



On My Way Pre-K

INDIANA EARLY LEARNING PILOT PROGRAM FINAL REPORT
EVALUATION FROM 2015 - 2021

OCTOBER 2021



Table of Contents

Executive Summary	1
Introduction	4
Findings	5
Quality in On My Way Pre-K and Kindergarten	10
Conclusion and Recommendations	12
Appendix A. Sample and Methods	13
Appendix B. Assessments	15



Hoosier Kids Learning to Learn

FINAL REPORT EXECUTIVE SUMMARY



On My Way Pre-K provides access to high quality pre-kindergarten for Hoosier four-year-olds at risk for poor educational outcomes. The program is administered by the Indiana Office of Early Childhood and Out of School Learning and offers grants to families with low incomes for half-day and full-day Pre-K.

Child Outcomes

Research from the Purdue Center for Early Learning reported that students in the On My Way Pre-K program experienced outcomes such as:

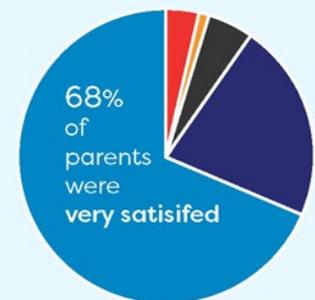
- Grades 3 and 4 outcomes**
 Notably, results indicate that children who participated in On My Way Pre-K scored higher than children in the comparison group in regard to their standardized test scores in Mathematics and English/Language Arts in grades 3 and 4, indicating potential long-term benefits of On My Way Pre-K for academic achievement.
- Learning trajectories**
 Achieved greater gains in the preschool year that were maintained through kindergarten.
- Early literacy skills**
 Demonstrated more growth from baseline to the beginning of kindergarten and these gains were maintained through kindergarten.
- Language comprehension**
 Achieved greater gains during the preschool year that were maintained through the fall of kindergarten.
- Word decoding skills**
 Caught up to counterparts during the spring of kindergarten.

	OMW Outperformed Comparison	No Difference between Groups	Comparison Outperformed OMW
Early Childhood	School Readiness		
	Language/Literacy		
	Self-Regulation/Executive Functioning		
	Early Math Abilities		
	Social Skills and Behavior Problems		
Grades 3 and 4	ILEARN Scores		
	Attendance Rate		
	Discipline Rate		
	Special Education (2019-2020)		

558 students participated in the study.

Parent Outcomes

Parental Satisfaction with On My Way Pre-K



Very Satisfied Satisfied Unsatisfied
 Neither Unsatisfied or Satisfied Very Unsatisfied

Introduction

On My Way Pre-K Program Administration: The Indiana Office of Early Childhood and Out of School Learning, alongside its early learning partners and under the direction of the Family and Social Services Administration, administers the State of Indiana’s early learning pilot program of On My Way Pre-K.

Longitudinal Study of the Program: A Purdue University research team from the Purdue Center for Early Learning, funded by a state grant mandated by Indiana legislation, administered the longitudinal study over five years:

- Sara Schmitt, Ph.D. and James Elicker, Ph.D., Project Directors and Principal Investigators
- Robert Duncan, Ph.D. and David Purpura, Ph.D., Co-Principal Investigators
- Tanya Paes, Ph.D., Postdoctoral Research Associate
- Jennifer Finders, Ph.D. and Katrina Schmerold, Ph.D., Postdoctoral Research Associates
- Karen Ruprecht, Project Manager
- Lindsey Bryant and Adassa Budrevich, Graduate Research Assistants

Goal of the Study: The study set out to determine the effectiveness of the On My Way Pre-K program on children’s school readiness and early school outcomes and performance as well as family engagement and quality of experience.

Longitudinal Study Summary

The study included two groups of four-year-old children and their families, 376 students in the state’s highest ranked Level 3 or 4 Paths to QUALITY™ programs of On My Way Pre-K and a group of 182 students participating in programs considered to be of adequate but not high quality, which are licensed or registered but not ranked by the state’s Paths to QUALITY™ program or just entering at Level 1 (Comparison students).

