

An Evaluation of North Dakota Early Learning Corps

ANNUAL EVALUATION REPORT



2021-2022



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The Center’s portfolio includes projects to evaluate the impact of AmeriCorps programming, projects to advance the existing knowledge base in education, and development projects to bring new and innovative programming to communities across the nation.

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Executive Summary

Early Learning Corps (previously called PreK Reading Corps) is an AmeriCorps program that provides Prekindergarten (PreK) sites with trained tutors to support the literacy and numeracy development of children ages three to five. Early Learning Corps tutors are embedded into a PreK classroom to collaborate with teaching staff to implement literacy and numeracy-rich practices for all students. Tutors are trained to implement evidence-based class-wide learning activities, targeted small group interventions, and individualized learning opportunities. Tutors are supported by a multi-level coaching model that includes site-based and external coaches.

The Early Learning Corps evaluation addresses four broad questions with data collected during the 2021-22 school year.

1. What is the scope of the Early Learning Corps program?

Twenty-eight Early Learning Corps tutors served a total of 482 students across 15 sites. White was the largest racial/ethnic category for participating students, and 7% of students were identified as English Language Learners.

2. To what extent was the Early Learning Corps program implemented as intended?

Early Learning Corps coaches observed tutors administering assessments and delivering interventions throughout the school year. These observations allow for coaches to build on the tutor's formal training and to help tutors improve their implementation of the Early Learning Corps model. The results of the observations show that assessments and interventions were conducted with high levels of mean fidelity (>90% accuracy) and in accordance with their established evidence base.

On average, students getting targeted intervention received 28 minutes of tutoring per week across 16 weeks. White students tended to receive both more tutoring sessions and more minutes of tutoring per week than non-white students.

3. To what extent did participating students improve their literacy and numeracy skills?

Tutors administer measures of early literacy and numeracy to develop plans for supporting all students and to select students to receive targeted intervention. The literacy measure corresponds to important early literacy skills including phonemic awareness, phonics, and early vocabulary and language skills while the numeracy measure corresponds to important early numeracy skills including subitizing, object counting, making comparisons, and decomposing and composing numbers.

79% of students met the end-of-year target on the PELI Composite, an overall representation of a student's early literacy and language skills. 92% of students met the end-of-year target on the Early Math Inventory, an overall representation of a student's early numeracy skills. For both measures, a greater percentage of white students met the end-of-year target at spring compared to non-white students.

When asked in a survey about the impact of the program on students, 100% of tutor respondents indicated their service in Early Learning Corps had a positive impact on students and increased students' confidence in reading and/or math.

4. How did serving as a tutor impact their skills and knowledge related to education and their future career goals?

100% of tutor respondents to an end-of-year survey from the evaluation team indicated Early Learning Corps had a positive impact on them personally. 92% of respondents said their service increased their knowledge and skills related to education. Additionally, 93% of respondents answered that they are likely or very likely to pursue a career in education as a result of their service.

Introduction

Early Learning Corps Overview

Early Learning Corps (previously called PreK Reading Corps) is an AmeriCorps program that provides Prekindergarten (PreK) sites with trained tutors to support the literacy and numeracy development of children ages three to five. Early Learning Corps tutors are embedded into a PreK classroom to collaborate with teaching staff to implement literacy and numeracy-rich practices for all students. Tutors are trained to implement evidence-based class-wide learning activities, targeted small group interventions, and individualized learning opportunities. Tutors are supported by a multi-level coaching model that includes site-based and external coaches.

The Early Learning Corps model aligns with Response-to-Intervention (RTI) or Multi-Tier System of Supports (MTSS), which are two descriptions of a framework for delivering education services effectively and efficiently (Burns et al., 2016). The key aspects of that alignment include the following:

- Clear literacy targets at each age level
- Benchmark assessment three times a year to identify students eligible for individualized interventions
- Evidence-based interventions
- Frequent progress monitoring during intervention delivery
- High-quality training in program procedures, coaching, and observations to support fidelity of implementation

In an RTI/MTSS framework, data are essential. They are used for screening student eligibility, monitoring student progress towards achieving academic goals (i.e., benchmarks), and ensuring accurate program implementation.

Early Learning Corps literacy content is focused on intervention in the “Big Five Ideas in Literacy” as identified by the National Early Literacy

Panel, including phonological awareness, phonics, fluency, vocabulary, and comprehension (National Early Literacy Panel, 2008).

The program also fosters math development that supports learning throughout students' education (Watts et al., 2018).



Overview of the Evaluation

The Early Learning Corps evaluation addresses four broad questions. The evaluation report is organized around each of these questions using data that are collected throughout the program year and are recorded by the implementers of Early Learning Corps. Program administrators collect data about tutors and sites, including survey responses. Tutors collect data about student dosage and literacy outcomes. Coaches collect specific details about tutor implementation of interventions

and assessments. These data are used to answer the following questions:

1. What is the scope of the Early Learning Corps program?
2. To what extent was the Early Learning Corps program implemented as intended?
3. To what extent did participating students improve their literacy and numeracy skills?
4. How did serving as a tutor impact their skills and knowledge related to education and their future career goals?

1. What is the scope of the Early Learning Corps program?

Sites and Supports

Early Learning Corps partners with PreK sites and schools to implement the program. Early Learning Corps program staff and participating sites recruit community members to serve as Early Learning Corps tutors through AmeriCorps. Tutors commit to serving a set number of hours per week (i.e. full-time AmeriCorps members commit to complete 1,200 hours of service). Tutors receive a living allowance as well as other benefits and are provided coaching by site staff and a program “Coaching Specialist” throughout their service term. Upon completion of their service, members receive a Segal AmeriCorps Education Award that can be used to pay education costs at qualified institutions of higher education, for educational training, or to repay qualified student loans.

Table 1 displays the number of participating sites, Coaching Specialists, and tutors that served during the 2021-22 program year.

Table 1. Sites, Coaches, and Tutors

| Sites | Coaching Specialists | Tutors* |
|-------|----------------------|---------|
| 15 | 1 | 28 |

**Defined as having entered tutoring minutes for at least one student in the program data management system.*

Early Learning Corps tutors receive training through an online Learning Management System (LMS). The intensive, information-filled courses on the LMS provide foundational training in

the research-based interventions employed by Early Learning Corps. Throughout the courses, tutors learn the skills, knowledge, and tools needed to serve as interventionists and support class-wide instruction. Tutors are provided with detailed manuals as well as online resources that mirror and supplement the contents of the manual (e.g., videos of model interventions and best practices). Both the manuals and online resources are intended to provide tutors with just-in-time support and opportunities for continued professional development and skill refinement. Additional training is provided throughout the tutors' year of service.

