

EVALUATION OF WEST VIRGINIA  
UNIVERSAL PRE-K:  
CLASSROOM OBSERVATION FINDINGS,  
SY2021-22.

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## Overview

Starting in 2015 the National Institute for Early Education Research partnered with the West Virginia Department of Education for a multi-year evaluation of *West Virginia's Universal Pre-K* program, with the goal of understanding the impact on children, as well as assess classroom quality over the years. This report summarizes the classroom quality observed in the 2021-2022 school year.

This report focuses on observed classroom quality in the period following the unprecedented challenges across all education systems that the COVID-19 pandemic imposed on classrooms, children, and families. West Virginia led the way in school re-openings with an effort to minimize disruptions to children's educational opportunities.

We observed 196 preschool grade classrooms this school year using the Classroom Assessment Scoring System (CLASS pre-K). The study was carried out in 12 counties across the state, 6 which had been studied in previous years. Generalizations are therefore reliant on the similarities between the counties represented in this study and other counties in the state. Participating counties were intentionally invited to participate with considerations to engaging counties across the state. The following counties are included: Clay, Fayette, Greenbrier, Kanawha, Logan, Mineral, Morgan, Nicholas, Preston, Roane, Tyler and Wood. The sample of classrooms included is representative of individual districts allow documenting patterns in classroom quality over time.

## Study Methods

### Sample

In the Spring of 2022, CLASS data were collected in 196 preschool classrooms. Table 1 represents the full sample of preschool classrooms observed by county.

Table 1. Sample by county

County	Preschool Classrooms
Clay	7
Fayette	8
Greenbrier	17
Kanawha	57
Logan	17
Mineral	14
Morgan	7
Nicholas	12
Preston	15
Roane	6
Tyler	4
Wood	32
<b>Overall</b>	<b>196</b>

## Measures

*Classroom Assessment Scoring System (CLASS; Pianta, La Paro, & Hamre, 2008)*<sup>1</sup>

The CLASS© assesses classroom practices through direct observation. It is centered on capturing the depth and frequency of everyday interactions between teachers and their students. The observation process consists of four to five 20-minute cycles, each of these followed by 10-minute coding periods.

Interactions are measured through 10 dimensions, which are categorized into three domains. The Emotional Support domain includes four dimensions: Positive Climate, Negative Climate, Teacher Sensitivity, and Regard for Student Perspectives. The Classroom Organization domain includes three dimensions: Behavior Management, Productivity, and Instructional Learning Formats. The Instructional Support domain includes three dimensions: Concept Development, Quality of Feedback, and Language Modeling. Each dimension is measured on a seven-point Likert-type scale, for which a score of one or two indicates low range, a score of three, four, or five indicates mid-range, and a score of six or seven indicates a high range of quality. The CLASS dimensions are explained in the Appendix Table A.1.

## Data Collection

The classroom sample included in this report was derived from the total number of preschool classrooms provided by the WVDE and county coordinators. CLASS© observers were trained by CLASS certified trainers.<sup>2</sup> All observers subsequently completed Teachstone's specified reliability process. Additionally, data collectors took and passed Teachstone's online calibration test mid-way through data collection in order to avoid scoring drift. Observations were collected between January and March 2020. We communicated with schools in advance to schedule appointments for observations, and teacher names were disclosed at that time. Observation scoresheets were cleaned, entered, and analyzed by NIEER.

## Results

### Pre-K Teachers

Classroom observation efforts were complemented by a brief teacher survey to capture information on teachers' qualifications and experience. There was a 97% response rate. Preschool teachers in WV were on average 43 years of age (ranging between 24 and 68) and 98% identified as White, reflecting closely the child demographics in the state. Teachers reported on average high levels of education and experience: most lead teachers reported having a B.A. (42.96%) or an M.A. or higher degree (54.4%). The WV early childhood workforce continues to show strong stability, with teachers reporting on average 3.5 years of experience in the current

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<sup>1</sup> Pianta, R. C., La Paro, K. M., & Hamre, B. K. (2008). Classroom Assessment Scoring System™: Manual K-3. Baltimore, MD, US: Paul H Brookes Publishing.

