

Assessing Classroom Interactions and K-Readiness

Spring 2018

K-Readiness at The New E3 School

The evidence is clear – high-quality early education experiences help children develop foundational readiness skills which are highly predictive of educational and workforce success. Children who enter kindergarten behind their peers rarely catch up without early intervention. Instead, the achievement and readiness gaps widen over time.

The New E3 School is a state-of-the-art demonstration school for all children ages one to five. The innovative mixed-income model is focused on the elements of high quality that lead to kindergarten readiness and the latest research in how young children learn and thrive. The STREAM: Integrated, Intentional, Interactions Curriculum (STREAMin3) model was developed at UVA's Center for Advanced Study of Teaching and Learning (CASTL) through funding from Elevate Early Education (E3) using the latest developmental and early education research. It focuses on five core skills that form the building blocks for later learning and six STREAM skills to prepare children for success in kindergarten.

The curriculum model includes:

- ◆ STREAMin³ Curriculum
- ◆ Professional development to support teachers' understanding of child development and increase the effectiveness of their implementation of the model.
- ◆ Coaching to improve teaching & learning in the classroom
- ◆ Assessments of children's skills & classroom quality

This Report

This report is being provided to the leadership at The New E3 School at their request to monitor the progress of teacher-child interactions and children's developing readiness skills. In the spring of 2018, children's readiness skills and the quality of classroom interactions at the school were assessed.

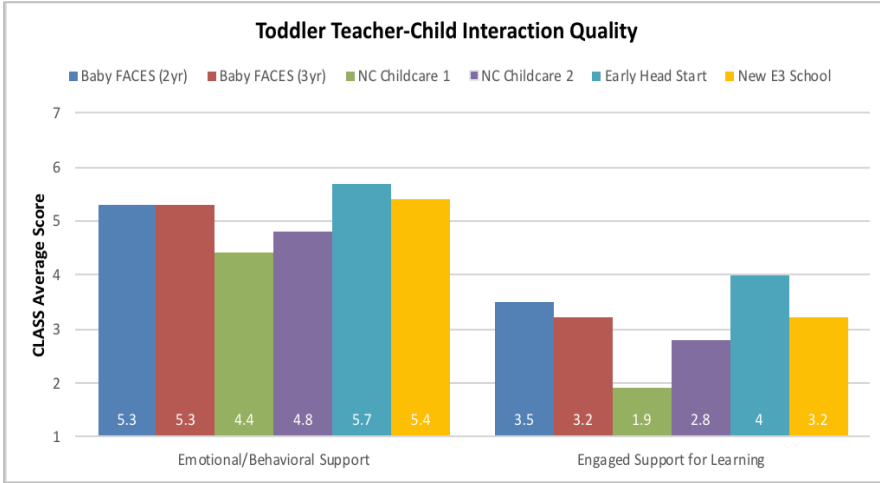
- ◆ *Readiness skills:* These skills were assessed for children at the end of their preschool year. The measures used were the same as those being used as part of the Virginia Kindergarten Readiness Program (VKRP) and assessed children's skills in areas of literacy, math, self-regulation, and social skills. For the literacy and math assessments, teachers or staff administered direct assessments (i.e., questions and tasks given directly to children in a setting outside of the classroom). Self-regulation and social skills were assessed through a teacher report on a screening measure (i.e., the teachers rate how often children generally show specific behaviors and skills).
- ◆ *Classroom Interaction Quality:* Classroom quality was measured using the Classroom Assessment Scoring System (CLASS). Certified CLASS observers, not previously involved with the school or curriculum development, observed teachers during their regular classroom instruction and assessed the quality of their interactions with children.

This report will cover the results of these assessments and how they are being used to inform and improve learning and teaching.

