

Outcomes  
Study

LEVEL OF EVIDENCE  
Gold Standard

The Effect of Training and  
Ongoing Coaching on  
*The Creative Curriculum*<sup>®</sup>  
Implementation

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## **The Effect of Training and Ongoing Coaching on *The Creative Curriculum®* Implementation**

Increasing the use of evidence-based curricula and improving the fidelity with which teachers implement curricula hold critical importance for children’s academic and social development. Teachers in early childhood settings are increasingly required to implement research-based, developmentally appropriate, effective curricula with a high degree of fidelity. New pressure to implement high-quality curricula stems from an increasing focus on the importance of early education for later success. Unfortunately, in practice, research has reported that teachers often have difficulty implementing curricula in the ways that developers intend (Justice, Mashburn, Hamre, & Pianta, 2008), and fidelity levels are likely to stay low without substantial, ongoing support (DiGennaro, Martens, & Kleinmann, 2007).

### **What Is Fidelity?**

What is fidelity and why is it so important in early childhood education settings? Fidelity is defined as *implementing a curriculum or intervention the way it was intended to be implemented by the developers* (Mowbray, Holter, Teague, & Bybee, 2003). Specifically, to implement the curriculum and assessment with fidelity means that teachers (1) follow the guidance related to what and how to teach and assess; and (2) make adjustments or adaptations to meet children’s needs without changing the nature and intent of the material (Baker, Seagraves, & Mosley, 2016). The National Institute for Early Education Research (2017) published new ratings criteria of state preschool programs that include a standard focused specifically on state supports for curriculum implementation fidelity. The new criteria rate states on whether they provide guidance for selecting and adopting curricula and support to implement curricula with fidelity.

### **Importance of Fidelity**

It is critical that instructional strategies are implemented with sufficient fidelity, consistency, frequency, and intensity to ensure a child’s mastery of a skill (Wolery, 2011). Curricula implemented without a high degree of fidelity will fail to produce the intended benefits. The importance of examining effects of curriculum implementation fidelity has been recognized for decades. However, examples of links between implementation fidelity and children’s learning gains when exposed to curricula in early education settings are relatively rare.

One notable exception is a comprehensive work by Clements and Sarama (2008), which included extensive classroom observations collected during a randomized control trial of two math curricula. Three of the items on the observational measure of implementation fidelity significantly predicted gains in children’s math knowledge over the course of the year. Another study focused on a language development curriculum (Justice, Mashburn, Hamre, & Pianta, 2008) suggests links between teachers’ use of the curriculum’s intended language facilitation strategies and greater growth in children’s language over the year. More recently,

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Hamre and her colleagues (2010) found that process-oriented aspects of fidelity (e.g., use of scaffolding strategies) are most likely to be associated with child gains. Implementing an intentional curriculum improves child outcomes by helping to ensure program quality, by keeping children engaged and challenged, and by building specific skills targeted by the curriculum (Klein & Knitzer, 2006).

In addition, fidelity is key to quality education programs because it provides information on how consistently and regularly teachers implement the key elements of a curriculum over time. Programs that are committed to ensuring fidelity have processes in place that track whether the curriculum is implemented in a consistent way over time. That information enables teachers to evaluate what supports are needed to sustain curriculum implementation (Hamre et al., 2010). Here, the emphasis on “over time” is important because fidelity should not be a scripted, momentary response to curriculum implementation. Rather, it gives teachers information about how to improve practices to ensure that all children progress as planned. If a child is not progressing as planned, it can be helpful to examine exactly how teaching was implemented in order to improve the effectiveness of instruction (Luze & Peterson, 2004).

From administrators’ perspective, using a systematic approach to monitoring curriculum implementation can facilitate collaboration, problem solving, and planning among teaching team members within a classroom but also program-wide as child development service teams meet to think through curriculum implementation issues (Hsieh, Hemmeter, McCollum, & Ostrosky, 2009).

