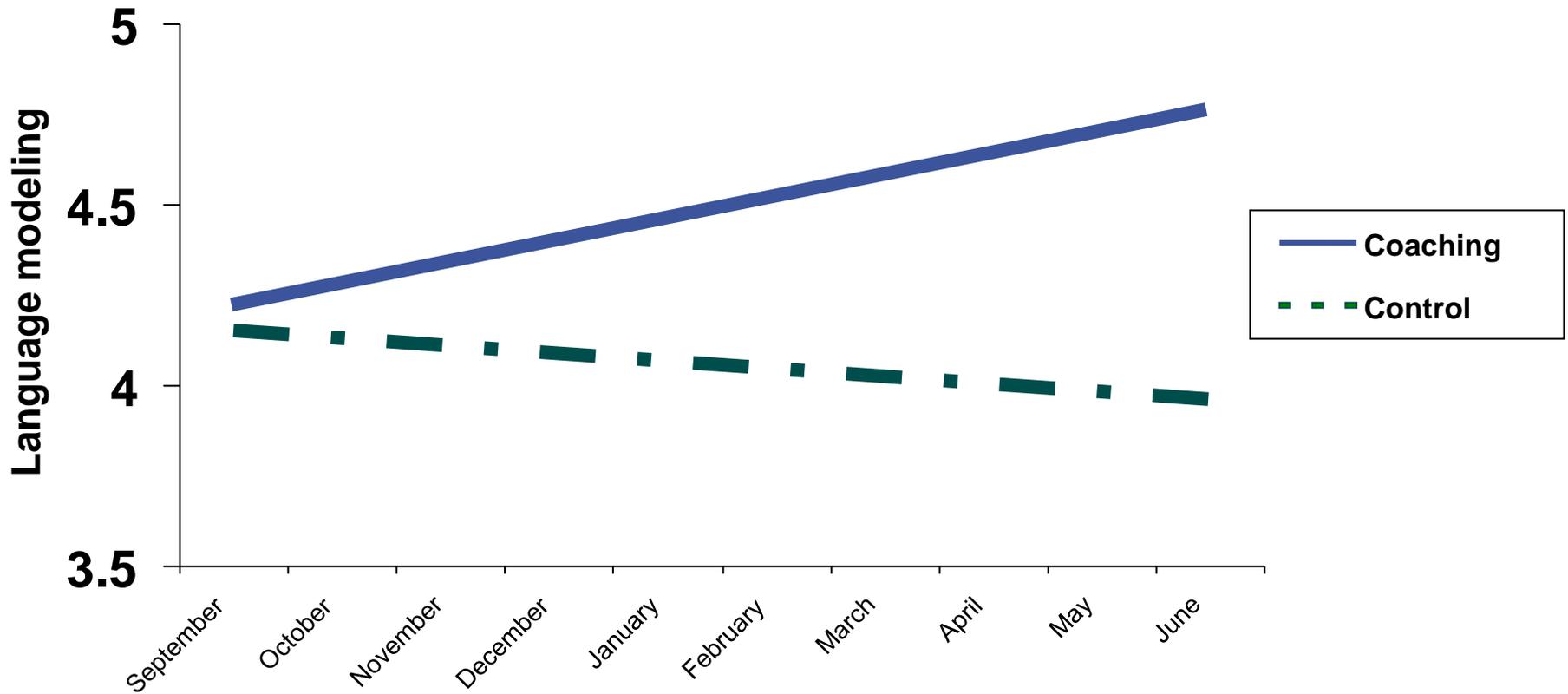
Roll over the video and press the play button below to being.



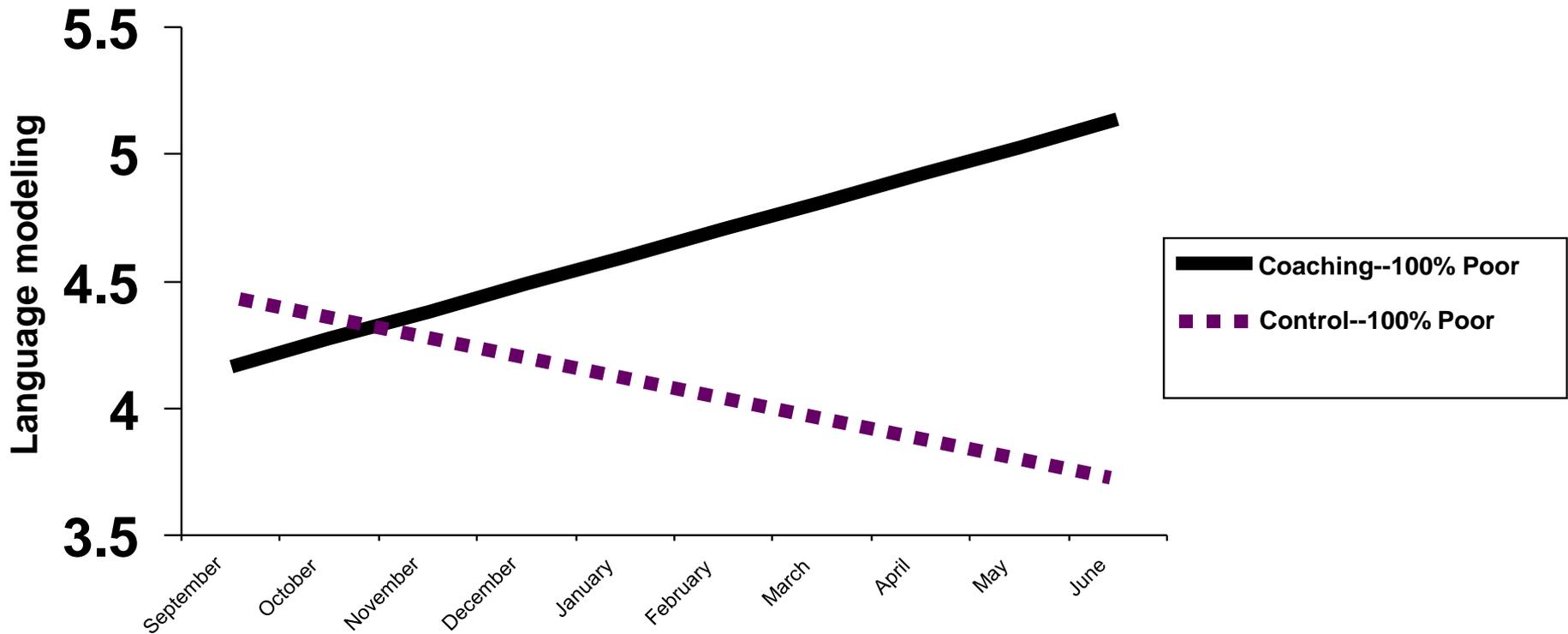
### YOUR RESPONSE:

Submit My Response

# MTP Coaching improves interactions



# Classrooms with high poverty benefit more from MTP coaching for teachers



# Findings: Effects of MTP support in PK

## ■ Teachers with MTP coaches

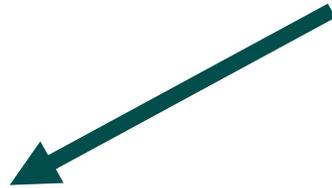
- ❑ Grew more sensitive in interactions with students
- ❑ Increased students' engagement in instruction
- ❑ Improved language stimulation techniques
- ❑ High-poverty classrooms benefit a great deal
- ❑ Early career teachers benefit from coaching and video

## ■ Children with MTP teachers

- ❑ Made greater gains in tests of early literacy
- ❑ Experienced lower levels of problem behavior
- ❑ Demonstrated higher levels of expressive language

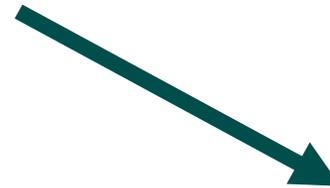
# NCRECE professional development study

NCRECE evaluates two PD supports:



**Phase I**

**In-service course  
on effective  
interactions**



**Phase II**

**In-service coaching using  
*MyTeachingPartner***

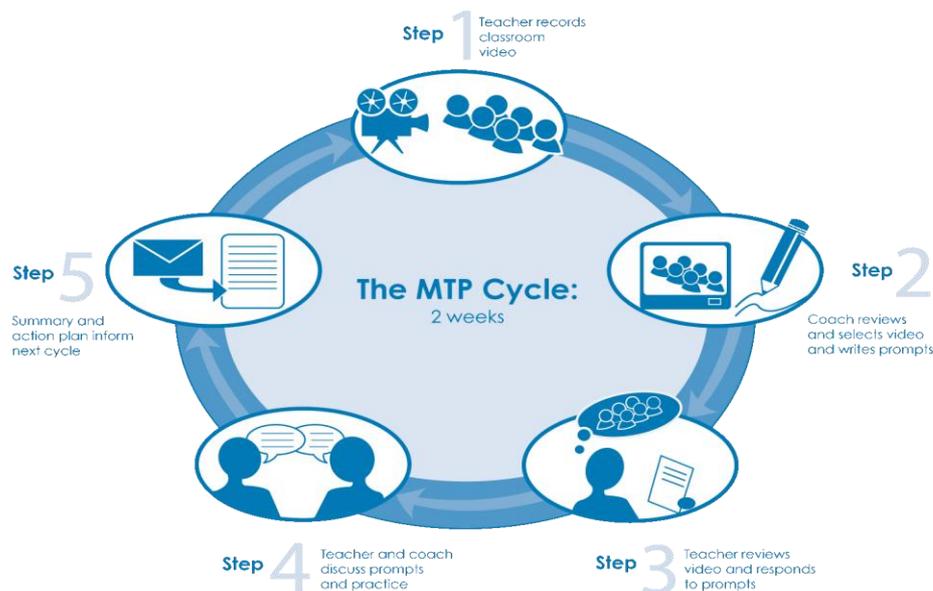
# MTP Coaching Description

## Objectives

- Detect and analyze own interactions

## Structure

- One-on-one coaching cycles every 2 weeks
- Local coaches
  - Coaching manual
  - Weekly UVa support



## Elements

- Cycle
- Video library
- Prompts

# Course Description/Aims

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## Objectives

- Identify connections between interactions and learning
- Describe elements of effective interactions
- Accurately observe and label interactions

