

STREAMin³ Pilot in ECE Public & Private Classrooms: Comprehensive, Birth to Age 5 Curriculum

Researchers at the University of Virginia’s Center for Advanced Study of Teaching and Learning (CASTL), in collaboration with and with funding from Elevate Early Education (E3), recently developed a comprehensive, integrated, and research-based curriculum to be used in E3’s model early childhood education program, The New E3 School. The curriculum was designed to be used at scale in diverse early education settings for children birth to age 5. Through funding from the Virginia Department of Social Services, the Obici Healthcare Foundation, and the Alleghany Foundation, CASTL researchers are piloting the curriculum in over 100 private, faith-based, and public classrooms across 37 programs to understand its potential to improve children’s early educational experiences.

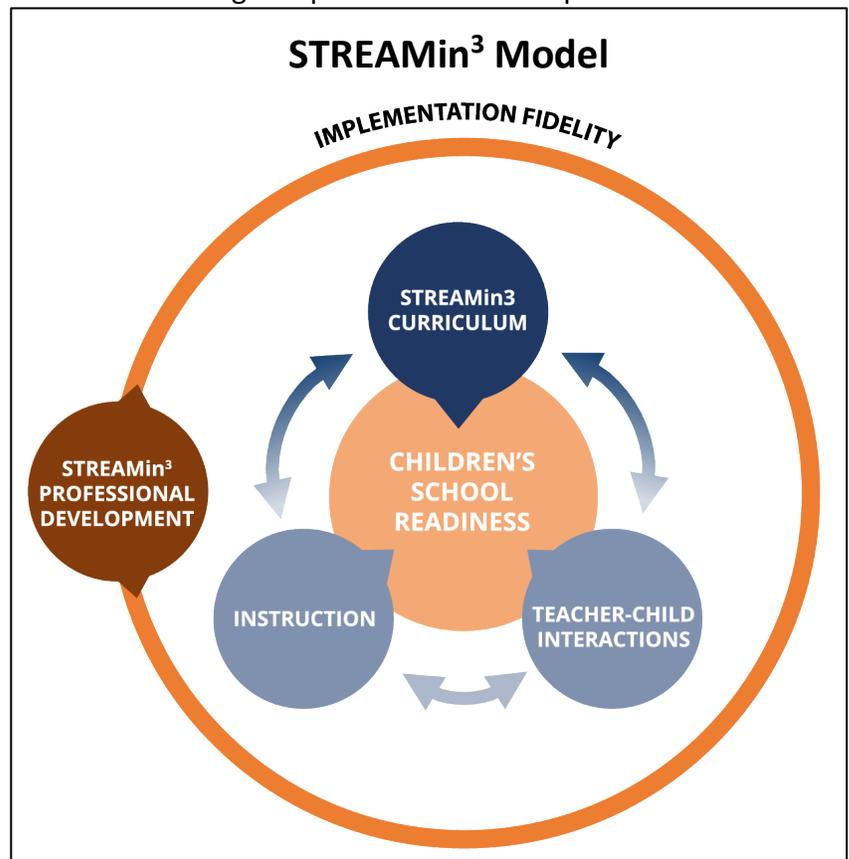
What is STREAMin³?

STREAMin³: Integrated, Intentional, Interactions Curriculum Model focuses on supporting children’s development of five Core Skills (Relate, Regulate, Think, Communicate, and Move) and six STREAM skills (Science, Technology, Reading, Engineering, Art, Math). The curriculum includes 39 weeks of classroom activities, a weekly focus on core skills, structures and routines for every part of the day, formative and progress monitoring assessments, and individualized coaching and professional development for teachers.

STREAMin³ Curriculum provides teachers and leaders with ongoing, individualized coaching and professional development that is directly aligned with what is happening in each classroom. Program leaders fully engage with the STREAMin³ curriculum, meeting regularly with their coaches and attending professional development sessions with teachers to support curriculum implementation.

Who is Participating in the Pilot?