<sup>2</sup> Teachstone is the publisher of CLASS© products and provides the CLASS observer trainings, certifications etc. All training activity was directly provided by them. See <http://www.teachstone.com/about-teachstone/>

position and 5.8 years of experience in the system. In line with regulations, most teachers reported having a certification (91.6%).

On the date that the classroom quality observation was carried out, there were on average 2 adults present (SD 0.55; range 1-4), 16 children were present (SD 3.49; range 4-20), with on average about 1.6 children repeating the grade (SD 1.5; range 0-6). Also, an average of 4.43 children were recorded with a disability (SD 2.39, range 0-11).

## Pre-K CLASS Results Spring 2022

Table 3 below reports the average CLASS scores for the 196 Pre-K classrooms observed in the 2021-2022 school year and reports the previous four years for which classrooms were observed with the CLASS. However, since in previous years only 7 counties participated and this last year 12 counties participated, two additional columns report the CLASS Pre-K scores only for counties in the Spring of 2022 that also participated in previous years, to assist with comparability.

CLASS Pre-K mean scores were 5.93 for CLASS Emotional Support (ES), 5.58 for CLASS Classroom Organization (CO) and 2.93 for CLASS Instructional Support (IS). The change in CLASS ES and CLASS IS scores in 2022 are statistically significantly higher than the 2019 scores (marked with an asterisk below).

Table 3. CLASS Pre-K domain means and ranges

CLASS Dimensions and Domains	Spring 2016 (N=105)		Spring 2017 (N=123)		Spring 2018 (N=120)		Spring 2019 (N=125)		Spring 2022 (N=132) <sup>a</sup>		Spring 2022 (N=196) <sup>b</sup>	
	Mean (range)	(SD)	Mean (range)	(SD)	Mean (range)	Mean (range)	Mean (range)	(SD)	Mean (range)	(SD)	Mean (range)	(SD)
Emotional Support	5.66 (2.35-6.95)	(0.90)	5.93* (3.25-7.00)	(0.75)	6.13* (3.95-7.00)	(0.64)	5.76* (3.15-7.00)	(0.74)	5.91* (3.65-7.00)	(0.74)	5.93* (3.65-7.00)	(0.71)
Classroom Organization	5.09 (1.33-6.87)	(1.16)	5.32 (2.93-7.00)	(0.86)	5.67* (3.40-6.93)	(0.74)	5.49 (2.20-6.93)	(0.83)	5.55 (2.53-6.93)	(0.94)	5.58 (2.74-7.00)	(0.91)
Instructional Support	2.65 (1.13-5.33)	(0.83)	2.67 (1.20-5.47)	(0.88)	2.60 (1.13-5.33)	(0.90)	2.28* (1.13-5.00)	(0.68)	2.99* (1.00-6.80)	(1.13)	2.96* (1.00-6.80)	(1.06)

Note: \* Statistically significantly different from the previous year at 0.05% level. Two-tailed t-test. <sup>a</sup>Reports 2022 scores that correspond with the sample of counties that participated in previous years. <sup>b</sup>The total 2022 sample included 12 counties.

The distributions of CLASS Pre-K scores for each domain across the five years are illustrated in Figures 1a, 1b, and 1c below. The WV pre-K score patterns for the 2022 observations are slightly above the findings from the National Overview of Head Start grantee CLASS scores in 2020 (OHS, 2020) for the Emotional Support domain, but under these for the Classroom Organization and Instructional support domains. The national observed pattern across the three domains shows a higher score in CLASS ES (with the national mean at 6.03), a mid-high score on CLASS CO (with a national mean of 5.78), and lower scores on CLASS IS (with a national mean of 2.94).<sup>3</sup> In the WV pre-K classrooms assessed, 88.3% of the CLASS ES scores were above 5 and 75.1% had CLASS CO scores above 5. This year, 44.7% of the classrooms were observed with CLASS IS scores above 3; a much higher percentage than years prior.

Figure 1a shows an increase after the 2019 lower scores observed in CLASS ES, with a higher percentage of classrooms scoring in the higher levels this year. Like 2019, no classrooms scored in the lower range (below a 3) for CLASS ES. Figure 1b depicts the distributions for

<sup>3</sup> See <https://eclkc.ohs.acf.hhs.gov/data-ongoing-monitoring/article/national-overview-grantee-class-scores-2020>.

