

**Colorado Department of Education
School Redesign Request for Information**

Part I: Cover Page – Organization Information

Organization Information	
Organization Name:	Learning Sciences International (LSI) <input checked="" type="checkbox"/> New or <input type="checkbox"/> Continuation Submission
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Organization Category (select all that apply)	
<input type="checkbox"/> Charter Network, Charter Management Organization or Charter School <input type="checkbox"/> Turnaround Leader Development Provider <input checked="" type="checkbox"/> Management Partner <input type="checkbox"/> Stakeholder Management Specialist	
Preferred Geographical Region(s) in Colorado to Work In (select all that apply)	
<input checked="" type="checkbox"/> Metro Denver <input checked="" type="checkbox"/> Front Range (Colorado Springs, Ft. Collins) <input checked="" type="checkbox"/> Rural / Mountain / Western Slope	

Indicate the school district(s) or BOCES your organization is willing and able to engage with:

District name	City	County name
ANY SCHOOL DISTRICT or BOCES	ALL	ALL

Part II: Narrative Responses

Management Partner Category

a. Identify which of the following roles your organization can serve (list all that apply):

LSI is can serve in the following capacities:

Full Management: Whole system (school)

Partial Management: Instructional Transformation (school)

Partial Management: Talent Development (district)

b. Is your organization's primary interest and area of expertise in school-level management, district-level management, or both?

LSI's primary interest is in school-level management. However, we also have extensive experience supporting districts in the area of Talent Development.

Full Management: Whole System (school)

LSI is an experienced provider of whole school reform as an External Operator in Florida. Under this model, LSI assumes the following responsibilities:

- School Comprehensive Needs Assessment and School Improvement Plan
- Improvement of the school in terms of student performance on annual statewide assessments and school accountability ratings
- Implementation of next generation instructional systems to build school capacity so it may sustain and continue its own improvement when returned to LEA control
- Oversight of school instructional leadership, curriculum, instruction, and assessment
- Assignment, reassignment, coaching, and evaluation of school personnel
- Professional Development (PD) of administrators, coaches, Professional Learning Community (PLC) leaders, and teachers
- Coaching for principal and administrators, teacher leaders (coaches and PLC leaders), and teachers
- Student academic assessment
- Rigor Diagnostic instructional reviews, surveys, data analysis, and reporting
- Family and community outreach and support
- Monthly Executive Action Team project review meetings with the LEA

Partial Management: Instructional Transformation (school)

For schools in both Full and Partial modes of management, LSI provides a continuum of supports through our Schools for Rigor® (SFR) model to help struggling schools exit turnaround in two phases: *Establishing Supportive Conditions for Learning* and *Transformation of Core Instruction*. The speed of progress through these phases depends upon readiness. To continue this growth, we recommend at least two additional years of support.

The *Establishing Supportive Conditions for Learning Phase* ensures that the school has the strong, supportive expectations, systems, and processes that foster rigorous teaching and learning for every student.

Create Efficient Systems and Processes

Systems and processes at the schools must create a supportive atmosphere where teaching and learning can flourish. LSI will assist the schools' leadership teams in creating and consistently enforcing procedures needed to ensure that each school is efficiently managed and safe.

Form Strong Leadership Teams

We will assist the schools' principals, assistant principals, and teacher leaders through careful root-cause analysis of data and examination of student evidence of learning. The LSI leadership coach and each principal will create a weekly Action Board using frequent classroom inspection and teacher feedback to accelerate student mastery of standards-driven learning goals. This will develop strong leadership teams who take ownership of student learning.

Establish Student-Centered Core Instruction

Engaging, rigorous, standards-driven learning results from strong core instruction using student-centered tasks. The leadership teams and faculty will create student-centered instructional systems and expectations. Students will learn to work in mutually accountable learning teams that take ownership of progress toward learning goals. Teachers will develop skills at scaffolding learning tasks that build student mastery at the full intent and rigor of the standards and expect students to produce evidence of learning at that level. The LSI faculty coach will deliver PD, followed by classroom observations and coaching sessions to ensure faithful implementation of the strategies needed to reach this level of rigor.

