

Observing and Improving Teacher-Student Interactions

Jennifer LoCasale-Crouch, Ph.D.

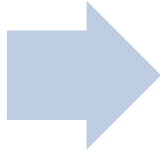
The mission of Center for Advanced Study of Teaching and Learning (CASTL) at the University of Virginia is to advance the quality and impact of teaching through scientific study in educational settings from infancy to higher education.

Thank you to many contributors

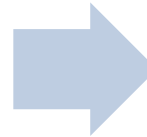
- Bob Pianta
- Bridget Hamre
- Karen LaParo
- Kathy Neesen
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- Grace Funk
- Jason Downer
- Leslie Booren
- Joe Allen
- Judith Wasserman
- Sharon Deal
- Marla Capper
- Erik Ruzek
- Marcia Kraft-Sayre
- Andy Mashburn
- And many more...

Key Pieces to the Puzzle

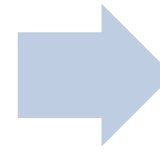
Professional
Development



Teacher as
Learner



Classroom
Interactions



Students'
Development

Observing Interactions with CLASS

- How was CLASS developed?
- How is CLASS structured?
- What does CLASS measure?



Classroom
Interactions

Elements of Classrooms Influencing Students' Development

Structure

What? Who? Where?

Curriculum

Standards

Materials

Training and education

Process

How?

Implementation

Interactions

Relationships

Outcomes

Children's learning
and development

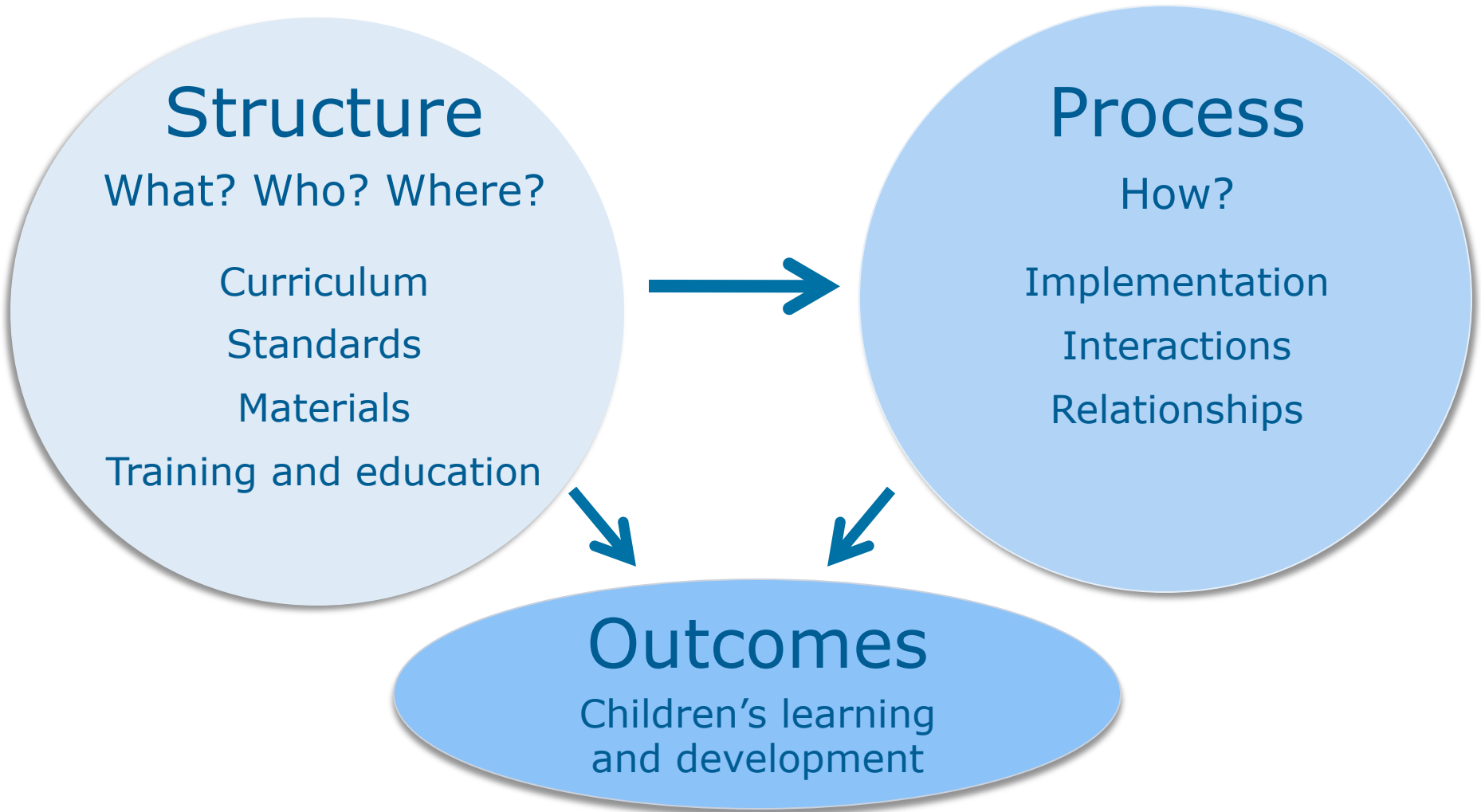


Importance of Relationships

Children experience the world in the context of relationships. In turn, these relationships influence all areas of development. These relationships also lay the foundation for later developmental outcomes including self confidence, mental health, motivation to learn, achievement in school, and conflict resolution.

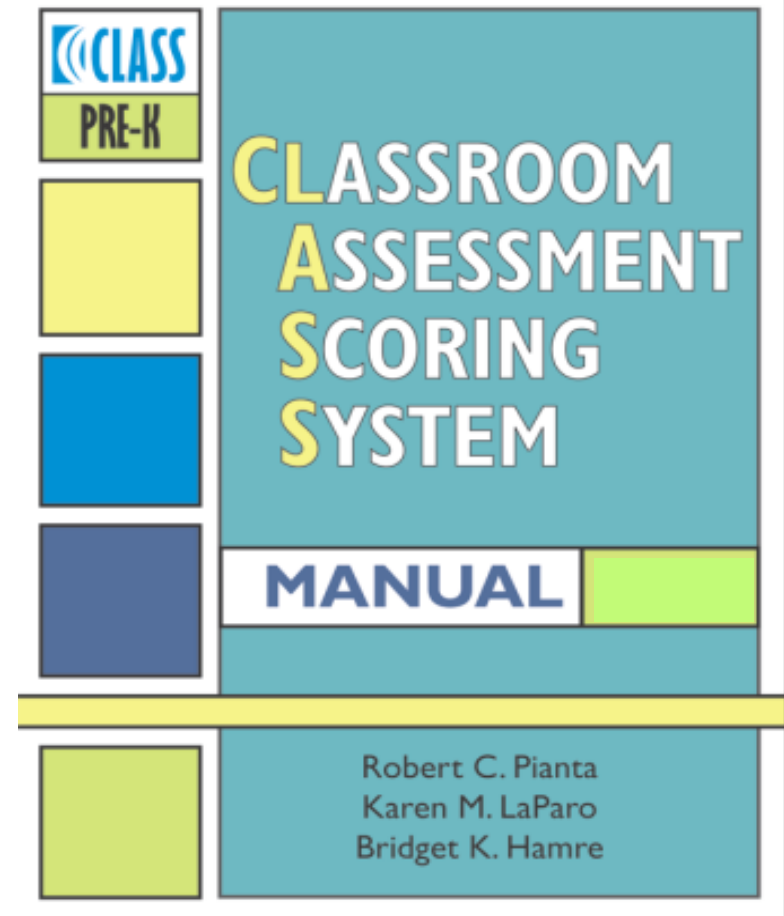
National Scientific Council on the Developing Child (2004). *Young Children Develop in an Environment of Relationships: Working Paper No. 1*. Retrieved from www.developingchild.harvard.edu.

Elements of Classrooms Influencing Students' Development



Classroom Assessment Scoring System: CLASS

- Developed over last 20 years by Robert Pianta and colleagues based on educational & development research
- Grade levels reflect both continuity and uniqueness across development
 - Infant
 - Toddler
 - Pre-K
 - K-3
 - Upper Elementary (4-6)
 - Secondary (6-12)
- Used across content areas



What does the CLASS measure?

Emotional Support

Positive Climate
 Negative Climate
 Teacher Sensitivity
 Regard for Student
 Regard for Adolescent
 Perspectives

Classroom Organization

Behavior Management
 Productivity
 Instructional Learning
 Formats

Instructional Support

Concepts Development
 Analytic Inquiry
 Content Understanding
 Quality of Feedback
 Instructional Dialogue
 Language Modeling
 Quality of Feedback

Student Outcomes

Student Engagement

How is the CLASS Organized?

