

# Measuring and Improving Teacher-Child Interactions in PK-3<sup>rd</sup> Settings to Enhance Children's Learning and Development

*There is now wide-spread acknowledgement that effective social and instructional teaching interactions in early childhood and elementary (PK-3<sup>rd</sup>) classrooms are essential for promoting long-term school success. The Classroom Assessment Scoring System © (CLASS) offers an evidence-based approach to defining and measuring effective interactions in early childhood and elementary classrooms. The CLASS also provides aligned professional development supports to give targeted feedback to programs and teachers, with the overarching goal of improving outcomes for children in PK to 3<sup>rd</sup> classrooms.*

## I. What Constitutes Effective Teacher-Child Interactions in PK-3<sup>rd</sup> Classrooms?

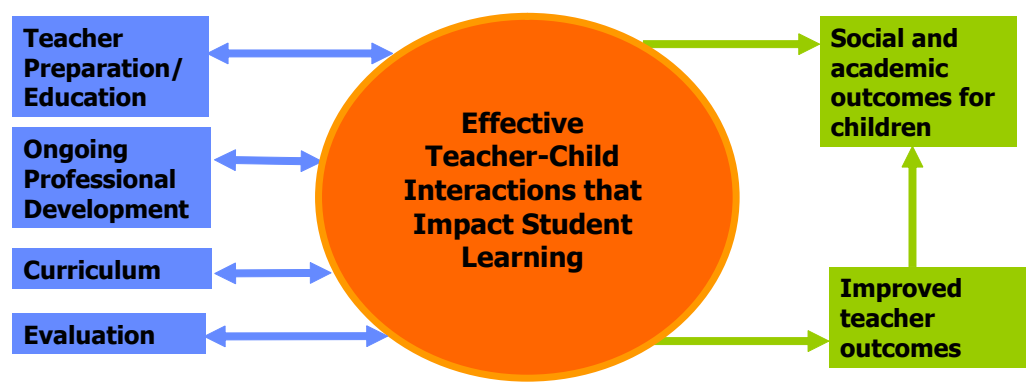
Past attempts at defining and measuring quality in early childhood education have yielded limited results. We now know that many of the more commonly debated regulations intended to improve the quality of classrooms (i.e., class size, teacher education, and credentialing) are not sufficient to ensure that children make academic and social progress.<sup>1,2</sup> Likewise, the implementation of different curricula has done little to improve student achievement because it is teachers' *facilitation* of learning objectives, not simply having the curriculum box on the shelf, that determines whether children benefit from instruction.<sup>3</sup> Consistent evidence suggests that if we want to improve children's academic achievement and social skill development, we need to focus on the use of effective social and instructional teacher-child interactions.<sup>4</sup>

**Effective teacher-child interactions create:**

- **Emotional Support** – Positive relationships among teachers and peers
- **Classroom Organization** – Well managed classrooms that provide children with frequent, engaging learning activities
- **Instructional Support** – Interactions that teach children to think, provide ongoing feedback and support, and facilitate language development

As the figure below illustrates, when we identify and measure effective interactions, we can create opportunities to promote them through teacher education, professional development, and monitoring and evaluation. This will, in turn, lead to enhanced outcomes for children and teachers – children will learn more and teachers become more effective.

### The Role of Effective Interactions in Creating Opportunities to Improve Children's Outcomes



## II. Evidence on Effective Teacher-Child Interactions

*What gets measured gets done.* To improve the effectiveness of teacher-child interactions, we must first know how to assess them. Research provides evidence about the types of teacher-child interactions that promote positive social and academic development. The Classroom Assessment Scoring System © (CLASS) provides a reliable, valid assessment of these interactions.<sup>5</sup> The CLASS assesses 3 broad domains of effective interactions—*Emotional Support, Classroom Organization, and Instructional Support*—that characterize children’s classroom experiences in PK-3<sup>rd</sup> grades. Each domain is comprised of multiple dimensions of effective interactions known to contribute to children’s success in school, such as Teacher Sensitivity, Behavior Management, and Quality of Feedback.

Research conducted in over 2,000 classrooms concludes that from PK-3<sup>rd</sup>, children in classrooms with higher CLASS ratings realize greater gains in achievement and social skill development.

