Invest Early
Early Childhood Initiative

Years 14 & 15 Implementation and Outcomes Evaluation

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Wilder Research

Information. Insight. Impact.

Key findings

Invest Early is a comprehensive early childhood collaborative in Itasca County, Minnesota, that serves young children and their families with risk factors that may impede school success. Data from years 14 and 15 (2018-19 and 2019-20) show that Invest Early children are diverse and experience multiple risk factors associated with less academic success.

Former Invest Early students are more likely to graduate

While there is a lack of evidence that Invest Early improves reading and math scores on standardized tests in elementary and high school, high school graduation rates and cumulative GPA among the first two cohorts of former Invest Early students are higher than other low-income seniors. This is consistent with recent research of a large-scale public preschool in Boston that similarly found that preschool does not impact state achievement test scores.[1]

HIGH SCHOOL GRADUATION, SPRING 2020

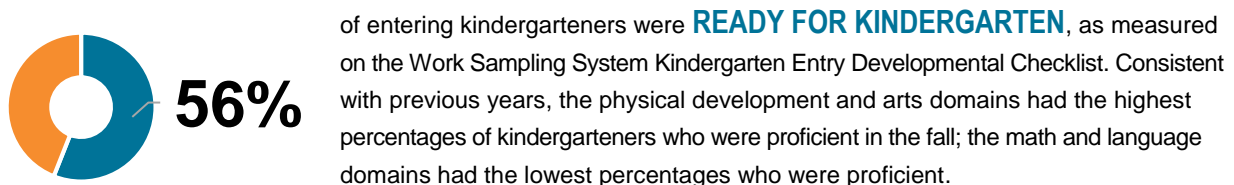**90%** of 2019-20 seniors who attended Invest Early graduated from high school.
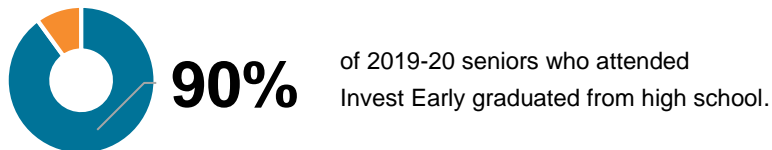
Almost 500 children were served each year

In year 14 (2018-19), 497 children were served. In year 15 (2019-20), 485 children were served. The number of children served has fluctuated over time. These numbers are down slightly from year 13, but an increase over previous years.
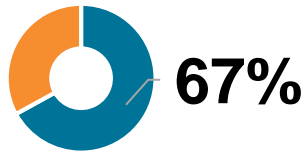
Kindergarten readiness fall 2019 and fall 2020

KINDERGARTEN READY, FALL 2019

56% of entering kindergarteners were **READY FOR KINDERGARTEN**, as measured on the Work Sampling System Kindergarten Entry Developmental Checklist. Consistent with previous years, the physical development and arts domains had the highest percentages of kindergarteners who were proficient in the fall; the math and language domains had the lowest percentages who were proficient.

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1   Gray-Lobe, G., Pathak, P., & Walters, C. (2021). *The long-term effects of universal preschool in Boston*. Blueprint Labs. https://blueprintcdn.com/wp-content/uploads/2021/05/Blueprint-Labs-Discussion-Paper-2021.4-Gray-Lobe-Pathak-and-Walters.pdf
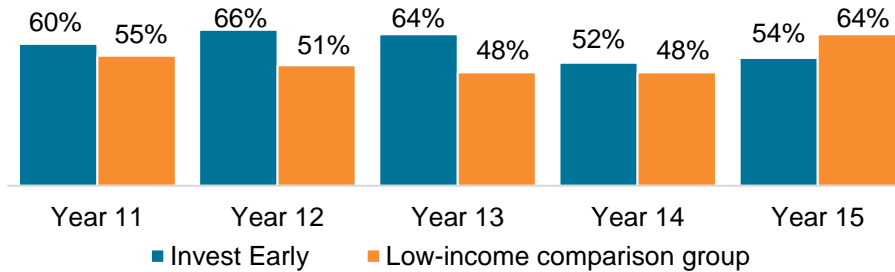
KINDERGARTEN READY, FALL 2020

67% of entering kindergarteners were **READY FOR KINDERGARTEN**, as measured on the Work Sampling System Kindergarten Entry Developmental Checklist. This is the first year of assessing kindergarteners impacted by the pandemic. Possibly, those students who were least ready were held back during the pandemic, which is why readiness was higher. [In fall 2020, 11% fewer kindergarteners were assessed than in fall 2019.]