Participating On My Way Pre-K programs are located throughout the state of Indiana in a public or private school, licensed childcare center, licensed home, or registered ministry (if that program meets the quality requirements and is registered as an On My Way Pre-K provider). Families chose full- or part-day programs, as well as from programs that end with the school year or continue through the summer.

School Year	2015-16	2016-17	2018-19	2019-20	2020-21
Cohort 1	Pre-K	1st	2nd	3rd	4th
Cohort 2		Pre-K	1st	2nd	3rd

Findings

Introduction to Findings

This document summarizes the findings from five years of study of the effectiveness of the [On My Way Pre-K \(OMW\) program](#), which provides access to high quality pre-kindergarten for at-risk Hoosier four-year-old children and is administered by the State of Indiana Office of Early Childhood and Out of School Learning (OECOSL).

Researchers from the Purdue Center for Early Learning performed an independent review for the state legislature studying school readiness and early school outcomes and performance for students who participated in the On My Way Pre-K program. 376 students, across the 2015-2016 and 2016-2017 school years, were studied from pre-K through third or fourth grade to determine the outcomes and experiences of the program. Comparing against 182 students who participated in non-On My Way Pre-K programs, the research² identified areas where On My Way Pre-K students performed better than the Comparison students and areas where there was no difference between the groups of students. These findings¹ are shared within this document and found in full in the Purdue Center for Early Learning On My Way Pre-K 2021 Indiana Learning Pilot Program Evaluation document. Recommendations to drive further positive outcomes by the On My Way Pre-K program are informed by the findings and are found in the conclusion of this document.

[Purdue Center for Early Learning](#) (noted as Purdue University Research Team in past reports) promotes school readiness and healthy development with a focus on Research, Practice, and Policy.

Child Outcomes Summary

Purdue Center for Early Learning compared gains in across a number of areas for On My Way Pre-K students and Comparison students throughout the study. Table 1 on the following page presents Student Performance Findings for early childhood (Pre-K and K) and grades 3 and 4. On My Way Pre-K children performed better than Comparison children in two areas, general School Readiness and Language/Literacy (early childhood), and on the ILEARN in both the Math and English/Language Arts sections (grades 3 and 4).

¹ Methods used in the study are provided in Appendix A.

² Descriptions of the assessments are provided in Appendix B.

Child Outcomes: Early Childhood and Grades 3 and 4 Performance

Table 1. On My Way Pre-K Student Performance Findings	OMW Outperformed Comparison	No Difference	Comparison Outperformed OMW
Early Childhood (Pre-K and K) Findings			
School Readiness			
Bracken School Readiness Assessment*	●		
Language/Literacy			
Peabody Picture Validity Test-4*	●		
Get Ready to Read! †	●		
Woodcock Johnson Letter Identification Subtest*	●		
Self-Regulation/Executive Functioning			
Head-Toes-Knees-Shoulders		●	
Day-Night Stroop Task		●	
Early Math Abilities			
Preschool Early Numeracy Skills Test - Brief		●	
Preschool Mathematical Language Test		●	
Woodcock Johnson III Applied Problems Subtest		●	
Social Skills and Behavior Problems			
Social Skills Improvement Rating Scales		●	
Grades 3 and 4 Findings			
ILEARN			
Math †	●		
English/Language Arts †	●		
Attendance Rate			
Days Absent		●	
Unexcused Absences		●	
Discipline Rate			
Discipline Record Present		●	
Number of Discipline Incident Present		●	
Special Education (2019-2020)			
Number of Special Education Students		●	

Note: Effects were found at one or more time points across the Pre-K and K years.

* $p < .05$. † $p < .10$. ‡ P-value above .10, but the effect size is meaningful at .12 standard deviations.



Grades 3 and 4 Findings

New to this series of status reports are Math and English/Language Arts findings from the ILEARN assessment. This analysis focuses on the 2020-2021 school year because it is the most recent year for which ILEARN scores are available.