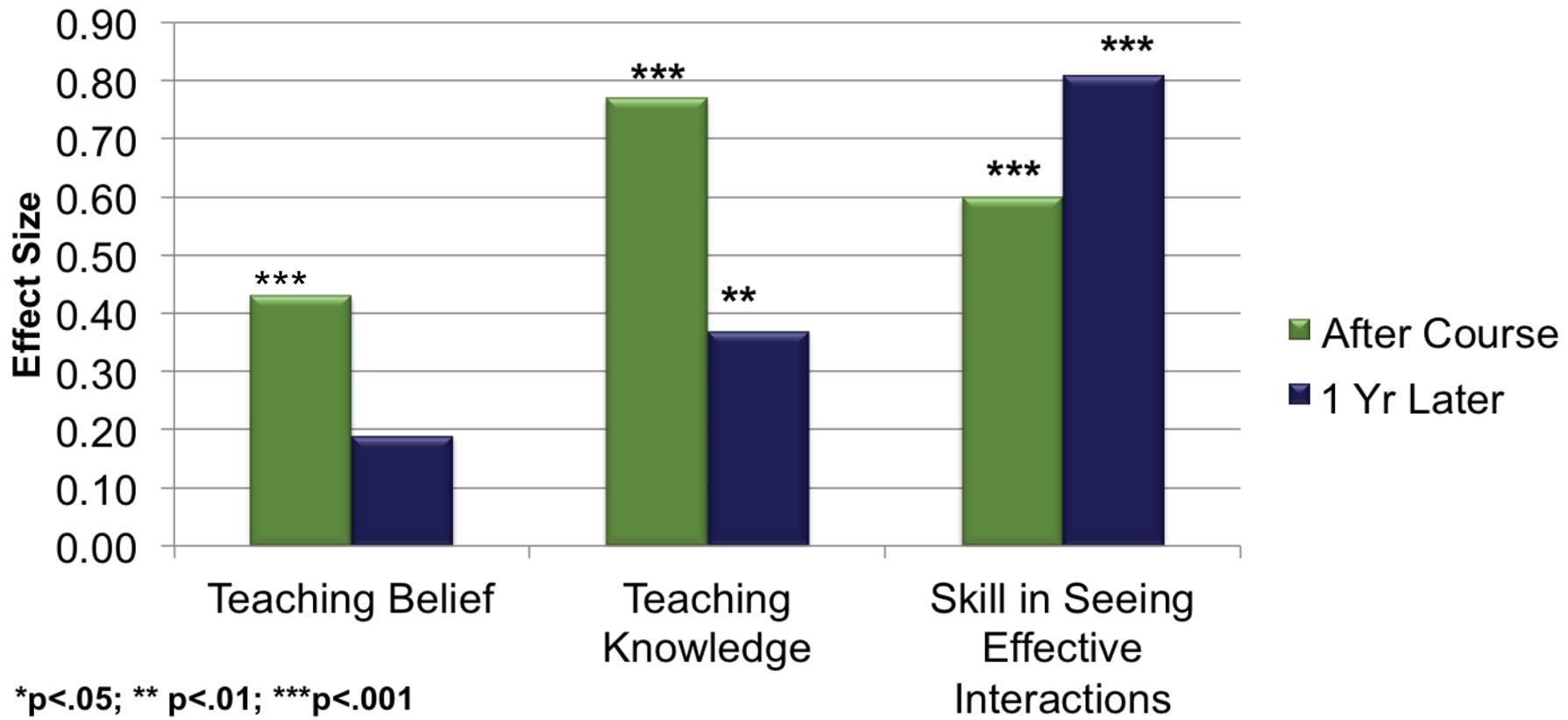
## Structure

- 14 weeks (3-hour/week)
- UVA-trained instructors
  - Instructor manual
  - Standard PPTs & videos
  - Weekly UVA support
- Credit-bearing
- Emphasis on video review

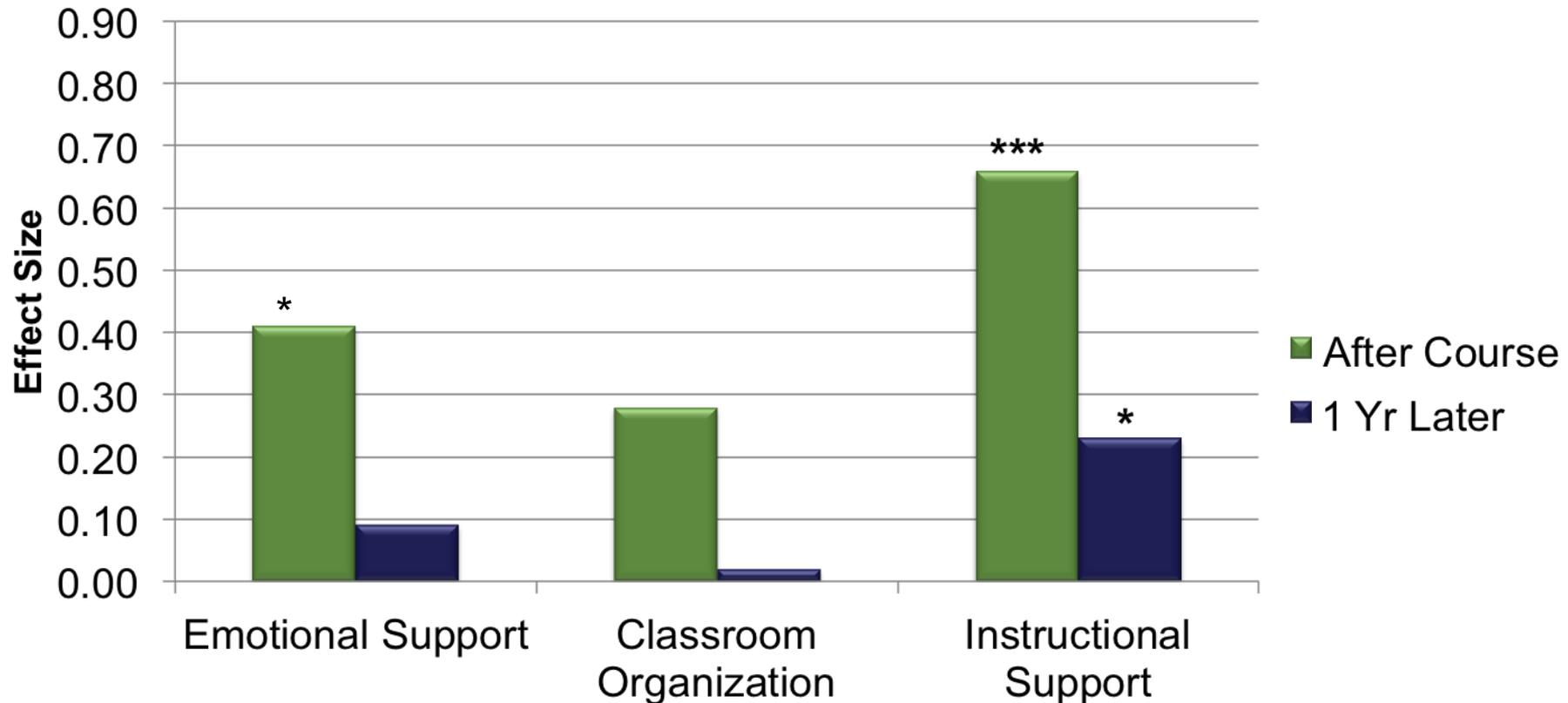
# Intent-to-Treat Impacts: Teacher and Child Outcomes