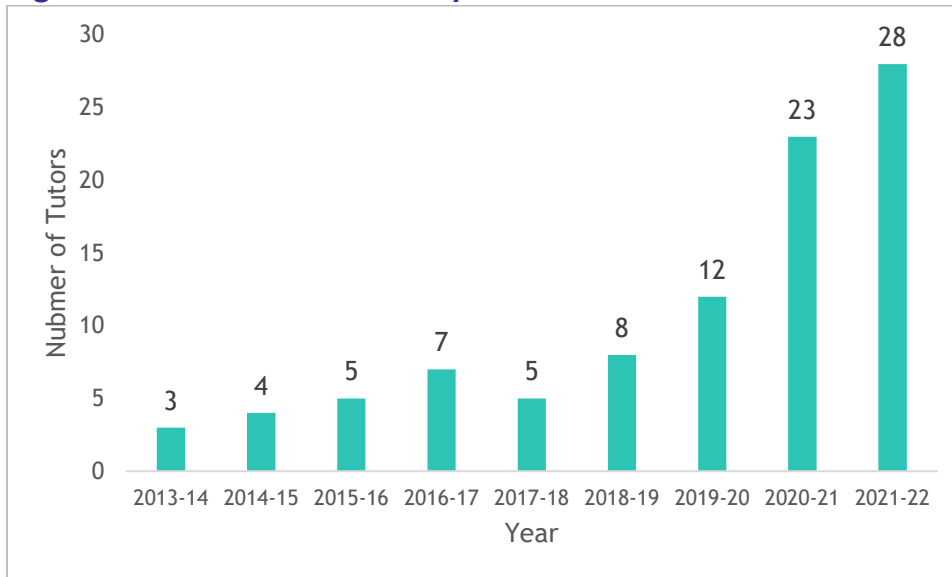
In addition to extensive training, Early Learning Corps provides tutors with multiple layers of supervision to ensure integrity of program implementation. Sites or districts identify a staff member, who is typically a literacy specialist, teacher, or curriculum director, to be the Internal Coach, the immediate on-site supervisor, mentor, and advocate for tutors. The Internal Coach's role is to monitor tutors and provide guidance in the implementation of Early Learning Corps's assessments and interventions. As the front-line supervisor, the Internal Coach is a critical component of the supervisory structure.

Coaching Specialists, who are either program staff or contracted consultants for Early Learning Corps, provide both tutors and Internal Coaches with expert support on literacy and numeracy instruction and ensure implementation

integrity of Early Learning Corps program elements. In addition to these two coaching layers, a third layer consisting of AmeriCorps program support helps ensure a successful year of AmeriCorps service. Program support staff are Early Learning Corps employees who provide administrative oversight for program implementation to sites participating in Early Learning Corps.

The number of tutors serving varies by program year based on a number of factors including tutor recruitment, tutor types (i.e. full-time or part-time tutors), site interest, tutor retention, and available public and private funding. Figure 1 displays the number of tutors who served each year of the program.

Figure 1. Number of Tutors by Year



Students Served

All students in a classroom with an Early Learning Corps tutor are served by the program through Tier 1 class-wide interventions and general educational support.

Table 2 displays the number of students served by age across all sites. A student's age category is determined by their age at the beginning of the school year. Students are categorized by age as it generally coincides with the number of school years until the student will enroll in Kindergarten and is used to set benchmark targets (i.e. Age 3 students are usually two years from

starting Kindergarten and Age 4 students are usually one year from starting Kindergarten).

Table 2. Number of Students Served

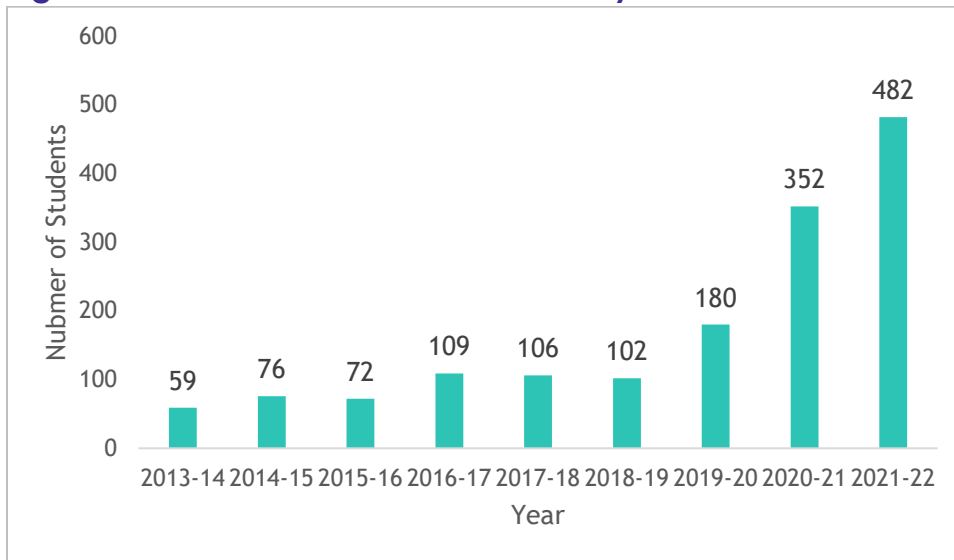
| Age | Number of Students |
|--------------|--------------------|
| Age 3 | 128 |
| Age 4 | 333 |
| Age 5 | 21 |
| Total | 482 |

The number of students served varies by program year based on many factors including tutor recruitment and retention, the number of sites interested

in the program, and whether tutors are serving one group of students in full-day five-day per week classrooms or multiple groups of students such as separate morning and afternoon half-day classrooms. Figure 2 displays the number

of students served each year of the program. Note the number of students served in 2019-20, 2020-21, and 2021-22 were significantly impacted by the COVID-19 pandemic.