Domain →

Dimension →

Indicator →

Behavioral
Markers →

Emotional Support

Teacher Sensitivity

Encompasses the teacher's awareness of and responsivity to students' academic and emotional needs. High levels of sensitivity facilitate students' ability to actively explore and learn because the teacher consistently provides comfort, reassurance, and encouragement.

	Low (1,2)	Mid (3,4,5)	High (6,7)
Awareness <ul style="list-style-type: none"> Anticipates problems and plans appropriately Notifies lack of understanding/ difficulties 	Teacher consistently fails to be aware of students who need extra support, assistance, or attention	Teacher is sometimes aware of students who need extra support, assistance, or attention	Teacher is consistently aware of students who need extra support, assistance, or attention
Responsiveness <ul style="list-style-type: none"> Acknowledgement of emotions Comfort and assistance Individualized support 	Teacher is unresponsive or dismissive to students and provides the same level of assistance to all students, regardless of their individual needs	Teacher is sometimes responsive to students, but at other times is more dismissive or unresponsive; matching her support to the needs and abilities of some students, but not others	Teacher is consistently responsive to students and matches her support to their needs and abilities
Addresses Problems <ul style="list-style-type: none"> Effective /timely help Problem resolution 	Teacher is ineffective at addressing students' problems and concerns	Teacher is sometimes effective at addressing students' problems and concerns	Teacher is consistently effective at addressing students' problems and concerns
Student Comfort <ul style="list-style-type: none"> Seek support and guidance Freely participate Take risks 	Students rarely seek support, share their ideas with, or respond to questions from the teacher.	Students sometimes seek support, share their ideas with or respond to questions from the teacher	Students appear comfortable seeking support from, sharing their ideas with, and respond freely to the teacher

Ensuring Reliability

- Intensive two day training
 - Learning the tool
 - Practicing observing
 - How to observe objectively
- Focus on observable behaviors
 - Overall experience of students
 - No one incident weighs too heavily
- Observe for 15 minutes, code for 10
 - At least four observation cycles for reliable estimate
- Reliability test
- Ongoing reliability

What Is Emotional Support?

Positive Climate

Negative Climate

Teacher Sensitivity

Regard for Student Perspectives



Emotional Support Domain

How teachers help children develop

- Warm, supportive relationships with teachers and peers
- Enjoyment of and excitement about learning
- Motivation to engage in learning activities
- Feelings of comfort in the classroom
- Willingness to accept cognitive and social challenges
- Appropriate levels of autonomy

What is Classroom Organization?

Behavior
Management

Productivity

Instructional
Learning Formats



Classroom Organization Domain

How teachers help children

- Develop skills to regulate their own behavior
- Get the most out of each school day
- Maintain interest in learning activities

What Is Instructional Support?

Concept
Development

Quality of Feedback

Language Modeling



Instructional Support Domain

How teachers

- Help children learn to solve problems, reason, and think
- Use feedback to expand and deepen children's skills and knowledge
- Help children develop more complex language skills

Quality of Feedback

Assesses the degree to which the teacher provides feedback that expands learning and understanding and encourages continued participation

- Scaffolding
- Feedback loops
- Prompting thought processes
- Providing information
- Encouragement and affirmation

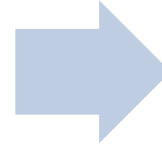


Measuring and Understanding Interactions

- What do U.S. students **typically experience** across settings?
- What does emerging **international** research tell us?



Classroom
Interactions



Students'
Development

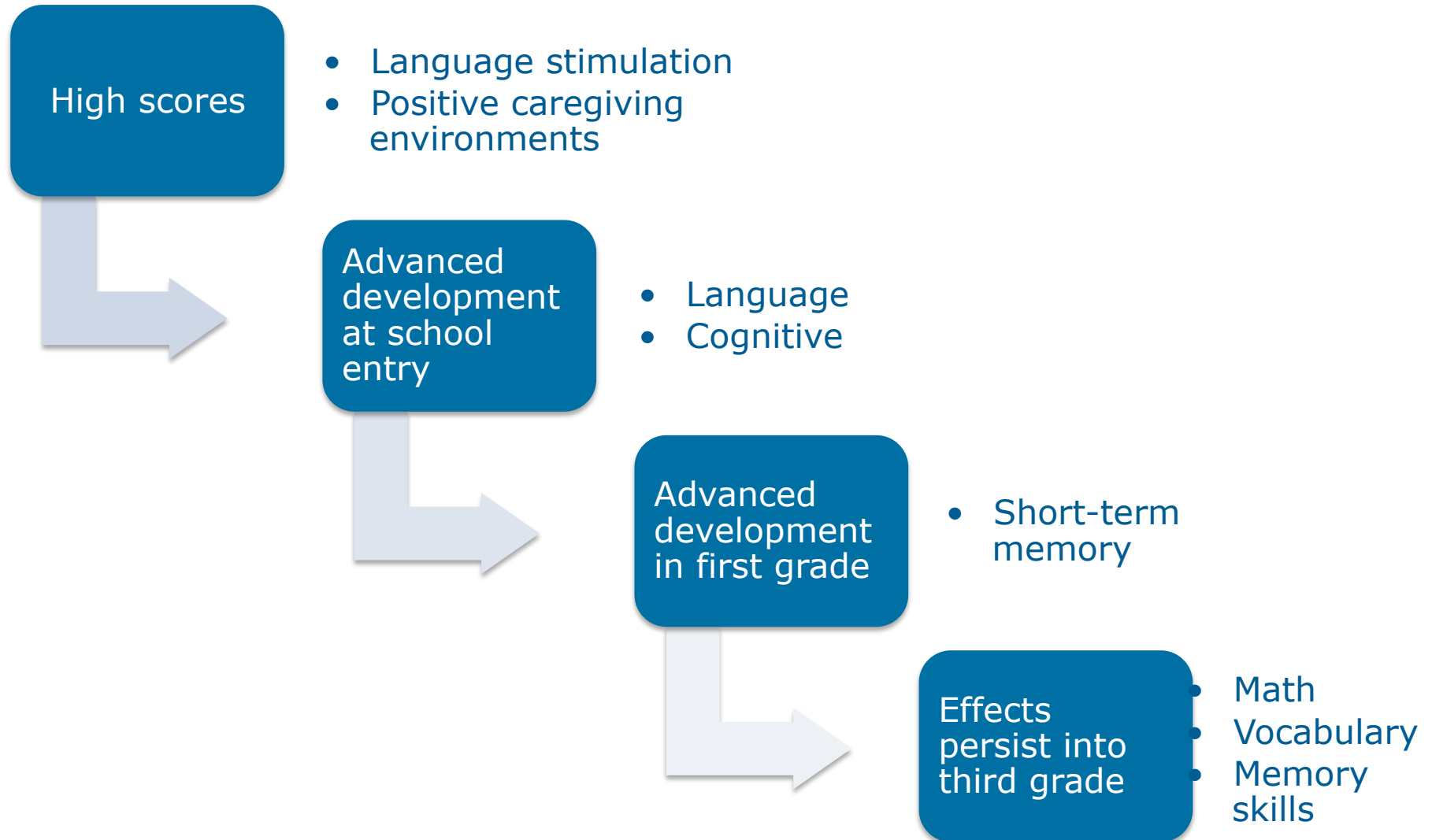
The United States Context

- Almost four million square miles
- 316 million people
- 50 states
- One in four children living in poverty
- Mix of early education models

Large-scale observational studies

- **National-level studies**
 - National Institute of Child Health and Human Development Study of Early Child Care
 - National Center for Early Development and Learning
- Up to **1,000 settings** observed at **preschool, K, 1, 3, 5**
- **5,000** classrooms total
- Large set of **systematic standardized classroom observation** in U.S. schools
- Studies offer a **national view** on classrooms