<b>Post Phase I</b>	<b>—</b>	<b>After course</b>
<b>Mid Phase II</b>	<b>—</b>	<b>Middle MTP Year</b>
<b>Post Phase II</b>	<b>—</b>	<b>End MTP Year</b>
<b>Post Phase III</b>	<b>—</b>	<b>Post MTP Year</b>

# Course improves beliefs, knowledge, skill

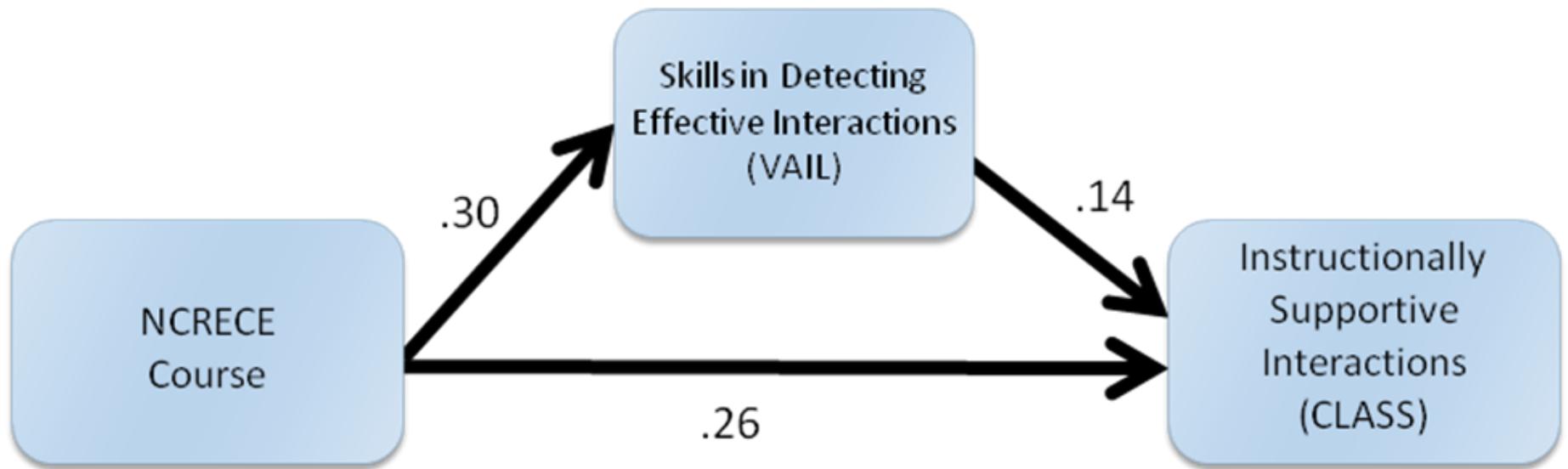


# Course improves teaching practice



\* $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

# The importance of “Seeing”



# What did we learn from course?

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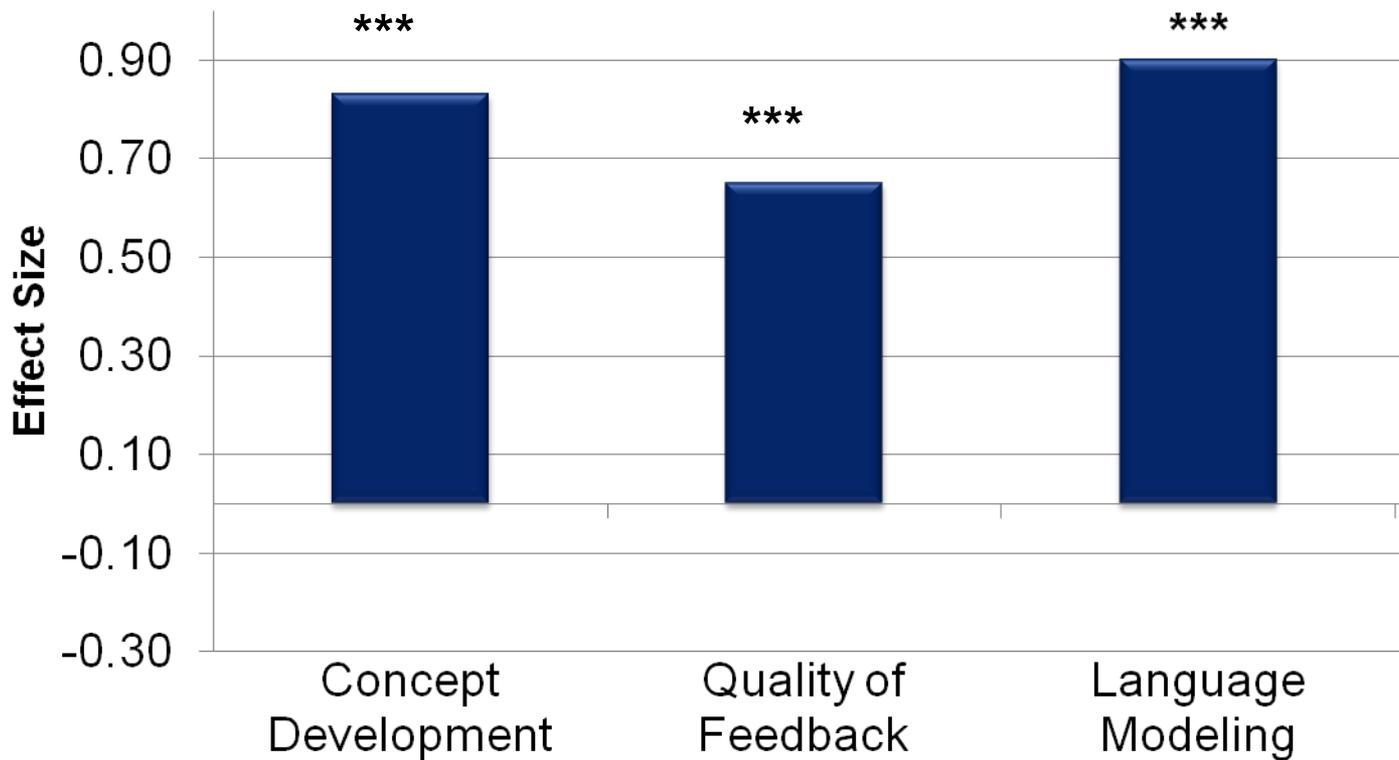
- Teachers demonstrated changes in beliefs, knowledge, skills and practices
- Effects on practice were strongest for instructional interactions – were sustained 1 year later
- Course was effective for all teachers
- Course promoted better interactions in the classroom through increasing teachers' observation skills – **can be trained**