KINDERGARTEN READINESS, INVEST EARLY COMPARED WITH LOW INCOME STUDENTS, YEARS 11-15

Invest Early kindergartners did not outperform their low-income peers on kindergarten readiness assessments in years 14 and 15. This may be because Invest Early students face more risk factors than their peers. In addition, more recent national research indicates that comprehensive early childhood programs may not show differences in early elementary test scores, yet do have long-term impacts on high school graduation and college attrition (Gray-Lobe et al, 2021).

	Year 11	Year 12	Year 13	Year 14	Year 15
Invest Early	60%	66%	64%	52%	54%
Low-income comparison group	55%	51%	48%	48%	64%

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Introduction

With support from the Blandin Foundation, Invest Early is a comprehensive early childhood collaborative in Itasca County, Minnesota, that serves young children and their families who have risk factors that may impede school success. Children qualify for Invest Early educational and family support services based on a combination of risk factors and income. The core services consist of early childhood education, parent education, health services, and extended-day child care. The extended day child care is delivered five days a week, 12 hours per day, year round in 26 classrooms at 10 sites across eight towns and four school districts (Deer River, Grand Rapids, Greenway, and Nashwauk-Keewatin). Parents may also access a variety of support services based on their need or interest, including family development, home visits, mental health support, and transportation.

The collaborative, seamless nature of the project promotes service integration across agencies and school districts throughout the county. Professional development is provided to all Invest Early staff and others interested in early childhood care and education (parents, grandparents, and child care providers). A countywide staff development and training plan has been implemented in partnership with Itasca Community College and Mayville State University to enable all those interested in working in early childhood to pursue early childhood teacher licensure.

This report describes the children and families who were reached in years 14 and 15 of the program, which includes the summers of 2018 and 2019 and the 2018-19 and 2019-20 school years, as well as impacts on the children and families served relative to other Itasca County children who have not been served by the program.

COVID IMPACTS SPRING 2020

Implementation of Invest Early

The implementation of Invest Early comprehensive services is being monitored by the Invest Early Leadership Team as described in their annual program report. This section provides a profile of Invest Early service quality and service participants, including demographic characteristics, and amount of participation.

Invest Early serves higher-risk children and families.

In year 14 (2018-19), 497 children were served. In year 15 (2019-20), 485 children were served. The number of children served has fluctuated over time. These numbers are down slightly from year 13, but an increase over previous years.

Characteristics of children

The majority of children served in both years 14 and 15 were age 4 or older (Figure 1). Invest Early serves a diverse population of students, including 20% who identify as American Indian. In comparison, 5% of children under age 5 in the county identify as American Indian. Invest Early children live in households with a median income of $30,000, $25,000 less than that of the county overall. About a third are single-parent households.

1. Characteristics of children served in years 14 and 15

	Invest Early children year 14 (N=497)	Invest Early children year 15 (N=482)	Itasca County population under age 5
Age (as of September 1)			
Under age 2	17%	18%	
Age 3	22%	22%	
Age 4 and older	62%	61%	
Gender			
Male	51%	58%	
Female	49%	42%	
Race/ethnicity (multiple responses possible)			
White	89%	89%	84%
American Indian	20%	19%	5%
Black or African American	5%	5%	1%
Hispanic or Latino	2%	2%	4%
Asian	1%	2%	<1%
Two or more races	Not applicable		5%

1. Characteristics of children served in years 14 and 15 (continued)

	Invest Early children year 14 (N=497)	Invest Early children year 15 (N=482)	
Household income			**Itasca County**
Mean	$37,915	$39,671	Median household income: $55,139
Median	$29,268	$29,358	
Range	$0 - $175,339	$0 - $161,729	
Household type			**Households with children under age 6**
Two parent	61%	63%	60%
Single parent	32%	31%	40%
Living with grandparents or foster care	7%	7%	Unknown

Note. Race estimates for Itasca County are from U.S. Census Bureau, 2020. Totals may vary from 100% due to rounding or, in the case of race, due to the option of multiple responses.

