CLASS® System
Implementation Guide

Aligned improvement solutions

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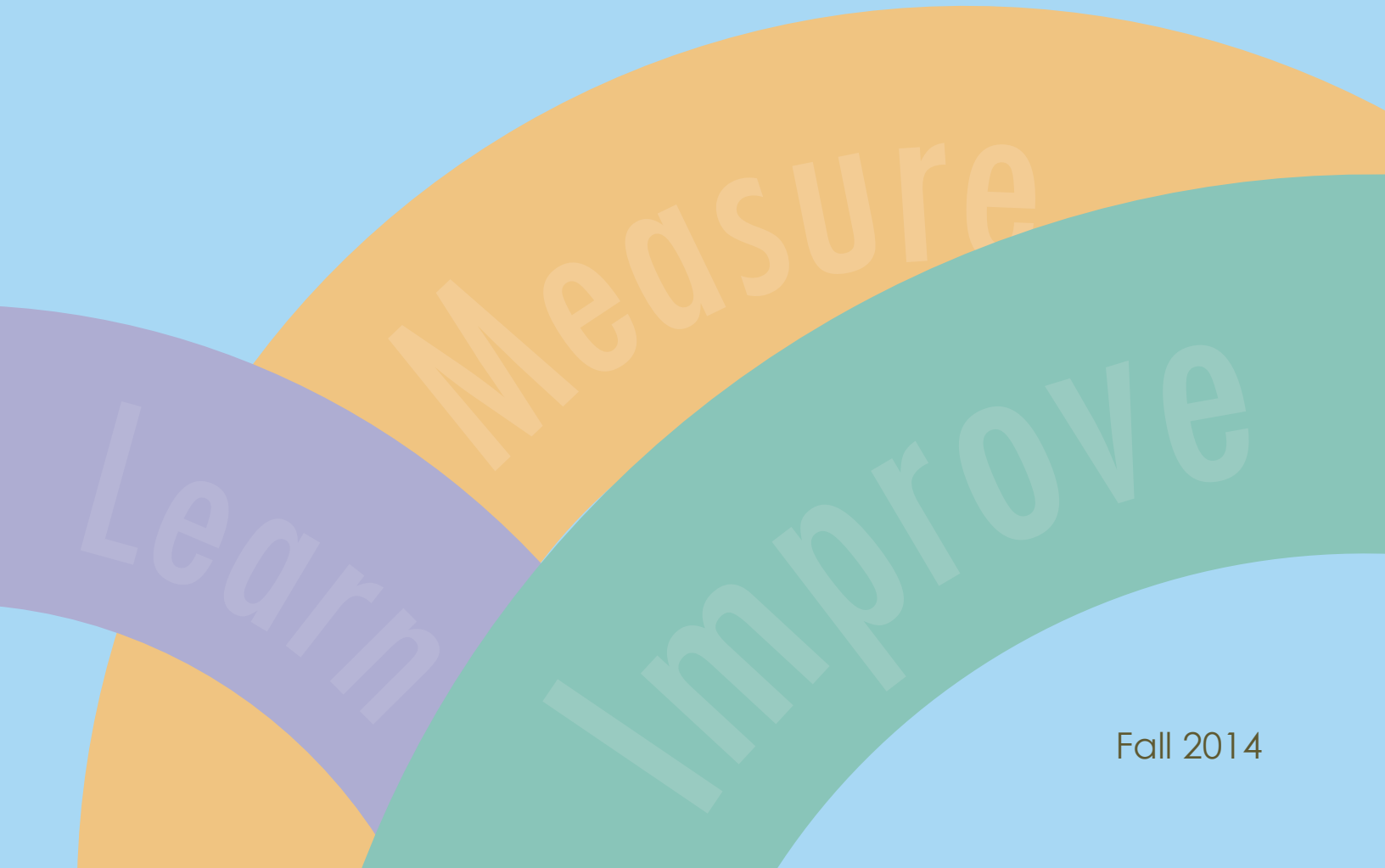

Fall 2014

CLASS® System
Implementation Guide

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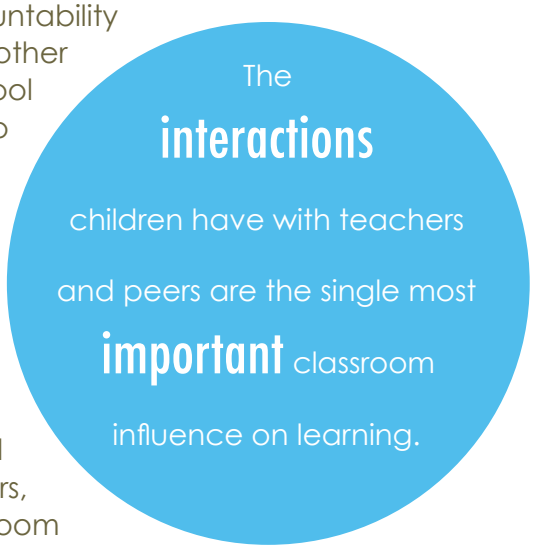
Introduction

Classrooms are complicated places. Arriving from home, children bring a range of prior knowledge, self-regulatory skills, and interest in learning. Teachers and assistants also bring a range of characteristics—education levels, energy levels, and ideas about what childhood is and how children learn. Outside of the classroom, there are strong influences on instruction, including educational philosophy, curriculum, learning standards, accountability pressures, and the culture of the school or center. There are other critical factors as well: parent involvement, family resources, school resources, neighborhood factors, state policies—the list could go on and on.



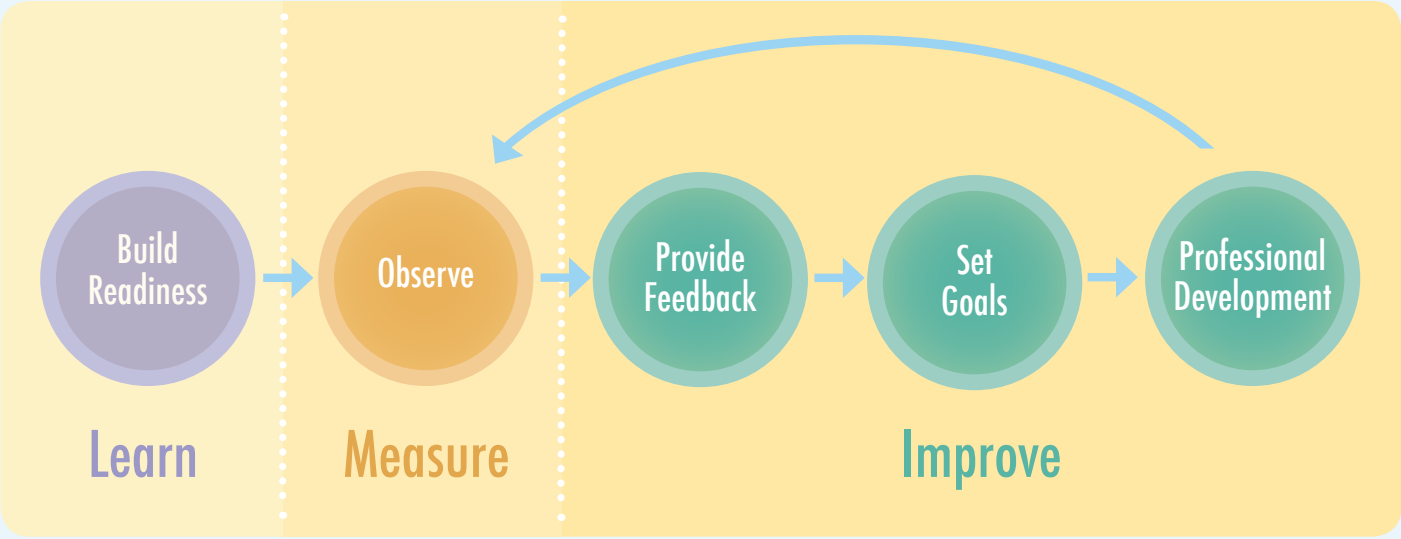
Despite all of this complexity, the interactions children have with teachers and peers are the single most important classroom influence on learning. More than 20 years after researchers began looking inside preschool classrooms to understand what matters most for children, teacher-child interactions have consistently emerged as a key factor. In fact, in preschool classrooms, teacher-child interactions predict social and academic outcomes beyond other common quality indicators, including teacher-child ratio, teacher education, and classroom materials.[1]

The Classroom Assessment Scoring System® (CLASS®) observation measures were developed to accurately capture the interactions most closely linked to academic, social, and self-regulatory development in young children and students from birth through secondary school. Because the CLASS measures define effective interactions in specific, behavioral terms, they also serve as an actionable foundation for teacher professional development. Research from preschool through secondary age levels has consistently shown that CLASS scores are associated with child outcomes across developmental domains, underscoring their importance in promoting children's academic and personal well-being.[2,3] Research on CLASS-based professional development has further demonstrated that teachers can improve their interactions and that those improvements lead to gains in child outcomes.[4]

The purpose of this *CLASS System Implementation Guide* is to help states, counties, districts, and programs understand how to use the CLASS system to observe and improve teacher-child interactions. In it, we answer some of the common questions we receive and give CLASS users the information they need to make decisions specific to their needs. You can use this resource along with information on the Teachstone® website (www.teachstone.com) to plan for meaningful improvements to teacher-child interactions.

Theory of Change

A theory of change outlines a process meant to bring about a desired outcome, describing all of the steps that need to take place in order to reach that outcome.[5] Teachstone's theory of change is based on social science and education research and is centered on the goal of increasing effective teacher-child interactions.



Learn: Theory and research on behavior change demonstrate that individuals' buy-in and readiness affect how successful an intervention will be and what messages will most motivate them to change.[6] Teachers who are ready to change both see that there is a need for change and feel capable of making that change with support.

*Help teachers **get ready** to change by ensuring they understand (1) how more effective interactions lead to real improvements in children's experiences and outcomes, (2) what those effective interactions look like, and (3) that they are capable of improving their interactions with children. Come back to these messages throughout the change process to keep motivation and engagement high.*

Measure: Measurement is most effective at promoting growth when it is objective and conducted by a trustworthy source.