Effective Interactions Matter



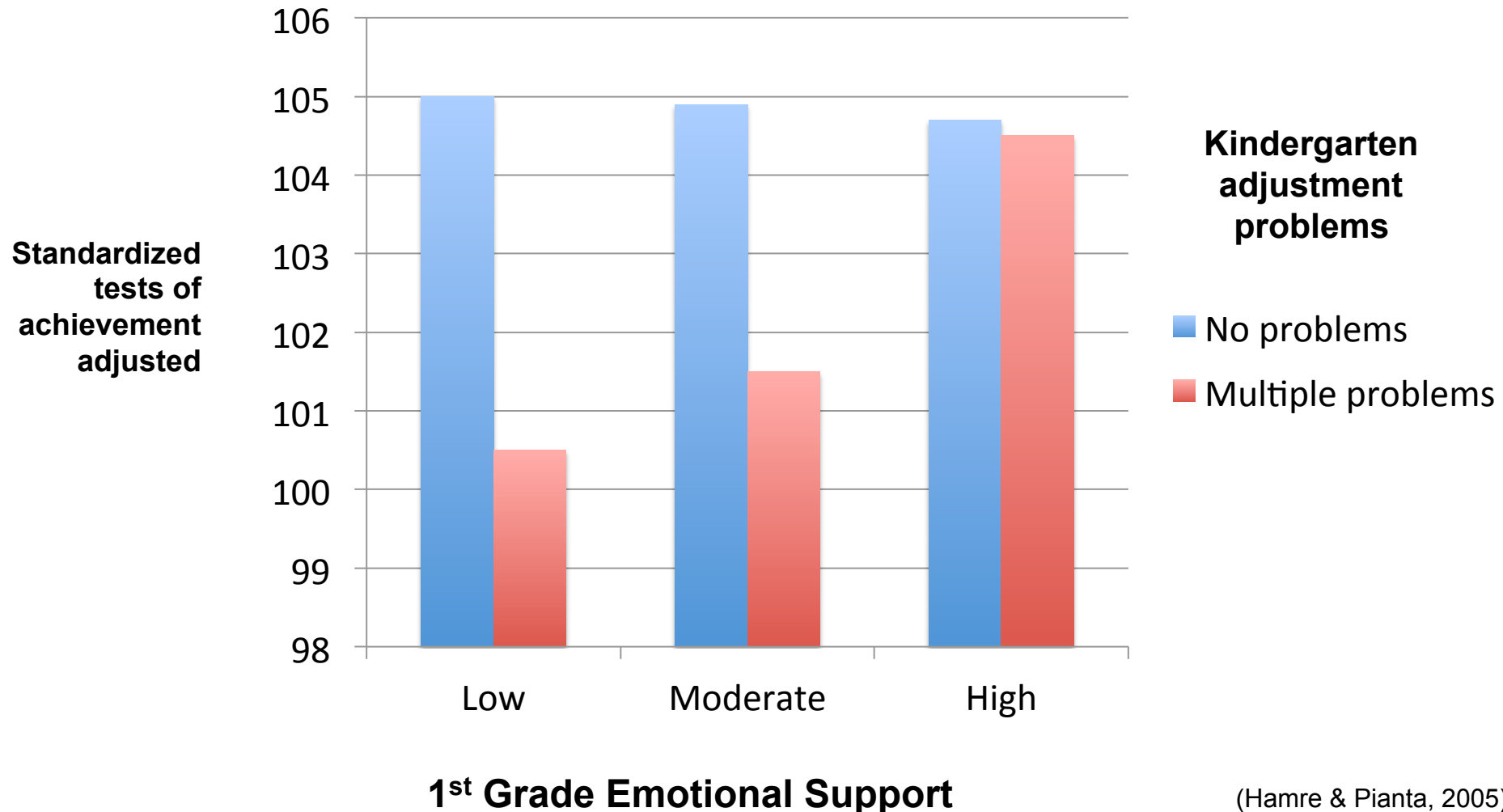
Predicting Children's Development in Pre-K

Changes in Children's Development from Beginning to End of Preschool

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

Mashburn, et al. (2008)

Emotional Support Predicts Academic Gains



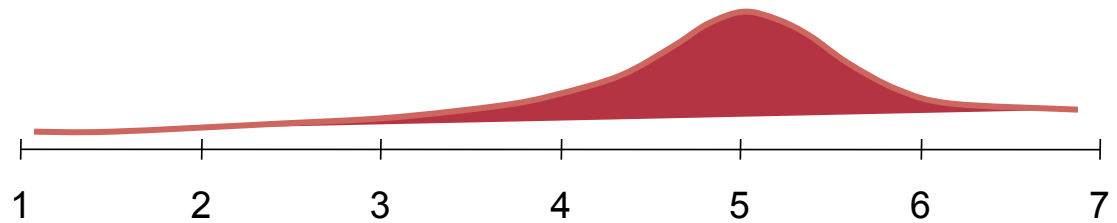
Both Quality and Consistency Matter

	Feelings about School	Observed Engagement	Broad Math
Overall Quality of Emotional Interactions	✓	✓	✓
Consistency in Emotional Interactions		✓	✓

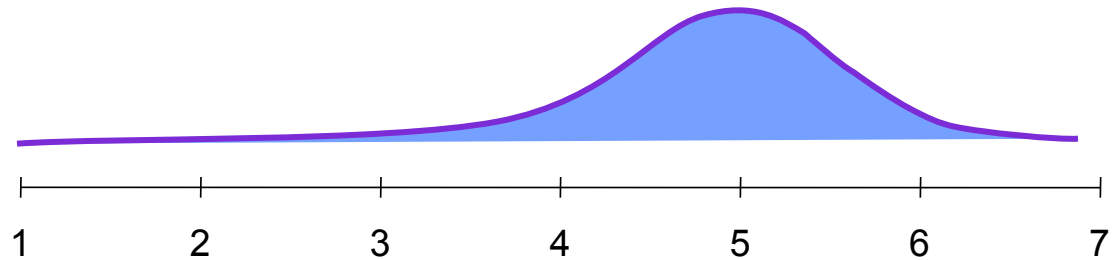
LoCasale-Crouch, J., & Pianta, R. (2009). Quality and Consistency in 5th Graders' Social/Emotional Interactions with Teachers and the Relationship to Students' Feelings, Engagement, and Academic Performance in School

