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Preschool Classroom Quality in Trinidad and Tobago

Yyannú Cruz-Aguayo, Nicolás Fuertes, Sabine Rieble-Aubourg, Sara Schodt

Abstract

In this project we analyze data for 82 preschool centers in Trinidad and Tobago where teachers were assessed using the CLASS. The results show that teachers are performing well in the Emotional Support and Classroom Organization domains, but they need to improve the type of interactions that are score in the Instructional Support domain. These results are consistent with the ones found in previous studies, particularly in Ecuador and the United States.

Key words: Teacher quality, preschool
JEL codes: I21, I24

1. Introduction

Classroom quality is a complex, multifaceted variable that is usually measured by looking at structural quality, process aspects of quality, or some combination of the two. Structural quality refers to easily "countable" tangible features of the classroom like teacher qualifications, degrees, training and experience, adoption of certain curricula, class size and child-teacher ratio. In contrast, process quality refers to the ways in which teachers interact with children and children interact with each other and with resources in the classroom; for example, the ways teachers implement activities and lessons, and the kinds of conversations and questions they engage in with children. These process interactions are particularly important because research shows that children learn and develop because of their interactions with adults and peers. These interactions can help shape children's brain architecture in ways that have lifelong implications (Fox et al., 2010). When adults are sensitive and responsive to children's cues and needs, children maximize their learning and development (Center on the Developing Child, 2012).

One way to measure classroom quality is to observe the process variables just discussed, measuring the quality and quantity of interactions that the teacher engages in with students on a regular basis. To measure classroom quality for the purposes of this study, we used one of the most highly regarded quality measurement instruments, the Classroom Assessment Scoring System (CLASS). The CLASS is an observational measure of the quality of teacher-child interactions that has been validated in several contexts, including developing countries (Pianta et al., 2008). The CLASS measures process quality across three broad areas called domains: **Emotional Support, Classroom Organization,** and **Instructional Support** and each domain is further divided into several dimensions[1]. Finally, each dimension is further disaggregated by specific indicators and behavioral markers, which certified CLASS analysts are trained to observe and create composite score for each of the 10 dimensions.

Specifically, the CLASS assigns scores on a scale from 1 to 7 that describe the quality of interactions between teachers and students pertaining to a specific dimension. The dimension scores are then averaged to create domain-level scores reflecting teachers' Emotional Support, Classroom Organization, and Instructional Support. Low range scores (assigned a numerical value from 1-2) indicate very few of the desired behaviors are observed; mid-range scores (3, 4, 5) reflect some of the behaviors observed and high range scores (6-7) indicate that behaviors are observed consistently among the majority of students.

[1] The Emotional Support domain is comprised of the dimensions of Positive Climate, Negative Climate, Teacher Sensitivity, and Regard for Student Perspectives; the Classroom Organization domain includes Behavior Management, Productivity, and Instructional Learning Formats; and the Instructional Support domain includes Concept Development, Quality of Feedback, and Language Modeling.

Emotional Support domains is related to the children's emotional and social expressions in the classroom. On one hand, classrooms that are emotionally supportive with show positive relationships between teachers and students. In these types of classrooms, teachers are aware of the student's needs and they can design activities that emphasize on students' interests and motivations. On the other hand, classrooms that score low on this domain show students that are emotionally distant from teachers. In these classrooms, teachers create their activities without considering the students' needs and interests. The literature has identified a relationship between emotionally supportive interactions and students' socio-emotional development in the future. For example. Perry et al. (2007) on a sample of 14 first-grade classroom found that emotional support during the first months of the year was associated with positive peer behavior along the school year[2].

The Classroom Organization domain is related to classroom routines and teachers proactiveness. For instance, if a classroom obtains a high score on this domain it means the teachers are able to manage behavior by setting expectations and they have clear routines and engaged on meaningful activities with the children. In contrast, classrooms with low scores on this domain show teachers that do not have clear routines, they need to spend much of their time solving behavior issues and the activities students do are not engaging for them. The literature has shown that managing behavior and attention increases the amount of time students spend on-task and manage to regulate their attention in a better way (Rimm-Kaufman et al., 2009). Also, it has shown that classrooms that are better organized and managed increase cognitive and academic development (Downer et al., 2010; Ponitz et al., 2009). Ponitz et al. (2009) using a sample of classrooms in the United States found that classroom organization predicts literacy gains.

