Evaluation of the Dyslexia Pilot Project: Year 4

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Executive Summary

Ohio's Dyslexia Pilot Project was established by House Bill 96 and signed by Governor Kasich in December 2011. In accordance with the Ohio Revised Code Section 3323.25, the goal of the Dyslexia Pilot Project was to demonstrate and evaluate the effectiveness of early screening and reading assistance programs for children at risk for reading failure, including those students exhibiting risk factors associated with dyslexia, and to evaluate whether effective early screening and reading assistance programs could improve student outcome and reduce future special education costs.

To enable school districts to have a strategic plan in place to meet the needs of children at risk for reading failure, the Ohio Department of Education selected eight school districts to participate in the Dyslexia Pilot Project based on the merit of their proposals. Participating school districts were required to make a three-year commitment (2012-13, 2013-14, and 2014-15) to design and implement a tiered model of reading instructional support that utilized a multi-sensory structured language approach to instruction.

An investment in professional learning opportunities for teachers was a core component of the Dyslexia Pilot Project. School districts were required to provide professional development in evidence-based reading instruction and multi-sensory structured language instruction to teachers (general education and intervention specialists) serving students in kindergarten through second grade.

Screening and early intervention were core components of Ohio's Dyslexia Pilot Project. School districts were also required to select and administer technically adequate (i.e., reliable, valid, useful) assessments of phonological processing and rapid naming skills for the purposes of screening, intervention planning based on student's skills, and progress monitoring. Screening, early intervention, and progress monitoring activities were expected to focus on kindergarteners in Year 1 (2012-13), kindergarteners and first graders in Year 2 (2013-14), and kindergarteners, first, and second graders in Year 3 (2014-15).

School districts were renewed for grant funding contingent on their implementation of the core components of the Pilot Project. Six of the eight school districts provided evidence of implementation sufficient to earn them three years of funding. Following Year 3, four school districts who demonstrated high levels of implementation fidelity were selected to participate in an extension of the evaluative study in Year 4.

The six participating school districts in Year 4 (2015-16) included Cincinnati Public Schools (Hamilton County), Edison Local School Districts (Jefferson County), Indian Creek Local School District (Jefferson County), and Shawnee Local School District (Allen County).

The results indicate that the positive outcomes of the Pilot Project obtained for students in the earliest grade levels were sustained in Year 4. An analysis of the screening results for students who participated in the Pilot Project shows a marked reduction in risk of reading failure for a stable group of students in kindergarten, first and second grade. This reduction in

risk was not evident at Grade 3. Similarly, students receiving core instruction, strategic intervention, and intensive intervention attained a mean rate of improvement that exceeded the rate of improvement calculated from the benchmark goals for the core level, strategic level, and intensive level, respectively, in Kindergarten and Grades 1 and 2. The mean rates of improvement obtained by students in Grade 3 did not meet the expected rate of improvement.

Over the course of the three-year Dyslexia Pilot Project, participating schools increased their capacity to conduct universal screening for reading difficulties and match students to early intervention suited to their level of need. These positive outcomes were sustained in Year 4. The time-series analysis of student outcomes provides support for the finding that the investment in districts' capacity for early reading intervention resulted in a greater proportion of students who were At or Above Benchmark at the end of each year, with positive outcomes noted for all three incoming cohorts of students

An examination of student demographics for the schools participating in the Dyslexia Pilot Project indicates that the percentage of students identified as having an educational disability decreased for all three years of the Dyslexia Pilot Project and remained lower than the baseline in the follow-up year. Although the decreases in the percentage of students with disability are modest relative to the baseline, they indicate a promising outcome: The number of at-risk students entering special education eligibility as a result of their needs not being fully met in the general education program was less than it had been in the year prior to the Dyslexia Pilot Project, thus lowering the overall percentage of students with disabilities over the course of the Project. Among the participating schools, a difference between 15% and 12% of students with disabilities represents 105 students who will not require special education services as a results of having their literacy needs addressed through early intervention. This modest decreasing trend in the percentage of students with disabilities was evident during the same period of time in which the percentage of students with economic disadvantage was slightly higher relative to the baseline year and the percentage of students with Limited English Proficiency doubled. Meeting students' needs proactively through early intervention is cost-effective not only in terms of reducing the need for costly special education services, but more importantly, for ensuring that each student achieves proficiency in literacy and is on track to being career and college ready.

Evaluation of the Dyslexia Pilot Project: Year 4

Ohio's Dyslexia Pilot Project presented school districts with an opportunity to participate in an initiative designed to promote early screening and intervention services for children with risk factors for dyslexia. The primary goal of the Dyslexia Pilot Project was to evaluate the effectiveness of early screening and reading assistance programs for children at risk for reading failure including those students exhibiting risk factors associated with dyslexia. A secondary goal of the Pilot Project was to evaluate whether effective early screening and reading assistance programs could reduce future special education costs. Established by House Bill 96, the Dyslexia Pilot Project was signed by Governor Kasich in December 2012 and codified in Ohio Revised Code Section 3323.25.

Eight school districts were selected by the Superintendent of Public Instruction for participation in the Dyslexia Pilot Project based on the merit of their proposal. To be considered for participation in the Dyslexia Pilot Project, school districts were required to address the following:

1. Identify a method of screening children for low phonemic awareness and other risk factors for dyslexia,

2. Provide for the enrollment of children identified as having risk factors in a reading program staffed by teachers trained in evidence-based reading instruction and multisensory structured language instruction, and

3. Include a methodology for evaluating the reading program's effects on the children's identified risk factors.

Participation in the Dyslexia Pilot Project involved a three-year commitment from school districts to invest in screening students and providing early intervention services beginning in Year 1 (2012-13) and continuing in Year 2 (2013-14) and Year 3 (2014-15). Following Year 3, four school districts who demonstrated high levels of implementation fidelity were selected to participate in an extension of the evaluative study in Year 4.

Purpose of the Evaluation

The primary purpose of the external evaluation in Year 4 was to extend the analysis of the student outcome data beyond the initial three years of Project installation and implementation. The evaluation examined the impact of early screening and reading assistance programs for children at risk for reading failure including those students exhibiting risk factors associated with dyslexia. A secondary purpose of the evaluation was to extend the cost-effectiveness analysis of the Dyslexia Pilot Project by examining the percentage of students identified as needed special education services longitudinally over five years.