Although there were no differences in Mathematics scores between On My Way Pre-K and Comparison students in pre-K and kindergarten, On My Way Pre-K students in third and fourth grade had higher scores on the Mathematics section of the ILEARN. On average, On My Way Pre-K students performed 11.80 points (or .16 standard deviations) better relative to Comparison students. Further, for the English/Language Arts section of ILEARN, On My Way Pre-K students performed 9.39 points (or .12 standard deviations) better relative to children in the comparison group. Although this difference was not statistically significant, a standard deviation above .10 is substantively meaningful.

Purdue researchers also examined Attendance Rates, Discipline Rates, and Special Education Status. Generally, there were no differences between groups of students for total days absent or unexcused. Similarly, the number of children with a school disciplinary record present did not differ between groups, as was the case for the number of discipline incidents. When researchers investigated special education status for the 2019-2020 school year, they found no differences between groups. A lack of differences in these cases does not suggest On My Way Pre-K is ineffective, rather that the two groups progressed on similar tracks as they progressed to higher grade levels.

On My Way Pre-K children achieved higher scores on the **Mathematics and English/Language Arts** sections of the ILEARN in grades 3 and 4.

School Readiness

Across all time points, On My Way Pre-K students experienced greater School Readiness gains than Comparison students. To evaluate School Readiness, Purdue researchers administered an assessment evaluating color recognition, numbers/counting, size comparisons, and shapes from pre-kindergarten through kindergarten. This one-on-one assessment is used to determine School Readiness or how ready the children were for school.

Language and Literacy Measure

On My Way Pre-K children experienced greater gains in language during the preschool year that were maintained through the fall of kindergarten. For Early Literacy Skills, although there were no meaningful differences in rates of growth between the groups during the preschool year, On My Way Pre-K children showed more growth from baseline to the beginning of kindergarten and these gains were maintained through kindergarten. For Word Decoding Skills, although there were no significant differences between the groups of students during preschool, differences emerged at the spring of kindergarten, indicating that On My Way Pre-K “caught up” to their counterparts at this time.

Other Assessment

In addition to general School Readiness and Language/Literacy testing, children in both groups were assessed in the following areas: Self-Regulation and Executive Functioning, Early Math Abilities, and Social Skills and Behavior Problems. For each of these areas and on each assessment, there were no differences between the two groups. The lack of differences in early mathematics is not uncommon in early childhood education research. A literature review of pre-kindergarten impact evaluations found that out of seven states only four (Arkansas, California, Michigan, South Carolina) had improvement in Mathematics.³ Like New Jersey, participation in pre-kindergarten was found to have no effect on Mathematics.

On My Way Pre-K children experienced **greater gains in language** during the Pre-K year that were maintained through the fall of kindergarten.

³ Barnett, W. S., Frede, E. C. (2017). Long-term effects of a system of high-quality universal preschool education in the United States. In Blossfeld, H.-P., Kulic, N., Skopek, J., Triventi, M. (Eds.), *Childcare, early education, and social inequality: An international perspective* (pp. 152–172). Cheltenham, UK: Edward Elgar.

Parent Outcomes: Family Engagement

Researchers studied the impact of On My Way Pre-K participation on family engagement. Not only does On My Way Pre-K benefit students academically, but the study showed that the program also helps families become economically self-sufficient.