# MTP coaching protocol

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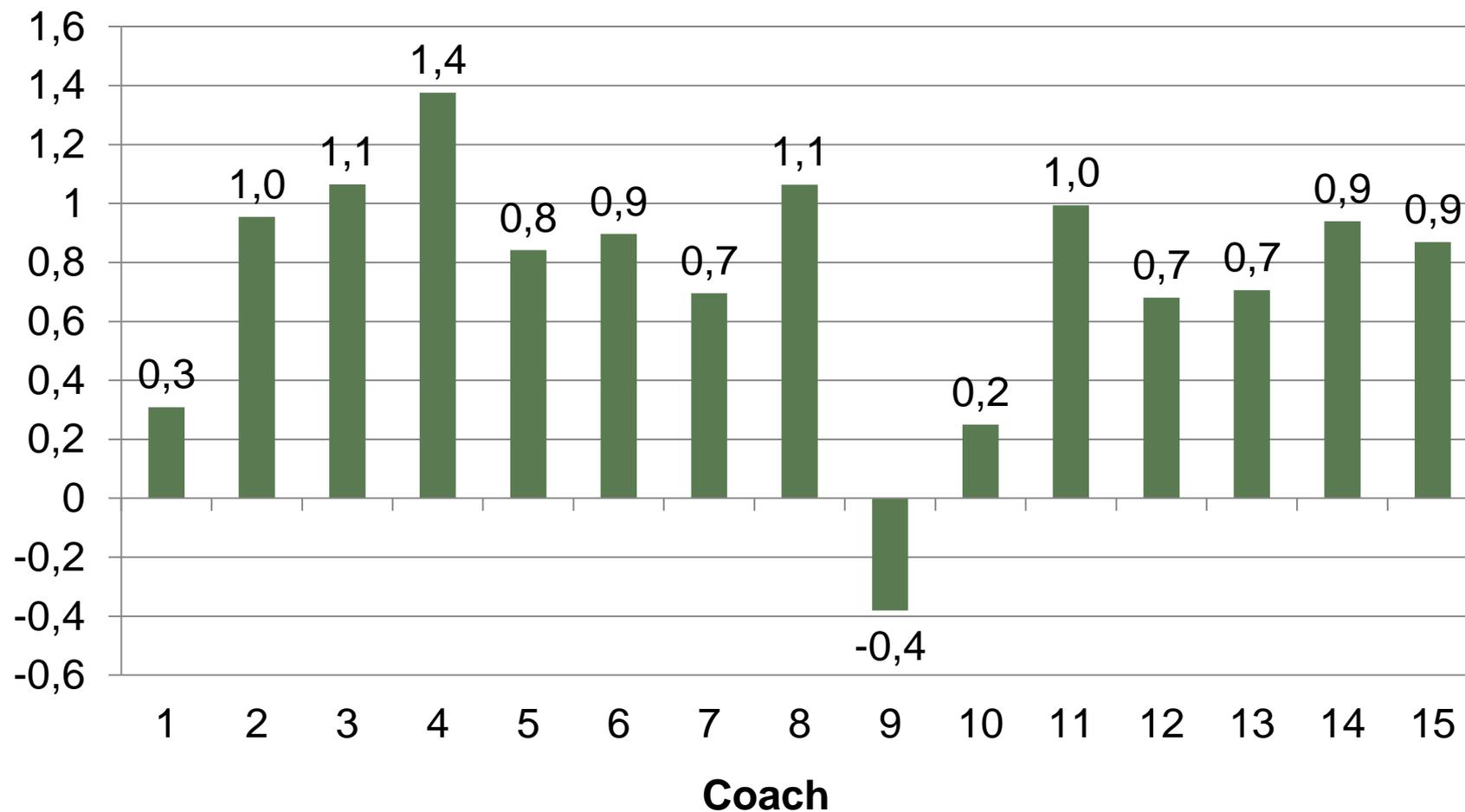
- **Scale-up to 10 sites, train and support local coaches**
- **Focus most of coaching cycles on Instructional Support behaviors.**
- **Standardize sequence of exposure**

# MTP coaching improves instructional support



\* $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

# Instructional Support Effects by Coach



# Coaching/course effects on child readiness

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- Child outcomes in coaching year and for children in teachers' classrooms the following year
- Literacy, language development, self-regulation
- Effects on language behaviors in concurrent (coaching) year – greater multi-word conversational turns
- For children year after coaching, MTP increased self regulation and working memory; language behavior; and literacy in classrooms with targeted curriculum.