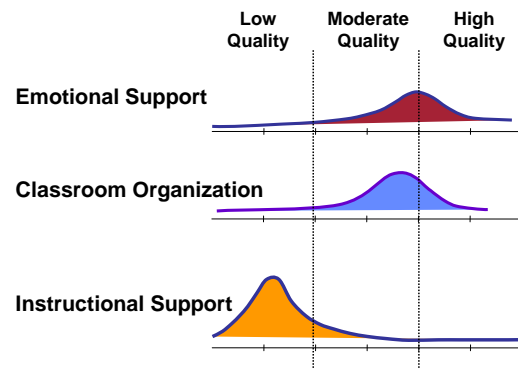
Selected studies demonstrate:

- higher levels of instructional support are related to preschoolers’ gains in pre-reading and math skills;<sup>6</sup>
- high levels of emotional support contribute to preschoolers’ social competence in the kindergarten year;<sup>7</sup>
- high levels of emotional support are associated with growth in reading and math achievement from kindergarten through third grade;<sup>8</sup>
- high levels of classroom organization are associated with gains in first graders’ literacy;<sup>9</sup>
- kindergarten children are more engaged and exhibit greater self-control in classrooms offering more effective teacher child interactions;<sup>10</sup>
- 1<sup>st</sup> grade children at-risk for school failure perform on par with peers, both socially and academically, when exposed to classrooms with effective teacher-child interactions.<sup>11</sup>

In sum, the link between effective interactions and improved social and academic outcomes for children has been replicated in numerous studies across the pre-k and elementary years.

Unfortunately, too few children are exposed to these types of effective interactions in the early grades. The figure below illustrates that across several thousand PK-3<sup>rd</sup> classrooms observed throughout the country, children tend to experience moderate to high levels of effective interactions for emotional support and classroom organization. However, most children attend PK-3<sup>rd</sup> classrooms characterized by very low levels of instructional support.

**Average Ratings of Interactions in PK-3<sup>rd</sup> Classrooms**



In a study of 700 preschool classrooms across 11 states, less than 15% of classrooms were observed to display moderately to highly effective teacher child interactions across all three categories.<sup>12</sup> Moreover, effective interactions are highly variable from year to year. In a study that followed 800 students through elementary school, less than 10% of children had access to classrooms that consistently scored in the mid to upper range for effective interactions.<sup>13</sup> Importantly, children from families with low income and mothers with less education are less likely to experience effective teacher child interactions, relative to middle income peers.<sup>14</sup>

## III. Promoting Effective Teacher-Child Interactions

As policy-makers and program administrators strive to both maximize children’s developmental outcomes and streamline budgets, *evidence-based* monitoring, evaluation, and professional development strategies are gaining prominence. The creators of the CLASS have partnered with federal agencies as well as state departments of education to develop and implement Quality Rating and Improvement Systems in a variety of ways. The CLASS can be used in:

- teacher preparation and education;
- professional development;
- program monitoring; and
- research and evaluation.

The developers of CLASS are creating tools to facilitate use of CLASS across these contexts. *MyTeachingPartner (MTP)* is one example of this work. MTP is aligned with growing evidence suggesting that a collaborative, individualized, and sustained approach to professional development is the most effective strategy for changing classroom practices. MTP provides relevant, interactive, and on-going feedback to teachers through online resources, and web-mediated consultation throughout the school year. Importantly, by using CLASS, MTP focuses teachers’ attention on the very interactions shown to be most effective. Empirical evidence demonstrates teachers participating in MTP engage in more effective interactions with children, especially in classrooms that serve higher proportions of children in poverty.<sup>15</sup>

*(CLASS) “has changed the way I teach in the sense that it has made me more patient and confident...I have become more productive in my lessons, and now it has become easier for me to instruct, maintain good classroom organization, and provide a positive climate.”*

-Pre-kindergarten teacher, after participating in CLASS professional development

Students in these classrooms show enhanced academic and social skill development.

Other professional development programs that incorporate a collaborative, individualized, and sustained approach have produced similar findings. For example, an evaluation of an elementary professional development program that explicitly focuses on teacher-child interactions revealed that teachers who participated in this sustained professional development program were able to improve the effectiveness of their social and instructional interactions with children which, in turn, led to gains in children’s academic achievement and social skill development.<sup>16</sup>

The ability to demonstrate even small changes in effective interactions has practical implications—differences in just over one point on the CLASS seven-point scale translate into improved achievement and social skill development for children. Moreover, children who experience effective interactions for multiple years receive cumulative benefits. For example, children enrolled in classrooms that average just over one point higher on CLASS for two consecutive years score significantly better on several standardized tests of language and literacy than their peers in classrooms with lower CLASS scores.<sup>17</sup>

Investing in supports to help teachers and schools to improve the quality of their interactions with children has the potential to make a difference in our young children’s lives. The CLASS is one tool that can help federal agencies, state departments of education, non-profit organizations, and schools take a step in this direction.

## Endnotes

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<sup>1</sup> For pre-k: Robert Pianta, Carollee Howes, Margaret Burchinal, Richard Clifford, Diane Early et al., “Features of Pre-Kindergarten Programs, Classrooms, and Teachers: Do They Predict Observed Classroom Quality and Child-Teacher Interactions?” *Applied Developmental Science*, 9:3, pages 144-159. For elementary: NICHD ECCRN, “The Relation of Global First Grade Classroom Environment to Structural Classroom Features, Teacher, and Student Behaviors,” *Elementary School Journal*, 102:5, pages 367-387.