Description of Ohio's Dyslexia Pilot Project

The Dyslexia Pilot Project was designed by the Ohio Department of Education in recognition of the importance of early intervention and the early identification of reading difficulties. To enable school districts to have a strategic plan in place to meet the needs of children at risk for reading failure, the Ohio Department of Education selected eight school districts to participate in the Dyslexia Pilot Project based on the merit of their proposals. Participating school districts were required to make a three-year commitment (2012-13, 2013-14, and 2014-15) to design and implement a tiered model of reading instructional support that utilized a multi-sensory structured language approach to instruction. School districts were required to select and administer technically adequate (i.e., reliable, valid, useful) assessments of phonological processing and rapid naming skills for the purposes of screening, intervention planning based on student's skills, and progress monitoring. Screening, early intervention, and progress monitoring activities were expected to focus on kindergarteners in Year 1 (2012-13), kindergarteners and first graders in Year 2 (2013-14), and kindergarteners, first, and second graders in Year 3 (2014-15).

As part of the Dyslexia Pilot Project, school districts were also required to provide professional development in evidence-based reading instruction and multi-sensory structured language instruction to teachers (general education and intervention specialists) serving students in kindergarten through second grade. School districts were also required to communicate to parents: (a) their child is eligible for reading intervention services through the Pilot Project, (b) the district's process to obtain parental consent for the student's participation in the Pilot Project, and (c) information about dyslexia, recommended multi-sensory structured language supports and possible services under state and federal law.

Evaluation Questions

1. To what extent was there a reduction in the risk of reading failure in participating schools based on universal screening outcomes using curriculum-based measurement assessments in kindergarten through Grade 3?

2. To what extent did students whose teachers participated in the Dyslexia Pilot Project's professional development demonstrate accelerated rates of learning in response to evidence-based, multisensory-structured language instruction and increasingly intensive interventions as measured over time by curriculum-based measurement assessments?

3. To what extent did the effectiveness of early screening and evidence-based, multisensory-structured language instruction within a tiered model of reading instructional support and intervention lead to reductions in future special education costs at a school district-level?

Evaluation Method

District Participants

Four school districts were selected to participate in an extension of the evaluative study of the impact of the Dyslexia Pilot Project in Year 4 (2015-16): Cincinnati Public Schools (Hamilton County), Edison Local School Districts (Jefferson County), Indian Creek Local School District (Jefferson County), and Shawnee Local School District (Allen County). The demographic characteristics of the student population for each school building is presented in Table 1.

Table 1. Demographic Characteristics of Schools Participating in the Extension of the Dyslexia Pilot Project External Evaluation

	Percentage of Student Population		
	Economically Disadvantaged	Students with Disabilities	Limited English Proficiency
Cincinnati Public Schools			
Mt. Washington Elementary	99.5%	12.4%	4.1%
Roberts Paideia Academy	99.9%	16.6%	60.2%
Edison Local Schools			
John E. Gregg Elementary	56.9%	15.9%	< 1.0%
Stanton Elementary	60.5%	14.5%	< 1.0%
Indian Creek Local Schools			
Hills Elementary	69.4%	12.2%	< 1.0%
Wintersville Elementary	61.0%	8.0%	< 1.0%
Shawnee Local Schools			
Elmwood Elementary	29.9%	8.5%	< 1.0%

Source: Ohio Department of Education, School Report Cards for 2015-16

Evaluation Design

Quantitative analyses of student learning outcome data were used to evaluate the Dyslexia Pilot Project in Year 4. Student outcomes were also analyzed longitudinally over the four-year implementation of the Pilot Program.

Data Collection Procedures

Student learning outcomes as measured over time by curriculum-based measurement assessments were obtained for the kindergarten, first, second, and third grade students screened in Year 4 directly from each school district. Descriptive information regarding the type and duration of early intervention services provided to students based on the screening outcomes were also gathered directly from each school district. Data management, data security, and the protection of human subjects was and continues to be a priority for the evaluation of the Dyslexia Pilot Project. Data collection procedures were reviewed by the University of Cincinnati's Institutional Review Board, a committee for the protection of human subjects in research.

Data Analysis

Quantitative data analyses were used to evaluate the effectiveness of each district's Pilot Project implementation on student learning outcomes. Student learning outcomes, as defined by the Dyslexia Pilot Project, include standardized curriculum-based measurement assessments for measuring phonological processing (e.g., phoneme blending, deletion, substitution, and segmentation), rapid naming skills (e.g., letter naming fluency), and oral reading fluency. These short duration, short-cycle assessments are sensitive to growth and valid for use in monitoring student progress over time. For the purpose of this evaluation, a rigorous analysis of students' initial skills as assessed through the screening measures was conducted to evaluate the accuracy and appropriateness of the school and district's process for identifying students exhibiting risk factors associated with dyslexia. National norms were used to determine the number and percentage of students whose needs were best served by the core instruction (Tier I), core instruction plus strategic intervention (Tier II), or core instruction plus intensive, individualized intervention (Tier III). Where multiple measures of early literacy skills were used, students were classified as in need of intensive intervention if they performed within the intensive range on any of the measures administered during that screening period. Local norms were used in instances where the percentage of kindergarten students in need of intensive intervention according to the national norms exceeded 50%. Hit rates were calculated to represent the percentage of students who were selected for strategic, small group reading intervention (Tier II) and individualized, intensive reading intervention (Tier III) appropriately.

The effects of the reading intervention on student progress was evaluated by calculating individual student growth or rates of improvement over time compared to expected rates of growth based on empirically-based benchmarks.

The objective costs of a multi-tiered reading intervention program consist of any objectively measurable resource (i.e., time and money) consumed as a result of implementing an intervention. Teacher time, or the amount of time a teacher is being diverted from other activities to provide intensive, individualized (Tier III) intervention, was used as an objective metric of a resource used (Noell & Gresham, 1993).

Evaluation Findings

To what extent was there a reduction in the risk of reading failure for students in participating schools based on universal screening outcomes using curriculum-based measurement assessments in kindergarten through Grade 3?

An analysis of the screening results for a stable group of kindergarten students (that is, students who participated in their district's Pilot Project for all three benchmark periods), indicates that the percentage of students Well Below Benchmark decreased from 26.8% during the beginning benchmark (fall) period to 5.7% in the end benchmark (spring) period. The percentage of students Below Benchmark remain relatively unchanged during this same time span. The percentage of students At Benchmark or Above Benchmark increased from 63.1% during the beginning benchmark (fall) period to 85.2% in the end benchmark (spring) period (See Table 2).