CLASS CO scores in pre-K for the last five years. The pattern resembles that of CLASS ES, with classrooms concentrating at mid to high levels and only 1% of classrooms scoring below a 3. Figure 1c illustrates consistently lower CLASS IS scores over the years, following national patterns. Yet, these show a significant improvement relative to prior years. There is a lower concentration (55% of pre-K classrooms) that scored in the low range (1.00-2.99) and 5% scored in the high range (above 5).

Figure 1a. CLASS Pre-K distributions with means and standard deviations for 2016, 2017, 2018, 2019 & 2022- Emotional Support

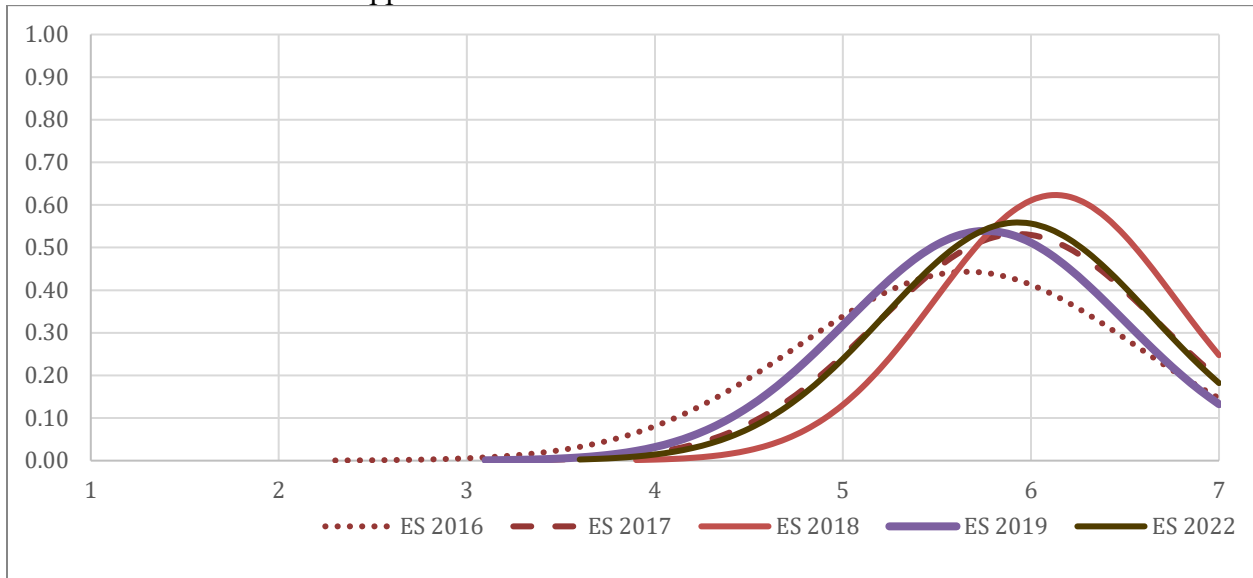


Figure 1b. CLASS Pre-K distributions with means and standard deviations for 2016, 2017, 2018, 2019 & 2022- Classroom Organization