*Conduct reliable, objective **observations** using Certified CLASS® Observers.*

Improve: Feedback should build on strengths but must also include constructive information on areas for growth that can inform goal setting and lead to meaningful professional development.[7,8] Studies have shown that various forms of professional development can be effective, provided that they are intense, ongoing, and closely tied to teachers' goals.[9]

*Provide teachers with specific, behavioral **feedback** based on observations, and use that feedback to set actionable goals for growth. Give teachers opportunities for **professional development**—including coursework, coaching, and group learning opportunities—that are sufficiently intense and focused on meeting their goals.*

Sustain: To maintain gains and promote ongoing growth, continue to build a culture of effective interactions that supports and reinforces teachers' work with children.

*Provide teachers with ongoing feedback on their interactions, create new goals as skills are mastered, and provide **continuous opportunities for growth**.*

Figure 1. Teachstone's theory of change

Individual Teacher Change

Improving teacher-child interactions can be a challenge. Interactions with children are deeply rooted and are happening all day as teachers work. Creating lasting change requires that teachers not only learn new skills but also re-examine their moment-to-moment interactions and understand the power and importance that these interactions have.

We suggest that creating change in interactions requires that teachers first be ready to change and then get ongoing feedback and support as they understand and implement more effective interactions. Figure 1 and the explanation below illustrate how teachers can improve their interactions through this change process.

Change within an Organization

A similar theory of change can be applied to the organizational level, with the goal of creating a culture that supports and encourages effective interactions. Change leaders must first evaluate the readiness to change within their organization; where readiness lags, they should start by helping staff both understand the importance of effective interactions and see how change efforts will lead to improvements. Measuring interactions can help leaders set goals for improvement across the organization, and improvement efforts should include leadership development to support teachers in improving their interactions with children.

In addition, leadership is responsible for building the structural capacity to change. This includes hiring personnel as observers and professional development providers, investing in training, protecting staff members' time for this work, and ensuring that systems are in place to support a successful implementation.

Planning for Long-Term Capacity

To create lasting improvements in teacher-child interactions, it can be helpful to think through a long-term strategy for building capacity within your organization. We recommend you consider the following aspects as you plan:

- **Building readiness within the organization**

  As stated above, it is critically important to build widespread readiness and buy-in for any new project, including a project focused on teacher-child interactions. Analyze your organizational readiness to change and build buy-in for change by introducing teachers and other staff to the importance of teacher-child interactions. Help leaders understand that new projects are always rocky at the beginning but do stabilize over time. Make sure that leaders understand the overarching goals of the project, how each part of the project will help meet those goals, how different parts of the project will roll out, and how they can help support teachers and reinforce effective interactions. At the same time, build buy-in and consensus among teachers by introducing them to effective teacher-child interactions.

When should you do a pilot test?

We strongly recommend that large organizations do a pilot test before launching a program at scale. Pilot testing involves doing a trial run of a new program to test out teacher receptivity as well as the infrastructure and personnel needed for success. Pilot tests can help program staff uncover and overcome obstacles so that implementation runs more smoothly when the full project begins.

- **Building capacity**

  Think through capacity with both a top-down and a bottom-up approach. Starting with a top-down view, what structures within the organization can be leveraged in support of better teacher-child interactions? You may have a core group of professional development providers or training and technical assistants that you can train to be CLASS specialists. These specialists can become certified observers, hold feedback sessions with teachers, and provide professional development around CLASS concepts. If you do not have designated professional development providers, you may be able to work with principals, supervisors, site directors, or master teachers.

  Looking at it from the bottom up, what will teachers' experiences be like? Remember that teachers will need support and reinforcement to improve their interactions. Are the structures in place adequate to support teachers? Where will a teacher go if she has a question about improving her interactions? Who will check in periodically to ensure she is on track? Evaluating your capacity from both perspectives will help ensure that the groundwork is laid for lasting change.

- **Expanding and maintaining capacity**

  Once the initial project is underway, there are several ways to expand your capacity to improve and sustain teacher-child interactions. You may incorporate additional age levels of the CLASS tool or train staff to deliver different types of professional development. If you initially trained supervisory or professional development staff, you may expand capacity by training master teachers to support their colleagues. Give some thought, too, to how new staff members will be introduced to teacher-child interactions by developing an onboarding process. Planning for these next steps will support an ongoing focus on effective teacher-child interactions within the organization.

Research on Teacher-Child Interactions

The Importance of Relationships: Interactions Matter!

Veteran educators have long understood the critical role that relationships play in the growth and development of children. They know that children learn within the context of their relationships with adults and that strong relationships are built on the day-to-day and moment-to-moment interactions that teachers have with children. Despite the importance of these relationships and interactions, classrooms have traditionally been assessed using tools that examine features that are not directly related to teacher-child interactions. Often referred to as structural features, these include easily quantifiable information such as student-teacher ratio, materials in the classroom, state or local

standards, or the curriculum in use. While structural features provide an important platform for learning, they are not sufficient for promoting children's growth. Rather, research indicates the importance of looking at what happens inside the classroom when making a determination about classroom quality. Instead of looking at structural features, observers should look at process features of the classroom—how the teacher implements the curriculum, how the teacher interacts with the students, or how the teacher uses the materials to increase the students' interest in an activity or lesson.[10]

Instead of looking at structural features, **CLASS observers** look at **processes**.

A review of the literature on classroom processes suggests that there are three broad types of interactions that should be considered when defining the quality of educational settings: (1) interactions that promote children's social and emotional functioning, (2) interactions that help manage children's behavior, time, and attention in the classroom, and 3) interactions that promote higher-order thinking and language skills.[11] Research from several large-scale studies demonstrates that these types of interactions are key aspects of classroom environments that contribute directly to children's learning and developmental gains.[12]

The CLASS® measure is a research-proven observation tool that assesses the effectiveness of teacher-child interactions,[13] providing a standard lens for measuring interactions in the classroom. It is widely used across the United States to study, monitor, and improve interactions, and it is gaining an international audience as well.

The Research Behind the CLASS Measure

The CLASS measure was developed out of two major national studies of early education and children's development. The first, the National Institute of Child Health and Human Development Study of Early Care and Youth Development (NICHD SECCYD), was a longitudinal study that examined children's experiences in preschool and elementary school classrooms across the United States.[14] One of the goals of the study was to develop a reliable observation system that measured the complex interpersonal processes in preschool and elementary classrooms. Researchers observed approximately 1,000 children in preschool or child-care settings at 54 months of age and then again in their first- and third-grade classrooms, using the Classroom Observation System (COS, a precursor to the current CLASS observation tool) to measure the effectiveness of the emotional and instructional interactions the teachers had with children in their classrooms. In addition, researchers assessed children's social and academic development using a standardized battery of tests.

Small differences in **interactions** are associated with real differences in children's **outcomes**.[18]

The second study was conducted by the National Center for Early Development and Learning (NCEDL), which examined the quality of publicly funded preschool programs.[15] Researchers revised the COS to create the first version of the CLASS observation tool and used it to measure teacher-student interactions in nearly 700 state-funded preschool programs across 11 states. Just as with the NICHD study, researchers observed the quality of the classroom interactions and assessed the academic and social development of randomly selected children who attended these programs.

The findings from these and subsequent studies demonstrate the

importance of teacher-child interactions in the classroom. Specifically, the research shows the following:

- Effective teacher-child interactions lead to better child cognitive, behavioral, and social outcomes.[16]
- Many pre-K classrooms have low or moderate levels of interactions, suggesting that many children in early childhood programs are not consistently exposed to the types of effective interactions that lead to social and academic gains.[17]
- Small differences in teacher-child interactions are associated with real differences in children's outcomes.[18]
- Carefully designed and implemented professional development supports can improve the quality of teacher-child interactions.[19]

The Organization of the CLASS Measure

Originally designed for use in pre-K classrooms, the CLASS measure has been expanded for use in classrooms serving both older and younger children. All age levels focus on teacher-student interactions that foster social and cognitive growth. However, the specific types of interactions captured by each age level vary to reflect the developmental needs of the learners. Across all age levels, the CLASS framework provides a consistent approach to measuring teacher-student interactions during critical developmental periods, while still providing a context-specific and developmentally sensitive metric for each age group. The domains and dimensions captured by each CLASS age level are presented in Figure 2, with domains on the left and dimensions to their right.

Each **domain** is subdivided into **dimensions**, and dimensions, in turn, are comprised of **indicators** of effective interactions. Finally, indicators are defined using **behavioral markers**, specific behaviors that teachers and children engage in that provide evidence for the indicator and thus the dimension. An example from the Pre-K CLASS framework[20] is

Domain:	Emotional Support
Dimension:	Teacher Sensitivity
Indicator:	Responsiveness
Behavioral Markers:	Acknowledges emotions, provides comfort and assistance, provides individualized support

While observing a classroom, Certified CLASS Observers take detailed notes at the indicator level, noting specific evidence of interactions for each dimension. To assign codes, observers review the evidence they have gathered and use detailed descriptions in the manual to arrive at the correct code for that cycle, scoring each dimension on a scale from one to seven. When there is evidence that interactions in a given dimension are frequent and high quality, the dimension receives a high score; when interactions are infrequent or quality is low, the dimension receives a low score. Certification is granted to observers who have attended a CLASS training and demonstrated their reliability by accurately coding five videos in a certification test. More information on coding and reliability can be found in each CLASS manual and in the Measure section following.