The last domain (Instructional Support) is related to promoting order thinking and providing quality feedback that allows students to extent its learning. In a classroom with a low score, the amount of feedback students receive is little or in some cases they might not receive it. The literature has found that this domain is related to the student's positive academic outcomes (Burchinal et al., 2008; Burchinal et al., 2010; Hamre & Pianta, 2005; Mashburn et al., 2008). For example, Burchinal et al. (2010) using data from low-income American students found a relationship between this domain and academic skills (language, reading and math), particularly the students in classrooms with higher score on this domain are the ones that better perform[3].

[2] There is also evidence about the impact of higher emotionally supportive interactions on peer aggression (Merritt et al., 2012) and academic outcomes (Rudasill et al., 2010).

[3] Mashburn et al. (2008) found similar results in five different outcomes (receptive language, expressive language, letter naming, rhyming, and applied math problems).

The document is organized as follows. Section 2 describes the CLASS in Trinidad and Tobago and shows the results for the domains. Section 3 discusses the regional perspectives and compares the results from Trinidad and Tobago with Ecuador and United States where CLASS has also been applied in classrooms for the same grades. Finally, Section 4 presents the conclusions about the results obtained for this project.

2. CLASS in Trinidad and Tobago

In Trinidad and Tobago, we applied the CLASS in 82 preschool centers serving children 3 to 4 years old. Following CLASS protocols developed by researchers at the University of Virginia and also applied in our work in Ecuador, we filmed a full school day in each of the centers, and then discarded the first 30 minutes of each video (to give teachers and children time to get comfortable with the presence of the cameras), and moments such as nap time or where the main teacher was gone for more than 5 minutes[4]. Each video was edited into 20-minute segments complying with the previously mentioned criteria, and the first four segments were coded using the pre-K CLASS by a highly trained and certified team of 8 coders. A master CLASS coder trained, provided feedback, and supervised the coders.

Each of the segments is coded by two of the certified coders but when the differences in the scores given by the two coders are large, the segment is selected for a third coding. The rule follow to select the videos for third coding was: If they have a difference of more than 1 point in Negative Climate, Concept Development, Quality of Feedback, or Language Modeling; if they have a difference of more than 2 points in any of the other dimensions of the CLASS.

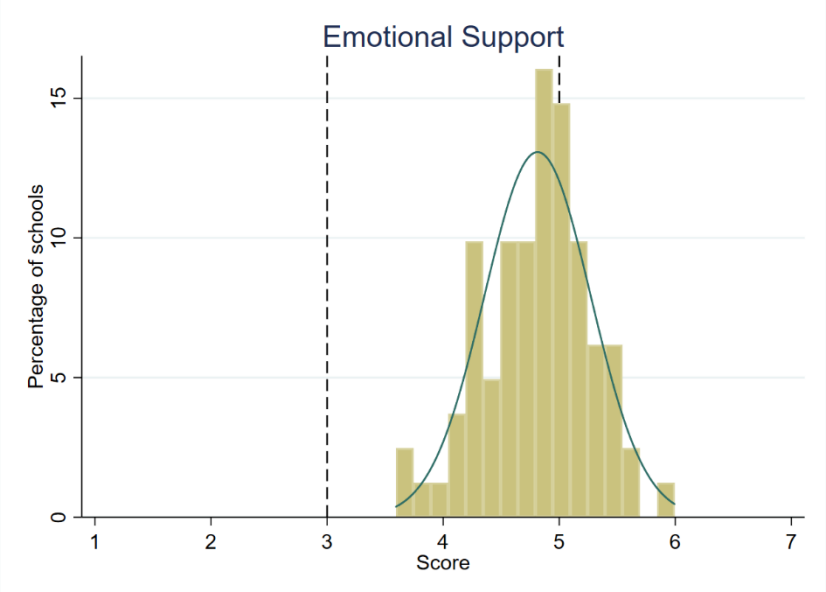
The CLASS allowed us to identify what kinds of more- and less-effective interactions take place in children's day-to-day classroom experience, and some of the news are encouraging, especially in the Emotional Support and Classroom Organization domains. However, the results in the Instructional Support show there is room for improvement in the type of activities teachers do with the children assessed by this domain.