Figure 1: Family Engagement Findings

Parents reported that On My Way Pre-K allowed them to:

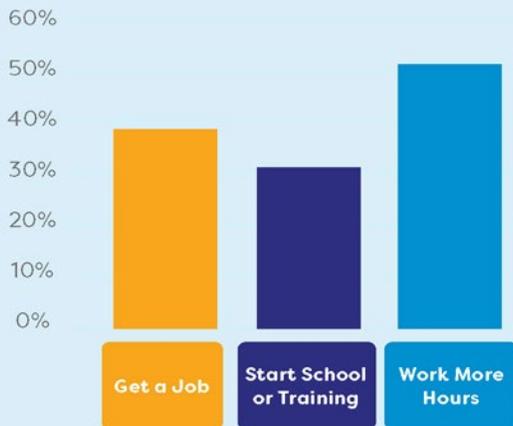
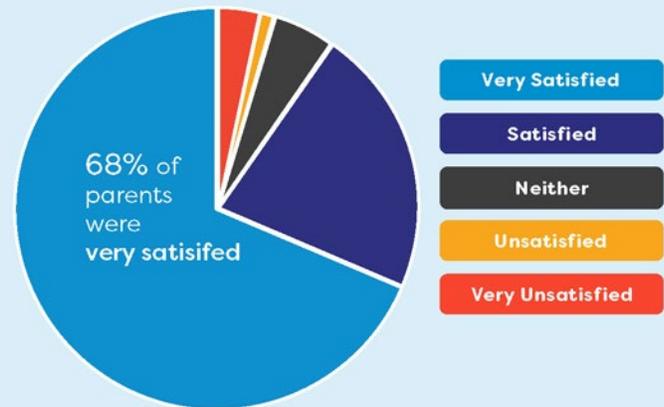


Figure 2: Parental Satisfaction with On My Way Pre-K



Without On My Way Pre-K, low-income families had difficulty finding preschools. In 2016-2017, 53% of parents surveyed reported that if they had not been able to enroll their child in On My Way Pre-K, their child would have stayed home, or they were “unsure” whether they could have attended any preschool or childcare.

As demonstrated in Figure 2, On My Way Pre-K parents are overwhelmingly satisfied with the program.

Not only does On My Way Pre-K help students academically, but the study showed that the program also helps families become economically self-sufficient.



Quality in On My Way Pre-K and Kindergarten

A key underlying assumption of the research design is that the higher-rated On My Way Pre-K classrooms on the State of Indiana’s Paths to QUALITY™ (PTQ) scale—the state’s early care quality rating and improvement system—would have characteristics that are more closely aligned with high quality instruction and care than the lower quality comparison classrooms. A higher PTQ ranking of Level 3 indicates that a program has curriculum to guide child development and school readiness, and a Level 4 ranking indicates that national accreditation is achieved. To determine the relative quality of pre-kindergarten classrooms for the two groups, Purdue research assistants evaluated classrooms using the Classroom Assessment Scoring System (CLASS®) assessment, a research-based measure of quality of teacher-child classroom interactions.

The similarity in quality between classrooms across the two groups has important implications for the ensuing analysis. If CLASS® scores are true representations of classroom quality, analysis of the two classroom types in this study would suggest child outcomes are likely to be similar. Any positive findings for On My Way Pre-K are suggestive of the program’s success, despite the limited differences between the two groups.

Despite the similarity in CLASS® scores between the On My Way Pre-K and comparison classrooms in two CLASS® areas, inclusion of the scores in the model did not appear to be significant predictors of gains in children’s skills. Notable, participation in PTQ is voluntary; therefore, lack of PTQ ranking may not be indicative of lack of quality in the classroom. Purdue researchers also tested whether attendance—the amount of exposure to preschool—had a significant effect on outcomes. They found attendance had no significant impact.

Research assistants underwent extensive training to administer the CLASS® assessment and were certified by Teachstone® in its administration. Each classroom was assessed in three areas:

1 Emotional Support assesses the degree to which teachers establish and promote a positive climate in their classroom through their everyday interactions.

2 Classroom Organization assesses classroom routines and procedures related to the organization and management of children’s behavior, time, and attention in the classroom.

3 Instructional Support assesses the ways in which teachers implement the curriculum to effectively promote cognitive and language development.

