

Effective interactions between teachers and students are essential for promoting long-term school success across grades preK-12. The Classroom Assessment Scoring System™ (CLASS) offers an evidence-based approach to defining and measuring effective interactions in school classrooms. The CLASS also provides aligned professional development supports—called MyTeachingPartner™—to give targeted feedback to districts, schools, and teachers, with the overarching goal of improving outcomes for students.

I. What Constitutes Effective Teacher-Student Interactions?

Past attempts at defining and measuring quality in education have yielded limited results. We now know that many of the more commonly debated regulations intended to improve the impacts of classrooms (i.e., class size, teacher education, and credentialing) are not sufficient to ensure that students make academic and social progress.^{1,2} 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 students benefit from instruction.³ Consistent evidence suggests that to improve students' academic achievement and social skill development, we need to focus on the nature and quality of teacher-student interactions.⁴

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

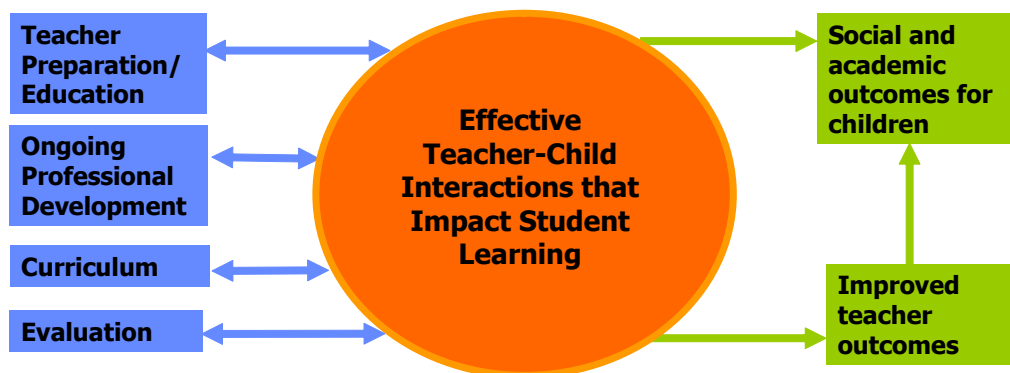
Effective teacher-student interactions create:

Emotional Support – Positive relationships among teachers and peers

Classroom Organization – Well-managed classrooms that provide students with frequent, engaging learning activities

Instructional Support – Interactions that teach students to think, provide ongoing feedback and support, and facilitate language and vocabulary

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



II. Evidence on Effective Teacher-Student Interactions: PK-5

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

Research conducted in over 6,000 classrooms concludes that in grades PK-5, students in classrooms with higher CLASS ratings realize greater gains in achievement and social skill development.

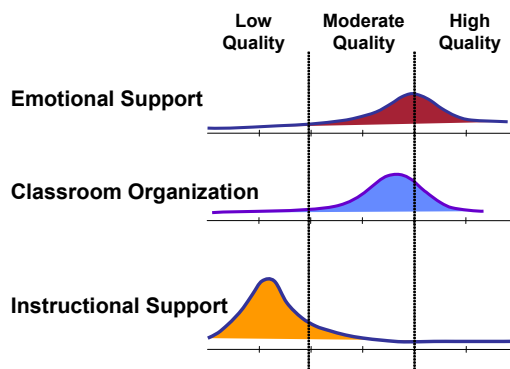
Selected studies demonstrate:

- Higher levels of instructional support are related to preschoolers' gains in pre-reading and math skills.⁶
- High levels of emotional support contribute to preschoolers' social competence in the kindergarten year.⁷
- High levels of emotional support are associated with growth in reading and math achievement from kindergarten through fifth grade.⁸
- High levels of classroom organization are associated with gains in first graders' literacy.⁹
- Kindergarten children are more engaged and exhibit greater self-control in classrooms offering more effective teacher-child interactions.¹⁰
- First-grade children at risk for school failure perform on par with peers, both socially and academically, when exposed to classrooms with effective teacher-student interactions.¹¹

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

Unfortunately, too few students are exposed to these types of effective interactions in the early grades. The following figure illustrates that across several thousand PK-5 classrooms observed throughout the country, students tend to experience moderate to high levels of effective interactions for emotional support and classroom organization. However, most students attend PK-5 classrooms characterized by very low levels of instructional support.

Average Ratings of Interactions in PK-5 Classrooms



In a study of 700 preschool classrooms across 11 states, fewer than 15% of classrooms were observed to display moderately to highly effective teacher-student interactions across all three categories.¹² Moreover, effective interactions are highly variable from year to year. In a study that followed 1,000 students through elementary school, less than 10% of students had access to classrooms that consistently scored in the mid to upper range for effective interactions.¹³ Importantly, students from families with low income and mothers with less education are less likely to experience effective teacher-student interactions, relative to middle income peers.¹⁴

III. Teacher-Student Interactions in Secondary Classrooms

Adolescents in middle school and high school characterize their interactions with teachers as frequently unsatisfying and unmotivating. They report that their experiences in the classroom lack meaningful challenges, supportive relationships, and competence- and motivation-building experiences. Yet, engagement and intrinsic motivation are pivotal in adolescence, as these students have the means to not only withdraw energy from educational pursuits but to drop out altogether. Engagement in school begins to decline early in adolescence, and by entry into high school this decline is so pronounced that half of high school students report that they do not take their school or their studies seriously.