Table 2. Percentage of Kindergarten Students by Screening Outcome, Year 4

Kindergarten	Beginning (Fall)	Middle (Winter)	End (Spring)
Well Below Benchmark	26.8%	8.9%	5.7%
Below Benchmark	10.1%	15.8%	9.1%
At Benchmark	11.6%	41.4%	33.8%
Above Benchmark	51.5%	33.8%	51.3%

Note: Screening results are based on 526 students who participated in the Pilot Project during all three benchmark periods. Across multiple measures (First Sound Fluency, Phoneme Segmentation Fluency, Nonsense Word Fluency-Correct Letter Sounds, and Nonsense Word Fluency-Whole Words Read), students were classified according to the highest risk category obtained on the measures administered during that screening period.

An analysis of the screening results for a stable group of first grade students (that is, students who participated in their district's Pilot Project for all three benchmark periods), indicates that the percentage of students Well Below Benchmark decreased from 16.0% during the beginning benchmark (fall) period to 13.5% in the end benchmark (spring) period. During this same span of time, the percentage of students Below Benchmark decreased from 32.6% to 13.7%. The percentage of students At Benchmark or Above Benchmark increased from 51.4% during the beginning benchmark (fall) period to 72.8% in the end benchmark (spring) period (See Table 3).

Table 3. Percentage of Grade 1 Students by Screening Outcome, Year 4

Grade 1	Beginning (Fall)	Middle (Winter)	End (Spring)
Well Below Benchmark	16.0%	11.6%	13.5%
Below Benchmark	32.6%	12.5%	13.7%
At Benchmark	17.3%	22.2%	22.6%
Above Benchmark	34.2%	53.7%	50.2%

Note: Screening results are based on 562 students who participated in the Pilot Project during all three benchmark periods. Across multiple measures (Phoneme Segmentation Fluency, Nonsense Word Fluency-Correct Letter Sounds, Nonsense Word Fluency-Whole Words Read, Oral Reading Fluency, and Accuracy), students were classified according to the highest risk category obtained on any of the measures administered during that screening period.

At Grade 2, the percentage of students Well Below Benchmark decreased from 25.0% during the beginning benchmark (fall) period to 15.2% in the end benchmark (spring) period and the percentage of students Below Benchmark decreased from 18.6% to 16.6%. The percentage of students At or Above Benchmark increased from 56.4% during the beginning benchmark (fall) period to 68.3% in the end benchmark (spring) period (See Table 4).

Table 4. Percentage of Grade 2 Students by Screening Outcome, Year 4

Grade 2	Beginning (Fall)	Middle (Winter)	End (Spring)
Well Below Benchmark	25.0%	16.6%	15.2%
Below Benchmark	18.6%	14.0%	16.6%
At Benchmark	22.4%	23.9%	19.9%
Above Benchmark	34.0%	45.6%	48.3%

Note: Screening results are based on 652 students who participated in the Pilot Project during all three benchmark periods. Across multiple measures (Nonsense Word Fluency-Correct Letter Sounds, Nonsense Word Fluency-Whole Words Read, Oral Reading Fluency, and Accuracy), students were classified according to the highest risk category obtained on any of the measures administered during that screening period.

An analysis of the screening results for a stable group of Grade 3 students indicates that the percentage of students Well Below Benchmark remained relatively unchanged from 20.8% during the beginning benchmark (fall) period to 18.6% in the end benchmark (spring) period. During this same span of time, the percentage of students Below Benchmark increased slightly from 14.5% to 16.9%. The percentage of students At or Above Benchmark remained unchanged from 64.6% during the beginning benchmark (fall) period to 64.5% in the end benchmark (spring) period (See Table 5).

Table 5. Percentage of Grade 3 Students by Screening Outcome, Year 4

Grade 3	Beginning (Fall)	Middle (Winter)	End (Spring)
Well Below Benchmark	20.8%	17.1%	18.6%
Below Benchmark	14.5%	12.7%	16.9%
At Benchmark	25.4%	27.4%	21.4%
Above Benchmark	39.2%	42.7%	43.1%

Note: Screening results are based on 543 students who participated in the Pilot Project during all three benchmark periods. Across multiple measures (Oral Reading Fluency, and Accuracy), students were classified according to the highest risk category obtained on any of the measures administered during that screening period.

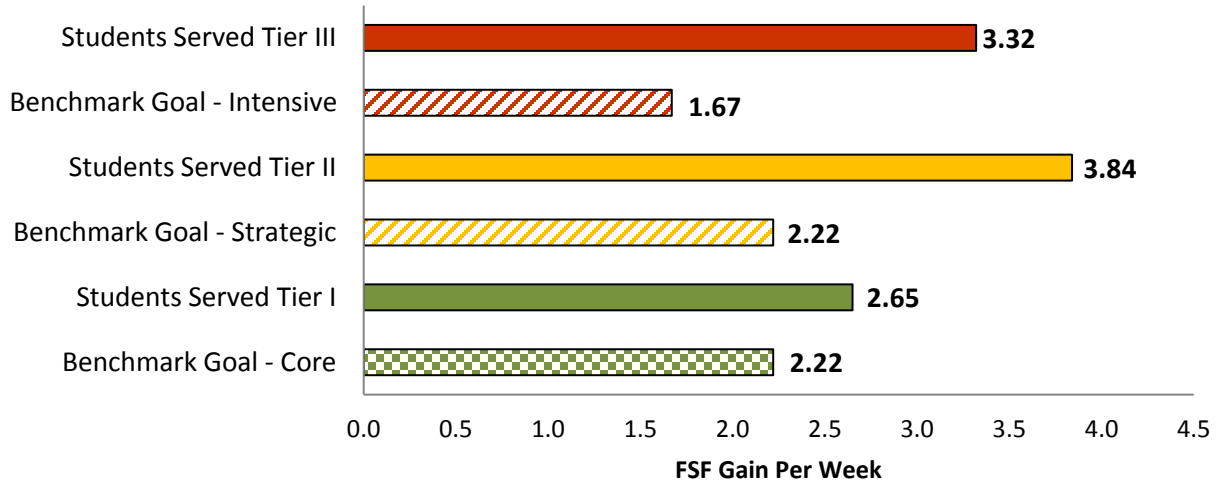
The results suggest a marked reduction in risk of reading failure for a stable group of students in kindergarten, first and second grade. This reduction in risk was not evident at Grade 3. The results also indicate that additional comprehensive support of students in Grades 1-3 is needed to further reduce the risk of reading failure across the participating schools in the Dyslexia Pilot Project. Although many high-need schools will struggle to achieve the ideal, it is expected that 80-90% of students' needs are met within the core instructional program, only 5-10% of the students are in need of strategic interventions, and only 1-5% of the students are in need of intensive interventions. Given the proportion of students who are not "At" or "Above" benchmark at each screening period, considerable effort should go into strengthening the core instruction provided in Tier I, as well as strategic interventions in Tier II in order to reduce the number of students identified as at risk in subsequent screening periods.