	Classroom Organization	Emotional Support	Instructional Support
On My Way Pre-K Classrooms	4.53	5.27	2.35
Comparison Classrooms	4.60	5.01	2.23

RATING SCALE

6-7: high quality

3-5: mid quality

1-2: low quality

The findings indicate a significant difference between the classrooms of the two groups for Emotional Support but no difference for either Classroom Organization or Instructional Support between On My Way Pre-K and comparison classrooms during the pre-kindergarten year. Scores were generally consistent as children made their way into kindergarten. These findings suggest that while there was an implicit expectation that On My Way Pre-K classrooms were higher quality due to their PTQ rating, the comparison classrooms were nearly indistinguishable from the On My Way Pre-K classrooms in terms of Classroom Organization and Instructional Support. Purdue researchers also found significant variation in CLASS® scores within PTQ level.



Conclusion and Recommendations

This study found On My Way Pre-K had positive effects as a general measure of School Readiness and Early Language and Literacy. Additionally, children who participated in On My Way Pre-K had significantly higher Mathematics and meaningful English/Language Arts scores on the Indiana Learning Evaluation Assessment Readiness Network (ILEARN) assessment in third and fourth grades than the Comparison students.

Recommendations

The following recommendations are provided as a guide to continue the important work of educating the youngest Hoosiers.

» Classroom quality.

Focus efforts of administrators and teachers on increasing quality of Classroom Organization and Instruction to support young children. Included in this effort, all teachers would benefit from training and support to improve their classroom organization and instruction.

» Pre-K and kindergarten experiences.

Support partnerships between elementary schools and early childhood programs to allow pre-kindergarten experiences and kindergarten experiences to better align and support children.

» Language and communication focus.

Increase the focus of teachers on strategies around language and communication including using a rich vocabulary to develop cognition, providing children with concrete specific feedback and engaging with children in conversation to model a deep use of language within an evidence-based curricula.

» Higher CLASS® ratings research.

More research is needed to identify what core factors within Levels 3- and 4-PTQ-rated programs lead to higher ratings on CLASS®.

» Community-based cross collaboration.

CLASS® scores in kindergarten were similar to CLASS® scores in Pre-K indicating the need for cross collaboration and training between community-based preschool programs and local schools to address skill building in this area.

Appendix A. Sample and Methods

The Purdue Center for Early Learning (noted in previous reports as a research team from Purdue University) studied the impact of On My Way Pre-K on two groups of children entering formal early care at the age of four. Cohort 1 refers to students entering preschool in 2015-2016 and Cohort 2 refers to students entering preschool in 2016-2017. Within each cohort, there were two distinct groups of children. The first group was comprised of On My Way Pre-K children who attended a classroom with a PTQ rating of three or four. The second group (Comparison students) was comprised of a random sample of children who received a Child Care and Development Fund (CCDF) voucher and attended a classroom with a ranking of zero (not ranked) or one, the lowest ranking. Table 3 presents the number of children in each group throughout the longitudinal study.

Table 3. Number of Children in Study at Different Points in the Longitudinal Study

	OMW	Comparison
Preschool	376	182
Kindergarten	314	157
1st or 2nd Grade (2018-19)	319	136
2nd or 3rd Grade (2019-20)	350	149
3rd or 4th Grade (2020-21)	323	155

Purdue researchers used a quasi-experimental design to measure the impact of On My Way Pre-K in a wide range of outcomes. A quasi-experimental design compares outcomes for the On My Way Pre-K students against the Comparison students, which represents “business as usual” or the baseline. Using statistical techniques, measured differences between the two groups can be plausibly attributed to children being in the On My Way Pre-K group. It is critical to note that this study does not measure the impact of pre-kindergarten versus no pre-kindergarten, but the difference between pre-kindergarten versus unrated and low-rated preschool. Consequently, the inferences we can draw are whether On My Way Pre-K children perform better, worse, or the same as children in non-rated or low-rated PTQ early care facilities.