Figure 1 shows the distribution of centers based on the score they obtained in the Emotional Support domain. All the schools in the sample have a medium or high score showing that the teachers are doing good in some activities but that there is room for improvement in some other things they do. It is important to note that most of the schools obtained scores above 4 which are good news about teacher's performance on this domain. Classroom interactions were generally observed to provide mixed amounts of emotional support, with some clear evidence of positive, warm, and respectful relationships between

[4] Araujo et al. (2016) includes more details about the CLASS applied in Ecuador for the Closing Gaps project.

teachers and children and among children. Classrooms activities were highly teacher-centric at the expense of following children's lead in promoting learning or exploration. Teachers were at times unaware of or less responsive to children's emotional and academic needs. However, children also consistently seemed to enjoy their time in the classroom and appeared comfortable in approaching the teacher for help, showing some evidence that they saw the teacher as a source of support.

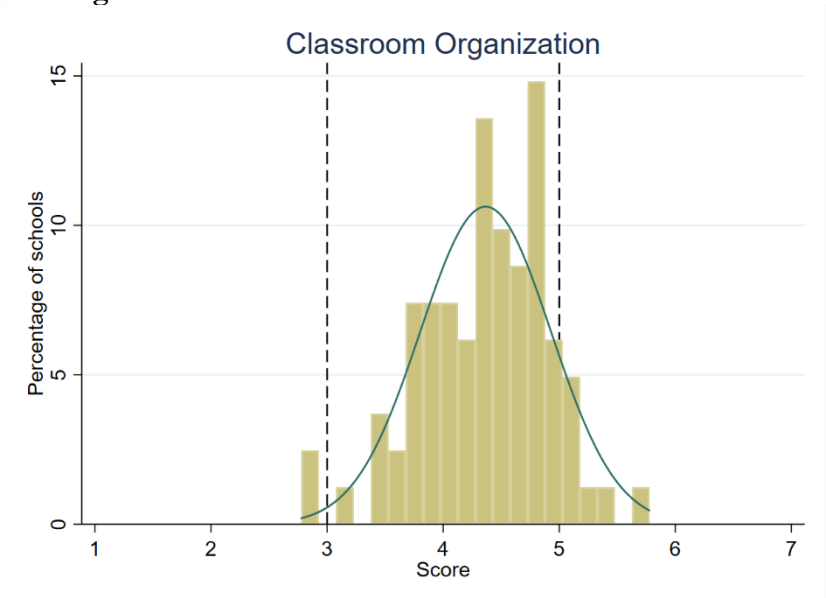
Figure 1. Emotional Support Score



Note: The figure graphs the percentage of schools that obtain a score in the CLASS domain and its correspondent normal distribution. Each CLASS domain is scored on a 1-7 scale, scores of 1-2 indicate low quality, scores of 3-5 indicate medium quality, and scores 6-7 represent high quality.

The distribution of centers in the Classroom Organization domain is shown in Figure 2. In this domain, also most schools obtained a medium score but some of them are in the lower part of the distribution (scores lover than 3) and there are fewer schools with high scores compare to the results for the Emotional Support domain. The results suggest that most of the teachers are doing the things in a proper way, but some teachers need to focus more on this domain and correct some of the activities they do. Classrooms were generally well-organized, with some evidence of clear behavioral expectations and established routines; children were also provided with activities most of the time. However, teachers were inconsistent in monitoring children's engagement and promoting deeper participation for children who were not on task or fully engaged with activities. Teachers were at times reactive in managing children's regulation of their own behavior and children often waited long periods of time between activities.