To what extent did students whose teachers participated in the Dyslexia Pilot Project's professional development demonstrate accelerated rates of learning in response to evidence-based, multisensory-structured language instruction and increasingly intensive interventions as measured over time by curriculum-based measurement assessments?

DIBELS Next curriculum-based measures were used to calculate a rate of improvement for each student participating in the Dyslexia Pilot Program. Among the kindergarten students, a rate of improvement was calculated for DIBELS First Sound Fluency, Phoneme Segmentation Fluency, and Nonsense Word Fluency – Correct Letter Sounds for students served with strategic (Tier II) and intensive interventions (Tier III) and for students who were provided core instruction without supplemental intervention (Tier I). At Grade 1, a rate of improvement was calculated for Nonsense Word Fluency – Correct Letter Sounds and Oral Reading Fluency for students served with strategic (Tier II) and intensive interventions (Tier III) and for students who were provided core instruction without supplemental intervention (Tier I). At Grades 2 and 3, a rate of improvement was calculated for DIBELS Oral Reading Fluency for students served with strategic (Tier II) and intensive interventions (Tier III) and for students who were provided core instruction without supplemental intervention (Tier I). At all four grade levels, the attained rate of improvement for each of the DIBELS measures was compared to the rate of improvement obtained from the DIBELS Next benchmark goals.

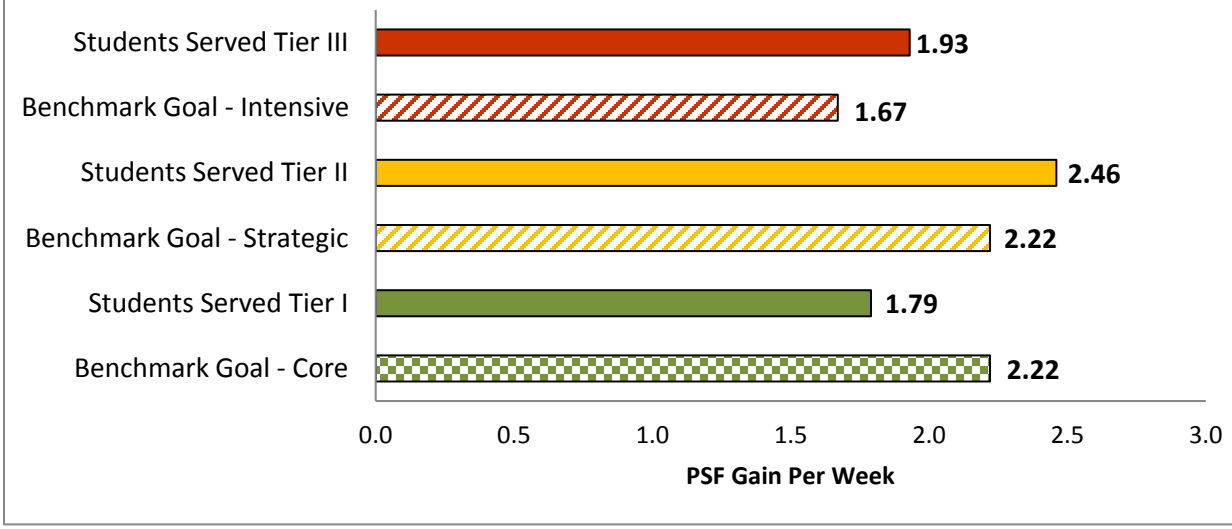
Kindergarten students receiving core instruction and strategic or intensive intervention attained a mean rate of improvement that exceeded the rates of improvement calculated from the benchmark goals in First Sound Fluency and Nonsense Word Fluency – Correct Letter Sounds. Kindergarten students receiving core instruction, strategic intervention, and intensive intervention attained a mean rate of improvement that exceeded the rate of improvement calculated from the benchmark goals for the core level, strategic level, and intensive level, respectively, in First Sound Fluency (See Figure 1). Kindergarten students receiving strategic intervention and intensive intervention attained a mean rate of improvement that exceeded the rates of improvement calculated from the benchmark goals for the strategic and intensive levels, respectively, in Phoneme Segmentation Fluency, however students receiving core instruction fell short of the desired rate of improvement (See Figure 2). Kindergarten students receiving core instruction, strategic intervention, and intensive intervention attained a mean rate of improvement that exceeded the rates of improvement calculated from the benchmark goals for the core, strategic, and intensive levels, respectively, in Nonsense Word Fluency-Correct Letter Sounds (See Figure 3).

Figure 1. DIBELS First Sound Fluency (FSF) Rate of Improvement: Beginning to Middle Benchmark



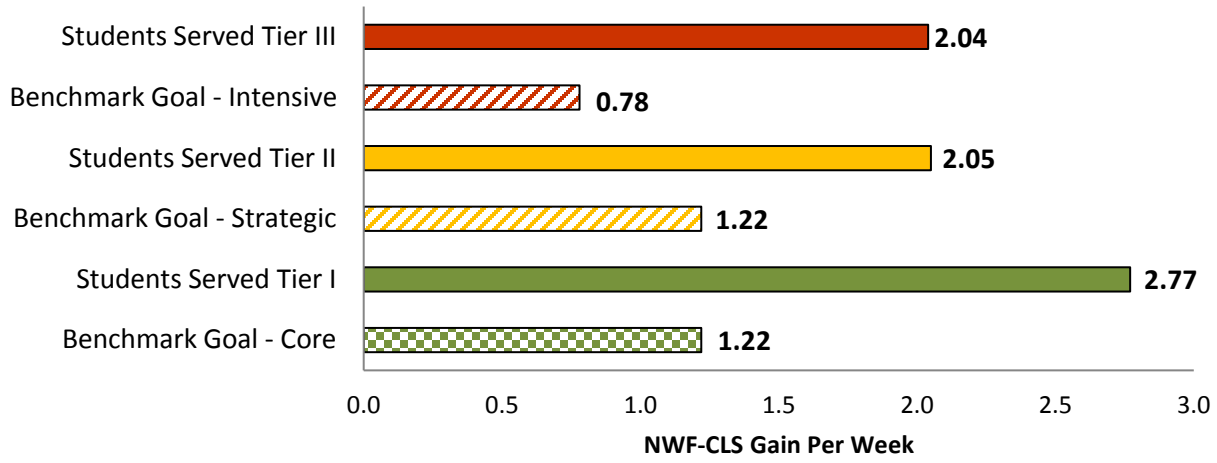
Note: These outcomes are based on the benchmark assessments of 280 students served with Tier I core instruction, 179 students served with Tier II strategic intervention, and 67 students served with intensive intervention.