Researchers found that various components of fidelity implementation may also be more or less important for certain subsets of children. In the case of literacy and language development, for instance, there is evidence that children entering preschool with very low levels of literacy skill may respond quite differently to different types of instructional strategies than children with a higher level of skill. Justice and his colleagues (2008) found that implementation fidelity would be most closely related with outcomes for children who are entering preschool with the lowest level of skills in early literacy and who are non-native English speakers.

### **Further Help: Coaching**

It takes a great deal of effort to help teachers reach high fidelity. Buzhardt, Greenwood, Abbott, and Tapia (2007) reported that improving fidelity can take years of intensive work with schools and individual teachers, but that when this kind of ongoing support was provided, fidelity levels doubled. One way of improving fidelity is to provide teachers with individualized follow-up support after initial training. One particularly effective form of follow-up support is coaching. Coaching involves an expert providing individualized support to teachers. The purposes of coaching are to encourage accurate and sustained

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implementation of new teaching behaviors and to prevent the isolation that often occurs after teachers begin to implement new practices in their classrooms (Kretlow & Bartholomew, 2010). Research suggests that teachers who received more ongoing support had higher fidelity and higher student achievement in classrooms (Furtak et al., 2008). In practice, Head Start Program Performance Standards indicate that a program has to support staff to effectively implement a curriculum and, at a minimum, monitor curriculum implementation and fidelity. This standard ensures that teachers are getting support, feedback, and supervision for continuous improvement.

### **About the Study**

The purpose of this study was to explore the effectiveness of product training and ongoing coaching on teachers' ability to implement *The Creative Curriculum®* with fidelity. Teachers were taught how to implement *The Creative Curriculum® for Preschool* with fidelity to improve positive child outcomes.

### **Research Plan**

In the 2015–2016 program year, Teaching Strategies recruited preschool programs serving 3- or 4-year-old children and assigned them to implement *The Creative Curriculum® for Preschool, Sixth Edition*. At the start of the study, experienced trainers delivered curriculum implementation training to the study participants (pilot teachers). The study encompassed the 2015–2016 school year and continued through the end of the 2016–2017 school year. This 2-year implementation design makes it possible to examine the program's impact when teachers are trained to use the curriculum (at the end of Year 1), and again when those same teachers are in their second year of implementation (at the end of Year 2).

A total of eight preschool programs participated in the study in Year 1. Within the eight programs, 21 sites implemented *The Creative Curriculum® for Preschool, Sixth Edition*. The preschool centers were originally selected from different parts of the country and, as a group, they served a diverse student population. Data were collected on children's demographic characteristics, and trained study staff assessed teacher–child interactions from the Classroom Assessment Scoring System® (CLASS®). CLASS® observation scoring system includes structured observation across the following dimensions: Positive Climate, Negative Climate, Teacher Sensitivity, Regard for Student Perspective, Behavior Management, Productivity, Instructional Learning Format, Concept Development, Quality of Feedback, and Language Modeling. Structured observations were also used to assess the fidelity with which pilot teachers were implementing *The Creative Curriculum® for Preschool* in order to compare the quality of the instructional environment of study classrooms.

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**Teacher Training for the Impact Study**

In the first year of the project, eight preschool programs serving 3- or 4-year-old children were recruited and assigned to implement *The Creative Curriculum® for Preschool*. Prior to the first year of the pilot, sites were implementing a “business as usual” curriculum approach in 3- or 4-year-old classrooms.

Experienced Teaching Strategies trainers delivered training on *The Creative Curriculum® for Preschool* to teachers at each pilot site. Each training session met the scheduling needs of the pilot site. Training was held onsite and provided teachers with the skills and resources needed to implement *The Creative Curriculum® for Preschool* in the fall. The majority of the initial training sessions were held from July 2015 through the middle of September 2015. As shown in Exhibit 1, eight training sessions were conducted by four Teaching Strategies trainers.