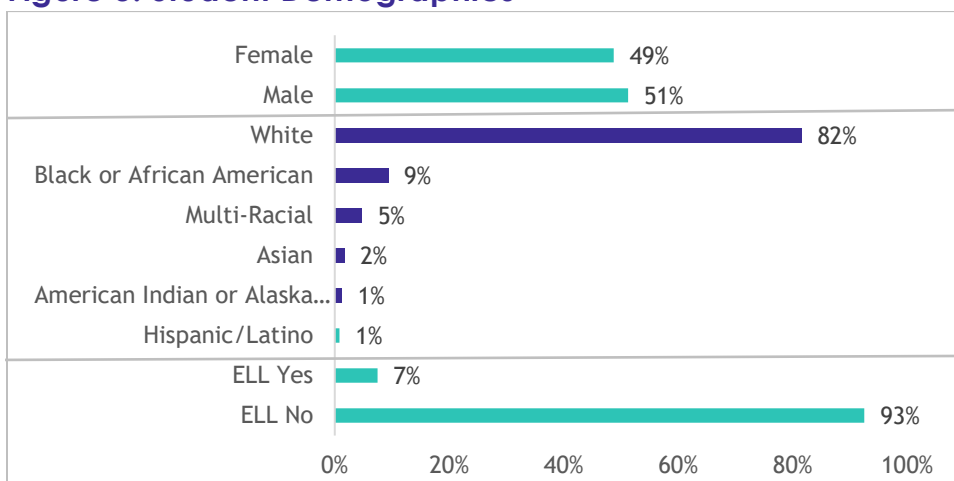
Figure 2. Number of Students Served by Year



Early Learning Corps tutors record demographic information of students they serve, which allows evaluators to disaggregate student outputs and outcomes by important demographics to ensure the program is having an

equitable impact. The information is also used in various reports to describe the students participating in the program. Figure 3 shows the largest racial/ethnic group was White and 7% of students were English Learners.

Figure 3. Student Demographics



2. To what extent was the Early Learning Corps program implemented as intended?

Coaching Observations

Ensuring accurate, effective implementation is a core principle of Early Learning Corps. Both types of coaches—Internal Coaches and Coaching Specialists— provide tutors with expert support on literacy and numeracy instruction and ensure implementation integrity of Early Learning Corps program elements through ongoing monitoring and observation.

During coaching sessions Early Learning Corps Coaching Specialists and Internal Coaches discuss student selection for targeted tutoring, track student progress for data-based decisions, and observe tutors administering assessments and delivering interventions. The observations allow coaches to build on a tutor’s formal training and to help tutors improve their implementation of the Early Learning Corps model.

Coaches are expected to observe tutors administering each assessment throughout the year to ensure seasonal benchmark data are collected accurately. These observations usually occur before each seasonal benchmark window. Coaches are also expected to observe tutors delivering interventions at least once per month to ensure fidelity to each intervention’s effective instructional processes. Table 3 displays the percent of Coaching Specialists and Internal Coaches who observed tutors administering assessments and delivering interventions at least one time during the school year. The table also shows the percentage of coaches who met the program’s expectation for observations throughout the school year.

Internal Coaches provided consistent observation to all tutors throughout the year while Coaching Specialists recorded completed observations less frequently.

Table 3. Assessment and Intervention Coaching Observations by Coach Role

| Observation Type | Coaching Specialist | | Internal Coach | |
|------------------|--|---|--|---|
| | Percent of Tutors Observed at Least Once | Percent of Tutors Observed in Accordance with Expectations* | Percent of Tutors Observed at Least Once | Percent of Tutors Observed in Accordance with Expectations* |
| Assessment | 31% | 0% | 100% | 92% |
| Intervention | 58% | 0% | 100% | 96% |

Note: Table includes tutors that served for a minimum of two months.
 *Coaches are expected to conduct assessment observations before each benchmark window and intervention observations each month.

Tutor Fidelity

During coaching sessions, coaches complete a fidelity checklist for each assessment or intervention they observe. Each checklist includes the important steps for accurate completion such as starting the timer immediately when child says the first word or letter during an assessment or the tutor using appropriate pacing during a vocabulary intervention. After completing each assessment or intervention fidelity observation, coaches enter the number of checklist items that the tutor delivered correctly into the online data management system. The percent fidelity is then calculated by dividing the number of items delivered correctly by the total number of items.

If tutors do not properly administer an assessment, coaches will provide targeted training and observe the tutor delivering the assessment again. Ongoing observation and coaching continue until the tutor achieves at least 90% accuracy. This process helps to ensure assessment data are properly

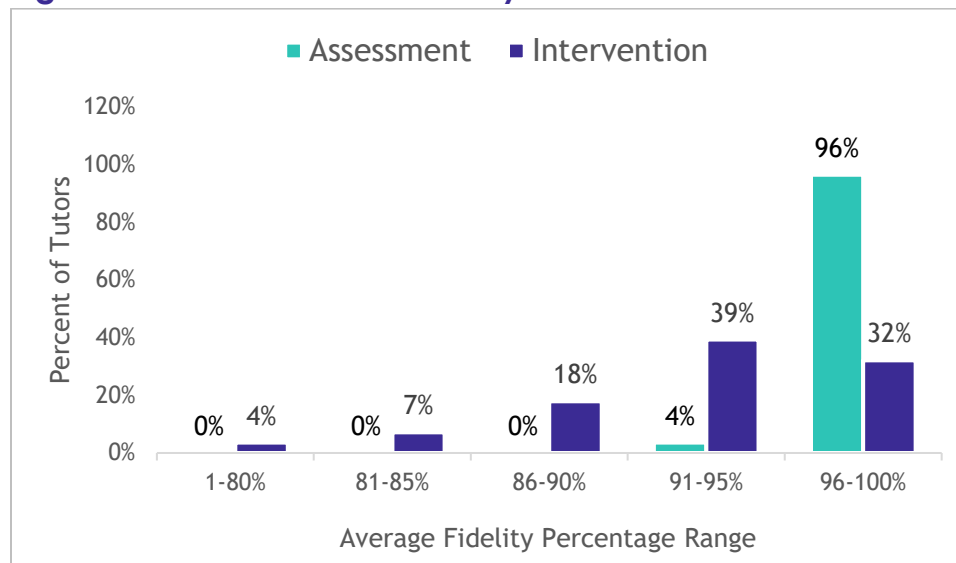
collected and that the results accurately measure each student's skills. Table 4 displays the total number of fidelity checks completed and the average fidelity from assessment and intervention observations.

Table 4. Assessment and Intervention Fidelity

| Fidelity Type | Total Checks Collected | Average Fidelity |
|---------------|------------------------|------------------|
| Assessment | 463 | 98.0% |
| Intervention | 263 | 93.3% |
| Total | 726 | 96.3% |

For each tutor, all observations are combined to calculate their overall assessment and intervention fidelity. A tutor's average fidelity can vary throughout the year, with lower scores being more common at the beginning of the year. Figure 4 shows the distribution of tutors by their average fidelity. Fidelity tends to be high for most tutors, suggesting training and coaching helps tutors implement key components of the program accurately.