Figure 2. DIBELS Phoneme Segmentation Fluency (PSF) Rate of Improvement: Middle to End Benchmark



Note: These outcomes are based on the benchmark assessments of 280 students served with Tier I core instruction, 179 students served with Tier II strategic intervention, and 67 students served with intensive intervention.

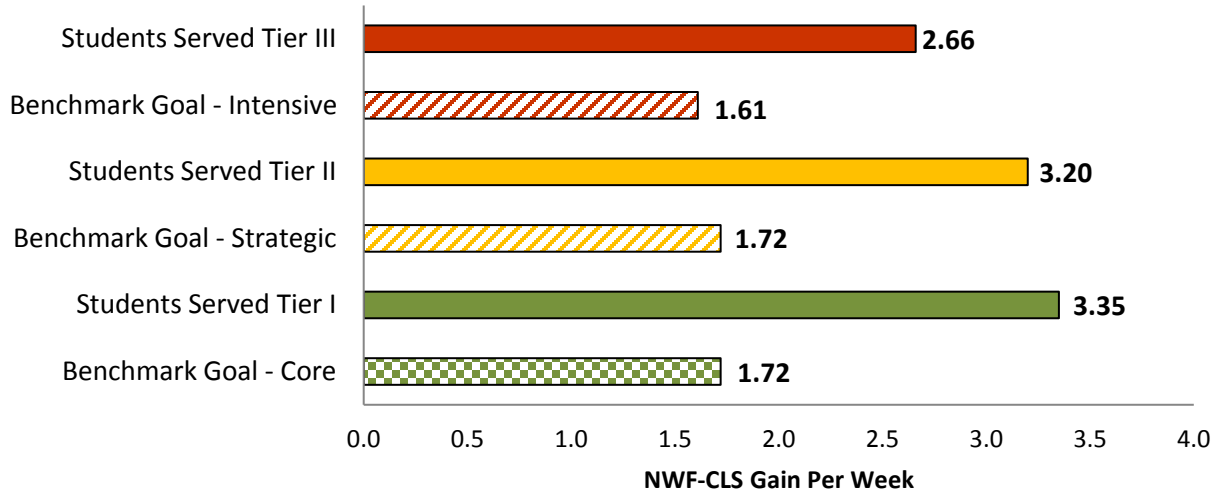
Figure 3. DIBELS Nonsense Word Fluency - Correct Letter Sounds (NWF-CLS) Rate of Improvement: Middle to End Benchmark [Kindergarten]



Note: These outcomes are based on the benchmark assessments of 246 students served with Tier I core instruction, 160 students served with Tier II strategic intervention, and 46 students served with intensive intervention.

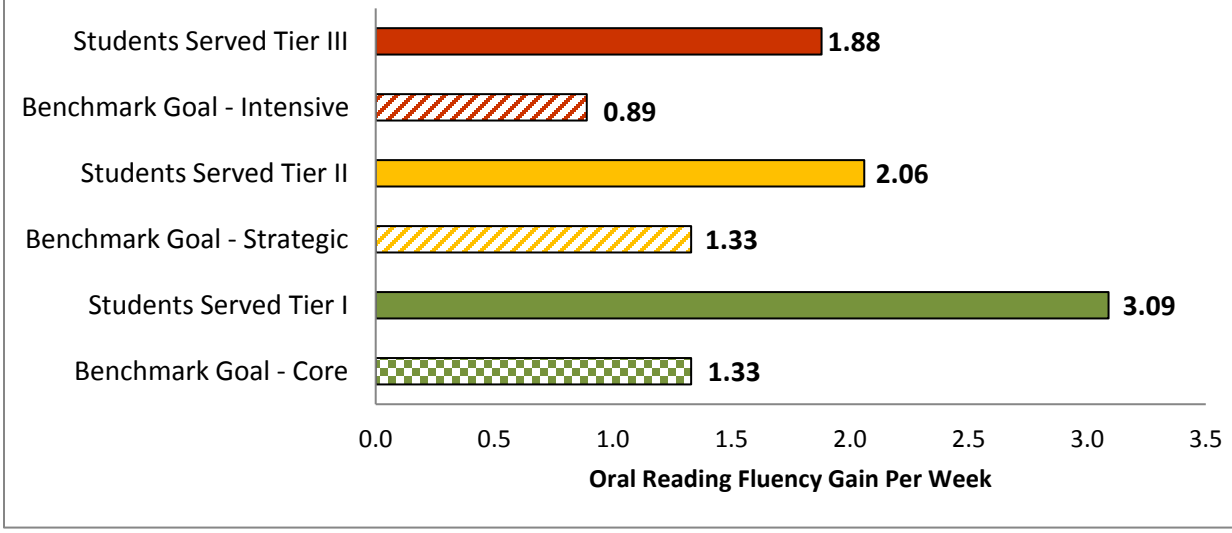
At Grade 1, students receiving core instruction, strategic intervention, and intensive intervention demonstrated a mean rate of improvement that exceeded the rates of improvement calculated from the benchmark goals for the core, strategic, and intensive levels, respectively, in Nonsense Word Fluency-Correct Letter Sounds (See Figure 4). A similar outcome was demonstrated by first grade students at all three levels of support relative to the benchmark goals in Oral Reading Fluency (See Figure 5).

Figure 4. DIBELS Nonsense Word Fluency - Correct Letter Sounds (NWF-CLS) Rate of Improvement: Beginning to End Benchmark [Grade 1]



Note: These outcomes are based on the benchmark assessments of 275 students served with Tier I core instruction, 208 students served with Tier II strategic intervention, and 79 students served with intensive intervention.