Measuring the Quality of Teacher-Child Interactions

When teachers are emotionally sensitive and responsive in their interactions with children and the quality of instruction is strong, the gaps in school-readiness skills diminish. The quality of teacher-child interactions was observed and assessed using the CLASS.¹ The CLASS is an observational tool that measures the quality of teacher-child interactions across critical domains of teaching that are linked to student achievement and development. Below are the scores for each of the CLASS domains. To provide context, they are compared with a sample of previous studies conducted using the CLASS.²

Toddler Classrooms

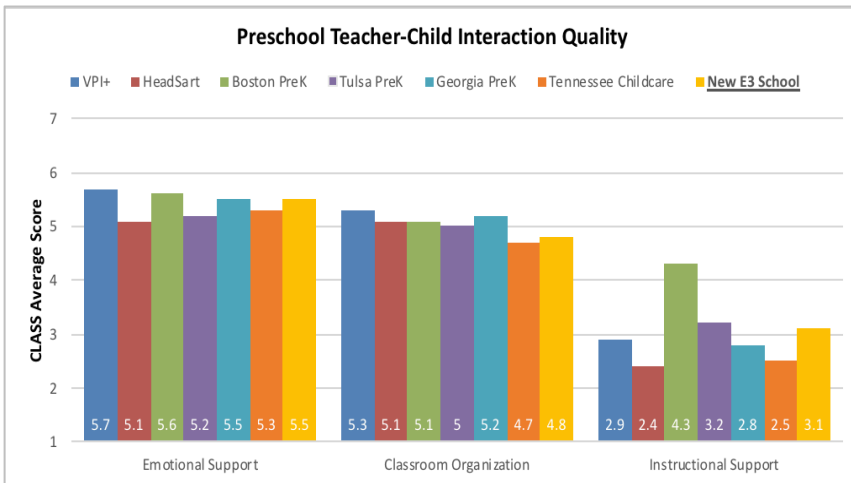


Emotional & Behavioral Support	Engaged Support for Learning
The toddler teachers averaged a score of 5.4. This score is in the upper reaches of the mid-range of quality. This is similar compared to data from previous studies.	The toddler teachers averaged a score of 3.2. This score is in the lower end of the mid-range of quality. The score is similar when compared to data from previous studies, with some higher and some lower.

What does this tell us?

These scores are averages of the four classrooms observed (ages 12 months to 2). They indicate that toddler teachers' interactions with children were of equal or higher quality compared to other well-regarded programs.³ The scores also indicate that teachers may benefit from additional support around Engaged Support for Learning (i.e., quality of feedback teachers are providing to children, their support for language development, and their facilitation of active, engaged learning).

Preschool Classrooms



Emotional Support	Classroom Organization	Instructional Support
The teachers averaged a score of 5.5. 5.5 is considered the threshold for high quality. The preschool teachers met this threshold.	The teachers averaged a score of 4.8, which is in the mid-range of quality. These scores look similar to data from previous studies. 5.5 is considered the threshold for high quality. There is room to grow in this area.	The teachers averaged a score of 3.1. This score is on the low end of the mid-range of quality. It is similar to or higher than scores in previous studies with the exception of one. A score of 3.25 is considered a threshold for high quality. The preschool teachers were close to this threshold.

What does this tell us?

These scores are averages across the 3 classrooms observed (class ages 3 to 5). They provide evidence that the teachers at The New E3 School are engaged in interactions with children at levels that are similar to or higher than other well-regarded programs.⁴ With the average score falling below the threshold for high-quality, preschool teachers need more support to provide higher levels of classroom organization (i.e., behavior management, productivity, facilitation of instruction). There is room to grow in Instructional Support (i.e., the quality of the feedback provided to students, support for language development and higher-order thinking).

Measuring School Readiness with VKRP

The Virginia Kindergarten Readiness Program (VKRP) is a partnership between the University of Virginia, the Virginia Department of Education, and school divisions across the Commonwealth. VKRP expands the assessments of children entering kindergarten beyond literacy (PALS) to include school readiness domains of math, social skills, and self-regulation. This data provides school divisions with a more comprehensive understanding of how kindergarten students are entering elementary school in terms of key readiness skills.

In 2017, 40 percent of children in participating divisions entered kindergarten unprepared in at least one of the school readiness domains — math, literacy, social skills, and self-regulation.

Children in the TNE3S’s four-year-old classroom were assessed on their readiness to enter kindergarten in May of 2018 using the same tools as those being used in VKRP. The results, compared to kindergarten entry benchmarks, are below. Children falling below the benchmark on a specific assessment are most likely not demonstrating the level of skills within that domain that one would expect for a kindergartener in the fall of the school year.