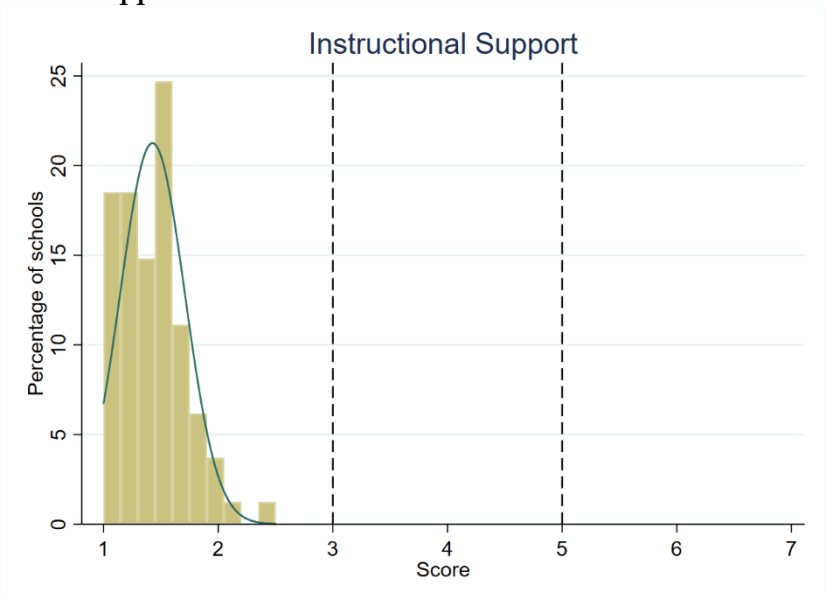
Figure 2: Classroom Organization score



Note: The figure graphs the percentage of schools that obtain a score in the CLASS domain and its correspondent normal distribution. Each CLASS domain is scored on a 1-7 scale, scores of 1-2 indicate low quality, scores of 3-5 indicate medium quality, and scores 6-7 represent high quality.

Finally, Figure 3 shows the distribution of centers based on the Instructional Support domain score. The graph shows that all the schools obtained low scores. Even more, most of them obtained scores lower than 2 meaning that teachers need to improve in this domain. In general classroom activities and instruction focused on primarily on children's performance of discrete skills as opposed to promoting higher order thinking or using feedback to expand and deepen skills and knowledge. There were few connections to children's daily lives or to previously learned concepts. Instead, learning focused on rote repetition or call-and-response questions. Classroom conversations were typically led and dominated by the teacher with few meaningful opportunities for children to provide ideas. Teachers infrequently promoted children's language skills, asking few to no questions that required more than a one-word response and rarely extended children's verbal communications. When teachers did engage with children, a common practice observed was for children to answer teachers' questions out loud together.

Figure 3: Instructional Support score



Note: The figure graphs the percentage of schools that obtain a score in the CLASS domain and its correspondent normal distribution. Each CLASS domain is scored on a 1-7 scale, scores of 1-2 indicate low quality, scores of 3-5 indicate medium quality, and scores 6-7 represent high quality.

3. Regional Perspective

Children learn and develop more in classrooms with higher quality teacher-child interactions, though few of them actually experience these types of interactions in the early years of school. Table 1 shows the mean of each domain for 3 different countries (Trinidad and Tobago, Ecuador and the United States). The table shows that the results between the United States and Trinidad and Tobago are not dissimilar, with Emotional Support and Classroom Organization typically of only moderate quality in primary classrooms, and Instructional Support in the low range[5]. This pattern of low instructional support appears to be consistent across the world in countries such as Portugal, Australia, Chile, Ecuador, and China (Araujo et al., 2016; Tayler et al, 2013; Cadima et al, 2010; Leyva et al, 2015; Hu et al, 2016).

Table 1: Mean by domain and country

	Emotional Support	Classroom Organization	Instructional Support
Trinidad and Tobago	4.81	4.37	1.43
Ecuador	4.07	4.79	1.15
United States	5.58	4.65	2.05

[5] For more information about the results in the United States see Denny et al., 2012; La Paro et al., 2009; LoCasale-Crouch et al 2007.

Also, in Table 1 it is possible to see that the quality in Latin America and the Caribbean is lower compare to the one in the United States. However, there are a few differences between Trinidad and Tobago, and Ecuador, being the latter with lower scores. In one of the most rigorous studies of early school classroom quality in Latin America and the Caribbean, Araujo et al (2016) randomly assigned over 15,000 children in the coastal region of Ecuador to 450 different kindergarten sections. Children were assessed at the beginning and end of the academic year with an extensive battery of tests, including measures language, math, and executive function. Measuring classroom quality with the CLASS, the authors found similar but slightly lower levels of CLASS scores that those found in Trinidad and Tobago: mid to mid-low levels of Emotional Support and Classroom Organization and low levels of Instructional Support.

4. Conclusions

Taken in their aggregate, moments coded by CLASS demonstrate that teachers in Trinidad and Tobago are engaging in some effective practices; we know from the existent literature that these interactions have a real impact: children learn significantly more in classrooms with teachers who have higher CLASS scores (and the effects seem to persist even after children leave their classroom) (Araujo et al, 2016). These are exciting findings, supporting evidence from other parts of the world, that what teachers do every day in their classrooms is critical. With that in mind, the next logical steps are of the utmost importance; namely, asking: how can these findings inform better policy and improve children's outcomes?

There is increasing interest in providing more effective and comprehensive support to in-service teachers, already working with children day in and day out. Given that teachers' classroom behaviors and practices, and specifically the way in which they interact with their students, are most strongly associated with children's improved learning outcomes, effective professional development must also focus specifically on this aspect of classroom quality.

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