Interaction Effectiveness Varies Widely

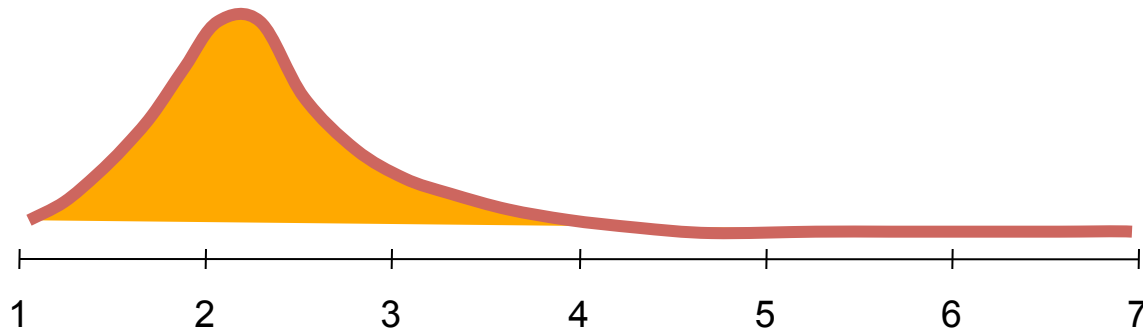
Emotional support



Classroom organization

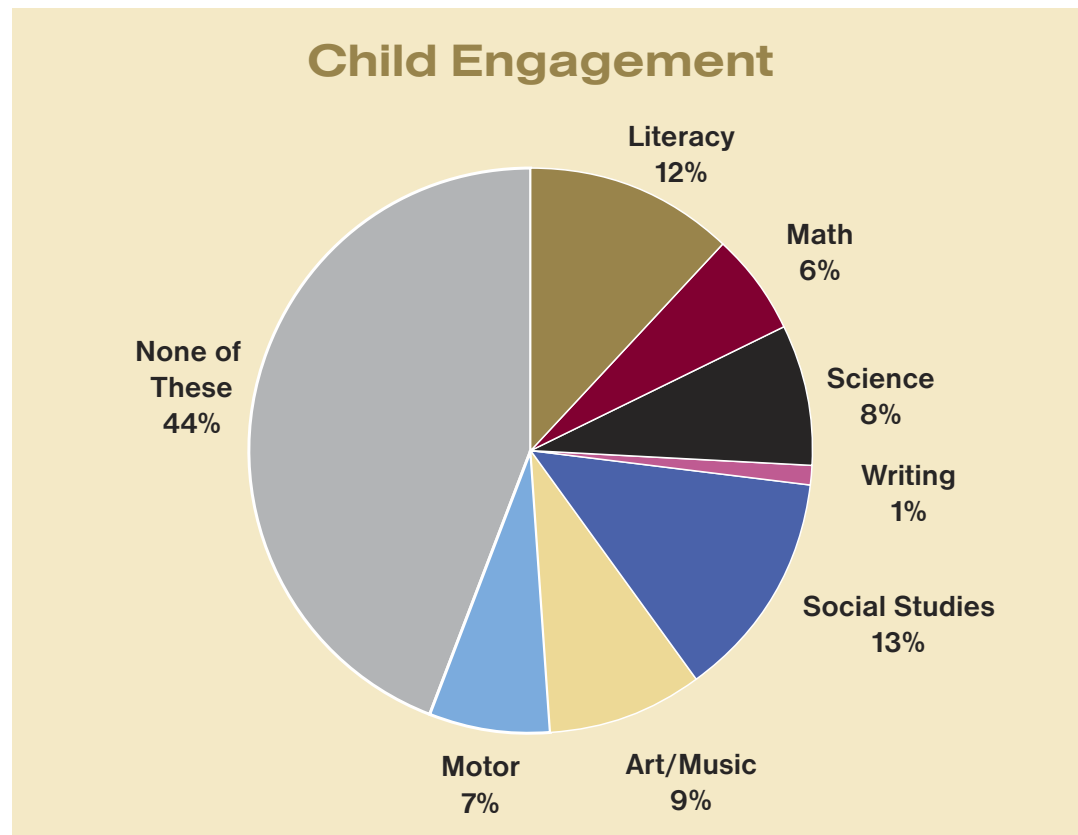


Instructional support

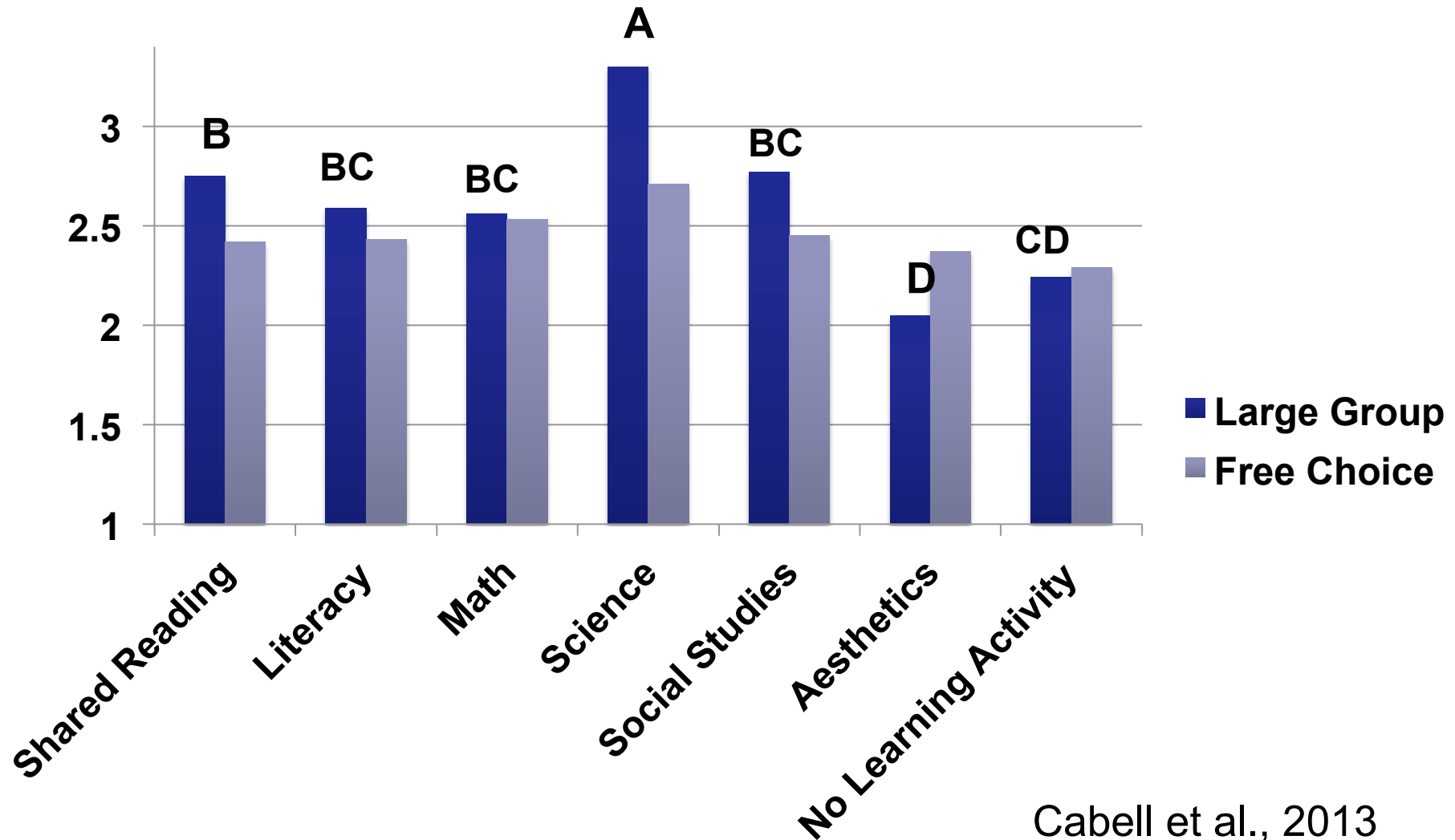


In pre-k typical classrooms

- Children spend a lot of time NOT engaged in work or play



Setting X Learning Activity: Instructional Support



Predictors of Effectiveness

- Few associations between degree status, years of experience, etc
- More associations with teacher beliefs, emotions, sense of support



International Uses of CLASS



- Australia
- Canada
- Chile
- Columbia
- Costa Rica
- England
- Ecuador
- Finland
- France
- Germany
- Israel
- Mexico
- Portugal
- Turkey
- And more...

Emerging ideas

- Overall similarities in teacher-student interactions across countries using CLASS to date
 - Factor structure (3 factor)
 - Finland
 - Germany
 - Chile
 - Means – instructional support lowest
 - Prediction to outcomes
 - Finland
 - Portugal
 - Chile
 - Ecuador
 - Australia

Big Picture Summary

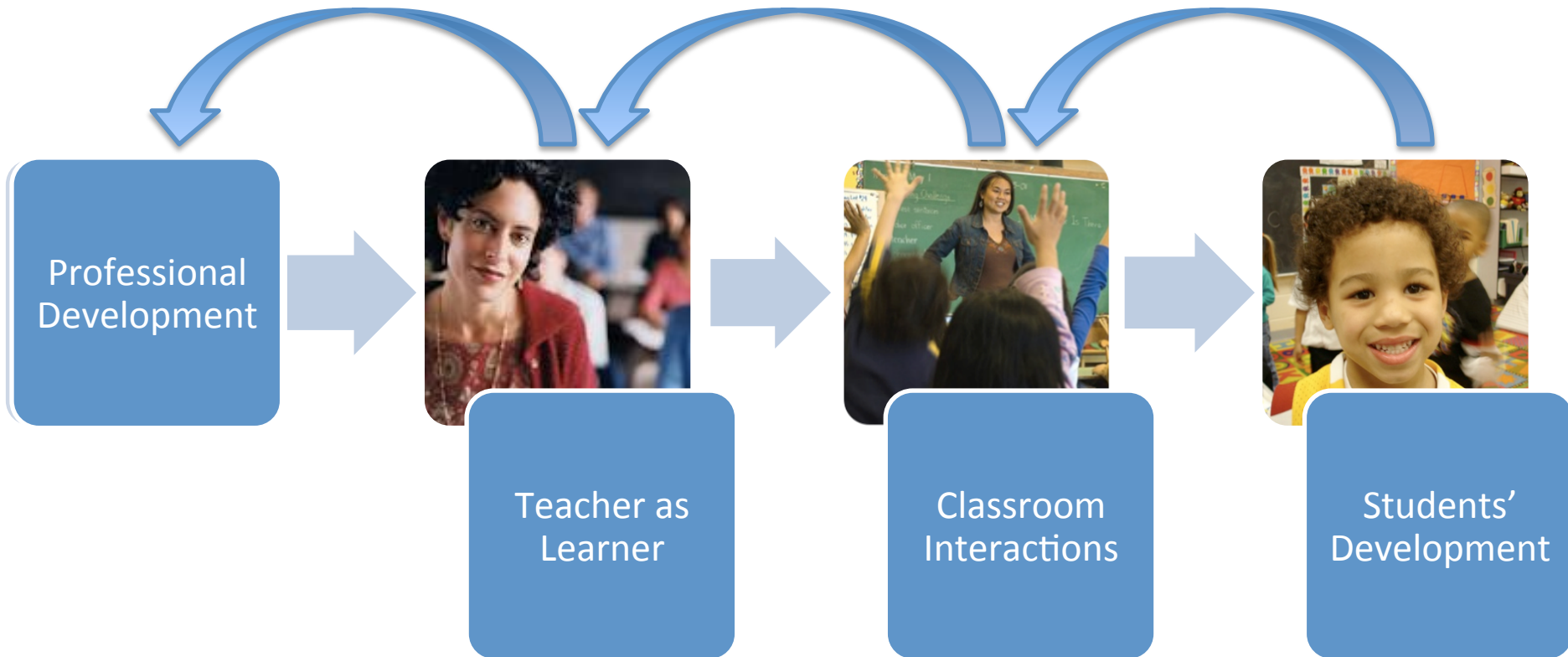
- Interactions matter
- Children exposed to variable quality
- Instructional quality is particularly low
- Structural indicators are not good predictors of effectiveness



Improving Teacher-Student Interactions

Findings suggest the need to change
the way teachers interact with students

Observation informing practice



What we know about professional development

- ***Things that work***

- There are **specific and articulated objectives**.
- **Practice is an explicit focus**, and attention is given to linking the focus on knowledge and practice.
- There is **collective participation of teachers**.
- The **intensity and duration is matched to the content** being conveyed.
- The educators are prepared to **conduct student assessments and interpret their results** as a tool for ongoing monitoring of the effects of PD.
- It is appropriate for the organization and **aligned with standards for practice**.