Studies of large-scale testing programs indicate that teachers are the greatest source of variation in what students learn in school. The CLASS™-Secondary version observation tool captures aspects of classroom interactions researchers believe to be critical resources for educational achievement in adolescence. The rating scales have been modified to reflect issues specific to adolescent learning.

Research using the CLASS-S has shown that teachers' skills in establishing a positive emotional climate, their sensitivity to student needs, and their structuring of their classroom and lessons in ways that recognize adolescents' needs for a sense of autonomy and control, for an active role in their learning, and for opportunities for peer interaction were all associated with higher relative student gains in achievement.¹⁵

For example, an average student with a teacher whose interactions scored 1 standard deviation below the mean in Emotional Support would on average place in the 41st percentile in end-of-year tests. The same student with a teacher whose interactions scored 1 standard deviation above the mean in Emotional Support would on average place in the 59th percentile in end-of-year tests.

Similarly, use of instructional learning formats that encouraged active participation by students and that provided variety in classroom approaches was also predictive of relative gains in student achievement, as were lessons that required high levels of analysis and problem-solving by students.

Overall, the interactions most linked to future achievement seem to cluster around an emphasis on tailoring a classroom experience to be most emotionally and intellectually engaging to adolescents. These classroom characteristics can result in achievement test performance gains for the average student from the 35th to the 60th percentile.

IV. Professional Development through MyTeachingPartner™

The MyTeachingPartner™ video library and coaching program developed through the Center for Advanced Study of Teaching and Learning provides teachers effective, evidence-based teaching tools that improve their interactions with students across all grades level PK-12.

The MyTeachingPartner coaching program is a partnership between the consultant and the teacher, a collaboration that focuses on the teacher-student interactions that matter most for learning, whether during "center time" in preschool or a language arts lesson in the tenth grade.

MTP provides targeted, ongoing video feedback to teachers through online resources, and web-mediated consultation throughout the school year. MTP uses the CLASS observation

tool to focus teachers' attention on the very interactions shown to be most effective for student learning. The MTP program is different from typical classroom assessment that involve lists of things teachers should change or do better. Instead, it is a set of aligned resources: web-based videos of best practices, video-based feedback and support from a trained consultant, and online activities.

Empirical evidence from experimental evaluations demonstrates that teachers participating in MTP coaching engage in more effective interactions with students, especially in classrooms that serve higher proportions of students in poverty.¹⁶ Preschool teachers have been shown to behave more sensitively, increase students' attention to learning, improve language stimulation to students and teach more effectively. Students in these classrooms show enhanced academic and social skill development.¹⁸ Preschool children with MTP teachers make greater gains in tests of early literacy and expressive language, show much

greater attention to learning, engage in lower levels of problem behavior, and are more school ready.

The ability to demonstrate even small changes in effective interactions has practical implications—differences in just over 1 point on the CLASS 7-point scales translate into improved achievement and social skill development for students.

Moreover, students who experience effective interactions for multiple years receive cumulative benefits. For example, students enrolled in classrooms that average just over 1 point higher on CLASS for two consecutive years score significantly better on several standardized tests of language and literacy than did their peers in classrooms with lower CLASS scores.¹⁹

In another experiment, secondary students (grades 6-12) with teachers who had participated in MTP consulting on average scored in the 59th percentile on end-of-year achievement tests, while students whose teachers did not participate scored below the 50th percentile. Secondary teachers, regardless of the content area they taught, improved their instruction, while students' motivation, effort, and engagement improved as well.

Investing in supports to help teachers and schools improve the quality of their interactions with students has the potential to make a difference in students' lives. Both the CLASS observation tool and the MTP coaching program can help federal agencies, state departments of education, nonprofit organizations, and schools take a step in this direction.

[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

Endnotes

- ¹Robert 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.
- ²Elementary School Journal, 102:5, pages 367-387.
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.
- ³Laura 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.
- ⁴Andrew 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.
- ⁵Karen 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.
- ⁶Mashburn, Pianta, Hamre, Downer et al., *Child Development*, 79, pages 732-749.
- ⁷Timothy 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.
- ⁸Robert 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.
- ⁹Claire 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.
- ¹⁰Sara 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.
- ¹¹Bridget 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.
- ¹²Jennifer 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.
- ¹³Robert Pianta, Jay Belsky, Renee Houts, Fred Morrison, and NICHD-ECCRN, "Opportunities to Learn in America's Elementary Classrooms," *Science*, 315, pages 1795-1796.
- ¹⁴Pianta, Belsky, Houts, and Morrison, *Science*, 315, pages 1795-1796.
- ¹⁵Joseph P. Allen, Anne Gregory, Amori Mikami, Janetta Lun, Bridget Hamre, and Robert C. Pianta, "Observations of Effective Teaching in Secondary School Classrooms: Predicting Student Achievement with the CLASS-S." Submitted.
- ¹⁶Robert 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.
- ¹⁷For 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
- ¹⁸Anne Henry, "The Power of Two: The Impact of Experiencing Two Years of High Quality Classrooms," Manuscript in preparation, University of Virginia.
- ¹⁹Joseph P. Allen, Robert C. Pianta, Anne Gregory, Amori Mikami, and Janetta Lun, "Professional Development Focused on Teachers' Interactions Increases Achievement Outcomes in Secondary School Classrooms." Submitted.