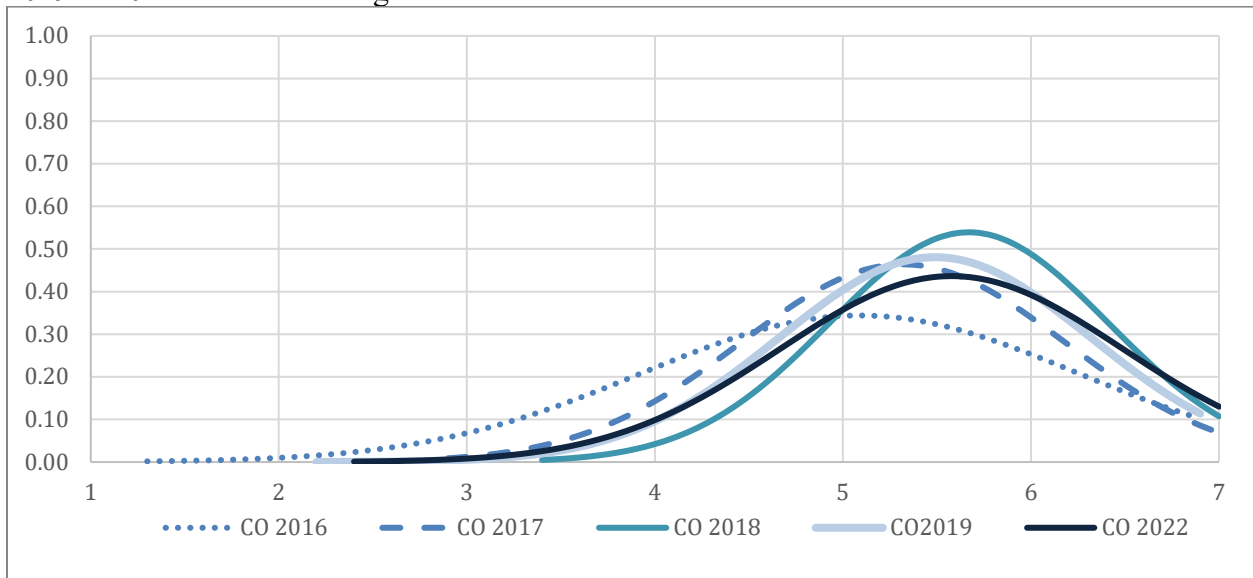


Figure 1c. CLASS Pre-K distributions with means and standard deviations for 2016, 2017, 