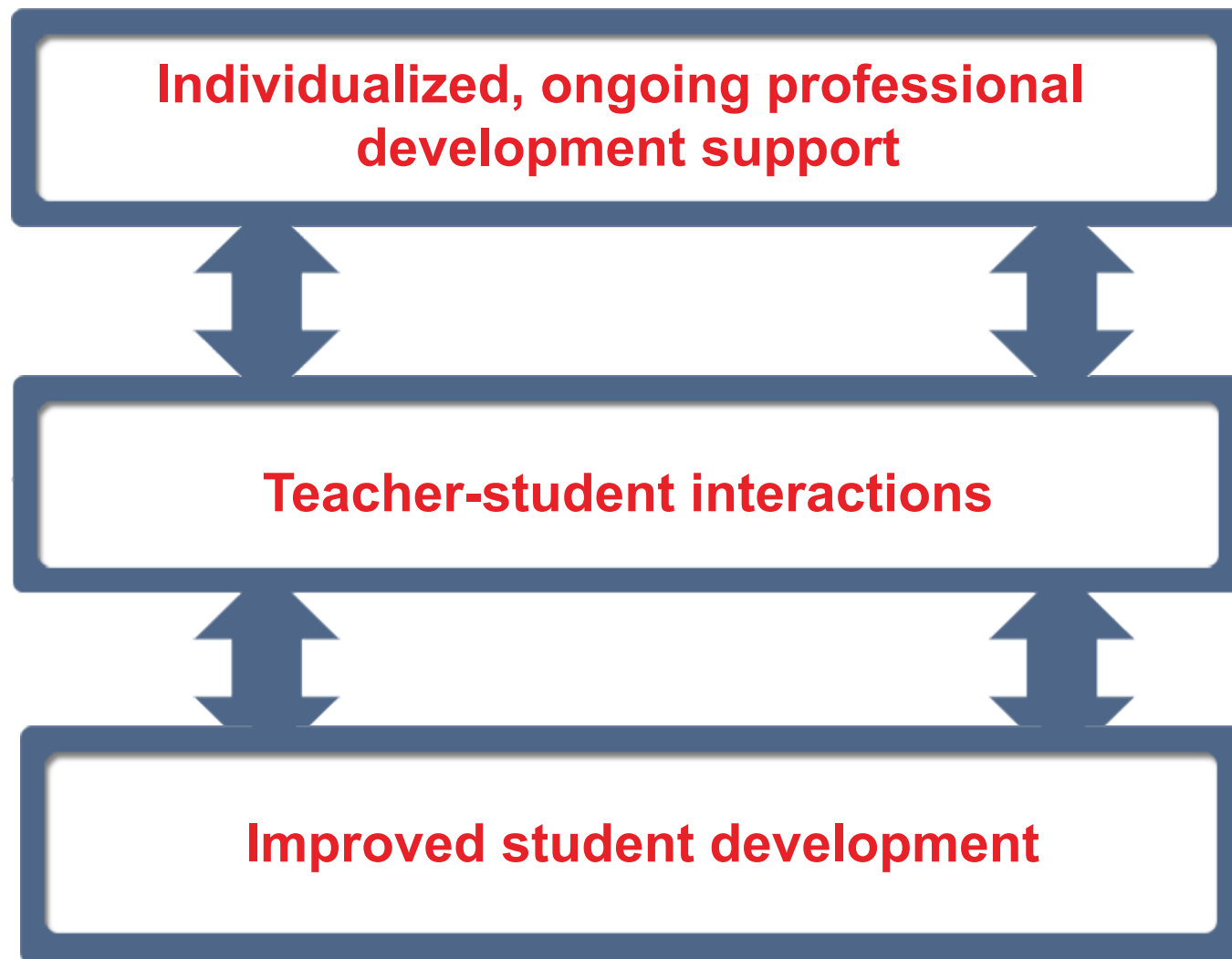
Professional Development Interventions

Coaching



Coursework

All interventions focus on the same goal...



Observation as central

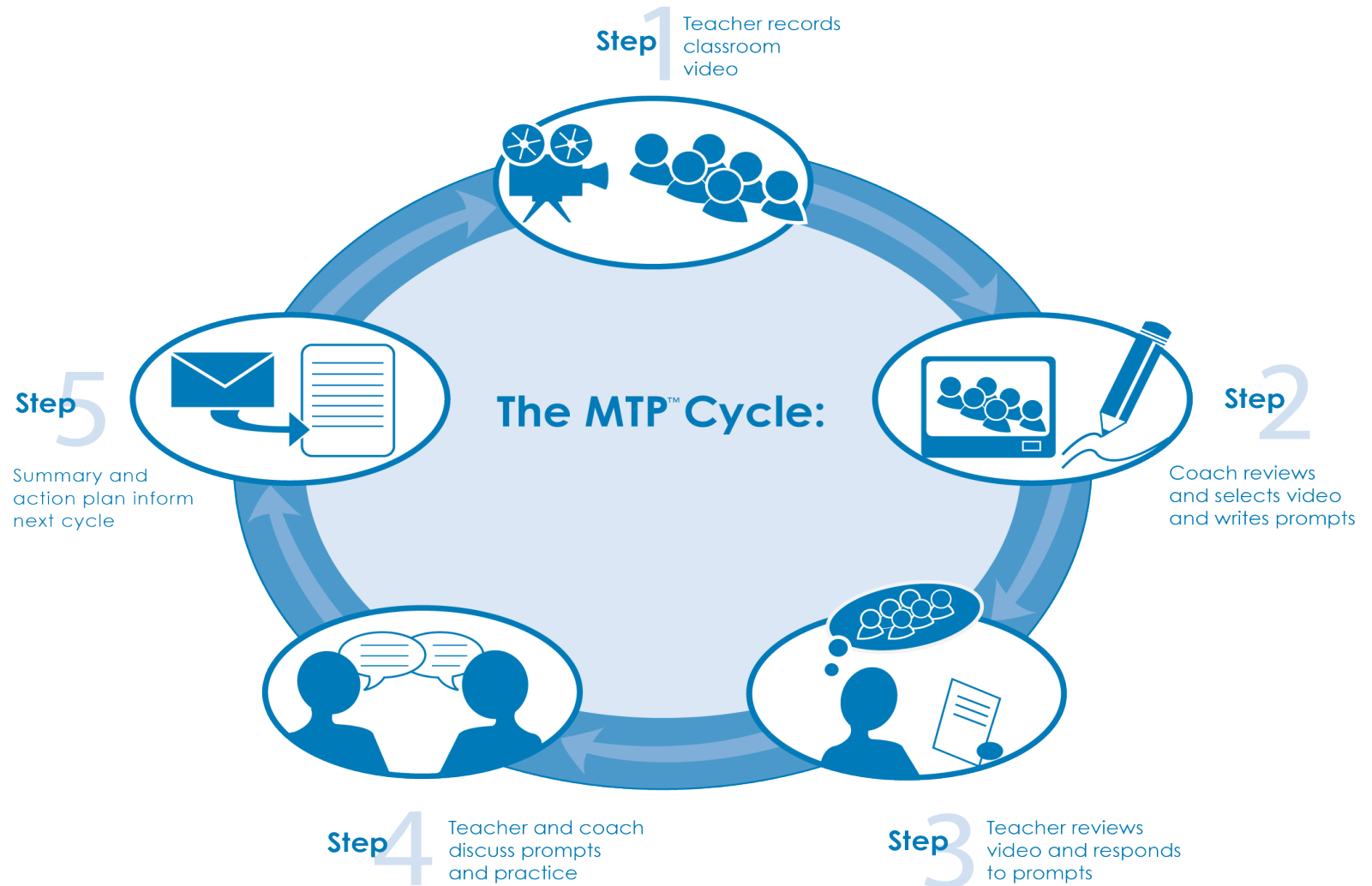
- Provides objective information about teaching practice
- Promotes focus on specific behaviors, rather than generalizations
- Enhances self-awareness about classroom interactions with students
- Improves sensitivity to the subtleties of classroom processes

MTP Coaching

MTP Coaching Goals for Teachers

- Teachers will:
 - Become better **OBSERVERS** of their own practice;
 - Use a standardized lens (the **CLASS**) through which to view their own teaching practice and the practice of others;
 - Have increased feelings of **SELF-EFFICACY** in their interactions with students;
 - Become more effective at **CREATING OPPORTUNITIES** to learn and teach in all the interactions they have with students; and
 - Increase the quality of their **IMPLEMENTATION** of curricula and lessons.