Figure 4. Distribution of Tutors by Assessment and Intervention Fidelity Range



Tutor Caseloads

Tutors administer benchmark assessments in literacy and numeracy to identify students who are eligible for targeted tutoring. After identifying eligible students, the tutor works with their coaches to select which students will be tutored, called the tutor's "caseload". Each tutor is expected to have at least seven students on their caseload at any given time.

Table 5 shows the average number of students tutored per tutor and the percentage of tutors who met or exceeded their caseload expectations for at least 80% of the weeks they served in the program. On average, each tutor provided targeted tutoring to a total of 9 students and one-fourth of tutors met the caseload expectation of seven students at least 80% of the time.

Table 5. Tutor Caseloads

| Number of Tutors | Average Total Students Tutored per Tutor | Percentage of Tutors Meeting Caseload Expectation* |
|------------------|--|--|
| 28 | 9.0 | 25% |

*Defined as actively tutoring seven or more students for at least 80% of their service term.

Student Dosage

Tutors work with students on their caseload every day for 5-15 minutes, depending on the intervention. Interventions focus on one of the program's targeted skills: vocabulary and oral language, phonological awareness, alphabet knowledge, or early numeracy. Tutoring can be delivered in small groups, pairs, or one-to-one. Tutors record each student's daily minutes in the online data management system.

Table 6 shows the total number of tutoring sessions and the average number of sessions, weeks, and minutes per week students received. The table also disaggregates the data for white and non-white students. Students received a substantial number of tutoring sessions, with students averaging 62 sessions. White students tended to receive both more tutoring sessions and more minutes of tutoring per week.

Table 6. Tutoring Dosage by Race

| Student Race | Students Tutored | Total Tutoring Sessions | Average Tutoring Sessions per Student | Average Tutoring Weeks per Student | Average Tutoring Minutes per Week per Student |
|--------------|------------------|-------------------------|---------------------------------------|------------------------------------|---|
| White | 193 | 12,474 | 64.6 | 16.2 | 28.1 |
| Non-White | 45 | 2,236 | 49.7 | 13.8 | 25.2 |
| Total | 240 | 14,951 | 62.3 | 15.8 | 27.8 |

Note: The subtotals do not equal the totals as they exclude students with an Unknown race/ethnicity in the program database.

In addition to recording the number of tutoring minutes, tutors also record the reason a scheduled tutoring session was not delivered. Tutors are able to indicate if a session was missed for each of the following reasons: student absence from the site, tutor absence from the site, tutor receiving training, tutor administering an assessment to the student instead of delivering an intervention, or other for any reason not provided.

Table 7 displays the percentage of days tutoring sessions were delivered along with the rate of each missed tutoring session reason for all students. The table also disaggregates the data for white and non-white students. Student absences and 'other' were the most common reasons for missed sessions. White students had a greater percentage of sessions delivered than non-white students, with students absences the greater difference between the two groups.

Table 7. Tutoring Attendance by Race

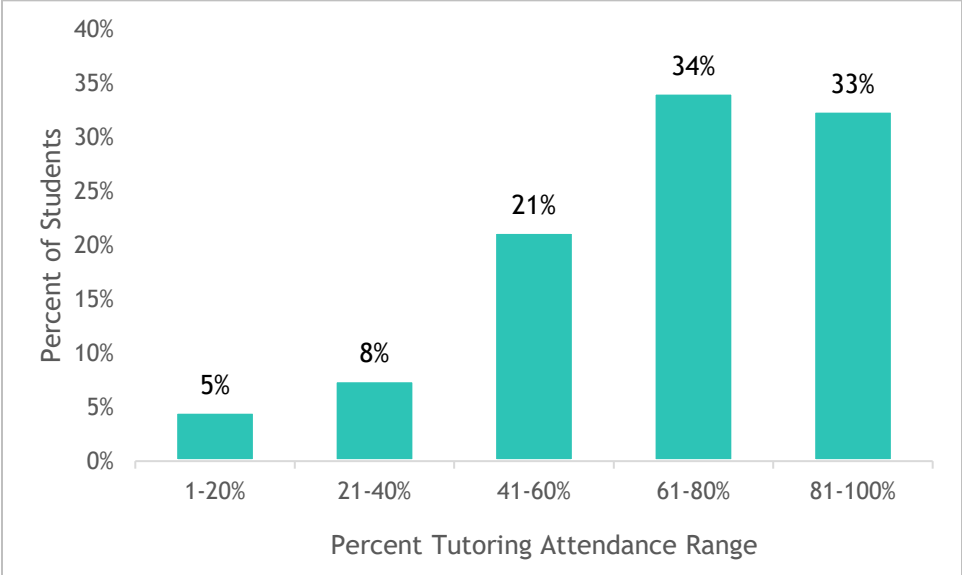
| Student Race | Session Attended | Tutor Absent | Student Absent | Assessing Student | Tutor Training | Other |
|--------------|------------------|--------------|----------------|-------------------|----------------|------------|
| White | 67% | 7% | 9% | 6% | 0% | 11% |
| Non-White | 64% | 6% | 15% | 4% | 0% | 10% |
| Total | 67% | 6% | 10% | 5% | 0% | 11% |

Early Learning Corps tracks tutoring attendance for each student throughout the school year using a 'percent tutoring' metric. A student's percent tutoring is equal to the number of tutoring sessions delivered divided by the number of days tutoring was scheduled to happen (i.e. the metric ignores days there is not school). The program also tracks a tutor's percent tutoring by combining all of their individual student's percent tutoring into a tutor average.

The program strives for each student and tutor to achieve at least 80% tutoring. Tutors falling below this target are provided extra support to improve the frequency of tutoring delivery wherever possible.

Figure 5 displays the distribution of students by their percent tutoring range. The majority of students received tutoring 80% or less of their scheduled days, indicating a growth opportunity for the program.

Figure 5. Distribution of Students by Percent Tutoring Range



3. To what extent did participating students improve their literacy and numeracy skills?

Measures of Early Literacy and Numeracy

Data for academic outcomes are reported from student performance on measures of early literacy and numeracy. The literacy measure corresponds to important early literacy skills including phonemic awareness, phonics, and early vocabulary and language skills. The numeracy measure corresponds to important early numeracy skills including subitizing, object counting, making comparisons, and decomposing and composing numbers. The specific measures are listed below:

- The Preschool Early Literacy Indicators (PELI)
 - Vocabulary and Oral Language
 - Comprehension
 - Phonological Awareness
 - Alphabet Knowledge
- Early Math Inventory (EMI)

The PELI measures are also combined into two composite scores: the PELI Language Index, which is a combined score that includes the Vocabulary-Oral Language and Comprehension subtests, and the PELI Composite Score, which is a combination of all of the PELI subtest scores and provides the best estimate of overall early literacy performance. Tutors individually administer the measures to all students in their classroom during each screening period or “benchmark window” (fall, winter, and spring). Student scores are then compared to research- based seasonal

targets that serve as predictors of performance on future Kindergarten assessments. Students, teachers, and coaches use the benchmark scores to develop plans for supporting all students and for selecting students to receive targeted intervention.