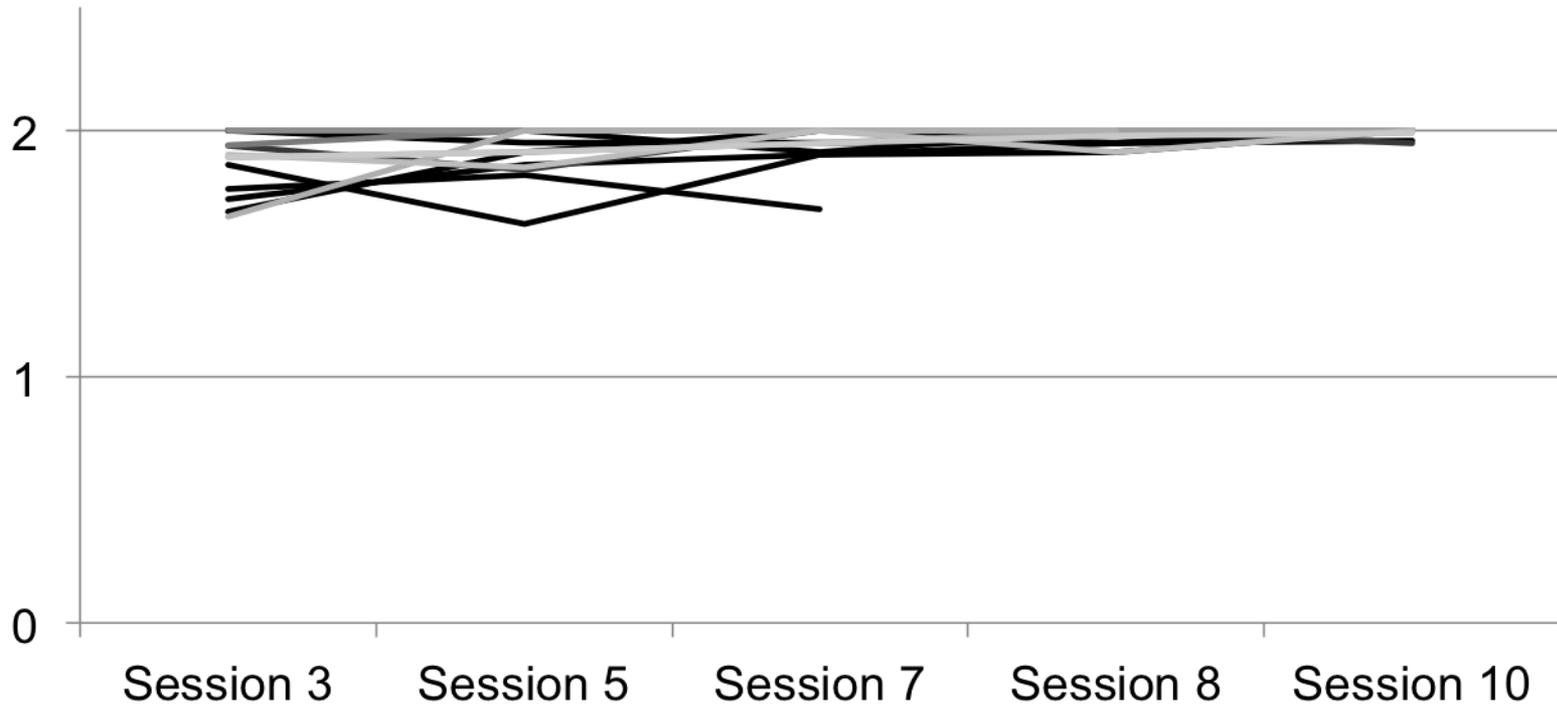
# Implementation questions

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- **Can effective PD, such as MTP or the course, be delivered with fidelity and quality at scale?**
- **How does implementation relate to teachers' engagement and changes in teachers' practice?**
- **Can we train external instructors and coaches to deliver the interventions as intended?**
- **Is the quality of implementation strong at scale?**