Characteristics of parents

Figure 2 shows the current educational levels and employment status of Invest Early parents. Across both years, over 90% of parents have at least a high school diploma or GED. About 70% of mothers and 80% of fathers are working, with fathers more likely than mothers to be working more than 25 hours per week.

2. Parents' education and employment in years 14 and 15

	Year 14		Year 15	
Education	**Mothers (N=466)**	**Fathers (N=345)**	**Mothers (N=455)**	**Fathers (N=319)**
Less than a high school diploma	6%	7%	5%	7%
High school or GED	29%	38%	27%	35%
Trade school or some college	28%	29%	27%	25%
Associate degree	21%	15%	25%	23%
Bachelor's degree	14%	9%	13%	8%
Graduate or professional degree	2%	3%	4%	3%
Employment				
Not working	31%	18%	29%	21%
Working 25 hours or less per week	12%	2%	15%	4%
Working more than 25 hours per week	58%	79%	56%	75%

Note. Includes parents who live in the child's household and those who do not live with the child. Totals may not equal 100% due to rounding.

Children's classroom attendance

In years 14 and 15, students attended up to 207 program days, which is about 10 days more than in year 13 (Figure 3). Despite the onset of the pandemic in March 2020, average attendance was slightly higher in year 15 (117 days) than in year 14 (111 days). On average, attendance continues to be higher during the school year (attendance rate averages 72-75%), compared to the summer (68%; Figure 4).

3. Number of days attended, by age, year 14 and 15

Total number of days	Year 14				Year 15			
	Age 0-2 (N=82)	Age 3 (N=108)	Age 4-5 (N=307)	All (N=497)	Age 0-2 (N=85)	Age 3 (N=105)	Age 4-5 (N=294)	All (N=484)
1-22	6%	0%	6%	4%	4%	0%	6%	4%
23-44	11%	1%	9%	8%	6%	3%	7%	6%
45-66	4%	12%	2%	4%	9%	8%	5%	7%
67-88	5%	4%	7%	6%	4%	2%	1%	1%
89-110	12%	20%	19%	18%	14%	15%	9%	11%
111-132	6%	37%	36%	32%	9%	44%	52%	43%
133 or more	56%	26%	22%	29%	54%	29%	20%	28%
Mean	119	117	107	111	132	121	111	117
Median	139	117	115	116	142	120	121	121
Range	8-195	43-193	2-196	2-194	2-208	30-210	2-211	2-207

Note. Each month contains approximately 22 workdays, which means that each row corresponds roughly with a month of attending 5 days per week. Year 14 is June 2018 through May 2019, and Year 15 is June 2019 through May 2020.

4. Percentage of scheduled days students attended, years 14 and 15

	Year 14		Year 15	
	Summer (N=161)	School year (N=453)	Summer (N=141)	School year (N=438)
Low attendance (<70% of scheduled days)	43%	33%	49%	21%
Medium attendance (70-84% of scheduled days)	29%	46%	16%	56%
High attendance (85% or more of scheduled days)	29%	22%	36%	23%
Average attendance rate	**68%**	**72%**	**68%**	**75%**

Note. Year 14 is June 2018 through May 2019, and Year 15 is June 2019 through May 2020.

Impacts on families

Data in progress – Home Visit Assessment Forms

Outcomes for children

Invest Early kindergarteners face more risk factors than their peers, yet are equally prepared.

Itasca County 2019-20 and 2020-21 kindergarten classes

Based on surveys parents complete at kindergarten entrance, Invest Early students are experiencing especially challenging life circumstances. Of note, they live in very low-income households and face multiple risk factors and family stresses.

5. Characteristics of entering kindergarten students by group, fall 2019 and fall 2020

	Fall 2019			Fall 2020		
	Invest Early (N=112)	Low income, no Invest Early (N=39)	Higher income, no Invest Early (N=90)	Invest Early (N=57)	Low income, no Invest Early (N=28)	Higher income, no Invest Early (N=60)
Kindergarten readiness (75% of total points)	**52%**	**48%**	**66%**	**61%**	**71%**	**77%**
Average age (in months)	67	69	67	66	68	67
Two or more risk factors	42%	46%	8%	39%	39%	7%
Responding parent has bachelor's degree or higher	10%	18%	61%	11%	29%	57%
Child participated in early childhood education	100%	45%	61%	100%	54%	43%
Student identifies as part of racial minority community	29%	29%	13%	21%	15%	8%
Experienced family stress in past year	24%	31%	13%	33%	39%	18%
Very low income (less than $35,000 per year)	58%	41%	1%	56%	37%	3%
Parent reads to/encourages child to read	21%	10%	13%	74%	71%	93%

Kindergarten readiness results

In both fall 2019 and fall 2020, just over half of Itasca County kindergarteners demonstrated kindergarten readiness – that is, they scored 75% or higher using Minnesota Work Sampling System Kindergarten Entry Developmental Checklist, an observational assessment conducted by kindergarten teachers (Figure 6).