**Exhibit 1: Year 1 Treatment Group Teacher Training**

Date	# of Sites	Location
July 11, 2015	7	Honolulu, HI
July 17–18, 2015	1	Sunnyvale, TX
August 14–15, 2015	1	Willis, TX
August 21–22, 2015	1	La Crosse, WI
August 27–28, 2015	2	Madison, WI
September 2, 2015	7	Paterson, NJ
September 12, 2015	1	Montgomery, AL
September 13, 2015	1	Culver, MN

Pilot teachers completed 6 hours of training for two consecutive days (12 hours in total) to further explore *The Creative Curriculum® for Preschool* as a resource to use in their classrooms. Classroom observations were conducted twice during the pilot to collect CLASS® scores. Teaching Strategies had certified CLASS® observers collect CLASS® scores with minimal interruptions to the program’s daily operations. All observations were announced and scheduled with the program administrators/teachers. A total of 18 observations were conducted by a team of CLASS®-certified observers. The majority of the Fall 2015 CLASS® and *The Creative Curriculum® for Preschool* fidelity observations were conducted from October through the middle of November. Additionally, the majority of the Spring 2016 CLASS® and fidelity observations were conducted from late April through May.

### **Study Design and Implementation**

This section describes the design and implementation of the rigorous evaluation of the impact of *The Creative Curriculum® for Preschool* on child outcomes as a result of training and ongoing coaching. It includes a discussion of (1) research questions and the overall study design; (2) training and coaching plan; (3) data collection measures and procedures; and (4) summary of the findings.

### **Research Questions**

The evaluation study was designed to answer two primary research questions:

- Can *The Creative Curriculum® for Preschool* be implemented with fidelity? Do the study sites implement the instructional program with fidelity, as instructed by Teaching Strategies? Where do they fall short, and how does fidelity change over the 2 years of the study?
- How are CLASS® scores impacted by the training and coaching plan in a classroom?

To answer these questions, teachers in preschool programs serving 3- or 4-year-old children were assigned to implement *The Creative Curriculum® for Preschool* for 2 consecutive program years, experienced two announced CLASS® observations, and administered *The Fidelity Tool for Administrators* throughout the year. Study implementation began prior to the 2015–2016 school year and continued through the 2016–2017 school year.

### **Classroom Observation Data**

To measure the proximal impacts of *The Creative Curriculum® for Preschool* on the preschool classroom environment, observers used the CLASS® observation instrument (Pianta, et. al, 2008). This widely used instrument is designed to assess the quality of interactions between teachers and children in preschool programs, and is well aligned with the principles and operational aspects of *The Creative Curriculum® for Preschool*. The CLASS® instrument has been validated in early childhood educational settings and has been found to produce reliable data under a variety of operational conditions (La Paro, Pianta, & Stuhlman, 2004; Raver et al., 2008). CLASS® uses 7-point Likert scales to measure three broad domains of classroom quality, each comprising three to four subdomains. The emotional support domain includes measures of positive climate, negative climate, teacher sensitivity, and regard for student perspectives. The classroom organization domain includes measures of behavior management, productivity, and instructional learning formats. Finally, the domain of instructional support includes measures of concept development, quality of feedback, and language modeling. Trained observers assessed teachers in each domain along a continuum from low (1, 2), to mid (3, 4, 5), to high (6, 7) implementation quality, guided by detailed descriptions of expectations in each category.

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The developers of CLASS® have conducted extensive reliability studies of their instrument and have repeatedly found an average interrater agreement of 87 percent using paired observations, and have also found that ratings are generally stable across time.

**Implementation and Fidelity Data.** An assessment of the extent to which the study sites were able to effectively implement *The Creative Curriculum® for Preschool, Sixth Edition* was assessed by Teaching Strategies using *The Fidelity Tool for Administrators*. Ratings of each pilot teacher will be made in Fall 2015 and in Spring 2016 for Year 1, and again for all classrooms in Fall 2016 and Spring 2017 for Year 2.