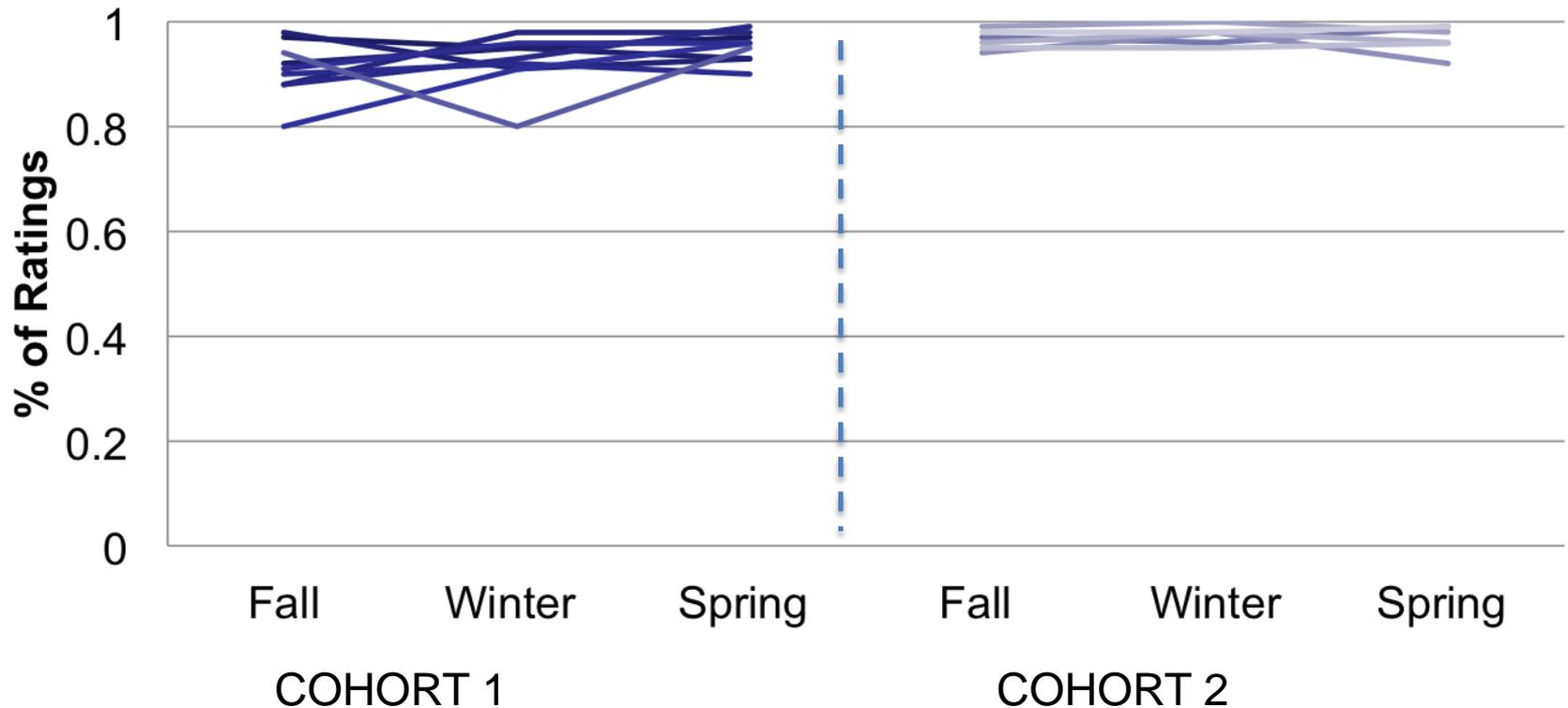
# Did course instructors follow plans?

**Fidelity to course was strong  
with limited variability among instructors**



# Did local coaches follow plans?

**MTP coaches delivered coaching as intended  
– higher in 2<sup>nd</sup> cohort**



# Implementation results and implications

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- **Effective PD interventions can be delivered locally with high fidelity and quality.**
- **Quality of implementation matters for teacher engagement and for benefits of PD.**
- **Coaches and course instructors need focused support. Conference calls, check-ins, standard protocols all essential to keeping focused.**

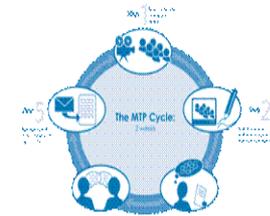
# Online course: Foster intentional teaching



Intentional teaching requires teachers to **know** what to do in each moment, **see** effective teaching in themselves and others, **enact** these strategies in the classroom, and **reflect** on, or analyze what works and what does not.

# Active ingredients for changing practice

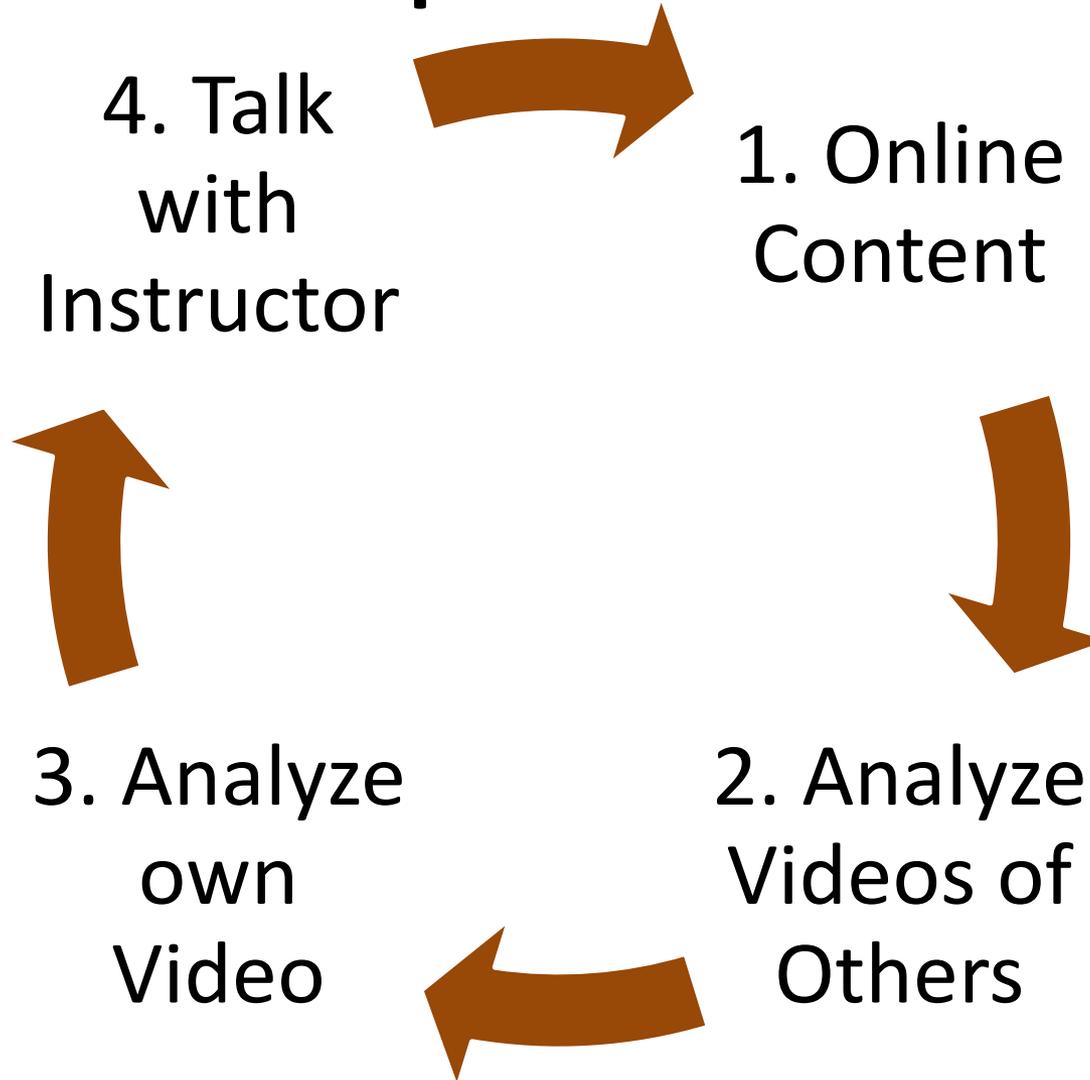
- **Enhanced ability to “see” effective practice in self and others**
  - Video library
  - Review of own video
  - Course – focus on ineffective practice as well
  