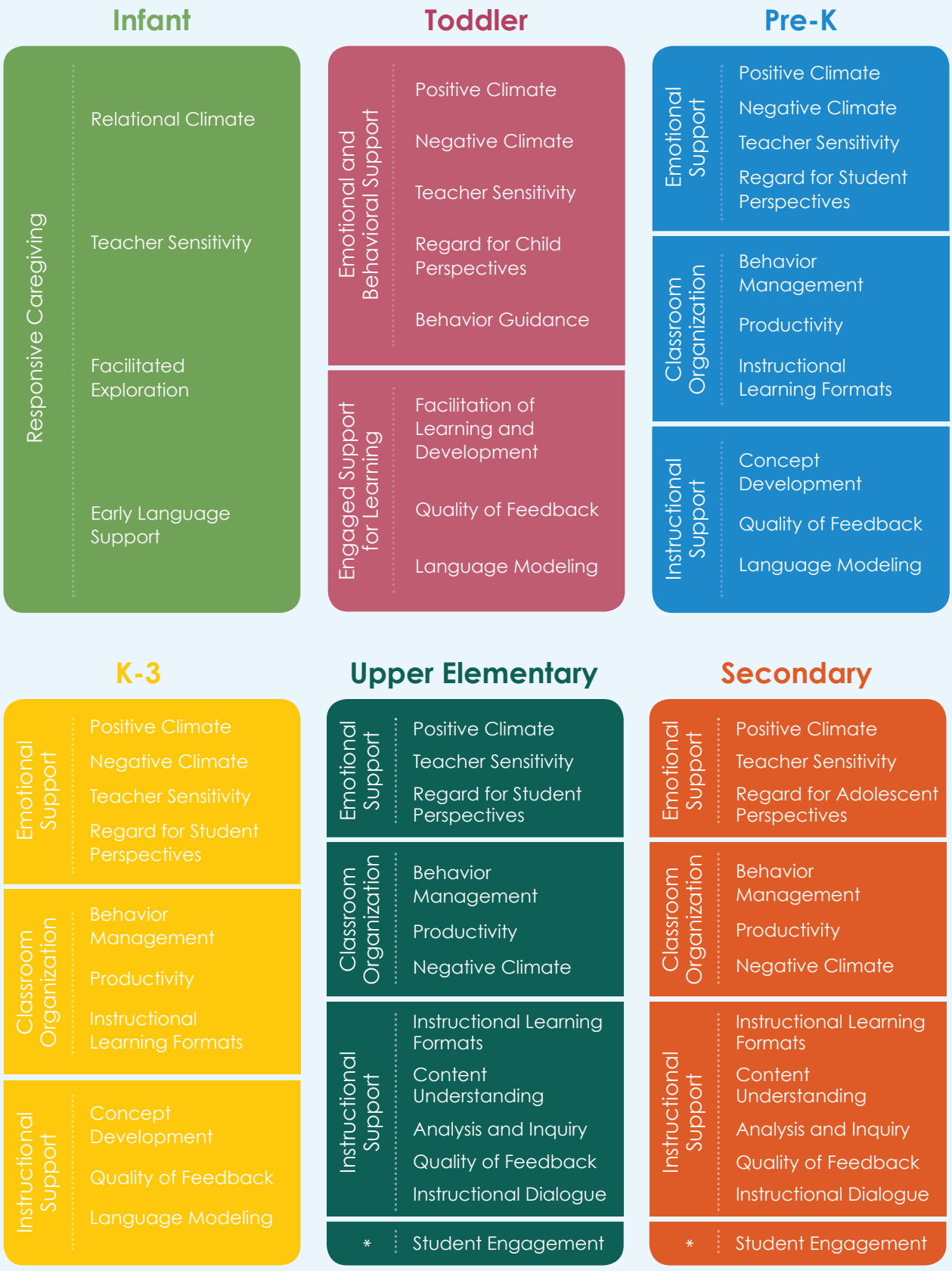


Figure 2. Organization of effective interactions into domains and dimensions by the CLASS framework at each age level

Learn about the CLASS Framework

A critical first step toward changing teacher-child interactions comes from building buy-in and readiness among teachers. In discussing our theory of change, we mentioned that teachers who are ready to change see the need for change and feel ready to engage. In this section, we want to briefly underscore the importance of teacher readiness and elaborate on what readiness means.

Teachers need to feel **self-efficacy** around improving their interactions.

Many studies have examined behavior change and the factors that make it possible.[21] There is broad agreement that people need to form an intention to change; once that intention is paired with the right tools and strategies, true change and improvement can begin.[22] But what causes someone to form an intention to change?

Research suggests several factors that are relevant to improving teacher-child interactions. First, teachers need to recognize the need for change. In terms of teacher-child interactions, they need to understand how important their interactions are for children and see that they, like most teachers, have room to improve. Researchers have identified stages of readiness for change and have demonstrated that effective interventions match the message participants receive to the stage they are in.[23] For example, a teacher may be unaware that teacher-child interactions are important or not see that he has specific area for growth; he needs help recognizing how his interactions with children differ from the goal. Another may be interested in improving her interactions but not know where to start; she needs help choosing an area of focus and making a plan.

Second, teachers need to feel self-efficacy around improving their interactions. They need to see themselves as capable of improving their interactions and feel confident that the tools provided by their programs will enable them to improve. That sense of self-efficacy is also critical in maintaining effort in the face of challenge: if a new strategy or tool does not work for them, strong self-efficacy helps teachers persist or try something different rather than giving up.[24]

Finally, teachers need to understand how changing will affect desired outcomes.[25] It is helpful for teachers to understand that more effective teacher-child interactions can have big impacts on child well-being and achievement. Making strong links between the change and the outcomes of that change can reinforce teachers' motivation and engagement.

Learn Resources

We strongly recommend that every CLASS-based project begin with a focus on learning about interactions to build interest, buy-in, and knowledge. Teachstone® offers several ways to get started.

Introduction to the CLASS Tool: Gain an overview of the CLASS domains and dimensions, various uses of the tool, and the importance of teacher-child interactions. Available online—or have a Teachstone trainer come to your site.

CLASS Dimensions Guides: These booklets define each CLASS dimension, explain their importance for students' social-emotional and academic growth, and provide practical strategies to help teachers improve the effectiveness of their classroom interactions.

Learn more on the Teachstone website, www.teachstone.com.

Case Study

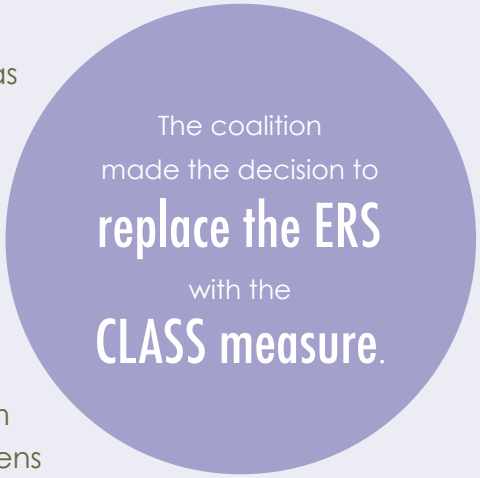
Early Learning Coalition of Duval

The Early Learning Coalition (ELC) of Duval is a nonprofit organization in Jacksonville, Florida that focuses on improving the educational outcomes for children by ensuring that all children receive high-quality early education and care. The coalition works with Head Start, Early Head Start, Florida's Voluntary Pre-K Program, community- and faith-based child care centers and family child care homes.

The ELC of Duval also serves as a child care resource and referral system and administers the county's QRIS—Guiding Stars of Duval, Voluntary Pre-Kindergarten and School Readiness programs, serving about 13,000 children (birth to five) and 10,000 four year olds as part of the Voluntary Pre-K program. ELC receives $28 million from federal funding sources (Child Care Resource and Referral, Child Care Financial Assistance, School Readiness Contracts, Professional Development and QRIS) and $25 million from state funding sources (Voluntary Pre-Kindergarten program).

In 2012, the coalition made the decision to replace the Environmental Rating Scales with the CLASS measure as a part of their star rating system, believing that the CLASS measure provided the ELC with a pathway for improving the quality of early care in their community. The move from the ERS to the CLASS measure was not that difficult, as the many providers understood the important role of teacher-child interactions in children's development and supported the change. In fact, some providers helped drive this change. Because they did not have to do a lot of work to create buy-in at the provider level, the coalition was able to focus energy and resources into educating providers about the CLASS system.

The coalition initially trained staff members and assessors, as well as two providers who served as board members as a way to increase buy-in and advocacy. All providers who participate in the QRIS have ample opportunities to learn more about the CLASS system. In addition to receiving verbal and written feedback after each CLASS observation, providers can access a differentiated system of supports—ranging from low-intensity and low-duration supports such as observing videos on the Video Library with their CLASS assessors during trainings, to participation in an intensive coaching program designed to encourage providers to reflect on their teaching via the lens of the CLASS measure. In addition, the coalition has offered Outcomes Driven Trainings (ODTs) intended to help providers increase their understanding of the CLASS measure and to improve the efficacy of their interactions with children.



After the successful roll-out of the Pre-K CLASS tool, the ELC of Duval plans to incorporate both the Toddler and Infant CLASS tools into their star rating system. They plan to build capacity with the Toddler CLASS tool during the 2014–2015 school year and then roll out the Infant CLASS tool in the 2015–2016 school year. This will pave the way to incorporating the family of CLASS tools (Infant, Toddler, and Pre-K) within their QRIS—Guiding Stars of Duval.

Measure Effective Teacher-Child Interactions

Following our theory of change, we view the measurement of effective teacher-child interactions as the foundation for improvement efforts. There are several ways to conduct observations; successful implementations will choose an observation method based on the way the information will be used. Thoughtful and intentional decisions should be made at the outset about what, when, how, and even why classrooms will be observed. In planning, organizers should consider the goals of the observations as well as any special circumstances that may arise and provide observers with guidelines to aid decision making in the field.

Different observation strategies may be used **depending** upon specific **goals** and **needs**.

The standard CLASS® observation protocol requires that observers watch and take notes on classroom activities for a period of 15–20 minutes, then take 10 minutes to code each dimension on a 7-point scale, using the manual to assign accurate codes. A full, formal classroom observation is comprised of four of these observe/code cycles, covering about two hours of classroom instruction. More details on how to code each cycle can be found in the CLASS manuals and by attending a CLASS Observation Training.

Over time, it has become clear that different observation strategies, using more or fewer cycles, may be used depending on the specific goals and needs of the observation project. In this section, we describe some key considerations for planning observations and then respond to some common questions that we receive about observing with the CLASS measure.

Defining Your Goals

There are many reasons for collecting CLASS data. One group may be interested in making professional development plans for classroom teachers, another may want to determine the best way to target their professional development funds, and a third may be looking across a large system to identify steps for system-wide improvement.

It is critically important to clarify observation goals at the outset of a project. The goals will determine how, when, and who you observe, and those decisions will influence how you can use the data you have collected. In order to clarify your goals, consider the following:

Who are the stakeholders for the observation data?

- Stakeholders could include teachers, assistant teachers, program directors, board members, parents, funders, or state agencies.
- Speak with representatives from each stakeholder group to understand what they need to learn from the CLASS observations.

Are you are interested in the effectiveness of individual classrooms or organizations?

- Organizations may include centers, schools, agencies, or grantees.
- If you are interested in individual classrooms (for example, to give feedback to teachers), you will need to observe in every classroom.

- If you want to make decisions about organizations, you may consider observing in a sample of classrooms. Try to get a representative sample by selecting classrooms at random and ensuring that diverse types of classrooms within your program are included.