The rating instrument—which is filled out after the assessor completes both a classroom observation and teacher interview—has spaces to record individual item ratings, to summarize ratings by categories, and to calculate an overall implementation fidelity score. The tool is organized into the following sections:

**Part I:** Implementation of *The Creative Curriculum® for Preschool: Daily Practice Resource Use* (4 items);

**Part II:** Implementation of *The Creative Curriculum® for Preschool: Physical Environment* (5 items), *Classroom Structure* (3 items), *Teacher–Child Interactions* (9 items), *Families* (1 item), and *Assessment* (1 item); and

**Part III:** Implementation of *GOLD®*, the accompanying child assessment system (1 item).

Each item was rated on a four-point rating scale: (1) strong evidence of fidelity = 3 points; (2) moderate evidence = 2 points; (3) weak evidence = 1 point; and (4) no evidence = 0 points. An overall domain rating was calculated such that to receive a “strong evidence” rating, at least three-quarters of the indicators in a particular domain must be evident; for a moderate rating, one-half to three-quarters of the indicators must be evident; for a weak rating, fewer than half of the indicators must be evident; and for a zero rating if none of the indicators are evident.

A total of three experienced Teaching Strategies assessors conducted *The Creative Curriculum® for Preschool* fidelity assessments. The assessors were selected based on their extensive knowledge of *The Creative Curriculum® for Preschool*. Each team member went through a 6-hour reliability training that included assessing two teachers (or classrooms).

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### Training and Ongoing Coaching Plan

Teachers involved in the study were initially given a 1-day in-person product training session by a certified Teaching Strategies trainer. The training days were 6 hours long and highly interactive to help teachers at all levels implement *The Creative Curriculum*® in their classrooms. During the session, teachers became familiar with the 38 objectives for development and learning that form the basis of the curriculum resources. They explored the foundational volumes, practiced using the *Daily Resources*, and learned how to implement a study. The items included in the *Daily Resources* are 6 *Teaching Guides*, 201 *Intentional Teaching Cards*™, 100 *Mighty Minutes*® cards, and 22 *Book Discussion Cards*™. The *Book Discussion Cards*™ are paired with some of the children's books from the Teaching Strategies® Children's Book Collection, which is included in *The Creative Curriculum*® for Preschool.

Following the product training session, teachers began to implement *The Creative Curriculum*® in their classrooms. After teachers were given a month for curriculum implementation, trained coaches traveled to each site to conduct CLASS® and fidelity observations. These observations were not intended to interrupt the classroom environment or the teachers' day. Coaches then sent scores and feedback to the site administrators and scheduled follow-up coaching sessions. The coaching sessions were based on the fidelity scores and used the *Coaching to Fidelity* manual as well as the CLASS® scores.

After the Fall 2015 fidelity observations, coaches began to support the teachers' level of implementation of *The Creative Curriculum*®: beginning implementation, progressing with implementation, and refining implementation. Teachers received individualized coaching based on their level of implementation. As discussed in the *Coaching to Fidelity* manual, beginning implementation teachers are those who are new to teaching, are new to the curriculum, or have not progressed in their implementation of the curriculum after prolonged use. Teachers who are progressing with implementation have an understanding of the basic strategies in the curriculum and are practicing the strategies daily. Refining implementation teachers have a high level of expertise implementing the strategies given in the curriculum and have begun to make the curriculum their own.

In addition to the onsite coaching visits, teachers were given interim support through biweekly newsletters, surveys, and phone calls. The purpose of this informal communication was to provide teachers a way to ask questions that may arise prior to a formal check-in with a coach. Teachers responded to biweekly emails and submitted responses to optional surveys, which helped the coach better tailor a plan for each teacher based on their specific needs. In the spring, coaches traveled to each site to perform another CLASS® and fidelity observation. The following academic year, teachers were again observed using CLASS® and the *Fidelity Checklist for Administrators* in the fall and spring. Implementation support visits were scheduled with each teacher to continue improving their understanding of the curriculum components and to improve their fidelity scores.