- **Emotionally supportive context for change**
  - Coach & Instructor
  - “Nice Work” prompt in MTP



## Professional Development

- Knowledge
- Schemas
- Relationships

# Online course components



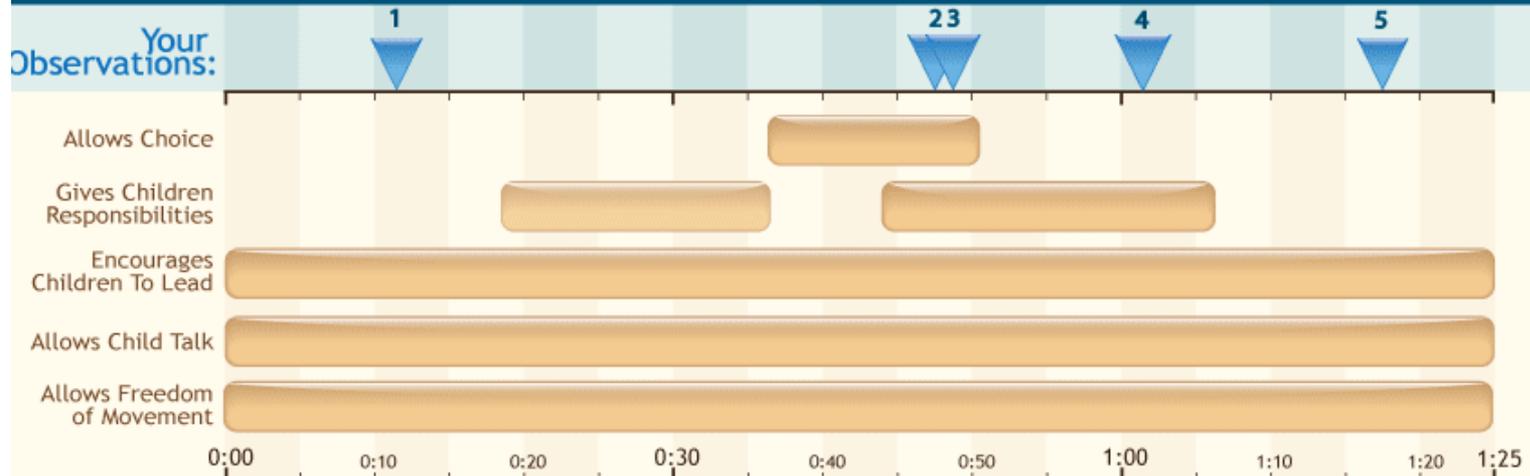
# Analysis of others' teaching



## ▼ Your Observation Log

This is a log of the observations you made about the video. Each observation is also marked below on a timeline so that you can compare your observations to ours. Click any observation in the log or on the timeline to get more information.

▶ 1. Allows Freedom of Movement	(0:12)
▶ 2. Gives Children Responsibilities	(0:47)
▶ 3. Encourages Children to Lead	(0:49)
▶ 4. Allows Choice	(1:02)
▶ 5. Gives Children Responsibilities	(1:17)
▶ Allows Child Talk	<i>not tagged</i>



## Early results from online course

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- **Feasible, with high levels of teacher engagement. Teachers report relevance.**
- **Teachers learning the skills of “seeing” interactions and child cues, become better observers**
- **Teachers “stick with” the online activities**
- **Teachers highly involved in online communities and group discussions of practice.**

# Standardized observation of interactions

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- Feasible, reliable and valid – A common language and lens for classroom interactions and practice. Implications for QRIS
- Regular use of observation - a focus for quality
- Seeing and labeling interactions and child cues appears a key for transfer to teachers' practice; can be measured and trained (MTP)
- Focused support to teachers in a certain domain produces improvements in their interactions in that domain

# Moving the needle – Access *and* Quality

- Connect observation with PD and feedback to move quality into “active range.” QRIS
- Not all coaching, coursework, or observation is effective; must be focused, ongoing
- Focused teacher professional development and preparation can increase quality and children’s school readiness – Gap-closing experiences
- Teacher preparation and PD – support teachers in their classrooms; focus preparation on actual skills
- We can close gaps for kids and support teachers to feel effective and connected

# Appreciation and collaborators

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- Institute of Education Sciences support for the National Center for Research on Early Childhood Education
- Eunice Kennedy Shriver National Institute for Child Health and Human Development
- University of Virginia Center for Advanced Study of Teaching and Learning
- Frank Porter Graham Child Development Center at UNC-Chapel Hill; UCLA, UNC-Greensboro.
- Colleagues at [www.teachstone.com](http://www.teachstone.com)
- Dozens of partner programs and districts and the hundreds of teachers who have worked with us