	What’s Being Measured?	K-Entry Benchmark	Class Average at TNE3S	Children at TNE3S Meeting/Exceeding Benchmarks
Math (EMAS)⁵ <i>Range 0-40</i>	Direct assessment of number sense, operations, shape, space, and pattern. Measures strategies and conceptual understanding.	25	30.82	9 out of 11 children met or exceeded the benchmark.
Self-Regulation (CBRS)⁶ <i>Range 0-5</i>	Teacher report on the child’s ability to control his/her attention, emotions, and behaviors to cope with the demands of the environment.	2.90	3.73	10 out of 11 children met or exceeded the benchmark.
Social Skills (CBRS)⁷ <i>Range 0-5</i>	Teacher report on the child’s ability to navigate teacher and peer interactions successfully.	3.71	3.56	6 out of 11 children met or exceeded the benchmark.
Literacy (PALS)⁸ <i>Range 1-8</i>	Direct assessment of child’s developing knowledge of phonological awareness and literacy (i.e., name writing, alphabet knowledge, beginning sound awareness, print and word awareness, rhyme, and nursery rhyme awareness).	Where the others set a composite score benchmark, PALS does not. There are 8 sections of this assessment. Each has its own benchmark.	6 out of 11 children met or exceeded the benchmark for all 8 sections. 3 out of 11 children met or exceeded the benchmark in 7 out of the 8 sections. 2 out of the 11 children met or exceeded the benchmark in only 4 out of the 8 sections.	

What does this tell us?

Most children met or exceeded the kindergarten entry benchmarks for math, literacy, and self-regulation skills. Five of the eleven preschoolers in this classroom did not meet the kindergarten-entry benchmark for social skills. This means some children in this classroom needed more support to demonstrate skills such as sharing, expressing their needs and wants positively (without verbal or physical hostility), taking turns, or complying with adult directions. The assessments also showed that a few children needed additional support with early literacy skills. Teachers in this classroom will benefit from coaching and support designed around how to support these skills, including using the curriculum resources available to them.

Action Steps

The assessments and observations suggest that children at TNE3S are engaged in quality interactions with teachers and that the majority of those heading to kindergarten are leaving with the skills needed to be successful. The data also points to areas where teachers would benefit from additional support, specifically in classroom organization and supporting the development of social skills. The recommended and planned action steps to improve learning and teaching are listed below.

Individualized Professional Development (PD) System and the CLASS

CASTL will pilot a micro-credentialing system for teachers. CASTL will use CLASS scores to determine an individualized scope and sequence of online learning material focused on effective teacher-child interactions. Teachers will submit videos documenting their skill in enacting these interactions and receive micro-credentials once they demonstrate competency. The goal will be to work toward all teachers achieving micro-credentials in all CLASS domains. CLASS observations will be conducted following micro-credentialing. CASTL will provide the online resources and will coordinate with TNE3S to provide supports to help teachers achieve this goal.

- ◆ **PD Time:** The school administration needs to plan for and provide consistent PD time to teachers so they can fully participate in this program. Teachers need to use this time efficiently with focus.
- ◆ **CLASS Training for Leadership:** The Director, Assistant Director, Curriculum Specialist, and coach must be well-versed in the CLASS. They will be formally trained on the CLASS assessment tool by the fall of 2018.

Formative Assessments

Formative assessments are ongoing observations and analyses of children's development that are used to inform teaching. Teachers complete checklists each week that focus on a set of critical child skills. They use their observations and experiences with children to determine who may need additional support or challenge and they use this information to make a concrete plan to immediately adapt their teaching.

- ◆ **Weekly Observations:** The curriculum requires that teachers make weekly observations related to a designated core skill of the week and share these with families. They will also use these observations to inform the formative assessments. Teachers are not currently making or sharing these intentional observations consistently.
- ◆ **Consistent, Intentional Use:** Formative assessments are only useful if done systematically and used to inform and adapt teaching. Teachers must consistently complete these every week and make and maintain the changes they plan (i.e., if they identify children who need extra support, they must make an individualized plan and stick to it).