<sup>2</sup> Carollee Howes, Margaret Burchinal, Donna Bryant, Diane Early, Richard Clifford, et al., “Ready to Learn? Children’s Pre-Academic Achievement in Pre-Kindergarten Programs,” *Early Childhood Research Quarterly*, 23:1, pages 27-50.

<sup>3</sup> Laura Justice, Bridget Hamre, and Robert Pianta, “Quality of Language and Literacy Instruction in Preschool Classrooms Serving At-Risk Pupils,” *Early Childhood Research Quarterly*, 23, pages 51-68.

<sup>4</sup> Andrew Mashburn, Robert Pianta, Bridget Hamre, Jason Downer, Oscar Barbarin, Donna Bryant, Margaret Burchinal, Richard Clifford, Diane Early, and Carollee Howes, “Measures of Classroom Quality in Pre-Kindergarten and Children’s Development of Academic, Language, and Social Skills,” *Child Development*, 79, pages 732-749.

<sup>5</sup> Karen LaParo, Robert Pianta, and Meghan Stuhlman, “Classroom Assessment Scoring System (CLASS): Findings from the Pre-K Year,” *Elementary School Journal*, 104:5, pages 409-426.

<sup>6</sup> Mashburn, Pianta, Hamre, Downer et al., *Child Development*, 79, pages 732-749.

<sup>7</sup> Timothy Curby, Jennifer Locasale-Crouch, Timothy Konold, Robert Pianta, Carollee Howes, Margaret Burchinal et al., “The Relations of Observed Pre-K Classrooms Quality Profiles to Children’s Academic Achievement and Social Competence,” *Early Education and Development*, 19, pages 643-666.

<sup>8</sup> Robert Pianta, Jay Belsky, Nathan Vandergrift, Renee Houts, Fred Morrison, and NICHD-ECCRN, “Classroom Effects on Children’s Achievement Trajectories in Elementary School,” *American Education Research Journal*, 49, pages 365-397.

<sup>9</sup> Claire Cameron Ponitz, Sara Rimm-Kaufman, Laura Brock, and Lori Nathanson, “Contributions of gender, early school adjustment, and classroom organizational climate to first grade outcomes,” *Elementary School Journal*, in-press.

<sup>10</sup> Sara Rimm-Kaufman, Timothy Curby, Kevin Grimm, Lori Nathanson and Laura Brock, “The Contribution of Children’s Self-Regulation and Classroom Quality to Children’s Adaptive Behavior in Kindergarten,” *Developmental Psychology*, in-press. See also NICHD ECCRN, “A Day in Third Grade: A Large-Scale Study of Classroom Quality and Teacher and Student Behavior,” *Elementary School Journal*, 105, pages 305-323.

<sup>11</sup> Bridget Hamre and Robert Pianta, “Can Instructional and Emotional Support in First Grade Classrooms Make a Difference for Children At Risk of School Failure?” *Child Development*, 76, pages 949-967.

<sup>12</sup> Jennifer Locasale-Crouch, Timothy Konold, Robert Pianta, Carollee Howes, Margaret Burchinal, Donna Bryant, Richard Clifford, Diane Early, and Oscar Barbarin, “Observed Classroom Quality Profiles in State-Funded Pre-Kindergarten Programs and Associations with Teacher, Program, and Classroom Characteristics,” *Early Childhood Research Quarterly*, 22:1, pages 3-17.

<sup>13</sup> Robert Pianta, Jay Belsky, Renee Houts, Fred Morrison, and NICHD-ECCRN, “Opportunities to Learn in America’s Elementary Classrooms,” *Science*, 315, pages 1795-1796.

<sup>14</sup> Pianta, Belsky, Houts, and Morrison, *Science*, 315, pages 1795-1796.

<sup>15</sup> Robert Pianta, Andrew Mashburn, Jason Downer, Bridget Hamre, and Laura Justice, “Effects of Web-Mediated Professional Development Resources on Teacher-Child Interactions in Pre-Kindergarten Classrooms,” *Early Childhood Research Quarterly*, 23:4, pages 431-451.

<sup>16</sup> For an overview: Sara Rimm-Kaufman, “Social and Academic Learning Study on the Contribution of the *Responsive Classroom* Approach” at [http://www.responsiveclassroom.org/pdf\\_files/sals\\_booklet\\_rc.pdf](http://www.responsiveclassroom.org/pdf_files/sals_booklet_rc.pdf)

<sup>17</sup> Anne Henry, “The Power of Two: The Impact of Experiencing Two Years of High Quality Classrooms”, *Manuscript in preparation*, University of Virginia.