2018, 2019 & 2022- Instructional Support

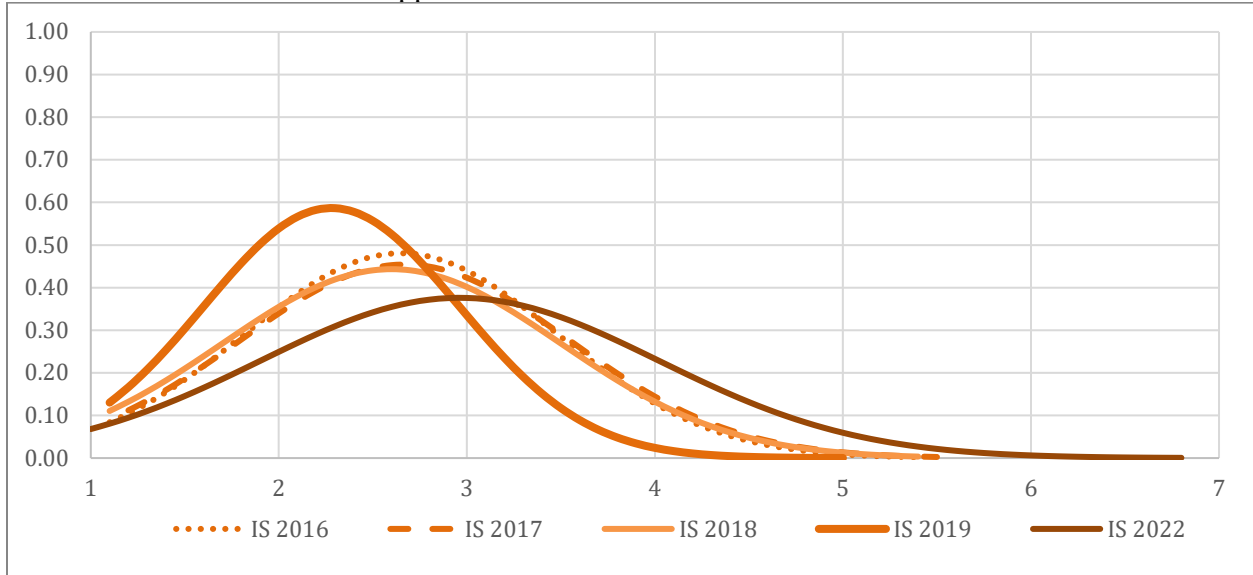
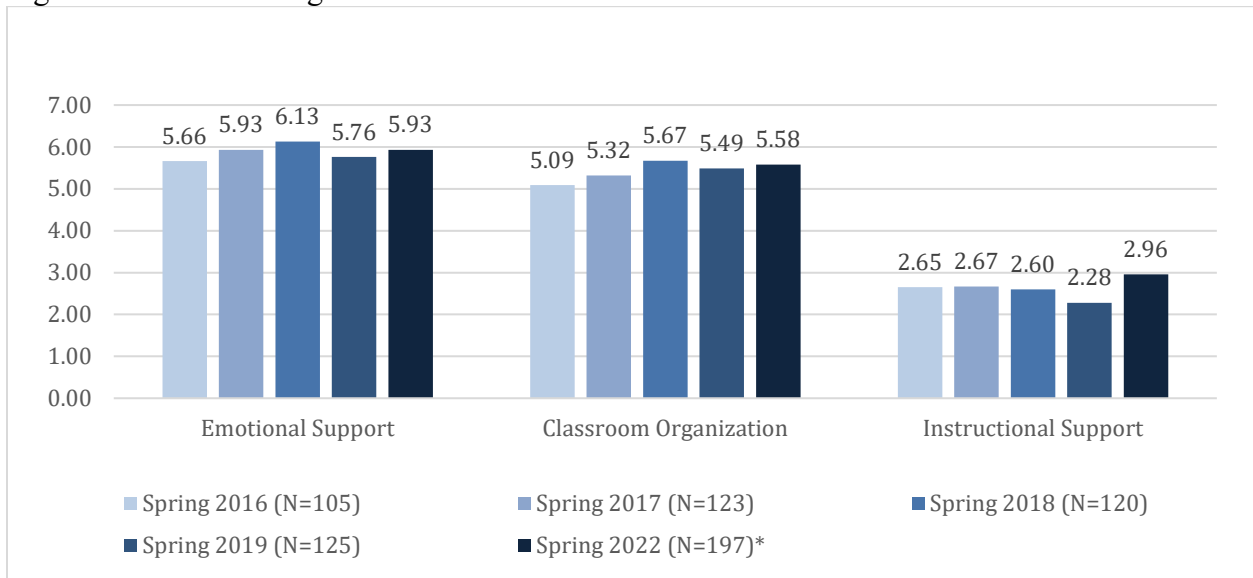