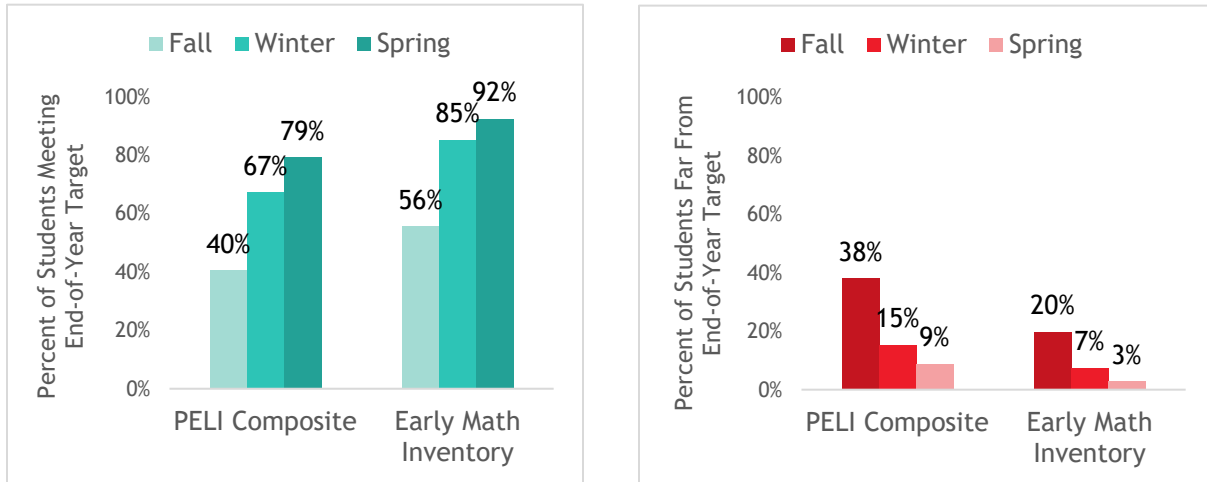
See Appendix A for further information regarding the timing of data collection and target scores indicating proficiency; see Appendix B for the research base for these assessments.

Student Performance

For each measure, student scores can be compared to either the seasonal target (PELI only) or the end of year spring target. Based on the scores and targets used, students are classified as being at or above target (“in the green”), close to target (“in the yellow”), or far from target (“in the red”).

Figure 6 shows the percentage of students who met the end-of-year target for each benchmark season on the PELI Composite and the Early Math Inventory (left panel) and the percentage of students who were far from the end-of-year target on these measures (right panel). At the end of the year, 79% of students met the PELI Composite target and 92% met the Early Math Inventory target. The percentage of students scoring far from the target substantially decreased for both measures from fall to spring.

Figure 6. Percentage of Students Meeting End-of-Year Target (“in the Green” – left panel) and Far from Target (“in the Red” – right panel) by Season

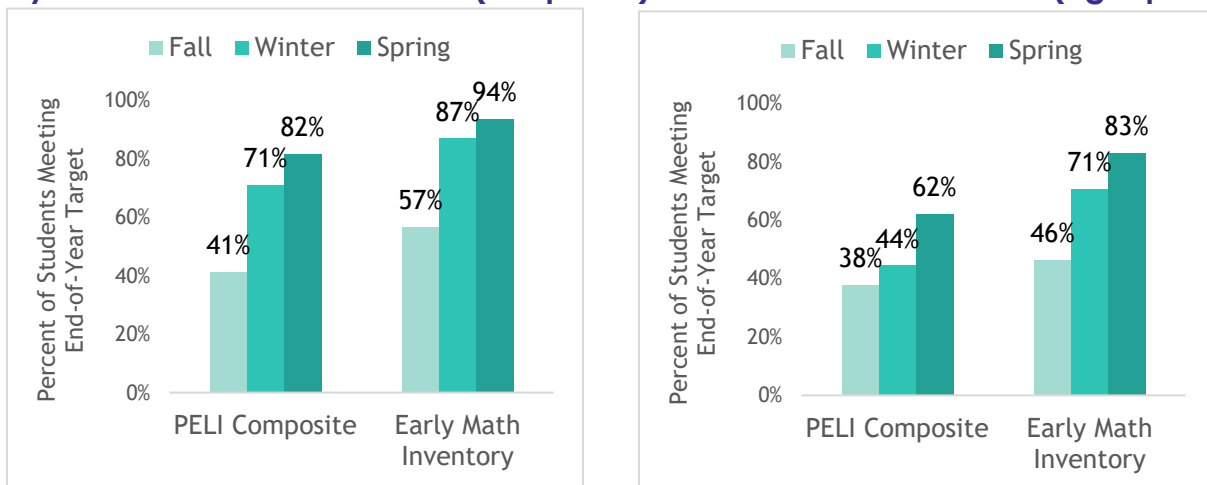


Note: Data displayed for students with assessment scores in all three windows.

Figure 7 disaggregates the above “meeting target” outcome data into white and non-white students in order to better understand program impact across key demographic considerations. For both the PELI Composite and Early Math Inventory, a greater percentage of white students met the end-of-year target at spring compared to non-white students. The differences between the two groups was 20 percentage points on the PELI Composite and 11 percentage

points on the Early Math Inventory. Rigorous comparative research shows that students from various backgrounds make marked improvements during Early Learning Corps tutoring, as compared to randomly identified peers who do not access the program (Markovitz et al., 2015), but Figure 7 and highlights a need to ensure students across demographic backgrounds benefit to the greatest possible extent.