Are your goals formative or summative?[26]

- In formative observation, the primary audience is the teacher or program and the observation is conducted to guide professional growth. When observations are formative, feedback should be given promptly and used to inform immediate professional growth plans.
- In summative observation, the primary audience is outside of the classroom (administrators, funders, accrediting organizations, boards of directors) and the observation is conducted to learn about and make a judgment regarding the classroom or program. When observations are summative, feedback may be delayed until all information is gathered and then used to help teachers or administrators reflect on the past year, set longer-term goals for professional improvement, or set goals for organization-wide improvement.

When you have spoken with stakeholders and clarified your goals, you should know the audience for your observation results, know how the results will likely be used, and have begun thinking whether, when, and how feedback will be shared. Use this information to draft one or more goal statements, such as

- We are conducting CLASS observations to help teaching teams identify two areas for professional growth during the coming year.
- We will be observing using the CLASS measure so we can report on the quality of teacher-child interactions to our board during our yearly review.

As your observation plans take shape, refer back to your goal statements to ensure that your observations will help you meet your goals. You can think of "individual versus organizational" and "formative versus summative" as two related axes, as illustrated in Figure 3. Your observation goals may be individual-formative, individual-summative, and so on.

Mapping Goals onto Observation Plans

Here are some examples of observation goals and how they might translate into an observation plan:

Individual-Formative

- Goal statement: We want teachers to make professional development plans around the CLASS framework, and coaches to do ongoing support on the basis of those plans.
- Observation plan: Conduct a formal, four-cycle observation using an independent observer in the fall in each classroom. Coaches who are Certified CLASS Observers can do follow-up observations of one or two cycles several times during the school year to provide ongoing feedback.

Organizational-Formative

- Goal statement: We want to choose an agency-wide area of focus for the coming year.
- Observation plan: Select a random sample of classrooms to observe; use independent observers if possible; use the aggregated data to identify areas of need.

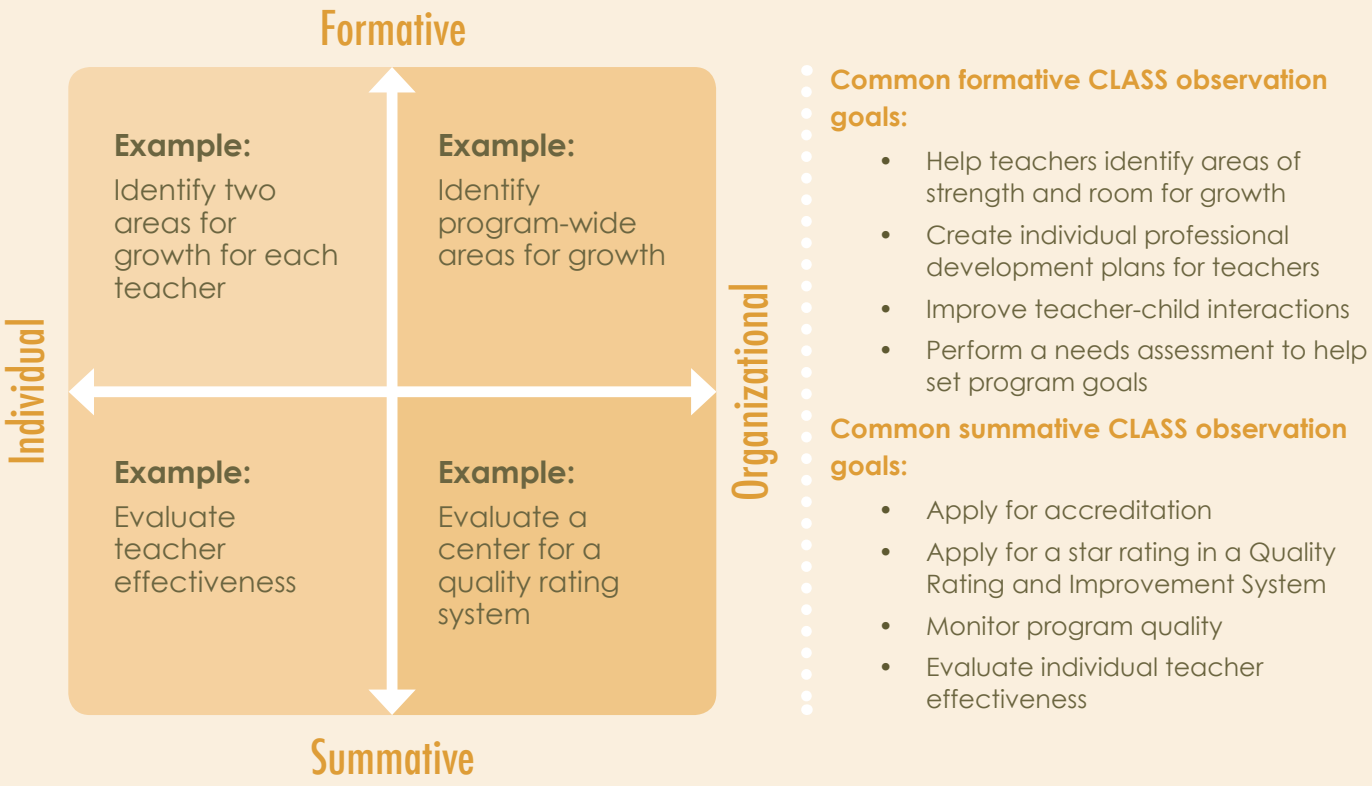


Figure 3. Types of CLASS observations

Organizational-Summative

- Goal statement: Each center that volunteers for the state Quality Rating and Improvement System will be observed; CLASS scores will be used as one component of the QRIS rating.
- Observation plan: Select a random subset of classrooms within each center to observe; use independent observers; combine CLASS scores with other data sources to arrive at a rating for each center.

Who, When, and What to Observe

How many classrooms should be observed?

To give individual feedback to teachers, every classroom should be observed. If you are sampling classrooms, observe in as many classrooms as is reasonable given time and cost constraints. One approach used by many groups we work with is to set a minimum number of classrooms per site and observe either the minimum number or 30–50% of all classrooms, whichever is larger.

- For example: four classrooms per site, or 30% of classrooms for sites with more than 12 classrooms.

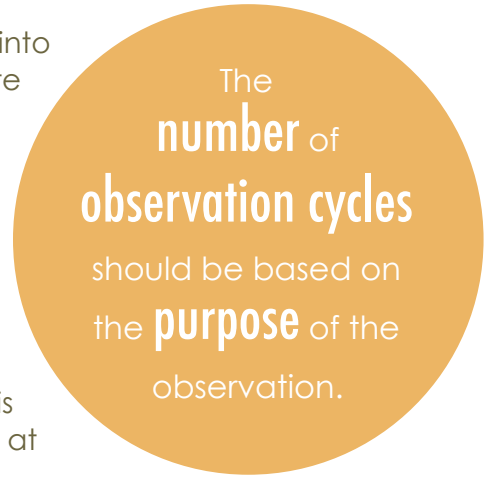
Organizations are encouraged to develop a set protocol for CLASS observations that includes information about who will conduct observations, when they will observe and whom to contact if there are questions about the observation protocol. Having a set protocol that everyone follows will help ensure consistency across observers, leading to more reliable CLASS data.

How many cycles should be completed per classroom?

The number of observation cycles should be based on the purpose of the observation. Keep in mind that the more cycles you do, the more accurate your CLASS scores will be, so try to find a balance—doing as many cycles as possible while staying cost-efficient. For most projects, four cycles per classroom provides that balance.

If you are observing to make program-level decisions, it may be possible to reduce the number of cycles per classroom to two or three. This results in a reliable program score but does not give you data that is usable for evaluating individual classrooms.

Why is this the case? As we mentioned, the more cycles that go into your average, the more reliable the score is. Four cycles are adequate to get a reliable read on interactions, but with fewer than four, the scores can be too easily influenced by what was happening during a particular cycle. Averaging four cycles together minimizes the importance of any one cycle, and the scores are therefore more representative of how that classroom typically operates.



For a program-level score, though, you are averaging together cycles from all of the classrooms that were observed. With 15 classrooms observed twice each, for example, the program score is based on 30 cycles—enough to get a reliable read on interactions at that location.

If you want to provide informal, formative feedback to a teacher, or a teacher wants feedback on a particular time of day or subject area, a coach may do just one or two cycles; enough to gather some concrete, behavioral examples in each dimension. In this case, scores should not be shared with the teacher as they do not represent a truly reliable CLASS observation; observations like this should be used for feedback conversations only. The coach is gathering examples to share with the teacher of something that went very well or where improvements could be made, not completing a formal evaluation.

Of course, if the data will be used in a formal sense to guide teacher professional development or make high-stakes decisions about a classroom, observers should follow the standard four-cycle per classroom observation protocol.

How many times per year should classrooms be observed?

Again, this depends on the purpose of the observation. Formal observations, either formative or summative, should usually be done once per year. To ensure that scores can be compared from one year to the next, it is best for organizations to conduct the observations around the same time each year. Identify an annual observation window, avoiding major holidays and the start and end of the school year.

Even if you are evaluating a new professional development program, it may be best to do the pre- and post-test observations year-over-year during the same observation window (for example, October–November) rather than, or in addition to, fall and spring observations. Several studies have shown that CLASS scores tend to be lower at certain times of year, such as the end of the school year. A post-test observation at the end of the year may not accurately represent the gains a classroom has made.

Informal, formative observations can be done more frequently so that teachers receive continual feedback on their interactions.

When should classrooms be observed?

Time of Day

As a general rule, we recommend that classrooms be observed in the morning once the school day has officially begun. This is particularly true for early childhood programs in which children are likely to take naps in the afternoon. Regardless of the age level, observations should start after the majority of students have arrived and end before the majority depart, avoiding the very beginning and end of the day. In preschool classrooms that run split sessions (for example, morning and afternoon), it is permissible to observe in the afternoon—the beginning of the school day for the second group of children.

For observations in which students remain in the same classroom for the majority of their day, the observation starts at the beginning of the day and continues throughout the morning until the pre-determined number of cycles have been completed. However, there may be variations on the established protocol based on the age of the students and the purpose of the observation. It is difficult to complete four observation cycles in classrooms in which students change classes every 50 or 90 minutes. In this circumstance, the observer needs to identify the purpose of the observation: is the observation being conducted to determine the efficacy of a specific teaching team's interactions with students, or is it being conducted to learn about the experiences of a cohort of students? If the former, the observer should remain in the original classroom and observe the different groups of children. If the purpose is the latter, the observer should move with the students. In both of these scenarios, the observer should begin the next observation cycle when the bell rings to signal the start of class.