The STREAMin³ pilot is taking place in the Tidewater and Western Tidewater regions, Charlottesville, and Covington and Alleghany County. Participants include private, faith-based, Head Start, and VPI programs serving infants (7% of classrooms), toddlers (18% of classrooms), and preschoolers (75% of classrooms).



Teacher and Leader Demographics

Participating teachers and leaders vary with respect to educational background, race, and years of experience.

		Teachers	Leaders
Education Level	High school diploma:	6%	0%
	Some college but no degree:	9%	0%
	High school diploma plus technical training or certificate:	1%	13%
	Two-year degree:	7%	6%
	Bachelor's degree:	42%	19%
	Master's degree:	35%	63%
Gender	Female:	99%	94%
	Male:	1%	6%
Race	Black/African American:	35%	19%
	Hispanic/Latinx:	3%	6%
	Multiracial:	2%	0%
	White/Caucasian:	60%	75%
Years of Experience with Children Birth to Five	Mean:	<i>15.46 years</i>	<i>18.25 years</i>
	1-10 years:	32%	25%
	11-20 years:	42%	43%
	21-31 years:	19%	19%
	31-40 years:	6%	13%

What Questions will the Pilot Answer?

The STREAMin³ pilot evaluation will answer three main questions:

- How well is STREAMin³ implemented in classrooms?
- Do the characteristics of the programs (e.g., program size) and teachers (e.g., years of experience or education) relate to how well STREAMin³ is implemented?
- Does using STREAMin³ relate to improvements in teacher instruction and gains in children's early learning?

Data on Teacher, Leader, and Program Characteristics

To help the STREAMin³ team understand the conditions that foster high quality implementation, the evaluation team is gathering information about teachers, directors, and programs.

- **Program auspices:** whether the program is part of VPI, Head Start, public child care, or private or faith-based
- **Teacher and leader background characteristics:** highest degree, major of study, years of experience in early childhood education
- **Program demographic characteristics:** ethnic and language composition of the center, number of children with Individualized Education Plans (IEP), number of children receiving care subsidies from local, state, or federal sources
- **Teacher self-report about their work climate and job stress**
- **Teacher, leader, and family satisfaction** with the STREAMin³ curriculum

Data on Fidelity of Implementation

A critical part of the evaluation process is to learn how well STREAMin³ is being implemented. Fidelity of implementation refers to the degree to which the STREAMin³ curriculum and coaching supports are delivered as intended by the design. Although no program is ever implemented *perfectly*, curricula, strategies, and interventions have larger and more positive impacts for teachers and children when they are implemented with high fidelity. Evaluating the fidelity of implementation is the first step in understanding the feasibility and effectiveness of a new program like STREAMin³.



Three components of implementation fidelity include:

DOSAGE	The amount of exposure to STREAMin ³ curriculum routines, activities, and coaching.	Measured with coach activity logs, professional development attendance records, and surveys of teachers and directors.
ADHERENCE TO & QUALITY OF DELIVERY	How closely what is actually happening in classrooms and during the coaching sessions reflects the intended implementation of STREAMin ³ curriculum.	Measured using observations conducted by coaches every two weeks.
PARTICIPANT RESPONSIVENESS	How teachers, leaders, and families feel about the curriculum. These feelings often influence the quality, adherence, and dosage of delivery.	Measured through feedback surveys collected in the spring and coach ratings of teacher engagement.