Figure 7. Percentage of Students Meeting End-of-Year Target (“in the Green”) by Season for White Students (left panel) and Non-White Students (right panel)

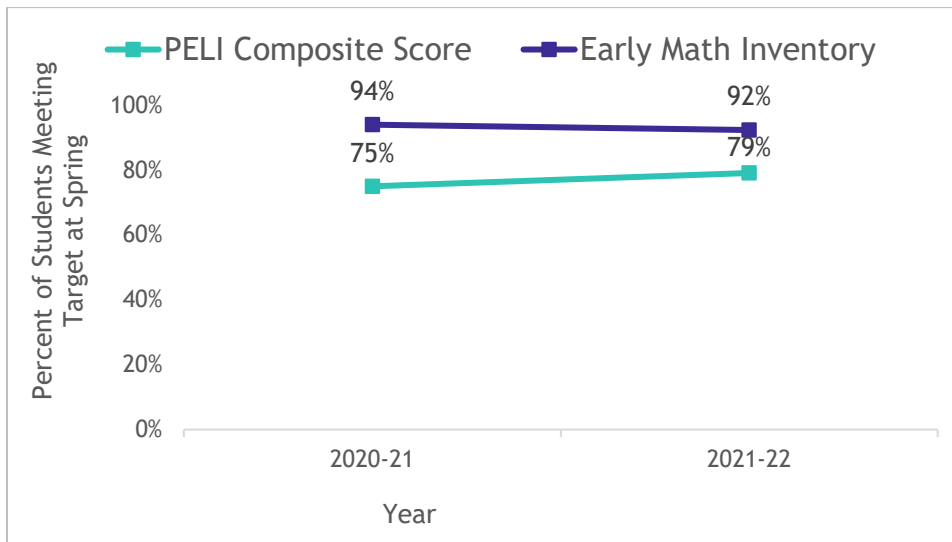


Note: Data displayed for students with assessment scores in all three windows.

Comparing the percentage of students meeting the spring target across program years is an effective way to track overall program effectiveness and identify potential needs for program improvement. Figure 8 displays the percentage of students meeting the spring target on the PELI Composite

Score and Early Math Inventory for the previous two years. The percentage of students meeting the spring target on the PELI Composite decreased slightly across the two years while the percentage increased for the Early Math Inventory.

Figure 8. Percentage of Students Meeting Target (“in the Green”) at Spring, by Year



Note: Use caution when comparing outcome data across years as the program was significantly disrupted by the COVID-19 pandemic.

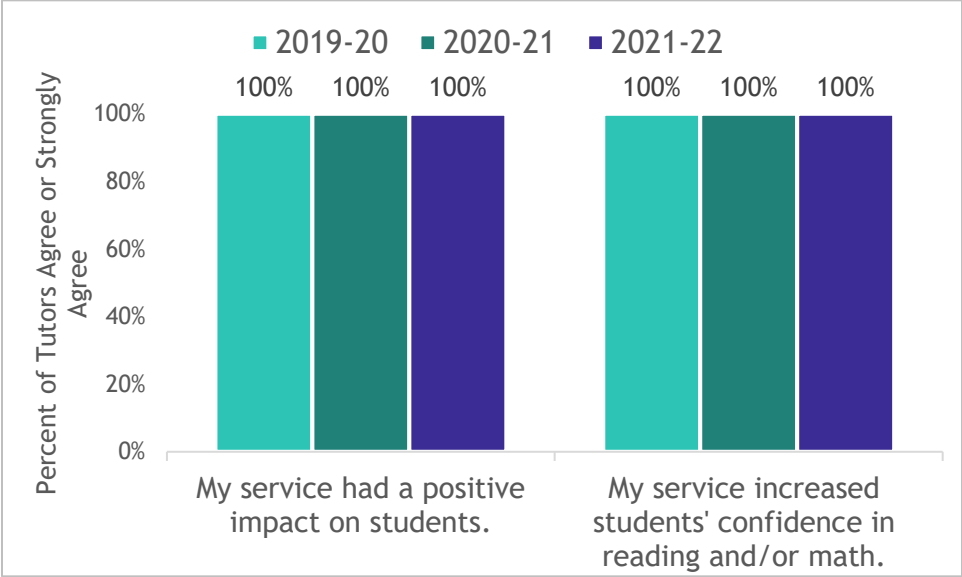
Tutor Perception of Student Performance

In the spring of each program year, Early Learning Corps evaluators distribute an online survey to tutors. The survey asks a wide-range of questions regarding their service in Early Learning Corps and potential impact of the program.

Figure 9 displays the percentage of tutors who indicated they agreed or strongly agreed that their service in Early

Learning Corps had a positive impact on students and increased students' confidence in reading and/or math. The results from these survey questions are presented for each of the previous three program years. The survey results are notably positive with 100% of respondents in each year indicating their service in Early Learning Corps had a positive impact on students and increased students' confidence in reading and/or math.

Figure 9. Tutor Survey Results on Student Impact



4. How did serving as a tutor impact their skills and knowledge related to education and their future career goals?

While supporting student literacy and numeracy growth is the primary goal for the program, Early Learning Corps also strives to provide tutors with an overall positive experience and prepare them for any future career they might pursue, especially careers in the education field. As previously described, Early Learning Corps evaluators distribute a survey to tutors in the spring of each program year. The survey asks tutors a series of questions on their experience in Early Learning Corps and the impact the program had on them, their students, and their school. Survey results are also used to evaluate the program's impact on the tutors themselves.

Service Experience

A common practice in surveys is to ask the respondent if they would

recommend the program to others, as one's willingness or unwillingness to recommend encompasses the overall experience of serving.

Figure 10 shows that 64% of tutors would definitely recommend serving as a member of Early Learning Corps, with another 36% saying they would probably recommend serving. These results suggest tutors had a highly positive experience while serving with Early Learning Corps.

The survey also asked tutors if serving in Early Learning Corps had a positive impact on them personally. Figure 11 shows that 100% of tutors agree or strongly agree service had a positive impact on them, demonstrating the positive personal impact of serving.

Figure 10. Tutor Satisfaction

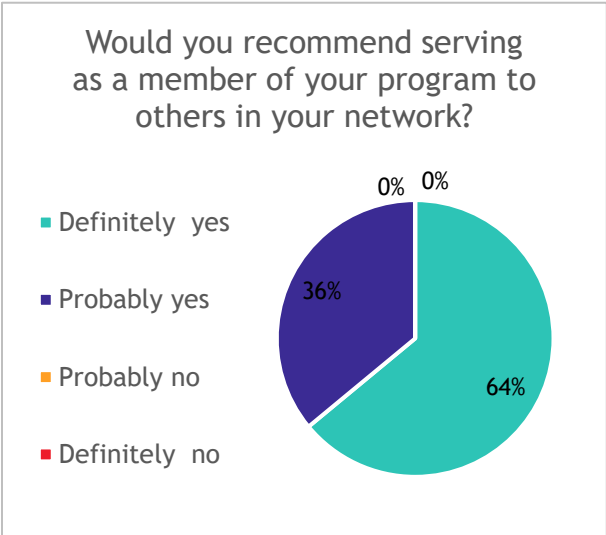
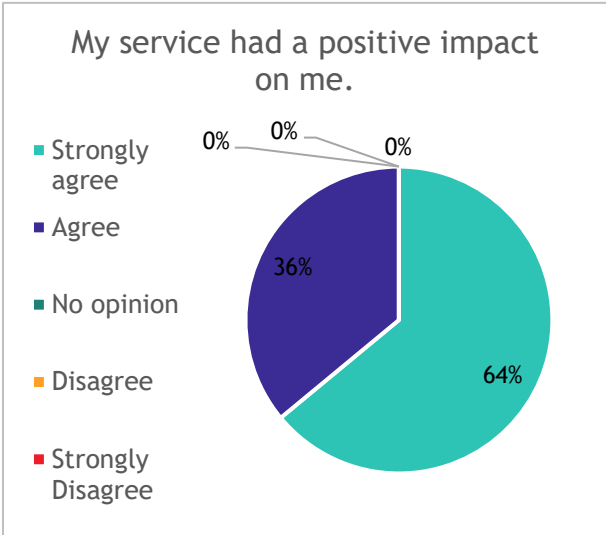