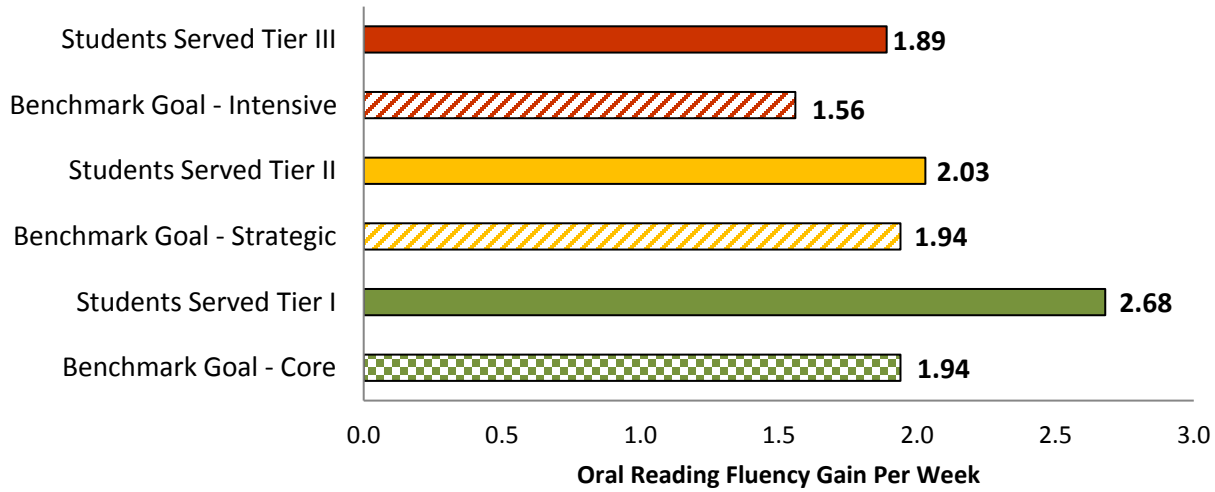
Figure 5. DIBELS Oral Reading Fluency (DORF) Rate of Improvement: Middle to End Benchmark [Grade 1]



Note: These outcomes are based on the benchmark assessments of 219 students served with Tier I core instruction, 170 students served with Tier II strategic intervention, and 23 students served with intensive intervention.

Second grade students receiving core instruction, strategic intervention, and intensive intervention attained a mean rate of improvement that exceeded the rates of improvement calculated from the benchmark goals for all three levels of support, respectively, in Oral Reading Fluency (See Figure 6).

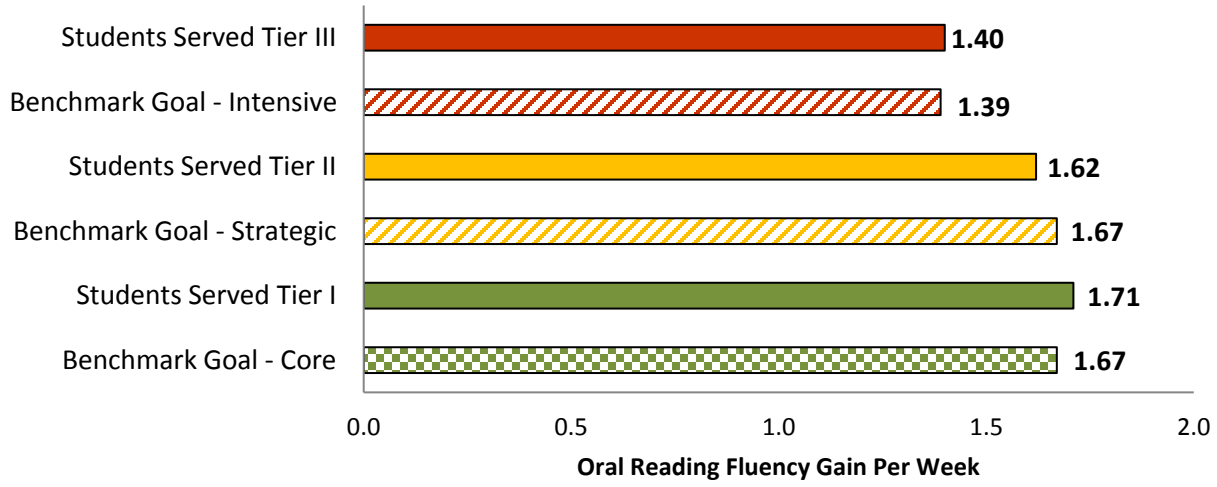
Figure 6. DIBELS Oral Reading Fluency (DORF) Rate of Improvement: Middle to End Benchmark [Grade 2]



Note: These outcomes are based on the benchmark assessments of 388 students served with Tier I core instruction, 193 students served with Tier II strategic intervention, and 71 students served with intensive intervention.

At Grade 3, students receiving core instruction, strategic intervention, and intensive intervention attained a mean rate of improvement in Oral Reading Fluency that were genrally equivalent to the expected rates of improvement calculated from the benchmark goals for all three levels of support, respectively (See Figure 7).

Figure 7. DIBELS Oral Reading Fluency (DORF) Rate of Improvement: Middle to End Benchmark [Grade 3]