Invest Early kindergartners did not outperform their low-income peers on kindergarten readiness assessments in years 14 and 15. Since we have previously seen that Invest Early students face more risk factors than their peers, the similarity in scores may reflect the success of the program.[2] That is, Invest Early students are performing similarly to their peers with fewer risk factors indicating that the Invest Early program is mitigating the multiple and compounding challenges faced by Invest Early students. That said, recent national research indicates that comprehensive early childhood programs may not show differences in early elementary test scores, yet do have long-term impacts on high school graduation and college attrition.[3]

6. Kindergarten readiness, fall 2019 and fall 2020

	Fall 2019				Fall 2020			
	Low income (receive F/R lunch)		Higher income (do not receive F/R lunch)		Low income (receive F/R lunch)		Higher income (do not receive F/R lunch)	
Personal and social development	Invest Early (N=145)	No Invest Early (N=50)	Invest Early (N=99)	No Invest Early (N=133)	Invest Early (N=115)	No Invest Early (N=64)	Invest Early (N=95)	No Invest Early (N=112)
Not yet	6%	8%	6%	2%	7%	2%	0%	3%
In process	52%	48%	35%	37%	43%	45%	28%	27%
Proficient	42%	44%	59%	62%	50%	53%	72%	71%
Language and literacy								
Not yet	6%	10%	5%	2%	3%	3%	0%	5%
In process	49%	48%	36%	35%	48%	48%	28%	36%
Proficient	46%	42%	59%	63%	48%	48%	72%	60%

Note. May not equal 100% due to rounding. The 75% score was tested for accuracy by Dr. Arthur Reynolds for the Minnesota Early Learning Council.

[2] See https://www.wilder.org/wilder-research/research-library/invest-early-early-childhood-initiative for previous reports.
[3] Gray-Lobe, G., Pathak, P., & Walters, C. (2021). *The long-term effects of universal preschool in Boston.* Blueprint Labs. https://blueprintcdn.com/wp-content/uploads/2021/05/Blueprint-Labs-Discussion-Paper-2021.4-Gray-Lobe-Pathak-and-Walters.pdf

6. Kindergarten readiness, fall 2019 and fall 2020 (continued)

	Fall 2019				Fall 2020			
	Low income (receive F/R lunch)		Higher income (do not receive F/R lunch)		Low income (receive F/R lunch)		Higher income (do not receive F/R lunch)	
	Invest Early (N=145)	No Invest Early (N=50)	Invest Early (N=99)	No Invest Early (N=133)	Invest Early (N=115)	No Invest Early (N=64)	Invest Early (N=95)	No Invest Early (N=112)
Mathematical thinking								
Not yet	6%	6%	2%	<1%	2%	2%	1%	2%
In process	51%	54%	39%	41%	42%	45%	29%	30%
Proficient	43%	40%	59%	58%	56%	53%	70%	68%
The arts								
Not yet	5%	8%	4%	<1%	3%	2%	1%	4%
In process	32%	32%	23%	23%	32%	25%	22%	25%
Proficient	63%	60%	73%	77%	66%	73%	77%	72%
Physical development and health								
Not yet	2%	6%	3%	<1%	2%	5%	0%	3%
In process	32%	36%	21%	24%	23%	13%	16%	14%
Proficient	66%	58%	76%	75%	75%	83%	84%	84%
Combined domains (mean scores)								
Not yet (1.0-1.5)	3%	2%	4%	<1%	<1%	2%	0%	2%
Inconsistent (above 1.5 to 2.0)	20%	24%	13%	15%	13%	5%	6%	5%
Nearly proficient (above 2.0-2.5)	20%	24%	14%	16%	25%	22%	12%	16%
Proficient (above 2.5)	57%	50%	69%	68%	61%	71%	82%	77%
75% of total score	52%	48%	67%	66%	54%	64%	80%	73%

Note. May not equal 100% due to rounding. The 75% score was tested for accuracy by Dr. Arthur Reynolds for the Minnesota Early Learning Council.