Figure 11. Impact on Tutors



Skill Development and Future Careers

Early Learning Corps strives to support tutor professional development through the training, coaching, service experience, and other professional development support provided by the program. In particular, Early Learning Corps aims to increase the teacher and school staff pipeline in communities through its tutors pursuing careers in education after their service. To evaluate these outcomes in the short term, the spring survey asks tutors to respond to questions related to their increased knowledge and skills as well

as any potential plans to pursue a career in education.

Figure 12 shows that 92% of respondents agree or strongly agree that their service increased their knowledge and skills related to education, demonstrating the program is having a positive impact on tutors in this area. Figure 13 displays tutor responses related to the likelihood they will pursue a career in education as a result of their service in Early Learning Corps. 64% of respondents answered that they are very likely to pursue a career in education as a result of their service and 29% responded that they are likely to do so.

Figure 12. Tutor Increased Knowledge and Skills

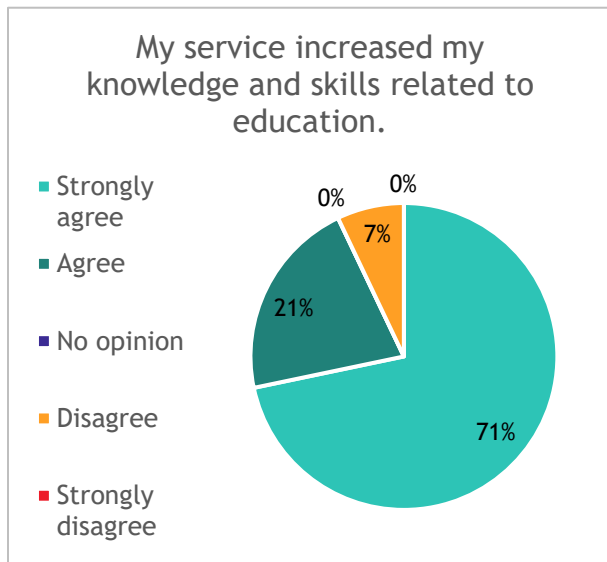
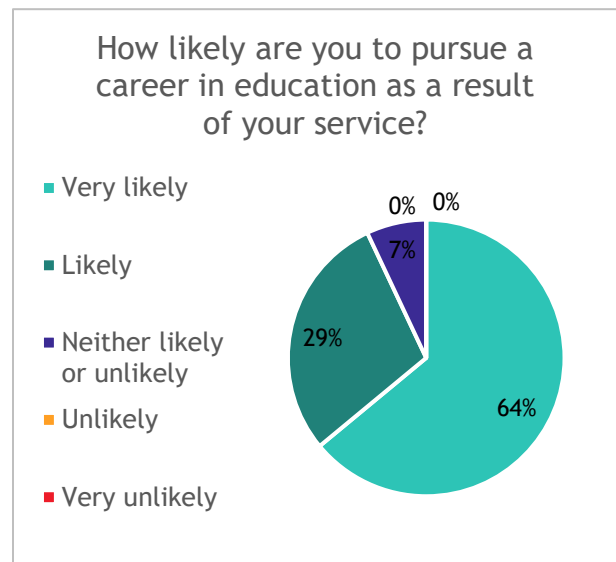


Figure 13. Tutors Pursuing Careers in Education



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Appendix A: Assessment Measures and Procedures

Students are assessed in all measures during three seasonal benchmark windows. Each assessment tool has empirically derived, criterion-referenced seasonal benchmark goals and cut points for risk that represent adequate early literacy progress for children in preschool. A benchmark goal indicates a level of skill where the child is likely to achieve the next benchmark goal or early literacy outcome. Benchmark goals are based on research that examines the predictive validity of a score on a measure at a particular point in time, compared to later measures and compared to external outcome assessments. If a child achieves a benchmark goal, then the odds are in favor of that child achieving later early literacy outcomes if he/she receives generally effective instructional support and learning opportunities.

The cut points for risk indicate a level of skill below which a child is unlikely to achieve subsequent early literacy goals without receiving additional, targeted instructional support. Children with scores below the cut point for risk are identified as likely to need intensive support. Intensive support refers to interventions that incorporate something more or something different from the core curriculum or supplemental support.

The benchmark goals differ based on student age at the beginning of the school year.

Benchmark Goals and Cut Points for Risk for Age 4 and Age 5

| Subtest | Benchmark Goal and Cut Points for Risk | Fall August 16 – October 1 | Winter January 3 – January 28 | Spring April 25 – May 27 |
|--------------------------|--|----------------------------------|-------------------------------------|--------------------------------|
| Composite Score | Green | 159+ | 201+ | 231+ |
| | Yellow | 115-158 | 160-200 | 195-230 |
| | Red | 0-114 | 0-159 | 0-194 |
| Language Index | Green | 114+ | 132+ | 143+ |
| | Yellow | 88-113 | 111-131 | 124-142 |
| | Red | 0-87 | 0-110 | 0-123 |
| Vocabulary/Oral Language | Green | 18+ | 21+ | 23+ |
| | Yellow | 13-17 | 16-20 | 19-22 |
| | Red | 0-12 | 0-15 | 0-18 |
| Comprehension | Green | 13+ | 16+ | 17+ |
| | Yellow | 10-12 | 12-15 | 14-16 |
| | Red | 0-9 | 0-11 | 0-13 |
| Phonological Awareness | Green | 4+ | 10+ | 13+ |
| | Yellow | 1-3 | 4-9 | 9-12 |
| | Red | 0 | 0-3 | 0-8 |
| Alphabet Knowledge | Green | 6+ | 17+ | 23+ |
| | Yellow | 2-5 | 8-16 | 14-22 |
| | Red | 0-1 | 0-7 | 0-13 |
| Early Math Inventory | Green | 13+ | 13+ | 13+ |
| | Yellow | 7-12 | 7-12 | 7-12 |
| | Red | 0-6 | 0-6 | 0-6 |