MyTeachingPartner Coaching Cycle



Each Prompt Has a Different Purpose

- **Nice Work**—provides a clear positive example of a teacher's CLASS-based interaction; builds self-observation skills
- **Let's Look**—improves teachers' observation skills; moves toward identifying opportunities for change
- **Making the Most**—enhances instructional support in teacher-student interactions; over time, might push teachers to examine their practice more critically

Respond to Prompt

1. Nice Work

Video:



Dimension:

Quality of Feedback

Prompt:

We decided to focus on the dimension of Quality of Feedback, which is all about how you provide specific feedback that helps children think more deeply and keep working. In this clip, notice how you provide feedback as the children are painting. You give specific feedback when you direct them to look at the shape of the leaves they are painting. You also notice the work one child did making the shapes of the flowers in his painting. All of this feedback is clear and specific, which makes it much more useful than simply saying, "good job" or, "that's pretty." As you watch this clip, tell me what you see in the children's behavior that let's you know your feedback encouraged them to stay focused and keep working.

Your Response:

Not written yet

Respond to Prompt

2. Let's Look

Video:



Dimension:

Quality of Feedback

Prompt:

We are continuing our focus on Quality of Feedback in this clip. In addition to helping children to persist, or keep trying with their work, effective feedback can help children understand what they're doing at a deeper level. Pay careful attention to your interactions with Samuel here. What are two specific examples of your feedback here that is helping Samuel think more deeply and better understand the painting work he is doing?

Your Response:

Not written yet

Respond to Prompt

3. Making the Most

Video:



Dimension:

Concept Development

Prompt:

So far in this lesson, you have really been focusing on helping the children carefully observe their photograph and paint what they see. In this clip, you're taking this painting lesson a step farther when you also integrate some learning about what the children see in one of the photos they're painting. Let's think now about the dimension of Concept Development, or how we help children to think more deeply and move beyond learning basic facts. As you talk with the children in this clip about the Capitol Columns, tell me what you notice yourself doing to help the children connect the columns to their own lives and make them more relevant to the children?

Your Response:

Not written yet

Nice Work Prompt

- As we talked about, let's focus on **Regard for Child Perspectives**. In this clip you hear the children as they notice there is a spider on the floor of the classroom. One part of **Regard for Student Perspectives** is the teacher's flexibility or ability to **go with the flow of the children's interests**. Notice how instead of moving forward with what you had planned, you immediately stop what you were going to do and follow their lead as you put the spider in a cup and prepare to show it to each child. *How do you see the children responding to your flexibility here? How did it feel for you to briefly change your plans and follow the interests of the children?*

Let's Look prompt

- When providing high **Quality Feedback**, the key is to **“push” learning by responding to children in a way that helps them process and understand at a deeper level.** As you look at this clip where you are showing the children the spider, you first ask the children if any of them know how many legs a spider has. You recognize and affirm one child’s response when he says spiders have eight legs. You also ask, “How many of you like spiders?” *As you look back on these two moments, what do you notice about how you are impacting the children’s learning based on their responses to your questions? How else might you have elaborated upon these moments in order to provide a deeper level of feedback?*

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.

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

CLASS Construct List

**** Use pulldown menu to select**

Positive Climate

GO

Teacher Sensitivity



Positive Climate



Regard for Student Perspectives



Behavior Management



Productivity



Concept Development



Instructional Learning Formats



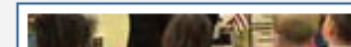
Literacy Focus



Quality of Feedback



Children's Engagement



Language Modeling



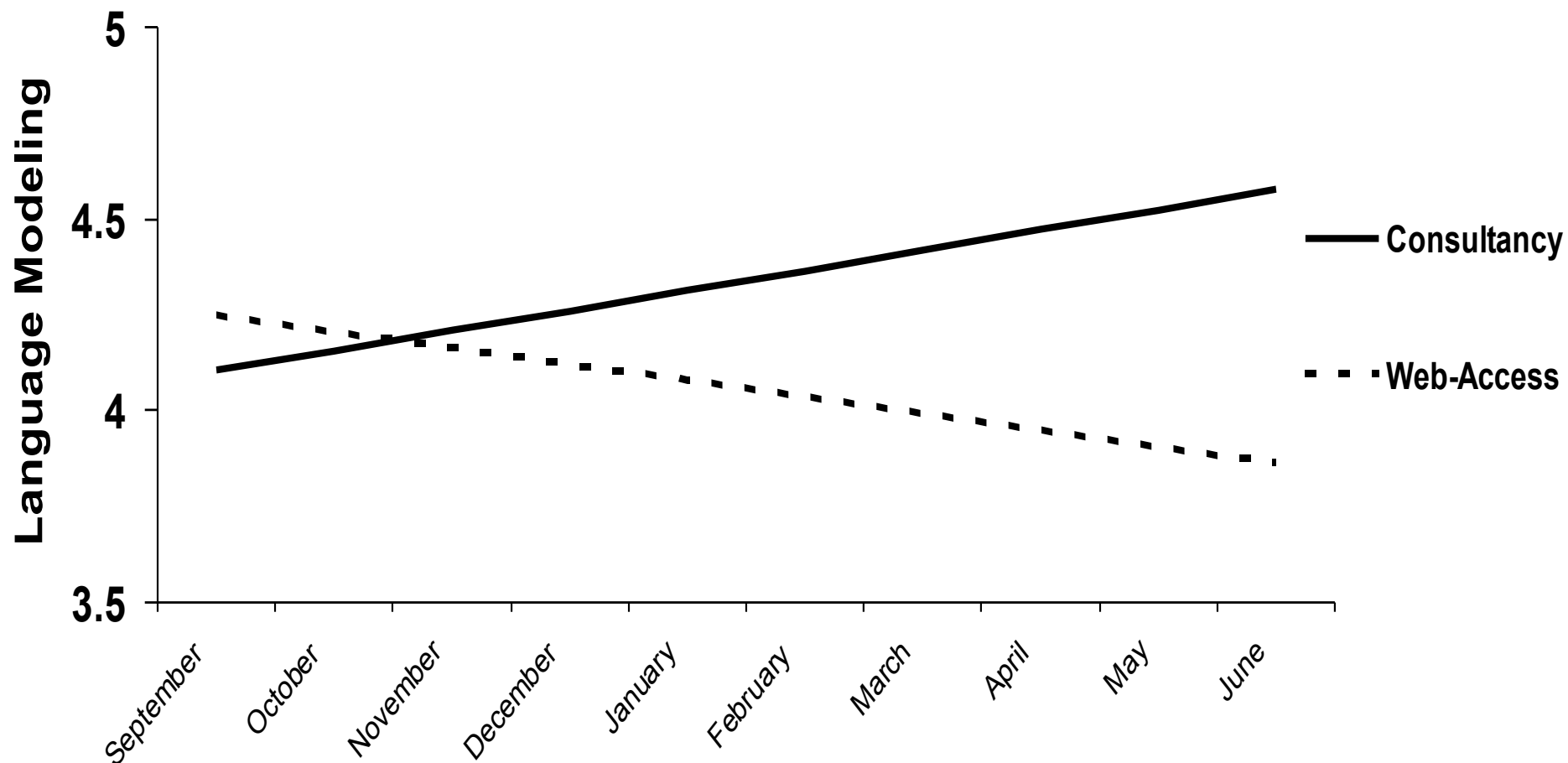
The first studies of MTP coaching

- Teachers improved their interactions as measured by CLASS
- Students with teachers who received coaching made greater gains in academics and social skills