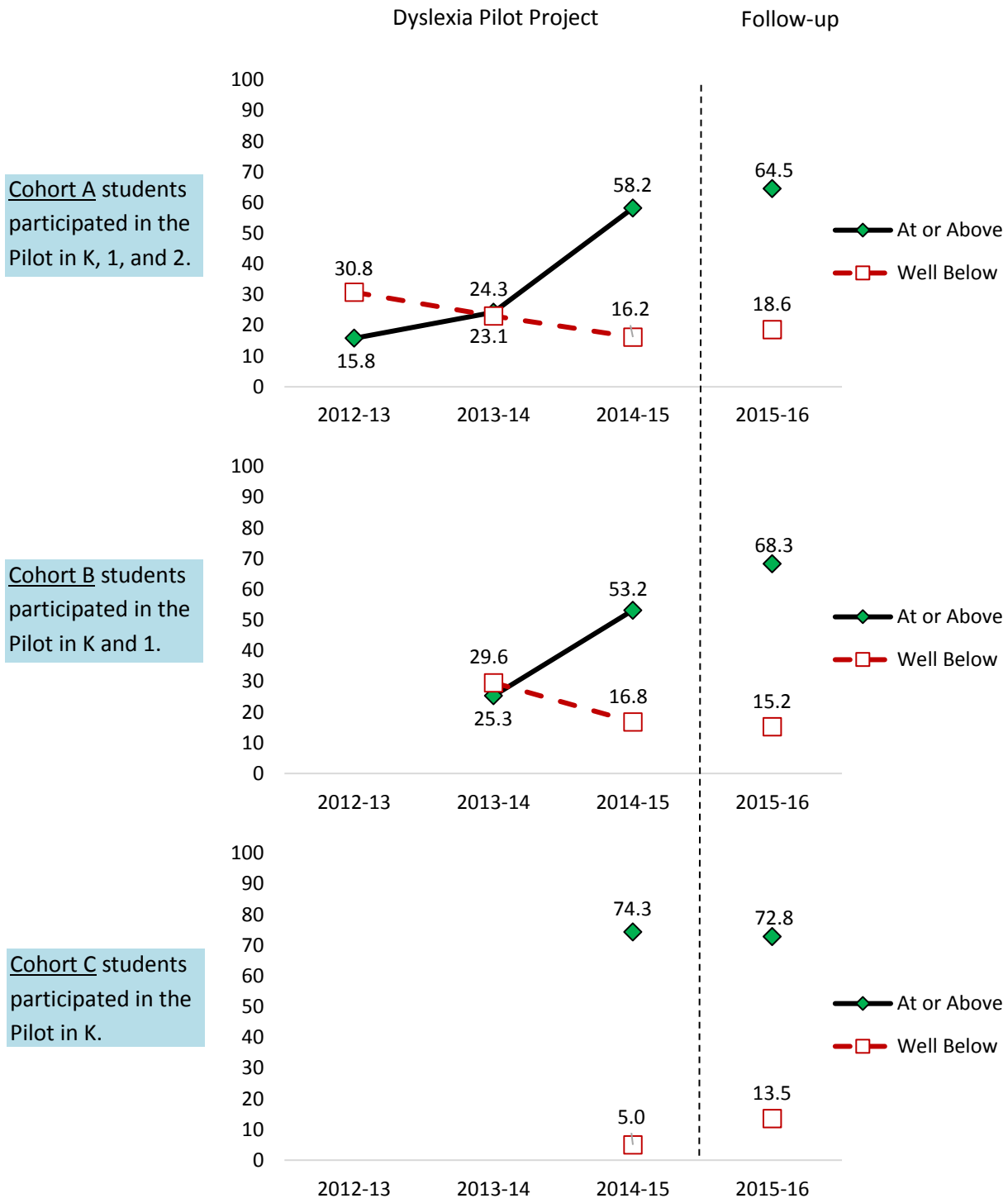


Note: These outcomes are based on the benchmark assessments of 334 students served with Tier I core instruction, 154 students served with Tier II strategic intervention, and 55 students served with intensive intervention.

To what extent did the effectiveness of early screening and evidence-based, multisensory-structured language instruction within a tiered model of reading instructional support and intervention lead to reductions in future special education costs at a school district-level?

Over the course of the three-year Dyslexia Pilot Project, participating school districts increased their capacity to conduct universal screening for reading difficulties and match students to early intervention suited to their level of need. These positive outcomes were sustained in Year 4. The time-series analysis of student outcomes provides support for the finding that the investment in districts' capacity for early reading intervention resulted in a greater proportion of students who were At or Above Benchmark at the end of each year, with positive outcomes noted for all three incoming cohorts of students (See Figure 8). The percentage of students who ended the school year Well Below Benchmark at the end of each year decreased markedly for Cohorts A and B *and* across each program year.

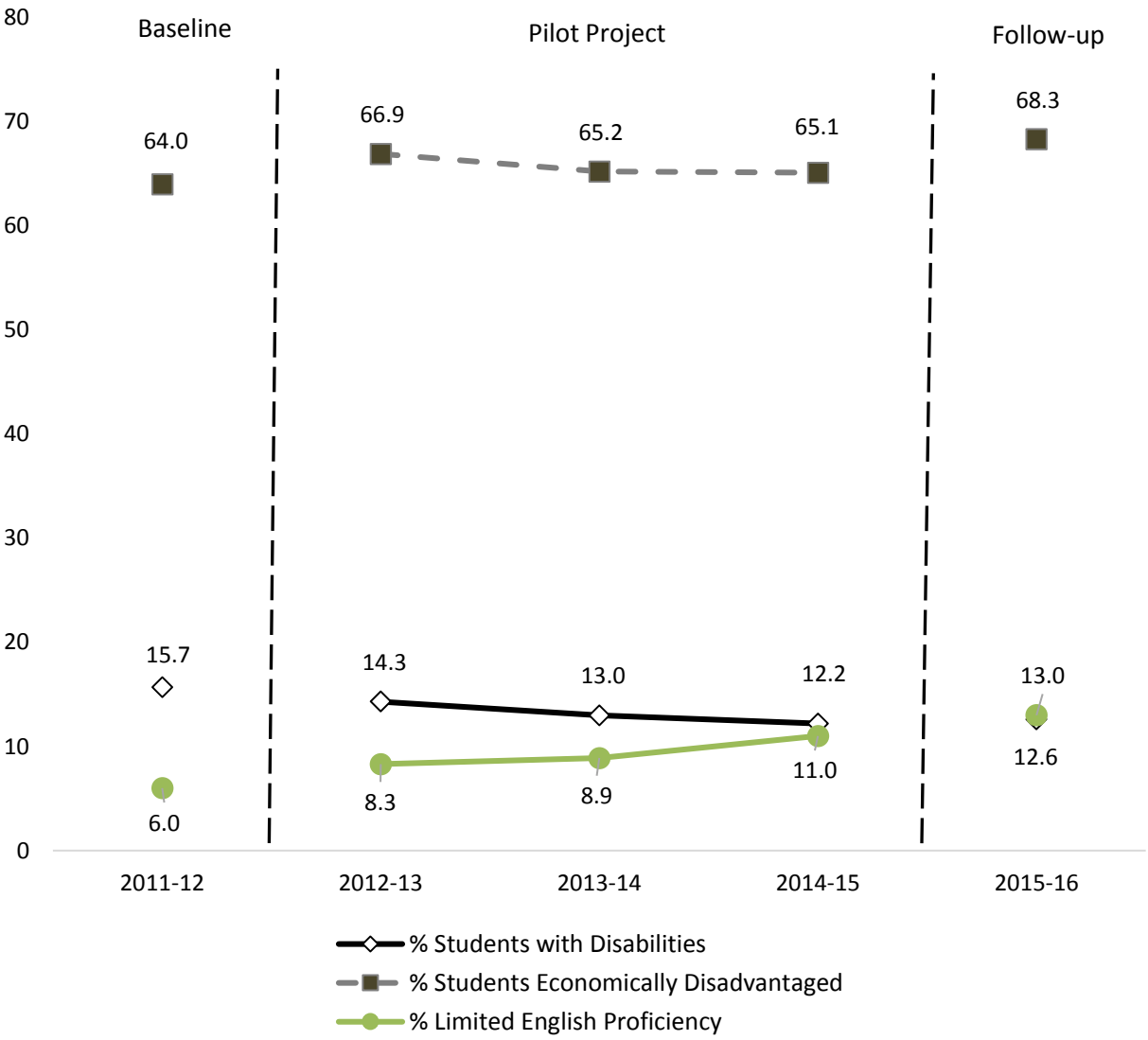
Figure 8. Percentage of Students At or Above Benchmark and Well Below Benchmark at the End of Each School Year Over the Course of Four Years.



