HighScope Preschool Curriculum and Professional Development Efficacy Study

RESULTS IN BRIEF

Overview of the Study

The American Institutes for Research (AIR), an independent, nonpartisan, nonprofit research organization, received grant funding from the Institute for Education Sciences of the U.S. Department of Education to study the impact of the HighScope Preschool Curriculum and its professional development for preschool teachers, at scale, in the state of Alabama. The randomized controlled trial study was conducted in collaboration with Alabama's Office of School Readiness and 88 publicly funded First Class Voluntary Pre-Kindergarten (First Class Pre-K) programs in the state. The First Class Pre-K program funds full-day preschool education in a variety of settings throughout Alabama. The study involved randomly placing First Class Pre-K programs that served only 4-year old children into one of two groups: (1) one with immediate training and use of the HighScope curriculum (treatment group) or (2) the other continuing with current curriculum use and practice (control group).[1]

The study looked at the impact of the HighScope curriculum and its professional development training on one group of First Class Pre-K programs, compared to programs doing "business as usual" that had not received the HighScope materials and training. This brief focuses on the impact of HighScope on classroom quality[2] and addresses the following research question: Do teachers in Pre-K programs that adopt the HighScope curriculum exhibit higher quality classroom characteristics (i.e., instructional support, emotional support, and classroom organization) than those in control programs?[3]

About the HighScope Curriculum Professional Development Training

HighScope is a comprehensive, holistic curriculum that covers multiple domains of child development. First Class Pre-K programs assigned to the treatment group were provided the opportunity to participate in 120 hours of curriculum training,

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[1] Those First Class Pre-K programs assigned to the control group were offered the HighScope curriculum and training at a later date, at the end of the study period.

[2] The study found no significant differences between treatment and control groups when looking at child outcomes.

[3] Other research questions addressed by the study include the following: (1) Do children who attend programs that adopt the HighScope curriculum exhibit better preschool academic and behavioral outcomes than children in control programs? (2) Do the effects of HighScope vary by preschool teacher and child characteristics? (3) Is HighScope implemented as intended in terms of dosage, sequencing, and quality? (4) What factors are associated with the fidelity of implementation of HighScope? (5) Is the effect of HighScope mediated by the level of implementation or classroom quality?

scheduled in four 5-day blocks (e.g., 4 nonconsecutive weeks) over an entire school year. In addition, teachers received training materials for their own learning and to use in their classrooms. During the training year, teachers in the treatment group also received a coaching visit from HighScope curriculum trainers. In the implementation year of the study, the treatment group received two additional coaching visits.

Study Timeline

2015-2016	2016-2017	2017-2018	2018-2019
Pre-K Programs Random Assignment	HighScope Curriculum Training	Curriculum Implementation and Impact Measurement	Outcome Data Analysis
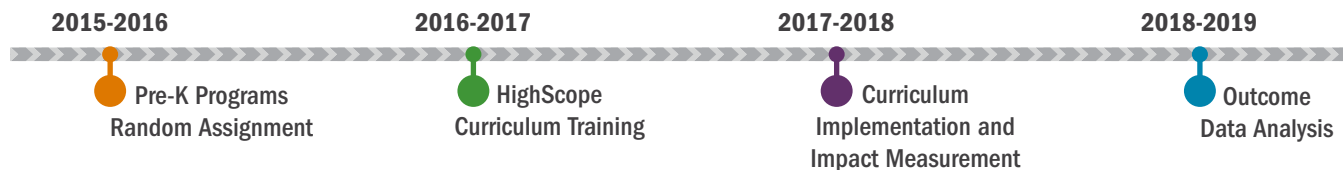
Study Sample

Three types of First Class Pre-K programs participated in the study: those within public schools (52), those within community-based or private organizations (28), and Head Start programs (eight). Forty-seven Pre-K programs, 73 classrooms, and 163 teachers were in the treatment group receiving the curriculum and training immediately. Forty-one Pre-K programs were in the control group (63 classrooms and 139 teachers), conducting business as usual. Both lead and auxiliary (assistant) teachers were included in the study. An average of 15 students per program participated in the study, and the number of First Class Pre-K classrooms within a program ranged from one to eight; about 71% of programs had only one classroom. There were no significant differences between the treatment or control groups in the characteristics of children served, as measured by a range of demographic characteristics.[4] Lead teachers in the treatment and control groups also were relatively similar in terms of their years of experience teaching Pre-K, their highest degree earned (e.g., bachelor's or master's), and their race/ethnicity.