In some instances, observers may be interested in examining the quality of interactions during specific subject areas (for instance, math, reading, and science). In these cases, the observer would conduct his observations during those blocks of time, regardless of when they occurred during the school day. In upper elementary or high schools that use 90-minute blocks, the observer should expect to complete three full cycles, which may be sufficient for her purposes. Finally, there may also be times when the observer wants to focus on a specific teacher who does not arrive at the beginning of the day. In these instances, the observation begins once the teacher arrives and has started class.

Time of Year

There are some indications that CLASS scores are slightly lower at the very beginning of the year, around winter holidays, and at the very end of the year.[27] For these reasons, it is preferable to avoid these times if your objective is to obtain scores that are most typical for the classroom.

Settings to Observe

We typically recommend observing across a morning to capture a variety of activities and settings. However, student ages and the purposes of the evaluation may influence this decision. For example, the Toddler and Pre-K CLASS tools encourage observations during snack and meal times, as these are settings that are ripe for teacher-child interactions. Children typically eat in their classrooms and their teachers join them at the table. In contrast, older students generally eat in the cafeteria and are monitored by adults who are tasked with managing behavior, not interacting with the students.

Likewise, if you want to capture interactions during a specific part of the day—whole group time

for kindergartners, for example—it is fine to observe only during those times, but do ensure that the same protocol is followed for all classrooms.

Specific information on settings to observe (and not observe) is contained in Chapter 2 of each age level of the CLASS Manual.

Who should observe?

Certified CLASS Observers are the only people who are qualified to conduct formal CLASS observations. To avoid observer bias, we recommend that individuals completing observations be people who do not have an ongoing relationship with the teaching team (not that classroom's coach or supervisor). However, we recognize that this is not always possible. In these situations, the observer must make a concerted effort to remain objective.

Prior to implementing the CLASS measure, an organization must build an infrastructure that supports its use. One of the first steps in this process is to hire and train staff to conduct observations. Individuals who are collecting standardized data on classrooms must certify on the tool by attending a 2-day CLASS Observation Training and passing the online reliability test. Furthermore, observers must continue to demonstrate knowledge of the CLASS measure by passing an annual recertification test.

Maintaining Reliability

Even after observers are trained to use the CLASS observation tool and pass the reliability test, it is important that processes are in place to help ensure that they maintain their knowledge over time. There is a tendency for observers to drift away from the criteria established by the CLASS master coders and back into scoring their observations based on their own notions of quality. We suggest that observers do quarterly CLASS Calibration sessions provided by Teachstone®, in which they code and receive feedback on a master-coded video. In addition to calibration, observers may check their reliability in the field by coding a subset of classrooms in pairs and debriefing after each observation—what we call double coding. Teachstone can provide an expert coder to work with your observers, or local observers can double code together.

Other CLASS Observation FAQ

- **Is it okay to ask teachers to videotape themselves and code from videotape?**

  The CLASS measure has been used widely in research studies using video coding. Observers who code from videotape should be aware that they can only code what they can see. An observer may be watching a teacher working with a group of children who are sitting on the rug and hear children yelling in the background off camera. Due to the fact that the observer cannot see the context, the observer may not take the yelling into account, except as it affects the children who are on camera. It would be easy for the observer to make assumptions about what is happening, but recall that the CLASS measure focuses on observed interactions, not assumptions. The CLASS manuals provide guidance on videotaping classrooms for later CLASS coding.

- **Our observers have a difficult time committing to a two-hour block of time. Is it okay for them to observe across several days?**

  By completing four cycles in a row, the observer gains a good sense of what happens across

Case Study

Quality First Arizona

Quality First is Arizona's statewide quality initiative, which they intentionally call a Quality Improvement and Rating System. "The emphasis is really on improvement first and then rating," says Katie Romero, the Quality First Assessment Program Manager. Quality First is a voluntary program with approximately 900 early care and education programs participating across the state. "Many participants are family child care homes; we also serve Head Start, corporate centers, faith-based, for-profit, and nonprofit centers, [and] we have individually operated centers that are participating as well," Romero says. "The sizes vary from as large as 30 to 32 classrooms in a center down to only one or two."

The Quality First program aims to increase child-care quality using assessment and improvement resources:

- When a center enters the program, it receives a baseline assessment.
- Findings from that assessment are shared with a coach, who helps set improvement goals and works with the center for a year leading up to the first formal star rating.
- Centers are provided ongoing support based on their star ratings.

"More coaching is available at the one- and two-star level to help support them around achieving that quality," says Romero. Centers are re-assessed yearly at the lower levels and every two years when they have achieved a three-, four-, or five-star level.

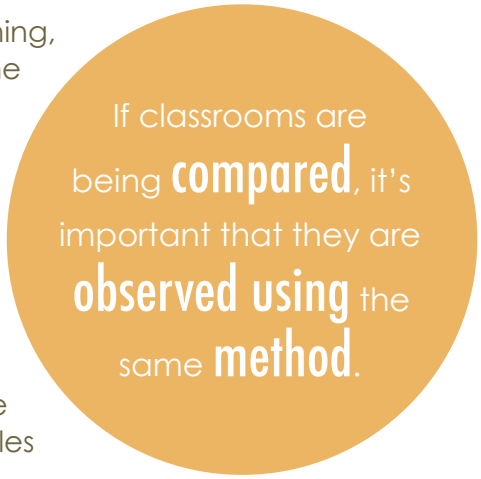
The CLASS tool is introduced when programs achieve ERS scores that meet the threshold at a three-star rating. Quality First has 60 certified CLASS observers; they observe 30% of open classrooms in each center they assess. To maintain reliability, observers practice using the CLASS measure in the field before they conduct their first assessments. Each observer double codes a live observation for every ten assessments completed. This is done with a lead assessor or a supervisor, debriefing afterwards to clarify what was observed and how they coded it. Observers also recertify yearly using Teachstone's online certification test.

When an observation is complete, observers prepare detailed observation reports that are sent along to coaches. During observations, Romero states, "notetaking is one of the keys to being successful with coding … not having the opportunity to talk with coaches, we really try to make our reports comprehensive, so they can read what it was like to be in the classroom on that day." Coaches share the reports with directors and the teachers who were observed and use them as the foundation for goal setting and ongoing work.

One of the challenges faced by Quality First was in setting benchmarks for quality using the CLASS measure. First Things First, in collaboration with Dr. Pianta and Teachstone® created benchmarks for Arizona's quality rating system. Some centers felt that the benchmarks were unobtainable, but Quality First worked closely with coaches to help them explain the rating system and the CLASS benchmarks to centers and teachers, and ended up gaining buy-in through ongoing conversations and open lines of communication.

a typical morning and sees a variety of different activities. An observer who comes in over several days may see the same activity each day (morning circle, for example) and will not gain a sense of what happens at other times of the day, thereby reducing the generalizability of the data she collects.

If it is not possible to complete four observations in a single morning, observers should conduct the second set of cycles within the next several days. Furthermore, they should begin the second day's observations at the time when they concluded the observations on the first day. This ensures that the data capture the same types of activities that would have been observed in a full two-hour session. Beginning the observations at the same time each day limits the scope of the observations. If classrooms are being compared to one another, it is important that all classrooms are observed using this same method. Try to ensure that all classrooms are observed following the same protocol (for example, all teachers are observed for two cycles from 9am to 10am on two mornings).



- **I was observing in a classroom and noticed some important interactions during my 10-minute coding time. How can I account for that in my codes?**

  The CLASS uses an interval recording system that includes time to observe and time to code. An observer who stays in the classroom during the 10-minute coding time may not be influenced by anything that he sees or hears during that time.

- **I'm afraid that coding in the classroom will be too distracting. What should I do?**

  It is permissible to step outside of the classroom to assign codes. However, in some settings, the hallway may be just as noisy and distracting as the classroom. While it may be possible to slip into the teachers' lounge or an empty classroom, the observer should be aware that walking to another part of the building may add additional time to the schedule.

- **Is it okay if I observe all four cycles and then assign codes after I get back to my office, where it's a little quieter?**

  The assignment of codes should always occur directly after an observation cycle. Recall that the observer uses her notes to gain an objective picture of the frequency, duration, and depth of the teacher-student interactions that occurred during the 15–20 minute observation cycle. In order to do this, the cycle must be fresh in the observer's mind. Waiting to assign codes increases the odds that the observer may confuse things that happened in one cycle with things that happened in another cycle.

- **How do I account for classroom visitors whose interactions with the students are very different from those of the teacher?**

  Chapter 2 of each CLASS manual has specific information about how to weigh the interactions of multiple adults in the classroom. As a general rule, the observer should weigh the interactions of each adult based on the number of students with whom they are working, the amount of time they spend with the students, and their responsibility for the activities. The extent to which the interactions of a visitor will impact a code will depend on how long he is in the classroom, how many students he interacts with, and what he is doing. For example, the interactions of a visitor who is leading an activity or working with the entire class will be

considered when assigning codes, while the interactions of a visitor who only comes in to say hello to the students will not be considered unless they are extremely impactful.

If the visitor very rarely visits the classroom, then this may not be a typical class day and the observer may want to reschedule the observation.

- **To follow up on the question above, what about another teacher or school staff member who comes in, stays a few minutes, and interacts with the students in an extremely negative manner?**

  The observer should note this episode of negativity, but it would be weighted based on the frequency, duration, intensity, and effect on the students, as well as the type of negativity. A brief instance of irritability or punitive control would not be likely to affect the code very much. In contrast, victimization or physical punishment would strongly impact the code.

- **When should we conduct our post-test observations?**

  In the past, we recommended conducting pre- and post-test observations at the start and end of the school year. We are moving away from that recommendation, though, because the last few weeks of school are often uncharacteristic of typical classroom routines. Instead, we recommend doing annual observations that are conducted around the same time each year.

  If you do want to conduct end-of-year observations, try to avoid the last several weeks of school. Also, to ensure that data are comparable from observation to observation, conduct post-test observations at the same time of day as the pre-test observations.

- **How can I reduce measurement error in my data?**

  Measurement error refers to variations in scores that do not accurately represent the true effectiveness of interactions in the classroom or that prevent you from accurately comparing across classrooms. Error in scores may be due to observers not coding reliably, conducting observations that are inconsistent from one classroom to the next, or observing on a day that is very atypical for the classroom, among other reasons.

  There are several ways to reduce error in the data. The first is to ensure that observers maintain reliability with the CLASS tool. In addition to annual recertification, calibrating on master-coded videos or double coding with another Certified CLASS Observer can help reduce observer error.