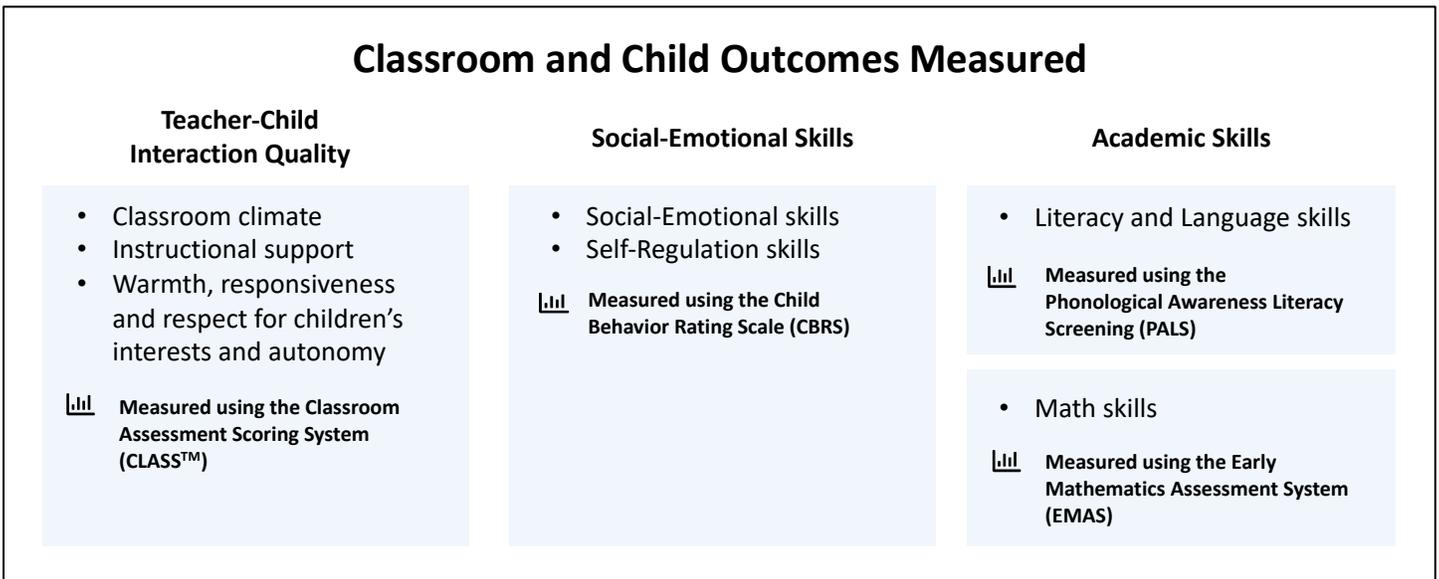
Data on Classroom & Child Outcomes

- **Classroom Quality (CLASS™)**
 - A critical element of the STREAMin³ curriculum model is the focus on intentional interactions between teachers and children. More than 100 studies link teacher-child interactions to children’s learning, development, social-emotional and cognitive skills, and document their importance in predicting future success and kindergarten readiness.
 - The evaluation team will use the CLASS™ (Classroom Assessment Scoring System) as a measure of the quality of teacher-child interactions.

● **Child Outcomes (VKRP & PALS)**

School readiness at age five is a strong predictor of later success in school. The evaluation team will use data from the VKRP (Virginia Kindergarten Readiness Project) and PALS (Phonological Awareness Literacy Screening) assessment systems to measure outcomes linked to school readiness for young children in several domains:

- **Social skills** (e.g. navigating relationships, cooperating, working in a group, resolving conflicts) and **self-regulation** (e.g. controlling attention, behavior and emotions to manage the demands of the school environment) will be measured using the Child Behavior Rating Scale (CBRS).
- Children’s **early math skills** will be assessed using the Early Mathematics Assessment System (EMAS), which includes content related to numeracy, computation, patterning, and geometry. This measure aligns with the Virginia Foundation Blocks early learning standards.
- Children’s **literacy skills** will be assessed using the PALS. This assessment identifies students who are not meeting minimum benchmarks for their age or grade level, measuring a child’s skills in the areas of spelling, word recognition, oral reading, alphabet recognition, letter sounds, concepts of words, phonemic awareness, blending and sound to letter relationships – all of which are predictive of early reading achievement.



How will we Use what we Learn?

This STREAMin³ evaluation will provide information on implementing this novel curriculum model in a cohort of diverse early learning programs. We will use the information to answer the main questions of the pilot— How was STREAMin³ implemented? What predicted implementation? And, did implementation relate to improved teacher practice and child learning?

We will also use the results to further improve STREAMin³ to better serve programs, teachers, and children and to help guide wider use of the curriculum model. Feedback from coaches, leaders, teachers and families is a critical component of the pilot that will be used to make improvements to the curriculum and professional development supports.