Classroom Quality Measures

To assess the extent to which Pre-K programs that adopt the HighScope curriculum and its professional development exhibit higher classroom quality, the Classroom Assessment Scoring System (CLASS) Pre-K and the Program Quality Assessment (PQA) tool were administered by trained classroom observers in fall 2016 and spring 2018. CLASS measures emotional climate, classroom management, and instruction (Pianta, La Paro, & Hamre, 2008). Each item within the instrument is rated on a 7-point scale, with higher numbers meaning higher levels of quality on that domain. The PQA tool is aligned to the HighScope curriculum and measures learning environment, daily routines, and adult-child interactions. Each item within the PQA tool is rated on a 5-point scale (HighScope Educational Research Foundation, 2003).

Findings

We found that the First Class Pre-K programs in the treatment group exhibit higher quality classroom characteristics than those in the control programs. When we measured classroom quality at the end of the full curriculum implementation year (spring 2018), classrooms in the treatment group scored higher than control classrooms on all six of the CLASS and PQA measures. These results are illustrated in Figure 1 (CLASS scores) and Figure 2 (PQA scores). Although the HighScope treatment–control differences were not statistically significant in all cases,

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[4] The child sample was 51% female, 82% in poverty (per Alabama State Department of Education's definition) (T. Strichik, personal communication, October 31, 2019), approximately 4.5 years old at time of assessment, 37% Black, and 52% White. No statistically significant differences were found at baseline between children in the control and treatment groups with respect to gender, poverty status, or percentage of racially identified White and Black children. The treatment and control groups differed significantly in the percentage of "Other Race/Ethnicity"-identified children (control 15%, treatment 9%).

the estimated HighScope treatment effects were all positive and supported the conclusion that the HighScope treatment classrooms demonstrated higher classroom quality as measured by multiple domains.

The effects of the HighScope curriculum were particularly pronounced in CLASS Instructional Support, PQA Daily Routine, and PQA Adult-Child Interaction, where the treatment group demonstrated higher scores by amounts equivalent to between one half and one full standard deviation. To put these magnitudes into perspective, another study that used CLASS to measure classroom quality in 11 states found the average gap in overall CLASS scores between high- and low-income Pre-K students to be less than two fifths of a standard deviation (Valentino, 2017).

Figure 1. Adjusted Mean CLASS Scores for HighScope and Control Classrooms, Spring 2018
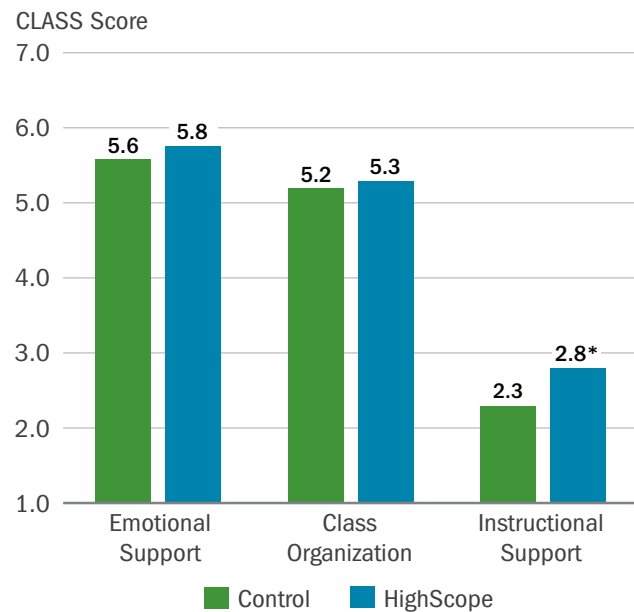
CLASS Score

* Difference between HighScope and control was statistically significant at the 0.05 level.
N = 136 (73 HighScope, 63 control). HighScope–control differences were equivalent to 0.25 standard deviations (SDs) in Emotional Support, 0.11 SDs in Class Organization, and 0.58 SDs in Instructional Support.