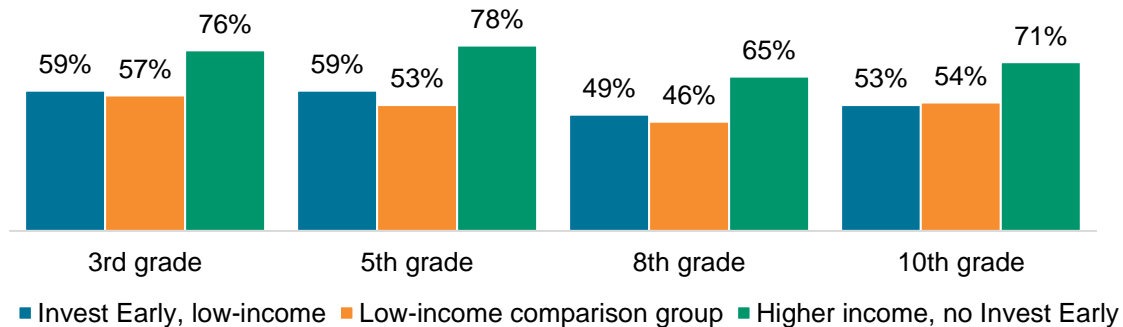# Invest Early students' proficiency in reading and math is similar to that of peers.

A total of 2,244 students took MCA tests in the spring of 2019 in Itasca County schools. For this analysis, we compared 2019 scores with previous years to track progress of students over time.

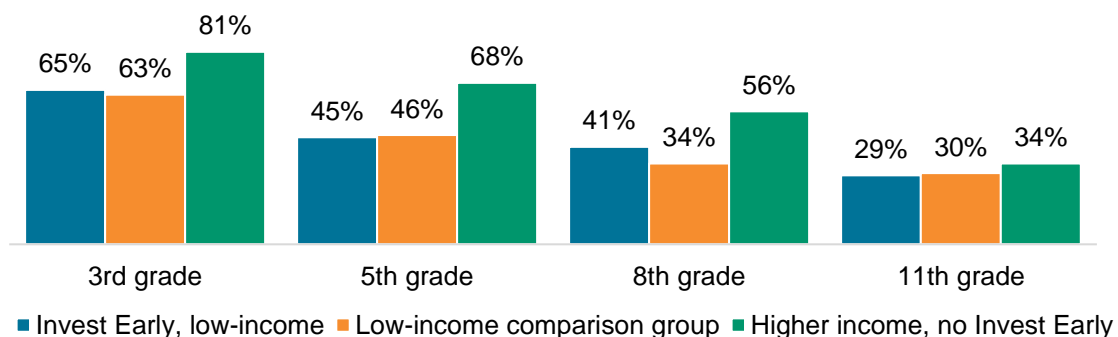**7. Number of Invest Early cohorts and students taking spring 2019 MCA assessments**

Spring 2019 MCA	Cohorts	Invest Early students	Low income, no Invest Early	Higher income, no Invest Early
11th grade (Math only)	1 cohort	42	46	135
10th grade (Reading only)	2 cohorts	97	119	262
8th grade	3 cohorts	142	188	414
5th grade	4 cohorts	268	290	539
3rd grade	5 cohorts	367	372	665

In general, Invest Early students were meeting or exceeding grade level standards at similar rates to their low-income peers; this is consistent with the Boston preschool study noted several times previously (Gray-Lobe et al, 2021).

8. Percentage of students meeting or exceeding grade level standards in reading by grade, spring 2019 MCA

Legend: ■ Invest Early, low-income ■ Low-income comparison group ■ Higher income, no Invest Early

3rd grade: 59%, 57%, 76%
5th grade: 59%, 53%, 78%
8th grade: 49%, 46%, 65%
10th grade: 53%, 54%, 71%

9. Percentage of students meeting or exceeding grade level standards in math by grade, spring 2019 MCA

Legend: ■ Invest Early, low-income ■ Low-income comparison group ■ Higher income, no Invest Early

3rd grade: 65%, 63%, 81%
5th grade: 45%, 46%, 68%
8th grade: 41%, 34%, 56%
11th grade: 29%, 30%, 34%

Invest Early students graduate at slightly higher rates than their peers.