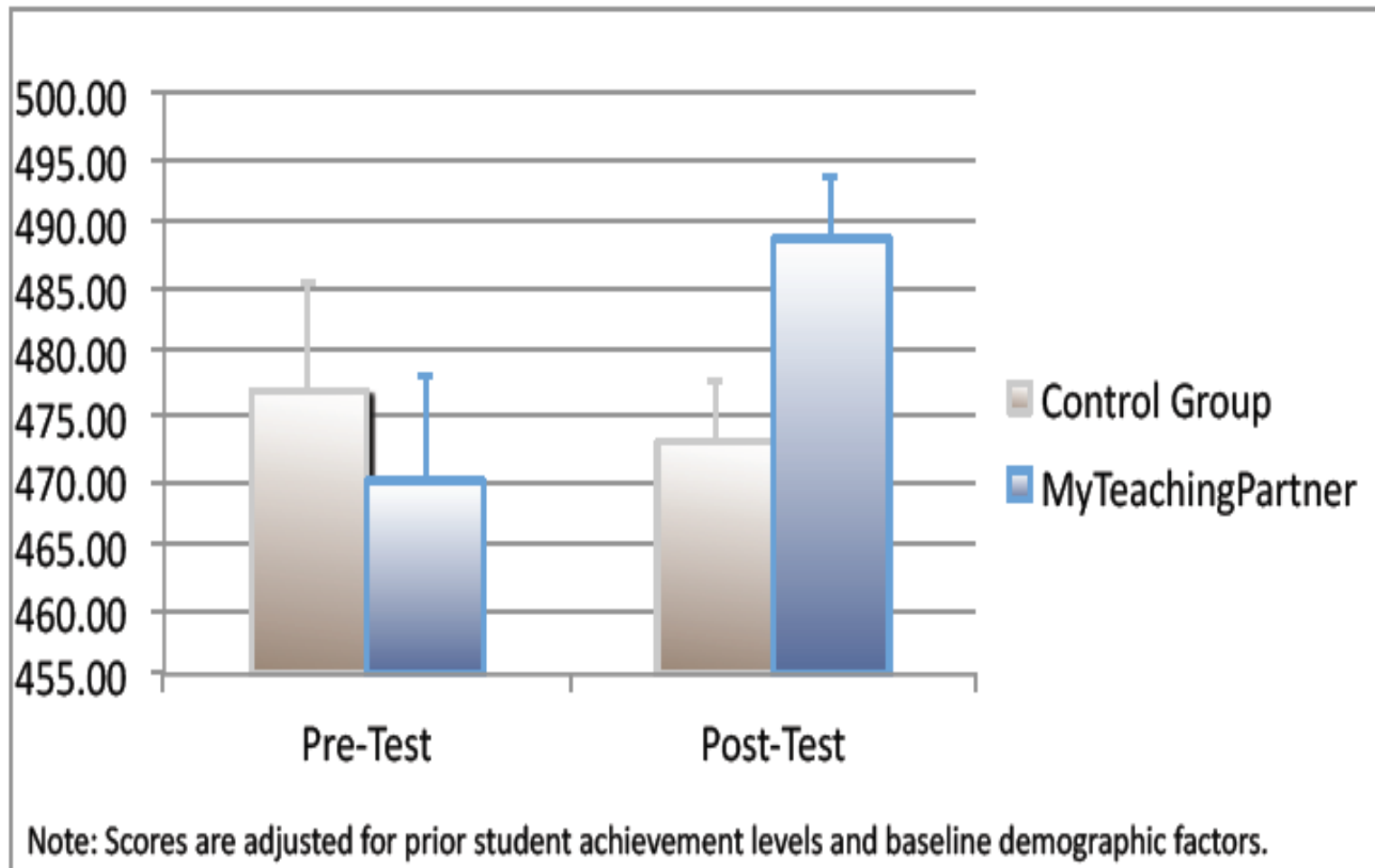
Allen et al., 2011;
Mashburn et al., 2010;
Pianta et al., 2008

Improvements in Language Modeling



Pianta et al., 2008

MTP Impact on Achievement



Lessons Learned & Next Steps

- MTP coaching effective in changing teachers' practice and improving students' development
- Need to scaffold teachers' knowledge of effective interactions – so we designed a course
- Also need to develop ways to train and support others
- National Center for Research on Early Childhood Education (NCRECE) – IES funded center

Coursework

NCRECE Course Objectives

- Describe how teacher-student interactions promote academic and social development and learning
- Describe elements of effective teaching as described by the Classroom Assessment Scoring System (CLASS)
- Observe instructional and social interactions with students using the CLASS framework
- Describe how to implement curricula through effective teacher-student interactions

Integrating and Scaling up

- **NCRECE lessons learned**
 - In person course improved teachers' knowledge and practice (Hamre et al., 2012)
 - Time and resource intensive to maintain fidelity (LoCasale-Crouch et al., 2011)
- **Funded to develop an online course based on NCRECE experiences**
 - Online learning is the new wave of professional development
 - 2-semester online course
 - *Course 1: Supporting Children's **Social, Emotional, and Self-Regulatory** Development through Effective Teacher-Child Interactions*
 - *Course 2: Supporting Young Children's **Thinking and Early Language and Literacy Skills***

Intentional Teaching

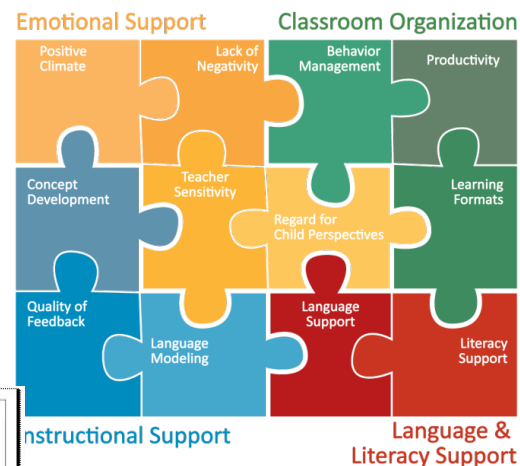


Intentional teaching requires teachers to **know** what to do in each moment, **see** effective teaching in themselves and others, **do/enact** these strategies in the classroom, and **reflect** on what works and what does not.



Know

- Help teachers organize and chunk information, develop efficient schemas to make complicated information more organized and easier to access



What is Learning?

LEARNING

ACQUIRING NEW knowledge behaviors skills

What is Reading?

Concept Development Quality of Feedback Language Modeling

They're not enough to help learn early Language and Literacy skills

All About Positive Climate

Definition of Positive Climate

Positive Climate

Teachers and children...

- Develop warm, supportive relationships with each other
- Enjoy being together and spending time in the classroom
- Are enthusiastic about learning
- Communicate positively with each other
- Interact in a respectful manner

What You Will Learn

The Four Language & Literacy Areas

Vocabulary

Narrative

Print Concepts

Phonological Awareness

Language & Literacy Support



See

- Scaffolding teachers abilities to see specific effective and ineffective elements of practice
- Contextual elements of children's behavior

Activity 2: Children's Behavioral Regulation Continue to part 4

You have already recorded your observations for this exercise.
Please continue to the next portion of this activity.

Let's watch it again

Children's Behavioral Regulation

Your First Impression:

- ☐ Being Playful
- ☒ Acting Aggressively
- ☐ Unaware of how to be behave
- ☐ Having difficulties controlling her anger
- ☐ Missing cues of what to do

This time, I think the girl is:

- ☒ Being Playful
- ☒ Acting Aggressively

Watch each of the three videos of children talking about the word "tail". Which video shows the child with the most breadth and depth for this word? The next? And the least breadth and depth?

Dorian

Senora

Riley



Do

- Once teachers know it and can see it in others they get opportunities to **try it out** in their own classrooms
- Homework assignments require them to **videotape** themselves intentionally working on a **specific element of practice**



Reflect

B

An Effective Moment

Observe

Describe the **effective teaching behaviors** you observed related to:

Regard for Child Perspectives

Because there was no real "lesson" going on at this point in the small group time, I was able to focus individually on the children. The children were actively focused on their apple cutting. They were given the responsibility of cutting and scraping into the community applesauce bowl. There was plenty of time available for conversation about any topic. Jacobi and I are continuing our talk about his trip or possibly trips to Virginia Beach. I was able to really let him take the lead in the conversation and ask him questions to clarify. Children around the table seem to be listening too because Johnny, across from me decides to "tease" by responding to Jacobi's "I like school". Johnny first says "nooooo" then nods his head yes. There is freedom of movement because children are sneaking bites, some tell me they are ready for more, they do their own scraping and would have been able to use the bathroom or blow their nose if necessary. If they had not wanted to cut or to stop that would have been ok too. In previous years some children do get frustrated and they are able to clean up and go look at a book. That was not necessary this time. I have also figured out that you need to use a softer variety of apple so the cutting is not so difficult for children with a plastic knife.