Figure 2 below depicts the average over time. ES shows substantial stability at higher average scores over the years. In addition, improvement in CO scores is observed over time. Lastly, the higher IS scores relative to prior years is evident in this last round of classroom observations.

Figure 2. CLASS average domain scores over time



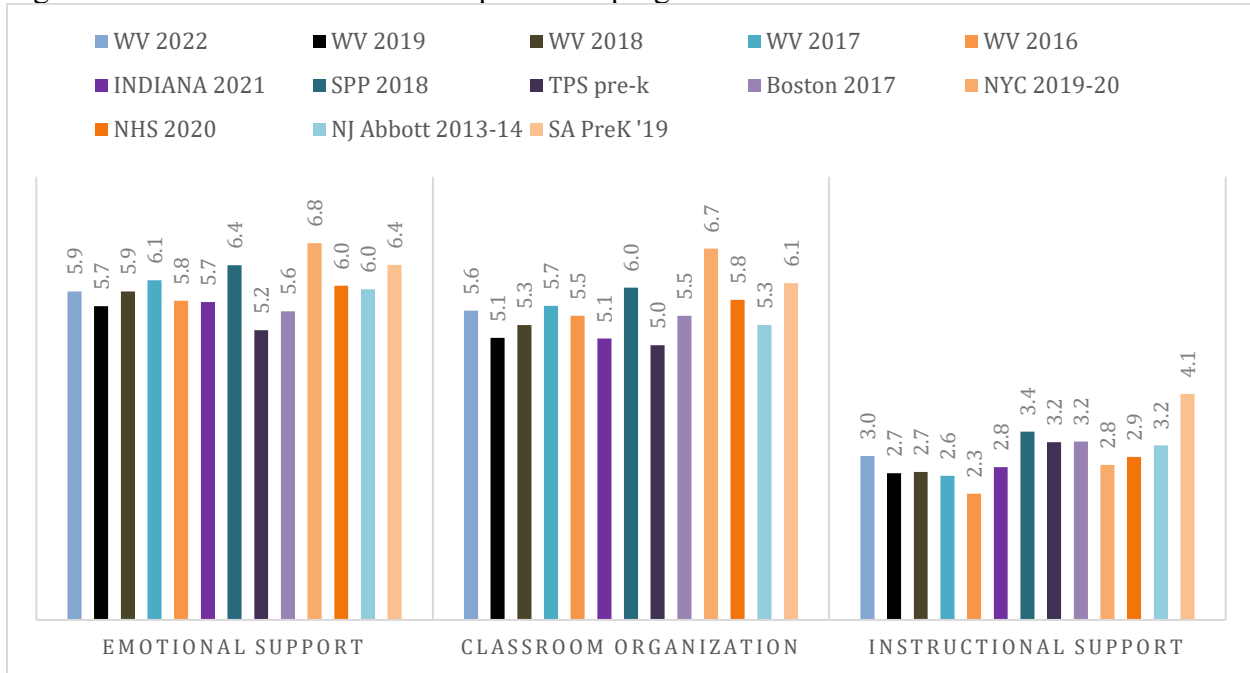
Note: There is a small and significant positive association between year of evaluation and CO scores ( $P=0.000$ ) as well as IS scores ( $P=0.000$ ). No association was found for ES scores (at a 5% confidence level), confirming stability.

To set these findings in context, Figure 3 below reports the last average CLASS scores documented for various state-wide or city-level preschool programs. Classrooms across all studies consistently score in the higher range on the Emotional Support domain, the mid- to high-



range on the Classroom Organization domain, and in the low- to mid-range on the Instructional Support domain. Figure 2 includes preschool scores for five years of the WV evaluation. In relation to other programs WV is in the mid-high range across programs across all three domains.

Figure 3. CLASS Scores for various preschool programs in the U.S.



Note: For WV, N=105 in 2016, N=123 in 2017 and N=120 in 2018. N=125 in 2019 and N=197 in 2022 (including more counties this specific year). Sources: Nores, et al. (2022); Phillips et. al (2009); Weiland et. al (2013); NYC Department of Education (2020); Office of Head Start. (2022); Aikens et. al (2013); NIEER (2014); EDVANCE (2019).

The information provided by the CLASS across domains and dimensions can be thoughtfully integrated into existing systems of evaluation and quality improvement in the WV Pre-K system. Table 4 reports the mean, minimum, and maximum scores for the 10 CLASS dimensions for the spring of 2022. For CLASS ES, and consistent with previous years, the lowest scoring dimension was *Regard for Student Perspectives* (although scoring above 5 on average this year); the lowest scoring dimension for CLASS CO was *Instructional Learning Formats* (although also scoring above 5 this year), and the lowest scoring dimension for CLASS IS (and the only one scoring under 3), was *Concept Development*. This trend has been consistent across the five study years reported above.

In relation to CLASS ES, underlying research on the CLASS has shown that in classrooms scoring above a level of 5, children exhibit greater gains in social competence and declines in behavioral problems.<sup>4</sup> High levels in CLASS ES reflects a nurturing and caring environment, where teachers and children are enthusiastic and engaged with the learning process, and respectful of each other. That is, the classroom provides a caring and secure base for learning, play and exploration. *Regard for Student Perspectives* (RSP) centers on the extent to which teachers’ interactions with their students and the classroom activities they implement

<sup>4</sup> Pianta, R. C., Hamre, B. K., & Allen, J. P. (2012). Teacher-student relationships and engagement: Conceptualizing, measuring, and improving the capacity of classroom interactions. In *Handbook of research on student engagement* (pp. 365-386). Springer, Boston, MA.