Implement Next Generation Systems and Culture

Each school will implement new, coordinated systems of leadership, curriculum, data, core instruction, instructional coaching, PLCs, multi-tiered supports for students, and the development of human capital, all designed to rapidly improve student achievement outcomes. The most important metric driving these systems is student evidence of learning. The leadership teams will develop a deep understanding of what to inspect in classrooms to ensure that these systems are working effectively. This effort will create a culture of high expectations, high support, and mutual accountability through the development of masterful instructional leaders, expert teachers, and self-regulated, engaged students.

Once these foundations are established, the *Transformation of Core Instruction Phase* shifts the school to engaging, student-centered, standards-based learning to prepare students for success in the new economy of the 21st Century.

Verify Team-centered Core Instruction in All Classrooms

The principals and their school leadership teams will be well-practiced at inspecting evidence of student learning that results from strong core instruction. They will regularly provide supportive feedback to teachers, using short-, mid-, and long-cycle assessment data to ensure measurable

improvement of student learning. Teachers will establish mutually accountable teams that are well-calibrated to classify levels of student achievement based on classroom evidence of learning. They will reflect on the effectiveness of their own practice and observe peers' use of instructional strategies to provide feedback that improves the entire team's level of expertise. Students will also become accustomed to working in teams that are mutually accountable for the quality and progress of learning.

Ensure Next Generation Systems are Operational

The leadership, curriculum, data, core instruction, coaching, PLC, and Multi-tiered System of Support (MTSS) will be fully operational in each school. The principals will learn to take charge of these systems and ensure their effectiveness through the interdependent work of leadership, teacher, and student teams.

Partial Management: Talent Development (district)

LSI specializes in deep implementation of continuous teacher growth systems, focusing on best practices to support teachers in improving their daily instruction. Our own internal research division, the Learning Sciences Marzano Center for Teacher and Leader Evaluation (Learning Sciences Marzano Center) conducts comprehensive research and develops next-generation teacher and leader evaluation tools and training focused on improving teacher effectiveness to raise student achievement. Our partnership with internationally acclaimed educational researcher, Dr. Robert J. Marzano, gives LSI exclusive rights to train and support the evaluation models for teacher, non-classroom support personnel, school leader, and district leader evaluation. As such, LSI has partnered with many state departments of education to assist districts to redevelop their evaluation systems, provide technical assistance, certify rater accuracy and differentiated scoring, and research services to ensure validity and reliability of the measures. LSI also has full capability with evaluation software provided through iObservation®.

Marzano Focused Teacher Evaluation Model

In the five years since the original release of the Marzano Teacher Evaluation Model, the Learning Sciences Marzano Center has examined state test data and found high correlations of the model with improved student achievement. As a result of this research, Dr. Marzano, in partnership with researchers at Learning Sciences Marzano Center, created the updated core framework for the Marzano Focused Teacher Evaluation Model for the Standards-Based Classroom. This comprehensive model evaluates teacher performance against objective criteria, use of standards, and student evidences.

Marzano Focused School Leader Evaluation Model

Gone are the days of school leaders simply overseeing daily operations of a school building. Like the teachers they help lead, school leaders now play a crucial role in student achievement. To help address this evolution and ensure that school leaders have the tools, knowledge, and insights to successfully help drive student achievement, the Marzano Focused School Leader

Evaluation Model is the next step in comprehensive, objective, and evidence-based school leader evaluation.

Marzano District Leader Evaluation Model

The quality of achievement for students, teachers, schools, and communities improves when school district leaders empower and support principals and school administrators to focus on student academic growth, and when all central office departments share that vision. The model focuses on the non-negotiable goal of student achievement. It encourages school district leaders to deliberately undertake the actions that support principals and drive learning. The six district leader model domains align to the domains in the school leader evaluation model. When used together, the Marzano models achieve a tightly coupled organizational structure with an emphasis on measurable student achievement.

c. How will you differentiate your services to meet the unique needs of schools and districts in Colorado, especially those with historically underserved students?