  Other ways to reduce error include having a clear plan for data collection and conducting an adequate number of cycles to obtain an accurate picture of the classrooms or programs being observed. Additional considerations include giving students time to settle into the new school year prior to conducting observations, not observing a teacher who has been with the students for less than a month, and using neutral observers; that is, observers who do not have a relationship with the teaching staff.

Creating an Observation Protocol

We strongly recommend that you give observers a clear protocol to follow when they are conducting observations. A CLASS observation protocol should include the following elements:

- Purposes of the observation
- What to bring (for example, manual, scoresheet, clipboard, pen, watch or timer)
- Who will be observed
- When observations will take place (for example, time of day, types of activities)
- What to do if a classroom is not available for observation on the assigned day or it is not a typical day for that classroom
- How many cycles to complete per classroom
- Special circumstances that might arise and how to respond (for example, teachers and children speak Spanish but the observer speaks English only; the age composition of the classroom is different than expected
- Additional special instructions for observers

- **How long should a teacher be in a classroom before an observation may be conducted?**

  As noted above, a teacher who has been with the students for fewer than 30 days should not be observed, as it is important for the teacher and students to settle in, get to know one another, and establish new routines.

- **What should I do if I arrive to conduct an observation and there is a substitute teacher?**

  The answer to this question is that it depends on the purpose of the observation. If the purpose is to observe a specific teacher, then observing the substitute does not make sense. If the purpose is to obtain information about overall program quality, observing the substitute may be okay, but only if the substitute is working as a long-term sub and has been in the classroom for at least one month.

- **Can you please clarify the rule about observing outside?**

  If the children go outside for free play or a scheduled recess, the observer should stop observing and follow the procedure stated in the manual regarding the assignment of codes. On the other hand, if the children go outside for a structured activity, such as a nature walk, outdoor story time, or outdoor centers, the observer should follow the children outside and continue observing until the end of the observation cycle.

Measurement Resources

Valid, reliable CLASS data and effective feedback set the stage for improving CLASS scores. Teachstone® provides high-quality trainings to support projects of all sizes and scopes.

CLASS Observation Training: This 2-day training helps build an in-depth understanding of the CLASS measure and how to use it to observe and code classrooms accurately.

CLASS Train-the-Trainer Program: Participants learn how to provide the CLASS Observation Training for their organization in this 3-day training.

Observer Recertification: CLASS observers recertify annually by preparing for and passing the CLASS reliability test to ensure continued accurate use of the CLASS measure.

Trainer Recertification: To help ensure that they are well-prepared to deliver the CLASS Observation Training accurately and consistently, CLASS trainers recertify annually by preparing for, taking, and passing the CLASS reliability and knowledge tests.

CLASS Calibration: To ensure accurate CLASS coding, Certified CLASS Observers score classroom videos and receive immediate feedback—all online.

CLASS Double Coding: Designed to increase the accuracy of organizations' CLASS coding, Teachstone Master Coders observe alongside certified observers, review scores, and identify and address any scoring issues.

Technical Assistance: An experienced Teachstone trainer supports Certified CLASS Observers onsite or in a group webinar setting.

Learn more on the Teachstone website, www.teachstone.com.

- **If I am observing when children go outside to play or to a special, may I go and observe in another classroom in the same building in order to maximize my time?**

  We do not typically recommend that observers travel from room to room. Not only does it interfere with obtaining a full picture of what happens in a given classroom, but some coders also have difficulty switching from one classroom to another and keeping their observations and codes independent.

- **Speaking of specials, is it okay to follow the children to specials, such as music or art?**

  Once again, it depends on the purpose of the observations. If the observation focuses on the lead teachers, then it wouldn't be appropriate to code in specials. If the purpose is to gain an overall picture of program quality, then an observer may want to observe specials if the art and music teachers are a regular part of the children's experience at school.

- **Does the observer need to be fluent in all of the languages being spoken in the classroom?**

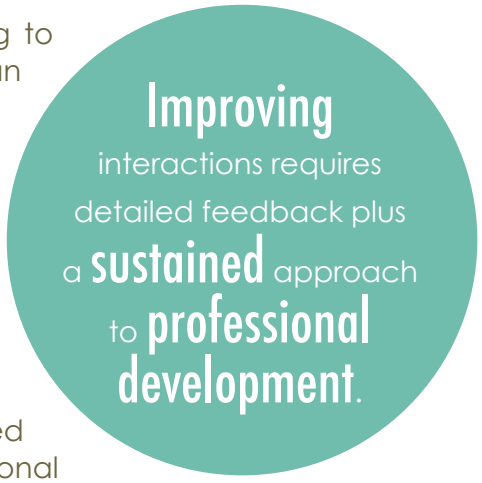
  Some classrooms have children who speak many different languages, so it may not be possible to find a certified observer who speaks all of the languages spoken in the classroom. That said, the observer should speak the language(s) spoken by the majority of the teachers and children and the language(s) used for instruction. More information may be found in Teachstone's whitepaper, *The CLASS Tool and Dual Language Learners*, which is available under Resources on the Teachstone website (www.teachstone.com).

- **What age level of the CLASS measure should I used when there is a mix of ages in the classroom?**

  If feasible, we recommend that observers alternate between two age levels to capture interactions as experienced by the majority of children. We most often see mixed-age groupings in family child care. Teachstone's whitepaper on the use of the CLASS measure in family child care discusses mixed-age levels in depth and can be found on the Teachstone website (www.teachstone.com).

Improve Teaching and Learning

Most programs that measure teacher-child interactions are looking to make improvements as well. Improving teacher-child interactions can be challenging though. Classrooms are complex places that make a lot of competing demands on teachers' attention, and interactions are usually reflexive and habitual, requiring little conscious thought. Furthermore, teacher-child interactions are deeply rooted in adults' life-long experiences with children, their own parents, and teachers; expectations about the role of adults in learning; understanding of what it means to be a professional caregiver; and even experiences as parents themselves.[28]



For these reasons, improving teacher-child interactions requires detailed feedback plus a sustained and thoughtful approach to professional development. Feedback and goal-setting, as described earlier in our theory of change, provide focus and meaning to observation results, helping teachers concentrate on their individual areas for growth. The professional development that follows needs to be closely aligned with teachers' goals and provide meaningful opportunities for growth.

Evidence-Based Professional Development

Several professional development programs developed and tested by researchers have been proven to increase effective interactions. These research-based programs suggest at least three effective approaches for improving teacher-child interactions:

Coaching

- This type of professional development involves weekly to monthly conferences with a coach aimed at identifying and working on individual areas for growth.
- Several programs have shown improved teacher-child interactions using a combination of teacher trainings plus frequent coaching or mentoring supports.[29,30,31]
- MyTeachingPartner™ (MTP™) Coaching uses this approach.

Coursework

- This type of professional development includes direct instruction, opportunities to view and analyze videos, and time for discussion and application.

Providing CLASS Feedback

Teachstone's theory of change recognizes the importance of feedback based on valid, reliable CLASS data: done well, it can set the stage for improvement. Here we provide some information about feedback strategies, drawn from experience as well as research on best practices.

The type of feedback an observer provides depends on the purpose of the data collection. As noted earlier, data may be collected for formative or summative purposes. Formative data may be used to design professional development programs either for an individual teacher or at a programmatic level. In contrast, summative observation data is more likely to be used for program accreditation, monitoring, or to evaluate teacher effectiveness.

Regardless of whether the goal is formative or summative, effective CLASS feedback is:

- **Specific**—includes specific behavioral observations
- **Objective**—based on observation and free of judgment
- **Aligned with the CLASS measure**—identifies dimensions, indicators, or behavioral markers

Effective feedback is also characterized by:

- **A strengths-based approach**—identifies area of strength followed by areas for growth
- **Opportunities**—for teachers to reflect on their teaching practices
- **A clear focus on one or two indicators**—most appropriate for teacher-level professional development

Summative data is generally reported in writing and presented to stakeholders. Reports should include information about the selection of the classrooms as well as information about the observation protocol. Information provided should be clear, concise, and free of subjective opinion.

- A 14-week, college-style course that spent over 15 hours focused directly on teacher-child interactions was effective at improving interactions.[32]
- Making the Most of Classroom Interactions (MMCI) is based on this course.

Video

- This type of professional development uses real classroom videos to show examples of highly effective teacher-child interactions.
- In a study using a video library of exemplary teacher-child interactions, teachers who made greater use of the video library had larger gains in their teacher-child interactions.[33]
- Video observation sits at the center of all our professional development resources.

And, although the evidence is not specific to teacher-child interactions, there is one additional, promising strategy:

Discussion Groups

- This type of professional development involves weekly to monthly meetings for teachers to discuss, reflect on, and plan for effective interactions.

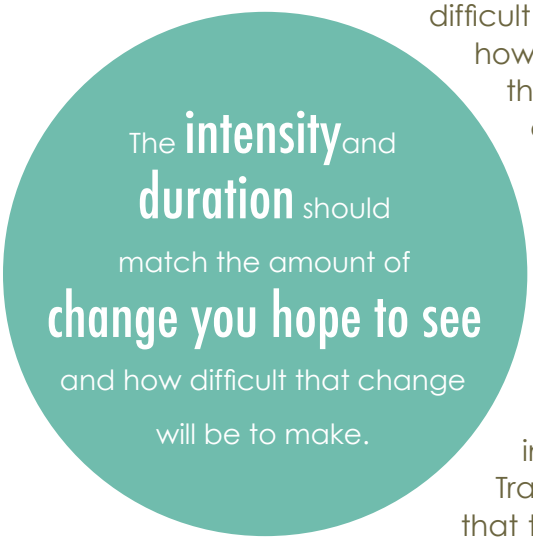
- A review of research on professional learning communities concluded that well-designed discussion groups can improve teacher practices and school culture.[34]

We draw from this research, as well as other research and theory on effective professional development, the following recommendations for improving teacher-child interactions:

Align professional development with your goals. To get the desired results, professional development needs to be closely matched to goals for improvement. That means that programs aiming to improve interactions need to provide professional development experiences that directly target interactions. It can be helpful to have clearly stated goals for improvement. In the Measure section of this guide we discussed some suggestions for clarifying project goals; those suggestions are equally relevant when making plans for improvement.