Note: Outcomes represent the performance of students in Cincinnati Public Schools, Edison Local Schools, Indian Creek Local Schools, and Shawnee Local Schools. Cohort A counts were: 539 (2012-13), 537 (2013-14), 512 (2014-15), and 543 (2015-16). Cohort B counts were: 659 (2013-14), 648 (2014-15), and 652 (2015-16). The Cohort C counts were: 580 (2014-15) and 562 (2015-16).

An examination of student demographics for the schools participating in the Dyslexia Pilot Project indicates that the percentage of students identified as having an educational disability (which includes all disability types, not just a Specific Learning Disability in Reading) decreased for all three years of the Dyslexia Pilot Project and remained lower than the baseline in the follow-up year (See Figure 2). Although the decreases in the percentage of students with disability are modest relative to the baseline, they indicate a promising outcome: The number of at-risk students entering special education eligibility as a result of their needs not being fully met in the general education program was less than it had been in the year prior to the Dyslexia Pilot Project, thus lowering the overall percentage of students with disabilities over the course of the Project. Among the participating schools, a difference between 15% and 12% of students with disabilities represents 105 students who will not require special education services as a results of having their literacy needs addressed through early intervention. This modest decreasing trend in the percentage of students with disabilities was evident during the same period of time in which the percentage of students with economic disadvantage was slightly higher relative to the baseline year and the percentage of students with Limited English Proficiency doubled. Meeting students' needs proactively through early intervention is cost-effective not only in terms of reducing the need for costly special education services, but more importantly, for ensuring that each student achieves proficiency in literacy and is on track to being career and college ready.

Figure 9. Changes in Student Demographics for the Schools Participating in the Dyslexia Pilot Project: Five-Year Trend



Conclusions

The primary purpose of the external evaluation in Year 4 was to examine the student outcome data beyond the initial three years of Dyslexia Pilot Project installation and implementation. School districts selected to participate in the Dyslexia Pilot Project agreed to a three-year commitment (2012-13, 2013-14, and 2014-15) to design and implement a tiered model of reading instructional support that utilized a multi-sensory structured language approach to instruction. School districts were required to select and administer technically adequate (i.e., reliable, valid, useful) assessments of phonological processing and rapid naming skills for the purposes of screening, intervention planning based on student's skills, and progress monitoring. Screening, early intervention, and progress monitoring activities were expected to focus on kindergarteners in Year 1 (2012-13), kindergarteners and first graders in Year 2 (2013-14), and kindergarteners, first, and second graders in Year 3 (2014-15).

As part of the Dyslexia Pilot Project, school districts were also required to provide professional development in evidence-based reading instruction and multi-sensory structured language instruction to teachers (general education and intervention specialists) serving students in kindergarten through second grade. School districts were also required to communicate to parents: (a) their child is eligible for reading intervention services through the Pilot Project, (b) the district's process to obtain parental consent for the student's participation in the Pilot Project, and (c) information about dyslexia, recommended multi-sensory structured language supports and possible services under state and federal law.

Four school districts who demonstrated high levels of implementation fidelity throughout the three-year Dyslexia Pilot Project were selected to participate in an extension of the evaluative study in Year 4. The results indicate that the positive outcomes of the Pilot Project obtained for students in the earliest grade levels were sustained in Year 4. An analysis of the screening results for students who participated in the Pilot Project shows a marked reduction in risk of reading failure for a stable group of students in kindergarten, first and second grade. This reduction in risk was not evident at Grade 3. Similarly, students receiving core instruction, strategic intervention, and intensive intervention attained a mean rate of improvement that exceeded the rate of improvement calculated from the benchmark goals for the core level, strategic level, and intensive level, respectively, in Kindergarten and Grades 1 and 2. The mean rates of improvement obtained by students in Grade 3 did not meet the expected rate of improvement.

Over the course of the three-year Dyslexia Pilot Project, participating schools increased their capacity to conduct universal screening for reading difficulties and match students to early intervention suited to their level of need. These positive outcomes were sustained in Year 4. The time-series analysis of student outcomes provides support for the finding that the investment in districts' capacity for early reading intervention resulted in a greater proportion

of students who were At or Above Benchmark at the end of each year, with positive outcomes noted for all three incoming cohorts of students

An examination of student demographics for the schools participating in the Dyslexia Pilot Project indicates that the percentage of students identified as having an educational disability decreased for all three years of the Dyslexia Pilot Project and remained lower than the baseline in the follow-up year. Although the decreases in the percentage of students with disability are modest relative to the baseline, they indicate a promising outcome: The number of at-risk students entering special education eligibility as a result of their needs not being fully met in the general education program was less than it had been in the year prior to the Dyslexia Pilot Project, thus lowering the overall percentage of students with disabilities over the course of the Project. Among the participating schools, a difference between 15% and 12% of students with disabilities represents 105 students who will not require special education services as a results of having their literacy needs addressed through early intervention. This modest decreasing trend in the percentage of students with disabilities was evident during the same period of time in which the percentage of students with economic disadvantage was slightly higher relative to the baseline year and the percentage of students with Limited English Proficiency doubled. Meeting students' needs proactively through early intervention is cost-effective not only in terms of reducing the need for costly special education services, but more importantly, for ensuring that each student achieves proficiency in literacy and is on track to being career and college ready.