Before LSI prescribes any interventions for school improvement or turnaround, we conduct a School Comprehensive Needs Assessment (SCNA). We analyze student achievement data from statewide assessments and collect data from interviews and focus groups with principals, the school leadership team, teacher leaders, and staff. We also observe classrooms, PLCs, and leadership practices, and audit curriculum resources for alignment to the rigor of the standards. In addition, we examine the quality of schoolwide systems, processes, and procedures to support learning. After the SCNA is done, the LSI needs assessment team leader presents to the principal and school leadership team, and to the district superintendent, the findings and recommendations to improve school conditions, leadership, teaching, and learning.

The information gathered from the SCNA informs the level and intensity of the specific interventions selected for the school action plan.

LSI has extensive experience as a provider of whole system support to persistently low-performing schools where most students represent historically underserved subgroups. During the 2018-2019 school year, LSI partnered with three of the lowest performing schools in the State of Florida, raising their level of academic performance to the highest levels seen in these schools for more than five years. Figure 1 shows the demographics of these schools. Figure 2 shows the schools' academic growth in the context of the Florida accountability system of school grades. Two of the three schools we served as External Operator were able raise their school grades and exit turnaround. The third school – previously the lowest performing school in the entire state – made historic learning gains in English Language Arts and in Mathematics and came within 2 points of raising their school grade.

School	White	Hispanic	Black	Students with Disabilities	English Learners	Economically Disadvantaged
Fairmount Park ES	7%	5%	86%	19%	0%	89%
Lakewood ES	11%	7%	79%	17%	0%	82%
William D. Moseley ES	18%	10%	66%	28%	5%	89%

Figure 1: As External Operator, LSI has ensured equity and access for historically underserved populations of students.

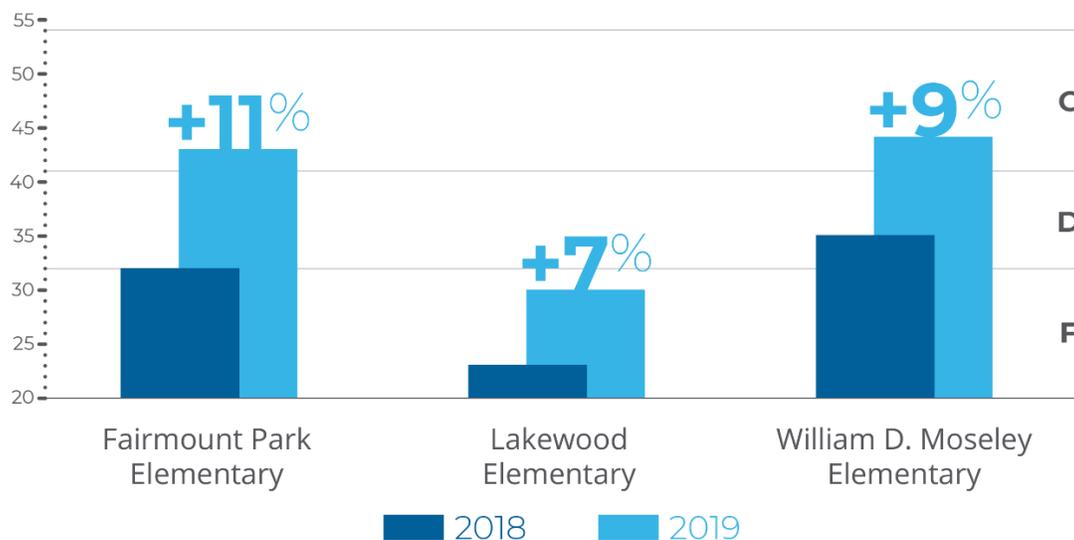


Figure 2: All three LSI External Operator schools improved, with two of the three increasing their letter grade.

d. When considering partnering with a school or district that you have not partnered with before, what would be the key aspects or conditions of an agreement you would need to have in place with the district (or authorizer) to make your school successful?