About 580 seniors graduated from one of the four districts each of the last two years. Of those who attended Invest Early, about 90% were graduating with a cumulative GPA above 3.0. Data from the first two cohorts of graduating seniors indicates former Invest Early students who are retained in one of the four districts appear to graduate at higher rates and with higher GPAs than other low-income seniors (i.e., those that qualified for free and reduced lunch during their senior year and did not attend Invest Early). However, these findings are limited to those students who were retained in an Itasca County school. Data to conduct a more comprehensive analysis of all former Invest Early students, regardless of where they go to high school may be attainable from the Minnesota Department of Education. These data do, however, mirror results from the Boston preschool study mentioned previously: although standard test scores of former Invest Early students are similar to other low-income students, these students are more likely to graduate.

10. Graduation rates, spring 2019 and 2020

	Senior class of 2019 (N=580)			Senior class of 2020 (N=574)		
	Attended Invest Early	Other low-income seniors	All other seniors	Attended Invest Early	Other low-income seniors	All other seniors
Moved/transferred	0	5	6	4	20	15
Graduated	50 (91%)	148 (86%)	322 (90%)	89 (90%)	107 (71%)	265 (83%)
Cumulative GPA	3.02	2.81	3.04	3.01	2.74	3.17
Dropped	1	9	14	3	10	8
Still in school	4	10	13	6	14	22

Note. Other low-income seniors are those that qualified for free and reduced lunch their senior year, but did not participate in Invest Early.

Appendix: Evaluation methods and redesign

The initial longitudinal evaluation of Invest Early sought to demonstrate that investing in parents and in children's school readiness will ultimately yield economic returns to the community. Potential economic benefits include a more skilled workforce with higher earnings, as well as reduced spending for special education, out-of-home placements for children, juvenile delinquency, and substance abuse treatment.

In 2018-19, after 12 years of implementing the longitudinal design, Invest Early leaders worked with Wilder to conduct a special evaluation on the demographic, social, and economic trends in Itasca County since Invest Early's inception. That evaluation focused on what makes Invest Early successful and what improvements are needed, as well as the state of early childhood programming nationally at that time. Following that report, the evaluation shifted away from the longitudinal tracking, instead focusing on qualitative and quantitative data that are most useful for the Leadership Team in continually improving and growing the program.

This year, the Invest Early evaluation tools include:

■ Family needs assessment visit forms (developed by Invest Early and modified by Wilder Research to encompass measures of social support, home learning environment, risk factors and needs, and parent involvement).

■ The Minnesota Work Sampling System Kindergarten Entry Developmental Checklist.

■ A parent survey at kindergarten entry (Wilder Research).

Invest Early is responsible for conducting intake, tracking attendance and referrals, administering or coordinating collection of process and outcome data, and transferring data to TIES and Infinite Campus for storage or to Wilder Research for data processing. Wilder Research conducts the statistical analysis and prepares this report for internal use and a summary for public dissemination.

The kindergarten readiness assessment

When Invest Early began in 2005, the Minnesota Department of Education (MDE) had implemented a customized developmental assessment tool and method derived from the Work Sampling System to assess the school readiness of Minnesota children.

The Minnesota Work Sampling System Kindergarten Entry Developmental Checklist®2 assesses skills, knowledge, behaviors, and accomplishments in six domains: personal and social development, approaches to learning, language and literacy, mathematical thinking, creativity and the arts, and physical development. MDE, working with the Minnesota Department of Human Services, selected the indicators because they represent what children should know and be able to do at the end of the year before they enter kindergarten based on developmental expectations for 4-year-olds. These

standards are documented in the 2005 MDE report, Early Childhood Indicators of Progress: Minnesota's *Early Learning Standards*, which provides a framework for understanding and communicating the standards or a common set of developmentally appropriate expectations for children age 3 through 5.

Starting in fall 2005, Invest Early adopted the MDE school readiness methods. Kindergarten teachers in the four school districts in Itasca County are trained to use the checklist and complete one for each child in their classroom during the first six to eight weeks of the fall quarter. For each indicator, teachers rate the child's performance as "not yet," "in process," or "proficient."

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