Help teachers Know, See, and Do. Three basic steps are needed to help teachers improve their interactions: teachers need to understand what effective interactions are (Know), become more aware of their own interactions with children and the opportunities that these interactions afford (See), and use more effective interactions to get the most out of every moment (Do).[35] Knowledge can be increased through trainings or workshops, but increasing knowledge is only one piece of a broader comprehensive strategy. To really make changes, teachers also need support and strategies to put their knowledge into action. Observing videos of themselves and others interacting effectively with children helps teachers become more aware of their interactions in the moment and can help bridge the gap between knowing and doing, which is why video observations are at the core of all Teachstone® CLASS-based professional development.

Make time for sufficient intensity and duration. The intensity and duration of professional development should match the amount of change you hope to see and how difficult that change will be to make. If you want teachers to change how they approach interactions with children—a large change—they will need fairly intensive supports. University-based professional development programs that were successful at fostering better interactions in a research setting have typically involved multiple days of teacher training plus weekly to monthly coaching sessions over a 10-month academic year.[36,37,38]



There may be creative ways to increase the intensity of a professional development program. Pair monthly coaching sessions with monthly CLASS-based discussion groups. Train mentor teachers to observe and give CLASS-based feedback in addition to your Training and technical assistance providers. Train center directors or site supervisors on the CLASS measure so that they can comment on and reinforce effective interactions. Hold quarterly staff meetings to review shared goals and talk through center-wide strategies to improve interactions. Steps like these—that reinforce a shared focus on improving interactions—can support teachers in making improvements.

Plan, evaluate, and plan. We now know from research that implementation is key: the best plans for professional development will fall flat if they are not implemented with fidelity, and teachers who

are fully engaged and complete all components of a program get the most out of their professional development.[39] We encourage all organizations and professional development providers, big and small, to evaluate their implementations yearly. This involves

1. **Planning what the professional development will be.**

   What are the goals of the program? What content will be covered? What kinds of professional development will be offered? Which teachers will be involved, and how often will they participate?

2. **Evaluating what actually gets delivered.**

   Keep a record of what gets delivered, who participates, and whether the content is adequately covered.

3. **Planning for the next year.**

   Use information from your evaluation to make decisions for the following year. Did teachers miss sessions? Did sessions go off topic? Was the professional development adequately aligned with program goals? If things did not go as planned, why not and what could be changed for the following year to increase impact?

The Evidence Behind Our Professional Development Programs

At Teachstone®, we have built our professional development offerings around the research and recommendations you see here. They include coach supports to build your program's capacity for change, as well as online programs to guide teachers through the Know, See, Do approach for more effective interactions.

Teachers who engage with video exemplars improve their interactions.[43]

MyTeachingPartner™ Coaching was developed by researchers at the University of Virginia. It is a structured coaching program in which teachers work one-on-one with a coach over a 10-month period. Every two weeks, a teacher uploads a video of her own teaching for the coach to review. The coach asks the teacher to focus on specific aspects of each video, and together they discuss the effective and ineffective interactions that took place. Over the 10-month program, the coach encourages the teacher to improve the effectiveness of her interactions with students.

In a randomized, controlled trial, participation in MTP coaching led to significant gains in teacher-child interactions in all three CLASS domains.[40] Furthermore, children in the MTP classrooms made greater language and literacy gains compared to children in the control group.[41]

Our CLASS-based course, **Making the Most of Classroom Interactions (MMCI)**, is based on research proving the effectiveness of coursework in improving interactions. In a study, researchers developed a college-style course focused on teacher-child interactions along with language and literacy instruction. In a randomized, controlled trial, researchers found that the course improved teacher-child interactions significantly in Emotional Support and Instructional Support.[42] Teachstone's MMCI course is a 10-session program focused exclusively on teacher-child interactions. It gives teachers opportunities to analyze and discuss interactions in each Pre-K CLASS dimension, as well as homework assignments to help them apply their new skills in the classroom.

Case Study

Mid America Regional Council Head Start

In 2012, the Mid America Regional Council (MARC), a nine-county region in the bi-state Kansas City metro area, received a grant to improve instruction and teaching practices. CLASS observation data showed that programs in the area, like programs across the nation, struggled in particular with Instructional Support. They selected MyTeachingPartner Coaching as the cornerstone of their improvement efforts and had Teachstone train five coaches to work with up to 30 teachers each year.

In recruiting, MARC has made a concerted effort to gain buy-in from programs in the region, inviting directors to orientation meetings to talk about teacher-child interactions, the CLASS tool, and the benefits of MTP coaching. "Directors want to know what their teachers are doing," says Kyle Matchell, program manager for the MARC Metropolitan Council on Early Learning. "The work between MTP coaches and teachers has to be confidential, but we share general information about the CLASS, ask for their input to make it sustainable, and share what we can about what happens during coaching." Coaches can also share the action plans they develop with their teachers with the directors.

MARC also focused on collecting CLASS observation data at the start and end of each program year so that they could document teachers' gains. All of the observers were CLASS certified. Observers served as MTP coaches as well, but, to keep the data as objective as possible, Matchell ensured that no one observed in classrooms where they also coached.

Findings show significant **gains** in all three CLASS domains, with the strongest gains in **Instructional Support**.

In all, 86 teachers have participated in MTP coaching over three years. Findings showed significant gains in all three CLASS domains, with the strongest gains in Instructional Support. "It's great for teachers who have been in the field for a long time and have done all of the other trainings available to them—it helps them get from good to great," Matchell says. In addition to CLASS score gains, teachers reported feeling more confident and having a greater awareness of their interactions with children.

Matchell and his colleagues share results with teachers and directors at an annual data meeting, held in January of each year. Starting the second year of the program, they also invited the previous year's teachers to be recognized for their completion of the program and to provide feedback and tips to the new cohort of teachers. Matchell says, "They have become like mentors ... new teachers feel like they can do it because they've seen how it works."

The **Instructional Support Strategies** program for coaches, available as a 1-day training or an online course, responds to a strong demand for more help in the Instructional Support domain. Coaches learn research-based approaches for helping teachers deepen their Instructional Support interactions and leave with concrete, tested strategies for improvement.

Our online resources for teachers, including **Looking at CLASSrooms** and **the CLASS Video Library**, were developed based on research showing that teachers who engage with video exemplars improve their interactions.[43] The CLASS Video Library provides brief videos of effective teacher-child interactions within each CLASS dimension. Focus text for each video draws teachers' attention to the relevant interactions. Looking at CLASSrooms walks teachers through the Video Library, with units that encourage teachers to spend time with the videos and explore each dimension.

The **CLASS Discussion Toolkit** is based on evidence that group involvement in professional development can boost its effectiveness.[44] The Toolkit encourages teachers to view and analyze videos of teacher-child interactions and discuss how they bring each dimension into their own classroom practice.

Brief descriptions of products and services are provided below, and information is continually updated on the Teachstone website.

Improvement Resources

Use evidence-based programs with a high degree of fidelity to improve teacher-child interactions. Teachstone® offers flexible programs appropriate for all types of organizations:

CLASS Video Library: Video libraries for each CLASS age level contain exemplar videos that illustrate effective interactions within each CLASS dimension, with text that enhances observation skills.

CLASS Discussion Toolkit: This program combines Video Library accounts, CLASS Dimensions Guides, and a facilitators' guide to support meaningful discussions about the interactions that help children learn and develop.

CLASS Feedback Strategies: Sharing Observations with Teachers: This training provides support and guidance to coaches around the characteristics of effective CLASS-based feedback and conferencing techniques.

Instructional Support Strategies Online Course: In this course, coaches deepen their understanding of Instructional Support interactions and learn strategies for working with teachers on this challenging domain.

Instructional Support Strategies Training: This 1-day, face-to-face training provides a springboard for coaches to support teachers as they increase the effectiveness of their instructional interactions with children.

Looking at CLASSrooms: This self-paced online program for teachers uses authentic classroom video and multimedia tools to provide an overview of CLASS dimensions.

Making the Most of Classroom Interactions: Coaches learn to deliver the MMCI program to teachers, a series of 10 2-hour sessions organized around the CLASS dimensions.

MyTeachingPartner Coaching: This 10-month intensive coaching program focuses on helping teachers improve classroom interactions using teachers' own classroom videos.

Learn more on the Teachstone website, www.teachstone.com.

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Appendix A: Using the CLASS Measure in QRIS

Quality Rating and Improvement Systems (QRISs) have taken off in this country; currently, 49 states either have some form of QRIS or are in the planning stages.[1] These systems can be complex, taking many aspects of quality into account. Incorporating the CLASS® measure into a QRIS is worth the effort though: research has shown that the CLASS measure predicts child outcomes more consistently than other typical indicators of quality, such as curriculum, teacher qualifications, or classroom materials.[2]

Many of the questions that arise around QRISs—for instance, how to maintain observer reliability, how many cycles to conduct, and how to give feedback to teachers—are addressed in the Learn, Measure, and Improve sections of this guide. However, several questions specific to QRISs deserve further attention. We provide preliminary answers below, and note that we continue to research these issues.

How should the CLASS framework be incorporated into QRIS?

During the design phase, QRIS developers decide how and when to incorporate teacher-child interactions as a criterion for rating. Some systems include CLASS observations at all quality levels; others start CLASS observations once programs have reached a threshold of three or more stars. There is no clear right or wrong approach. We do recommend emphasizing that teacher-child interactions are a fundamental part of child-care quality, and getting programs thinking about and improving interactions as early as possible. There is no research we are aware of that shows that programs need to reach a certain level of structural quality (such as teacher qualifications or classroom materials) before they work on teacher-child interactions. Instead, structural program elements and teacher-child interactions are complementary aspects of quality that both deserve attention.

How many observers are needed?

When doing live observations in the field, it is best to assume that an observer can only complete one classroom observation per day, or two if the program holds morning and afternoon sessions. The number of observers needed depends on how many classrooms need to be observed and how long the window is for conducting the observations.

How should scores from the Infant, Toddler, and Pre-K CLASS tools be combined so that they can be incorporated into the rating system?

Several options are viable. One is to average scores together: average the dimensions within each tool together to arrive at an overall score for each age level, and then average scores from those age levels together. We tested this method using Toddler and Pre-K CLASS data and the resulting averages including the toddler scores were similar to the averages with pre-K scores only. If you use this approach, make sure to develop cut points or thresholds based on the combined data rather than relying on cut points developed for the Pre-K CLASS tool.