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### Summary of Results: Background

At the time of baseline observations, pilot classrooms had been implementing the resources for a month. Low implementation scores were expected during the first few months of implementation and could be a result of first-year implementation with new classroom curriculum resources.

The impact of learning how to use the new curriculum resources necessitated additional coaching support to successfully implement curriculum components with fidelity. Teaching Strategies pilot staff focused coaching efforts on increasing teachers' use of the *Daily Resources* within *The Creative Curriculum® for Preschool, Sixth Edition*. *Daily Resources* include 1) *Teaching Guides*, 2) *Intentional Teaching Cards™*, 3) *Mighty Minutes®*, and 4) *Book Discussion Cards™*. Focused coaching sessions were tailored to meet the needs of the pilot site.

The CLASS® scores are interpreted as follows:

### CLASS® Domain Ranges

Emotional Support (ES): 1 (Low Range) – 7 (High Range)

Classroom Organization (CO): 1 (Low Range) – 7 (High Range)

Instructional Support (IS): 1 (Low Range) – 7 (High Range)

	CLASS® ES Fall 2015	CLASS® CO Fall 2015	CLASS® IS Fall 2015	CLASS® ES Spring 2017	CLASS® CO Spring 2017	CLASS® IS Spring 2017
<b>Site A</b>	5.1	4.9	3.7	6.9	6.6	6.3
<b>Site B</b>	4.5	3.5	2.4	6.5	5.3	6.7
<b>Site C</b>	4.3	3	1.7	5	4	3.5
<b>Site D</b>	5.6	4.2	2.4	6.3	6.3	6
<b>Site E</b>	5	3.7	2.9	6.7	6.6	5.9
<b>Site F</b>	4	2.4	2.3	4.5	4.3	4.9
<b>Site G</b>	3	2.4	2.1	4.2	3.7	4.1

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Overall fidelity scores are interpreted as follows:

<b>Level of Fidelity</b>	<b>Overall Percentage Scores</b>
Strong fidelity	70 percent or higher total points
Moderate fidelity	50–69 percent total points
Weak fidelity	1–49 percent total points
No fidelity	0 percent

	<b><i>The Creative Curriculum® for Preschool Fidelity Fall 2015</i></b>	<b><i>The Creative Curriculum® for Preschool Fidelity Spring 2017</i></b>
<b>Site A</b>	92%	100%
<b>Site B</b>	97%	97%
<b>Site C</b>	68%	85%
<b>Site D</b>	41%	93%
<b>Site E</b>	73%	99%
<b>Site F</b>	46%	72%

Findings from this study produce positive results for teachers implementing *The Creative Curriculum® for Preschool, Sixth Edition* for the 2015–2017 program years in this pilot. CLASS® scores indicate that teachers achieved highest growth in the Instructional Support domain by implementing *The Creative Curriculum® for Preschool, Sixth Edition*. Overall, teachers scored lower ratings in Fall 2015 and achieved positive growth in both their CLASS® and fidelity scores by Spring 2017. Baseline outcomes in the fall indicate that teachers require time to adapt to using new curriculum resources in their classrooms. By Spring 2017, classroom scores and child outcomes suggest that teachers gained a deeper understanding of the implementation process. Child outcomes point to positive growth in all six areas of development and learning.

The results of this study highlight the importance of quality, ongoing support and training for teachers. The teachers in this study received feedback on their progress and a plan for how to improve child outcomes in their classrooms. Teachers completed surveys throughout the 2-year pilot and reported feeling more confident in their implementation of the curriculum as a result of the ongoing coaching and support they received. Many teachers reported the ability to email and complete surveys as the most helpful component, as it enabled them to get answers to their questions quickly and make changes in their classrooms as needed.

Overall, the pilot found that teachers who have access to a coaching plan are able to implement the curriculum with fidelity, and found teachers’ CLASS® scores and overall child outcomes to be higher. Research has shown that implementing a curriculum with fidelity is critical to a teacher being successful in the classroom.

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