emphasize students' interests, their motivations, and are child-driven in this sense. This is reflected in the flexibility that teachers allow through the planned activities, and the respect and encouragement for child-driven initiation and participation. In a high-scoring classroom, the teacher shows flexibility in his/her plans and organizes or reorganizes instruction in relation to students' ideas. In essence, teachers are not expected to adhere rigidly to a plan at the expense of learning opportunities provided by the students' ideas, reflections, and overall engagement. RSP also implies that the day should not be dominated by the teacher talking, and that a teacher provides ample opportunity for children to contribute. This includes eliciting their perspectives and being interested in understanding how the students view the world (and why), supporting their autonomy and leadership by allowing choices (even during whole group times or teacher-led activities) and allowing students to contribute. Flexibility here refers to engaging with their verbal/non-verbal contributions, as well as flexibility in students' movement. All of this occurs within the context of clear behavioral expectations for students. Teachers that score at high levels in RSP understand children's developmental needs and what's appropriate for the activity at hand. For example, a student would be allowed to continue to wiggle around or stand instead of sitting in their chair when not interfering with the learning process.

The CLASS CO domains is much more centered on rules, expectations, and processes across different settings and across routines in the classrooms. This includes minimizing disruptions, managing and redirecting behavior, maximizing learning time, minimizing transitions, effective pacing across activities, and effective engagement of children. *Instructional Learning Formats* (ILF) is defined by CLASS as the teacher's ability to "maximize children's interest, engagement, and ability to learn from lessons and activities." Improvements in this dimension require engaging modalities that ensure children are interested and motivated in order to more effectively engage with the content. This dimension looks at effective facilitation, the daily use of a variety of modalities and materials with hands on opportunities for children, effective student engagement, and clear learning objectives. Teachers with effective ILF actively strive to distribute their attention across all students and facilitate engagement in activities and lessons to encourage deeper involvement and active interest. The teacher moves around the room, interacts with students, asks them questions, and facilitates active engagement, allowing students to get the most out of the instructional opportunities that are available.

CLASS IS is centered on problem solving, connecting, planning, predicting, experimenting, scaffolding and metacognitive processes in children. CLASS documentation describes evidence that children in classrooms scoring above a 3 tend to perform better in terms of language, literacy and math.<sup>4</sup> *Concept Development* (CD) encompasses four main areas: analysis and reasoning (why/how, problem solving, predicting/experimenting, classification & comparisons), creating (brainstorming, planning, producing), integration (connecting concepts and integration to extant knowledge), and connections to the real world (relating to children's experiences and the world around them). This dimension assesses the extent to which teachers use strategies that get students thinking about the how and why of learning in stark contrast to rote memorization of facts. Classrooms that score high on the CD dimension exhibit teachers that provide frequent opportunities for students to be creative and generate their own ideas and products and the teacher frequently uses brainstorming with the children in order to get them engaged, thinking, and planning. The aspect of integration requires that the teachers make active efforts to connect new and different concepts between each other and relate these to children's actual lives to make learning more meaningful. This enables students to apply their thinking to real-world events and consider concepts and ideas that are a part of their lived experiences.

Improvements and growth in this dimension require efforts to support children’s thinking and challenge them to generate creative solutions and explanations. Across all aspects of this dimension, frequency and depth are central.

Table 4. CLASS Pre-K dimension and domain means and ranges, N = 197

<b>CLASS Dimensions and Domains</b>	<b>Mean</b>	<b>Minimum</b>	<b>Maximum</b>
<i>Emotional Support Domain</i>			
<b>1. Positive Climate</b>	6.01	2.40	7.00
<b>2. Negative Climate*</b>	6.83	5.60	7.00
<b>3. Teacher Sensitivity</b>	5.77	2.80	7.00
<b>4. Regard for Student Perspectives</b>	5.10	2.60	7.00
<i>Classroom Organization Domain</i>			
<b>5. Behavior Management</b>	5.82	2.20	7.00
<b>6. Productivity</b>	5.74	2.60	7.00
<b>7. Instructional Learning Formats</b>	5.18	2.40	7.00
<i>Instructional Support Domain</i>			
<b>8. Concept Development</b>	2.69	1.00	6.80
<b>9. Quality of Feedback</b>	3.09	1.00	6.80
<b>10. Language Modeling</b>	3.10	1.00	6.80

\*The Negative Climate dimension is reverse scored so that a high score represents “good.”