An alternative method, and preferable from a scientific perspective, would be to determine thresholds for each age level separately and assign points to each age level based on those thresholds. For example, a program could get five points for having an overall score of 4.5 on the

[1] http://qrisnetwork.org

[2] Sabol, T. J., Soliday Hong, S. L., Pianta, R. C., & Burchinal, M. R. (2013). Can rating pre-K programs predict children's learning? *Science, 341*, 845-846.

Pre-K CLASS tool, but only three points for the same score on the Toddler CLASS tool.

Other approaches may also work, and we continue to research this topic. When possible, thresholds and cut points should be determined based on local data.

Can the CLASS observation tool be used in afterschool/out-of-school-time programs?

The CLASS tool has not been validated in out-of-school-time programs, although it is in use in several research projects. It is probably most appropriate to use the CLASS tool when the program in question has an academic focus, although Emotional Support and Classroom Organization are likely to be relevant even in less academically focused programs.

Please continue to refer to the Teachstone® blog and website, at www.teachstone.com, for more information on each of these topics, as well as updates as they become available.

Appendix B: Using the CLASS Measure with DLL

"Good instruction in general tends to be good instruction for ELLs (English Language Learners)."[1]

Dual language learners face special challenges in the United States. Although bilingualism can be a great strength, studies have shown that dual language learners tend to enter school with lower scores on cognitive and language assessments and leave school with lower educational attainment.[2,3] High quality early childhood experiences can close achievement gaps and may help dual language learners get ready for school. To get the social, emotional, and cognitive support these diverse children need, though, they must have access to the best early childhood education we can give them.

Research suggests that dual language learners benefit from the same types of warm, supportive, and stimulating interactions as do their English-speaking peers.[4] Research on the CLASS® tool, specifically, indicates that the CLASS measure is valid in classrooms serving a large percentage of dual language learners. In a large study, average CLASS scores did not differ between classrooms serving more or fewer dual language learners, and teacher-child interactions predicted outcomes for both dual and single language learners.[5]

However, conducting reliable, trustworthy observations in dual language classrooms can be a challenge. Below are our recommendations for observing in dual language settings.

Use certified, reliable CLASS observers. Anyone conducting CLASS observations should attend a training and pass the CLASS Reliability Test. The training teaches specific techniques for using the CLASS observation tool in diverse settings, and by passing the test, your observers are proving they can use the CLASS lens skillfully.

Use bi- or multilingual coders. Make sure that observers going into dual language classrooms speak the languages used by teachers and children. It is important that observers hear and understand what goes on in the classroom to accurately capture interactions. If teachers and children speak multiple languages, try to ensure that the observer speaks the languages of instruction, at a minimum.

Score what you see. The CLASS observation tool includes detailed examples of behaviors that demonstrate effective interactions. Observers use those examples to determine what score to give each classroom. Some of the examples may not fit the cultural norms of the classroom being observed. For example, eye contact is taken as a sign of respect between teachers and children in the CLASS framework, but some cultures discourage eye contact between children and adults. Remember that there are many ways to show effective interactions. It isn't necessary to see every behavior listed in the CLASS manual to give a classroom a high score.

Supplement rather than changing the tool. The CLASS observation tool, like other research-based assessments, is backed by evidence showing links to teacher and child outcomes. When

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[4] Howes, C., Guerra, A. W., Fuligni, A., Zucker, E., Lee, L., Obregon, N. B., & Spivak, A. (2011). Classroom dimensions predict early peer interaction when children are diverse in ethnicity, race, and home language. *Early Childhood Research Quarterly, 26*(4), 399-408.

[5] Downer, J. T., López, M. L., Grimm, K.J., Hamagami, A., Pianta, R. C., & Howes, C. (2011). Observations of teacher-child interactions in classrooms serving Latinos and dual language learners: Applicability of the Classroom Assessment Scoring System in diverse settings. *Early Childhood Research Quarterly, 27*(1), 21-32.

you change the CLASS measure to meet your program's particular circumstances, you can't be sure that your "new" tool will have the same links to outcomes as the original. If you need information about something that the CLASS measure doesn't address, it's best to supplement it with information from other sources. For example, the National Association for the Education of Young Children (NAEYC) has developed a framework for evaluating cultural competence; other tools exist to measure program administration and other important factors.

Observing and improving teacher-child interactions in dual language classrooms can pose special challenges. With forethought and planning, programs can ensure that observations provide trustworthy information that can lead to real improvement.

For more details on using the CLASS measure in classrooms with dual language learners, go to the Teachstone® website (www.teachstone.com) and read the full whitepaper, *The CLASS Tool and Dual Language Learners*.

Appendix C: Using the CLASS Measure in FCC Homes

To date, there have been no published studies that examined the use of the CLASS® measure in family child care (FCC) homes. However, there are studies suggesting that interactions matter for children in FCC homes and are associated with setting characteristics and provider beliefs, as they are in centers.[1,2]

Data from two unpublished studies[3]—including a small project we conducted at Teachstone®—suggest that Pre-K CLASS scores follow the same basic patterns in FCC homes as in center-based classrooms, with higher scores in Emotional Support and Classroom Organization and the lowest scores in Instructional Support. Toddler CLASS scores were similar, with higher scores in Emotional and Behavioral Support and lower scores in Engaged Support for Learning. As in classrooms, this indicates that FCC homes need the most support in providing cognitively and linguistically stimulating environments for children.

Based on our observation project in FCC homes, we identified the following challenges for observers.

Challenges & Recommendations for Using the CLASS Measure in FCC Settings

Challenge #1: FCC homes include children across multiple age levels. From birth to five years old, the CLASS observation tool is divided into three age levels: Infant (6 weeks to 18 months), Toddler (15 to 36 months), and Pre-K (3 to 5 years). This was done to best capture developmentally appropriate interactions at each unique stage. It poses a challenge when children across age levels are served within a single setting, however.

Our recommendation: Alternate between two age levels. We recommend that observers be trained on two age levels and alternate between cycles of each, aiming for at least three cycles at each age level. This approach captures the experiences of most children in the setting, but still produces independent scores for the two age levels. This is important because settings can provide very different quality of care for different age groups, information that could guide professional growth recommendations. It also increases the flexibility of the observation: observers can switch age levels as children arrive, leave, or go down for naps. It requires observers to be very flexible and comfortable with both age levels, which can be a challenge for inexperienced coders.

Challenge #2: Low numbers of children. In classrooms, we recommend that observers wait until at least four children are present to begin observing. FCC homes may serve fewer than four children of a single age level though. Before conducting observations, define a clear protocol about when to start observing. Given the realities of these settings, observers may at times be observing only one or two children. That is acceptable as long as a consistent protocol is used for every FCC home being observed.

Our recommendation: We recommend establishing a protocol for how many children at the target age level must be present in order to conduct the observation. It may be necessary to observe a single child interacting with the caregiver at times.

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[1] Hughes-Belding, K., Hegland, S., Stein, A., Sideris, J., & Bryant, D. (2012). Predictors of global quality in family child care homes: Structural and belief characteristics. *Early Education & Development, 23*, 697-712.

[2] Loeb, S., Fuller, B., Kagan, S. L., & Carrol, B. (2004). Child care in poor communities: Early learning effects of type, quality, and stability. *Child Development, 75*, 47-65.

[3] Family Life Project: http://projects.fpg.unc.edu/~flp/

Challenge #3: Reduced objectivity. FCC homes can pose challenges to observers' objectivity. Small spaces and being in the provider's home can make observers feel intrusive and uncomfortable. One of the children may be the provider's own son or daughter, which puts observers in the unexpected position of coding parent-child interactions rather than teacher-child interactions. FCC providers may need to do household tasks, such as preparing meals or doing laundry, that are usually handled by another staff member in center-based care.

Our recommendation: We recommend that observers take detailed notes, grounded in the CLASS manual, and hold debriefing sessions to discuss staying reliable in the face of these challenges. If providers are receiving feedback on their scores, it may help if the person providing feedback is different from the observer, to help prevent unintentional bias in coding.

Challenge #4: Multiple adults. The presence of multiple adults poses a challenge in classrooms, and even more so in FCC homes. Some FCC homes have two or more caregivers and allow children to move freely from room to room, others have non-caregiver adults present—older children, spouses, or grandparents.

Our recommendation: When multiple caregivers are present and move around from room to room, we recommend staying with an individual caregiver if the focus of the observation is on the quality of interactions provided by that individual and staying with the majority of children if the purpose is to evaluate the quality provided by the FCC home as a whole. For non-caregiver adults, observers should include them in coding only if they enhance or detract from the interactions experienced by the children.

For more details on using the CLASS measure in classrooms with dual language learners, go to the Teachstone® website (www.teachstone.com) and read the full whitepaper, *Using the CLASS Measure in Family Child Care Homes*.

Appendix D: The CLASS Measure and Special Education

The Pre-K CLASS® tool was developed and validated in general education classrooms that primarily served typically developing children. However, the presence of a small number of children with special needs in a general education classroom should not negate the use of the tool—particularly if the children have mild disabilities.

The types of effective teacher-child interactions described by the CLASS measure are relevant for all children, regardless of ability level; however, the interactions may look different based on the nature of the child's special needs. For example, a teacher may use less complex vocabulary for a child with a speech and language delay, yet still be promoting language use for that child. Similarly, a teacher may employ different learning modalities for a child who is deaf or hard of hearing than she might for a hearing child—and scaffolding for a child with a cognitive impairment may include physical prompting that is not needed for children who are typically developing.

Regardless of the composition of the classroom, the observer should remember that the CLASS tool measures the average experience of the average child in the classroom. In many instances, the observer may not be able to tell if any of the children have a disability. Alternately, an observer may suspect that a child has a disability based on his or her interactions with the teacher or peers. Regardless, the observer must simply record what he sees and weigh these interactions with those of the other children when assigning codes. In some cases, the observer may be familiar with the classroom and know in advance that there are children with special needs included. In these instances, the observer may not make exceptions based on this knowledge (for example, the observer should not ignore or excuse certain behaviors that may be a manifestation of the child's disability because she knows of the disability).

The extent to which behaviors related to a child's disability influence CLASS scores depends on several factors. Are the behaviors isolated events that do not impact the other children or do the behaviors disrupt the classroom or distress the other children? How does the teacher respond to these behaviors? Does he quickly and effectively respond to the behaviors or is he negative and ineffective at reducing the frequency and duration of the behaviors? Isolated instances of misbehavior that do not affect the functioning of the classroom will probably not impact the score; misbehavior that is frequent, intense, or long in duration may influence CLASS scores.

See the whitepaper on the Teachstone® website for more analysis of coding in classrooms that include children with special needs.