The validity of the quasi-experimental design is dependent on the extent to which the groups being compared are similar prior to starting the program. If children are similar in terms of social and demographic backgrounds, it is safe to assume that differential outcomes on assessments between the groups may be at least partially attributable to the program. For both Cohorts, Purdue researchers found no age or gender composition differences between the On My Way Pre-K and Comparison groups, with the same finding being true for household income. The groups differed in the following ways: percentage of African American children, likelihood in having early care prior to the study, and whether the child's parent was employed. Statistical techniques addressed these differences between groups.

Three level multilevel regression analyses were used to model child outcomes over time. Time points were nested within children and children were nested within preschool centers. All models controlled for age at each wave (centered), income (centered), gender, and race. In these models, children in the On My Way Pre-K group were compared to children in the Comparison group in terms of how much they changed in the measured outcomes, on average, over time. The maximum likelihood technique was used to retain longitudinal observations that had missing data on families or children.

Appendix B.

Assessments

Assessment	Assessment Description
Bracken School Readiness Assessment	A Pre-K assessment required by the Early Learning Advisory Council (ELAC) for this evaluation as a part of the Kindergarten Readiness Assessment tools. It is considered a valid measure of school readiness and is widely used clinically and for research. It is administered directly one-on-one with the child. It is used to measure pre-academic skills and overall school readiness. The Bracken assesses color recognition, numbers/counting, size comparisons, and shapes.
Peabody Picture Vocabulary Test-4	This is an assessment of language skills required by the ELAC for this evaluation as a part of the Kindergarten Readiness Assessment tools. It is considered a valid measure of language comprehension, widely used clinically and in research, and is administered directly one-on-one with the child. The test asks the child to point to a picture when given a word prompt.
Get Ready to Read!	The assessment is a 25-item measure print knowledge and phonological awareness. The task is an individually administered multiple choice test. Children are administered all 25 items and earn one point for each correct response. It takes about five minutes to complete.
Woodcock Johnson Word Identification Subtest	The subtest assesses children’s word decoding skills and includes items measuring symbolic learning, the ability to match a written word with an actual picture of the object, and items measuring skills in identifying letters and words.
Head-Toes-Knees-Shoulders	This is a direct assessment of executive function and takes approximately five minutes to administer. It is very much like a “Simon Says” game, in which the child both follows verbal directions and imitates the examiner’s movements, including some time doing the opposite of what the examiner says. There are a total of 30 test items with scores 0 (incorrect), 1 (self-correct), or 2 (correct) for each item (maximum 60 points).

Assessment**Assessment Description****Day-Night Stroop Task**

The assessment evaluates inhibitory control, an important aspect of executive function. This task takes approximately two minutes to administer. Children are asked to say the opposite of what they see in a series of 16 cards with pictures of the sun or moon (e.g., saying “day” for a moon and “night” for a sun). It is appropriate for children ages three to five with strong reliability and validity.

Preschool Early Numeracy Skills Test

The assessment is a screening tool for early numeracy skills. This 24-item measure takes approximately five minutes to administer and assesses broad numeracy skills (e.g., counting, comparison, numeral knowledge, story problems).

Preschool Mathematical Language Test

The assessment is a brief, 16-item measure of children’s knowledge of quantitative and spatial language. All items are designed to be completed without exact quantitative skills or in a non-numeracy context. For example, the more/less questions are asked in such a way that if they knew the meaning of the language terms, they would be able to respond correctly, and another item uses a picture of glasses mostly full vs. mostly empty. It takes about five minutes to complete.

Woodcock Johnson III Applied Problems Subtest

The assessment is a widely used measure with published evidence for its validity. It measures children’s skill in analyzing and solving practical problems in mathematics. This subtest takes 10-15 minutes to complete.

Social Skills and Behavior Problems

The Social Skills Improvement System Rating Scales (SIS) were completed by the child’s classroom teacher after they had a chance to observe the child for at least one month in the classroom in the fall and then again in the spring. This measure provides scores for problem behaviors and social skills. It is designed to assess social skills that can be observed in school and is a single measure that is appropriate across the grades from Pre-K through Grade 3. It takes the teacher approximately 10 minutes to complete for each child.