## Conclusions and Recommendations

In an effort to expand the WV pre-K study, in the 2021-22 school year we assessed quality in a larger number of WV counties. Classrooms were observed across 12 counties. For Emotional Support, the findings show consistency across the years in scores. WV pre-K classrooms continue to score at high levels in Emotional Support. This implies that children’s experiences and environments are nurturing and safe. These scores appear to be quite stable year to year, even post pandemic and even after assessing quality in a higher number of counties, relative to what was observed in previous years.

In terms of Classroom Organization, pre-K classrooms observed are at a mid-high level, and scores seem to continue to exhibit a slow put positive overall trend across the five years. In addition, this year’s Instructional Support scores appear to show a similar upward trend, after being quite inflexible in prior years. This is quite a feat considering the strong impact that the pandemic had across early education systems in 2020.<sup>5</sup> While these is a positive trend, scores remain under 3 on average and further growth in this direction is important.

The research on classroom interactions suggests that growth in instructional supports may requires individualized supports, and intentional focus on the processes that support children’s language and higher order thinking. Among these are teachers’ use of discussions to stimulate reasoning; the scaffolding of children’s learning and metacognitive processes in whole group, small group and choice activities with children; promoting child choice and movement during free play time while scaffolding their learning during this time; “guiding” children’s play, scaffolding the learning process; stimulating and scaffolding children along the play continuum

<sup>5</sup> Friedman-Krauss, A. H., Barnett, W. S., Garver, K. A., Hodges, K. S., Weisenfeld, G., Gardiner, B. A., Jost, T. M. (2022). The State of Preschool 2021: State Preschool Yearbook. New Brunswick, NJ: National Institute for Early Education Research.

(from whole group and directed play, to games with rules, to guided play and free choice), and through integrated content; and reducing transition times. All of these strategies positively impact children's classroom experiences in preschool settings. Lastly, the fluctuations and trends over the years in CLASS would indicate that it is important to continue to assess quality in order to monitor program improvements, and also to inform efforts to continuously support teachers and the system at large in relation to these three domains.

Ultimately, it is important to state there is not one unique view of quality in preschool classrooms. But rather, improvements in the quality of the teaching and learning experiences in programs relate to the intentional integration of measurement efforts such as those reported hereby, with other sources of information on classrooms and children. The integration of these sources of information into continuous quality improvement efforts is what drives systemic improvements in quality. These processes require the use of the information in this report and in other sources of data to intentionally plan strategies to strengthen preschool classrooms.

## Appendix

Table A.1. CLASS domain and dimension descriptions

Domain	Dimension	Description
<b>Emotional Support</b>	Positive Climate	Reflects the emotional connection between teachers and children and among children, as well as the warmth, respect, and enjoyment communicated by verbal and nonverbal interactions.
	Negative* Climate	Reflects the overall level of expressed negativity in the classroom: frequency, quality, and intensity of teacher and peer negativity.
	Teacher Sensitivity	Encompasses the teacher’s awareness of and responsiveness to students’ academic and emotional needs.
	Regard for Student Perspectives	Captures the degree to which the teacher’s interactions with students and classroom activities place an emphasis on students’ interests, motivations, and points of view, and encourage student responsibility and autonomy.
<b>Classroom Organization</b>	Behavior Management	Encompasses the teacher’s ability to provide clear behavior expectations and use effective methods to prevent and redirect misbehavior.
	Productivity	Considers how well the teacher manages instructional time and routines and provides activities for students so that they have the opportunity to be involved in learning activities.
	Instructional Learning Formats	Focuses on the ways in which teachers maximize students’ interest, engagement, and abilities to learn from lessons and activities.
<b>Instructional Support</b>	Concept Development	Measures the teacher’s use of instructional discussions and activities to promote students’ higher-order thinking skills and cognition with a focus on understanding rather than rote instruction.
	Quality of Feedback	Assesses the degree to which the teacher provides feedback that expands learning and understanding and encourages continued participation.
	Language Modeling	Captures the effectiveness and amount of teacher’s use of language-stimulation and language-facilitation techniques.

\*The Negative Climate dimension is reverse scored so that a high score represents “good.”