Figure 2. Adjusted Mean PQA Scores for HighScope and Control Classrooms, Spring 2018
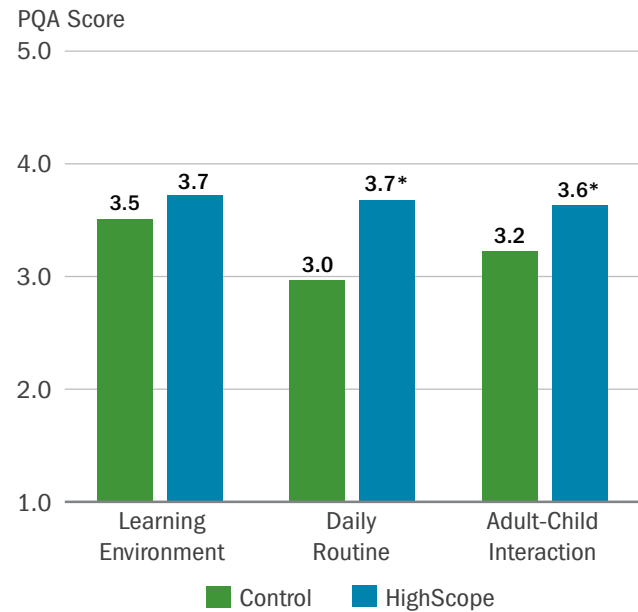
PQA Score

* Difference between HighScope and control was statistically significant at the 0.05 level.
N = 136 (73 HighScope, 63 Control) for Adult–Child Interaction and 137 (64 Control) for the others. HighScope–control differences were equivalent to 0.35 standard deviations (SDs) in Learning Environment, 0.98 SDs in Daily Routine, and 0.53 SDs in Adult–Child Interaction.

Conclusion

According to our study results, we conclude that First Class Pre-K programs that use the HighScope Preschool Curriculum and its professional development (treatment group) exhibit higher quality classroom characteristics than those in programs continuing with their current curriculum use and practice (control group), as measured by multiple tools (e.g., PQA and CLASS). More specifically, HighScope treatment classrooms exhibited higher classroom quality as measured by the PQA Daily Routine, PQA Adult–Child Interaction, and CLASS instructional support domains. Given the alignment of the PQA tool to the HighScope curriculum, it is reassuring to see a positive impact on classroom quality using that measure. What is even more notable is the significant impact of HighScope on CLASS instructional support, particularly given the state of high-quality classrooms that existed in Alabama during the study period due to the First Class Pre-K quality program requirements (Friedman-Krauss et al., 2019).[5] The control group also was using a well-known, evidence-based curriculum (most programs used Creative Curriculum). Generally, the instructional support domain has been considered a difficult domain to change (Burchinal, Vandergrift, Pianta, & Mashburn, 2010; Early, Maxwell, Ponder, & Pan, 2017). The CLASS instructional support domain focuses on the ways in which teachers effectively support cognitive and language development.

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[5] Alabama is one of only three states to meet all 10 of the National Institute for Early Education Research's (NIEER) benchmarks for minimum state preschool quality standards through its First Class Pre-K program. All First Class Pre-K programs are required to use an evidence-base curriculum, have a lead teacher with a bachelor's degree plus an early learning credential, and are supported by a coach (Friedman-Krauss et al., 2019).

Acknowledgements

References

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