Implementation of the Model

Even the best curriculum can only have the desired impact when implemented with fidelity. Implementation of the curriculum at TNE3S has been variable both in terms of features (e.g., the practices, routines, and activity cards are not being used fully in most classrooms) and across classrooms (e.g., some teachers are using the curriculum more fully than others). School administrators and curriculum specialists must provide the systematic support and accountability checks needed to ensure full implementation of the curriculum model.

- ◆ **Effective Onboarding of New Staff:** Consistent, timely onboarding of all new staff members (teachers, substitutes, floaters, etc.) using all of the available curriculum resources.
- ◆ **Deep Understanding of the Curriculum:** The school administrators must have a firm grasp on the content in all of the components of the curriculum (e.g., activities, routines, assessments, etc.), and the intention behind each so they can inform and support teachers.
- ◆ **Monitoring Plan:** The administrators need to develop a concrete and systematic, monitoring plan for ensuring the full implementation of the curriculum. The plan will be most effective if it includes:
 - ◆ A weekly schedule for classroom observations using the Implementation Checklists.
 - ◆ Systematic fidelity checks (e.g., formative assessments, planning, weekly observations).
 - ◆ Monthly checks on teacher's progress and their work with the coach related to the CLASS PD system.
 - ◆ Monthly acknowledgment of quality implementation of the model.

This report was prepared by Amanda Williford and Kate Matthew at the University of Virginia's Center for Advanced Study of Teaching and Learning (CASTL).

¹ Teacher-child interaction quality was measured using the CLASS in March of 2017. Trained data collectors observed the classroom for 15-minute cycles and rate aspects of classroom quality on a scale from 1 to 7 (with scores between 1-2 being in the low range, 3-5 being in the mid-range, and 6-7 being in the high range). Higher scores indicate higher classroom quality.

² Burchinal, M., Vandergrift, N., Pianta, R., & Mashburn, A. (2010). Threshold analysis of association between child care quality and child outcomes for low-income children in pre-kindergarten programs. *Early Childhood Research Quarterly, 25*, 166-176.

Burchinal, M., Vernon-Feagans, L., Vitiello, V., & Greenberg, M. (2014). Thresholds in the association between child care quality and child outcomes in rural preschool children. *Early Childhood Research Quarterly, 29*, 41-51.

Weiland, C., Ulvestad, K., Sachs, J., & Yoshikawa, H. (2013). Associations between classroom quality and children's vocabulary and executive function skills in an urban public prekindergarten program. *Early Childhood Research Quarterly, 28*, 199-209.

³ Thomason, A. C., & La Paro, K. M. (2009). Measuring the quality of teacher-child interactions in toddler child care. *Early Education and Development, 20*(2), 285-304.

Castle, S., Williamson, A. C., Young, E., Stubblefield, J., Laurin, D., & Pearce, N. (2016). Teacher-Child Interactions in Early Head Start Classrooms: Associations with Teacher Characteristics. *Early Education and Development, 27*(2), 259-274.

Hamre, B. K. (2014). Teachers' daily interactions with children: An essential ingredient in effective early childhood programs. *Child Development Perspectives, 8*(4), 223-230.

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⁵ **Math skills:** The Early Mathematics Assessment System (EMAS). Assessors use a picture-flipbook and manipulatives to administer the EMAS while reading the script and entering data directly online.

⁶ **Self-regulation:** Self-Regulation subscales from the Child Behavior Rating Scale (CBRS). The CBRS is a short rating scale completed by the teacher that measures a student's approaches to learning, self-regulation, and social-emotional development. Items are assessed using a five-point scale (1= never, 5= always).

⁷ **Social skills:** Social subscales from the Child Behavior Rating Scale (CBRS). The CBRS is a short rating scale completed by the teacher that measures a student's approaches to learning, self-regulation, and social-emotional development. Items are assessed using a five-point scale (1= never, 5= always).

⁸ **Early literacy skills:** Phonological Awareness Literacy Screening System (PALS)-Preschool Version. PALS is a separate assessment measure used in combination with VKRP measures. For this report, the preschool version was used, and expectations are presented as those that would be expected at the end of preschool. Assessors use a manual, picture cards, and a short book to administer the assessment while recording data on paper forms. For this report, data are compared to expectations at the end of preschool.