Benchmark Goals and Cut Points for Risk for Age 3

| Subtest | Benchmark Goal and Cut Points for Risk | Fall August 16 – October 1 | Winter January 3 – January 28 | Spring April 25 – May 27 |
|--------------------------|--|----------------------------------|-------------------------------------|--------------------------------|
| Composite Score | Green | 68+ | 101+ | 128+ |
| | Yellow | 35-67 | 59-100 | 85-127 |
| | Red | 0-34 | 0-58 | 0-84 |
| Language Index | Green | 62+ | 87+ | 100+ |
| | Yellow | 33-61 | 50-86 | 59-99 |
| | Red | 0-32 | 0-49 | 0-58 |
| Vocabulary/Oral Language | Green | 8+ | 12+ | 14+ |
| | Yellow | 4-7 | 6-11 | 8-13 |
| | Red | 0-3 | 0-5 | 0-7 |
| Comprehension | Green | 6+ | 10+ | 11+ |
| | Yellow | 2-5 | 5-9 | 7-10 |
| | Red | 0-1 | 0-4 | 0-6 |
| Phonological Awareness | Green | - | 1+ | 2+ |
| | Yellow | - | 0 | 0-1 |
| | Red | - | - | - |
| Alphabet Knowledge | Green | 1+ | 3+ | 5+ |
| | Yellow | 0 | 1-2 | 2-4 |
| | Red | - | 0 | 0-1 |
| Early Math Inventory | Green | 9+ | 9+ | 9+ |
| | Yellow | 5-8 | 5-8 | 5-8 |
| | Red | 0-4 | 0-4 | 0-4 |

Appendix B: Assessment Research Base

Assessment tools were selected for use in Early Learning Corps because of their well-established statistical reliability and validity for screening and progress monitoring purposes. The Preschool Early Literacy Indicators (PELI) is designed to identify children who may be experiencing difficulties acquiring early literacy skills and to inform instructional support for those children in order to improve future reading outcomes. The reliability, validity, and decision utility of the PELI have been investigated in a series of studies from 2009 to 2017.

The information that follows summarizes empirical findings related to the statistical reliability and validity of the measures used in Early Learning Corps.

Preschool Early Literacy Indicators:

- Alternate form reliability of the PELI Composite Score ranges from .85 to .92.
- Alternate form reliability of the PELI subtests ranges from .66 to .95
- Inter-rater reliability of the PELI ranges from .90 to .98.
- Concurrent criterion-related validity of language subtests and the PELI Language Index with the Peabody Picture Vocabulary Test ranges from .62 to .72.
- Concurrent criterion-related validity of Alphabet Knowledge and Phonological Awareness subtests with the Acadience™ Reading K–6 Composite Score (beginning of kindergarten measures administered at the end of Pre-K) ranges from .66 to .74.
- Sensitivity and specificity of the PELI Composite Score end-of-year benchmark goal with the Peabody Picture Vocabulary Test as the criterion measure = .61 and .81 respectively (CA = .74; AUC = .81).
- Sensitivity and specificity of the PELI Composite Score end-of-year benchmark goal with the Acadience Reading Kindergarten beginning-of-year benchmark goal as the criterion are .77 and .88 respectively (CA = .77; AUC = .87)

Sources:

- Kaminski, R.A., Abbott, M., Bravo Aguayo, K., Latimer, R., & Good, R.H. (2014). The Preschool Early Literacy Indicators: validity and benchmark goals, *Topics in Early Childhood Special Education*, 34(2), 71-82.

Appendix C: Intervention Research Base

The interventions used in the Early Learning Corps program are designed to provide additional practice that is supplemental to the core reading instructional program offered by the local school site. The interventions target automaticity and fluency of important reading skills that have been introduced by local classroom teachers. It is important to note that Early Learning Corps participation is in addition to, not in replacement of, a comprehensive core reading instructional program, and that the Early Learning Corps program should in no way be viewed as a substitute for high quality core instruction.

A unique feature of Early Learning Corps is the consistent use of research-based intervention protocols with participating students to provide this additional support. Site-based Internal Coaches select from a menu of research-based supplemental reading interventions for use with participating students as listed below. For each intervention protocol sources of empirical evidence for intervention effectiveness are listed.

Letter Sound Identification

- Adams, M.J. (1990). *Beginning to read: Thinking and learning about print*. Cambridge, MA: MIT Press.
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Phonological Awareness Interventions

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Phoneme Blending

- Adams, M.J. (1990). *Beginning to read: Thinking and learning about print*. Cambridge, MA: MIT Press.
- Bos, C.D., & Vaughn, S. (2002). *Strategies for teaching students with learning and behavioral problems* (5th Ed.). Boston: Allyn & Bacon.

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- Elkonin, D.B. (1973). U.S.S.R. In J. Downing (Ed.), *Comparative Reading* (pp.551-579). New York: MacMillan.
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- Smith, C.R. (1998). From gibberish to phonemic awareness: Effective decoding instruction. *Exceptional Children*, Vol 30(6) 20-25.
- Smith, S.B., Simmons, D.C., & Kame'enui, E. J. (1998). Phonological Awareness: Research bases. In D.C. Simmons & E.J. Kame'enui (Eds.), *What Reading research tells us about children with diverse learning needs: Bases and basics*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Snider, V. E. (1995). A primer on phonemic awareness: What it is, why it is important, and how to teach it. *School Psychology Review*, 24, 443–455.

Phoneme Segmentation

- Adams, M.J. (1990). *Beginning to read: Thinking and learning about print*. Cambridge, MA: MIT Press.
- Blachman, B. A. (1991). Early intervention for children's reading problems: Clinical applications of the research on phonological awareness. *Topics in Language Disorders*, 12, 51–65.
- Bos, C.D., & Vaughn, S. (2002). *Strategies for teaching students with learning and behavioral problems* (5th Ed.). Boston: Allyn & Bacon.
- Ehri, L.C., Nunees, S.R., & Willows, D.M. (2001). Phonemic awareness instruction helps children learn to read: Evidence from the National Reading Panel's meta-analysis. *Reading Research Quarterly*, 36(3). 250-287.
- National Reading Panel. (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction*. Bethesda, MA: National Institutes of Health.
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Repeated Read Aloud

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