Dimension Help Guide:

Regard for Child Perspectives

Indicators and Behaviors:

PROMOTES AND INCORPORATES CHILDREN'S IDEAS:

Gets children to share ideas and/or perspectives - Follows children's leads

SUPPORT FOR INDEPENDENCE AND LEADERSHIP:

Allows choice - Encourages children to lead - Gives children responsibilities

CHILD FOCUSED

Allows child talk - Allows freedom of movement

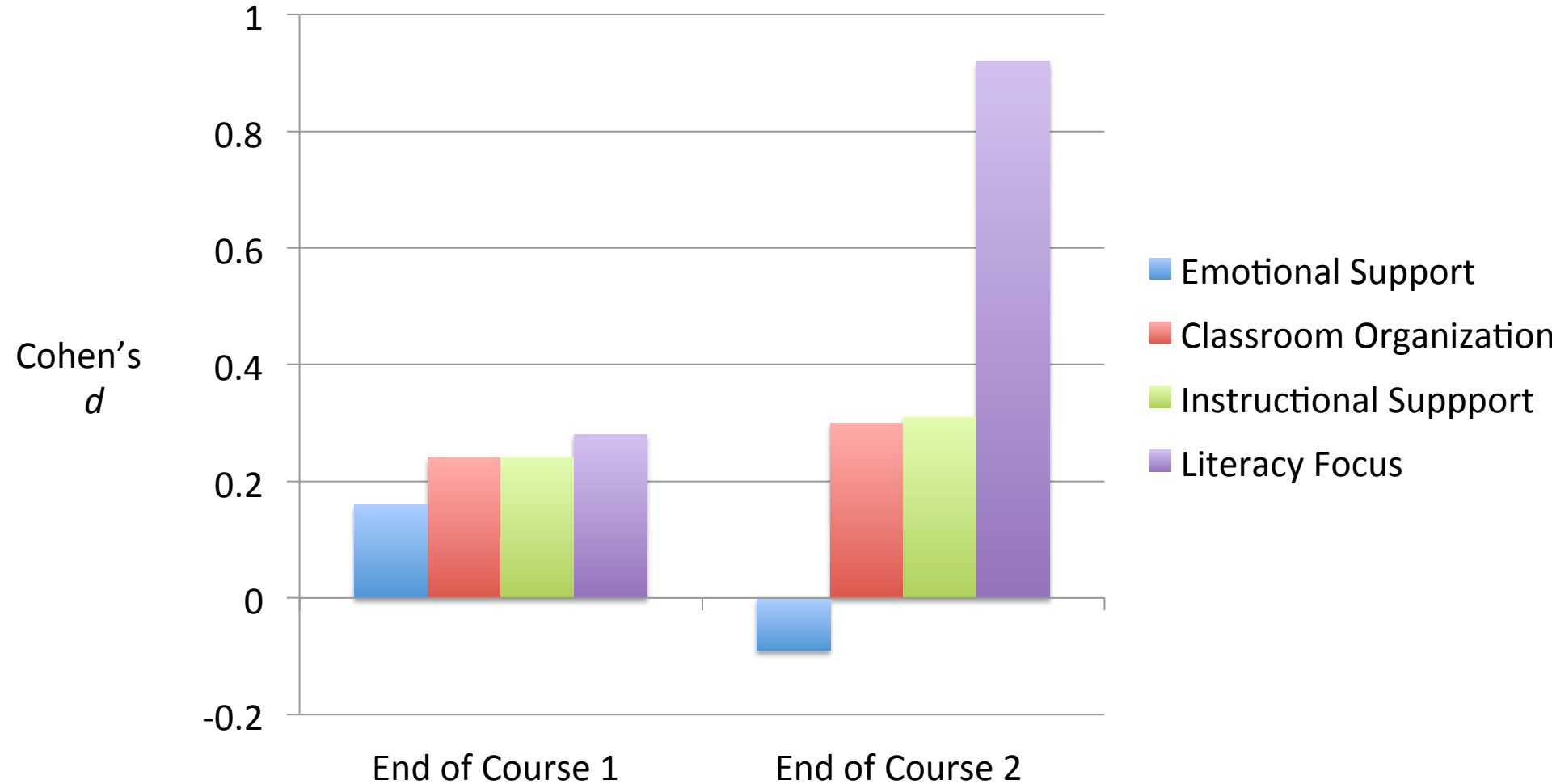
Do teachers like the course and find it useful?

It was very helpful to be able to **view videos of other teachers** interacting with their students. I immediately began to **compare how I interact** and I thought about whether I was doing it enough

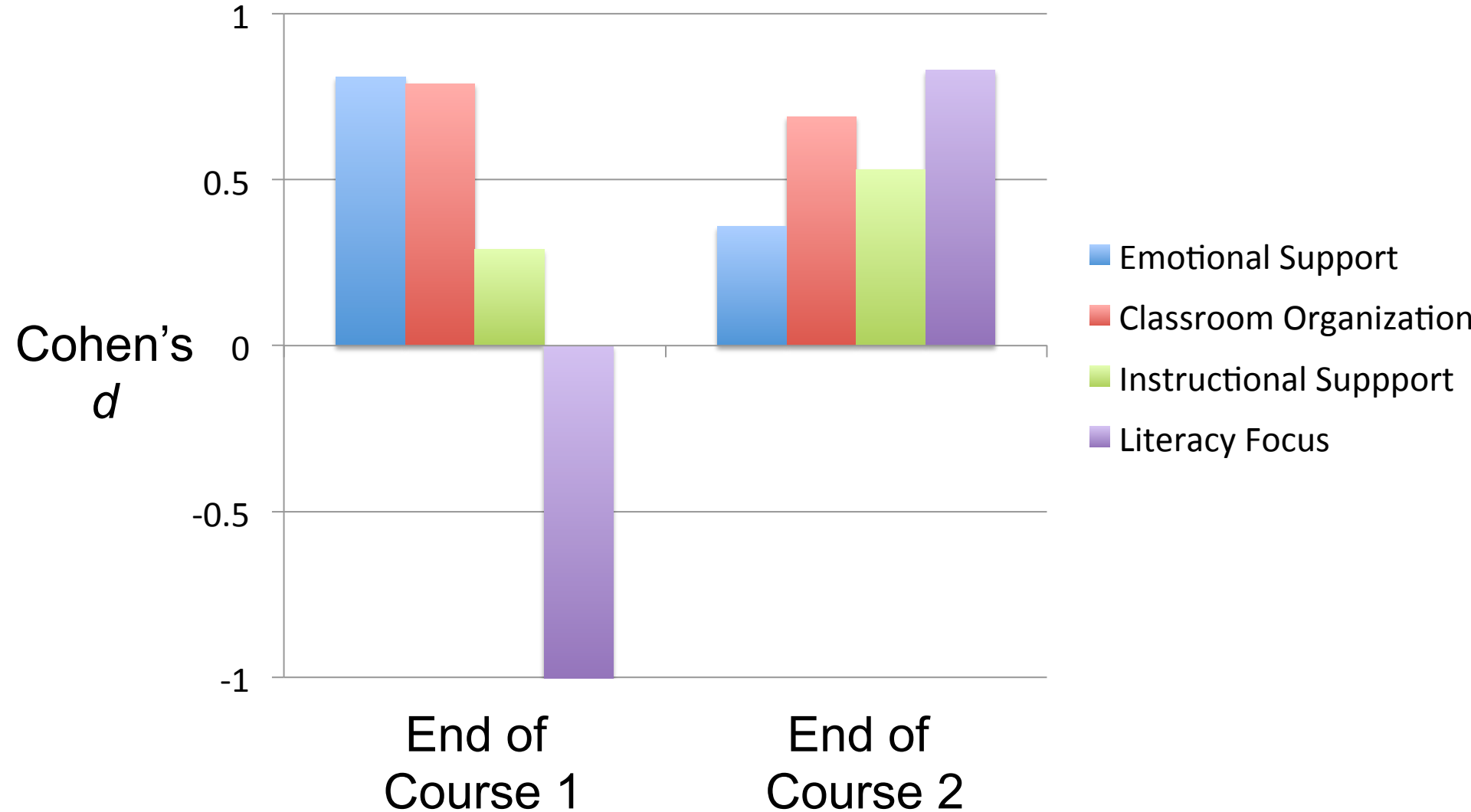
"I was shocked to find out that teachers were not engaging in learning opportunity for children. As a teacher I feel like I am constantly in the world of learning but after reading the articles, **I realized that I was that teacher that instead of offering positive praise I was worried about how the child was brushing the teeth** instead of worrying about how to take this opportunity to turn it into a learning activity.

"A course like this better directs the reflection that I am doing. It makes me **think in specifics**. The poor examples are the most helpful for me. I can watch them and say, "OMG, I have done that!" What can I do to make sure I don't do that. We **get into habits that are hard to break** and being specific in my reflections will hopefully make me more aware so that **I can make changes**. I can also **assess** the good and remember to use that again."

Intervention teachers (mostly) made gains in observed classroom interactions



Conference group vs control





Key take-aways...

- Coursework can change teachers' practice
- Teachers will participate in online learning and find it useful to their practice
- More importantly, these experiences support improved overall classroom interactions
- Literacy practices may be easier to teach with just online content than other areas (including language)
- Scalable, efficient professional development model
- Recently released a version on Coursera
 - Over 23,000 people enrolled from over 100 countries

Implications of our work

■ Focus on teachers' interactions with students

- Observation is doable at-scale
- Connects inputs (investments) and outputs (teacher and student outcomes)

■ Careful attention to reliability and validity

- Need scientific rigor in data gathering protocols, and breadth of outcomes

■ Best when connected with professional development – effectiveness in observation generates varying supports

- Focus on moving instruction “up” the scale

Thank You!!

For more information, please email
jl3d@virginia.edu