In our school improvement work throughout the nation, the one obstacle to success that we most frequently encounter is “initiative overload” – schools receiving more interventions than they have the capacity to implement with quality. When providing full or partial support to schools, LSI requests that districts refrain from imposing additional interventions. This allows our partner schools to implement the model faithfully with complete focus on daily improvement of core instruction.

We hold ourselves to a high standard of performance and take ownership of results with you as your trusted partner. Open, honest, and frequent communication among the school, district, and LSI is essential to success. School improvement work is hard, and frequently requires candid conversations to quickly identify and overcome impediments. We expect this partnership to be one of mutual accountability for results. Nothing less will move your schools to high performance.

e. Describe your experience working with other third-party providers to support coherent school and district improvement.

LSI enjoys strong partnerships with the Collaborative for Academic, Social, and Emotional Learning (CASEL), and with the Ecological Approaches to Social Emotional Learning (EASEL) Laboratory at Harvard University. Our work with these partners informs the deep implementation of social emotional competencies within our model. Our work with Student Achievement Partners (SAP) has also helped us to refine the RigorWalk® and Rigor Diagnostic to include the necessary core actions for student attainment of college and career ready standards.

f. Describe your experience, if any, working with Alternative Education Campuses (AECs) or alternative high schools.

LSI has no experience working with AECs or alternative high schools.

g. Describe your experience, if any, working with online schools.

LSI has experience working with online educational programs for teachers in partnership with Wilkes University. However, we do not currently offer these programs.

Part III: Capacity

Does your organization currently have the capacity to serve additional schools and districts in Colorado? If yes, indicate how many new schools or districts your current capacity would allow for. If no, explain what additional capacity you would need to put in place, and any other constraints such as timelines or minimum participating schools or districts.

LSI currently has approximately 100 faculty members who serve schools across the nation and have capacity to add multiple additional schools in Colorado. Based upon the services requested, the number of schools/districts that faculty can serve will vary. In providing Full Management services, LSI would be prepared to serve up to 5 schools in the initial year with a potential for increase of up to 5 additional schools in the subsequent year with capacity review to follow. For Partial Management services related to areas such as LSI Marzano Center, LSI is prepared to provide services to districts who request it. As services in Partial Management implementations vary in scope and include variance in faculty utilization, LSI is prepared to engage in a focused effort to build regional capacity for future expansion of the LSI faculty.

Part IV: Evidence of Track Record of Improved Student and School Outcomes

a. Describe your organization's track record in dramatically improving schools or districts and radically increasing outcomes for targeted groups of students. Include a description of the criteria and the data that you use to determine the impact of your work. Highlight the context and location of where this work has occurred.

Des Moines Public Schools

Des Moines Public Schools (DMPS) began their partnership with LSI in 2016-17 to ensure equity and access to a rigorous education for all students. Their goal was to make rapid progress towards becoming a national model for urban education. By the 2017-18 school year, 22 schools in the district worked with LSI to increase rigor and close subgroup gaps.

During the 2017-18 school year, approximately 890 teachers received PD from LSI. Those teachers taught about 10,000 students. The diverse demographic characteristics of these students is represented in Figure 3. As home to an agency of the U.S. Committee for Refugees and Immigrants, Des Moines is a major refugee resettlement area as reflected in the large percentage of English Learners among the student population.

District	White	Hispanic	Black	Students with Disabilities	English Learners	Economically Disadvantaged
Des Moines Public Schools	34%	31%	19%	17%	27%	82%

Figure 3: LSI partnership schools in DMPS serve a highly diverse student population.

Leaders and teachers learned techniques to engage in rigorous teaching in all phases— planning, delivery, reflection, and adjustment. LSI School Leadership Coaches were assigned to each school to help support the principal in the implementation.

LSI guided leadership teams in breaking down standards into smaller targets and ensuring planning time for teachers to create tasks to get students to higher levels of thinking. Teachers also received direction on how to cultivate student teams where students challenge each other to use higher-level thinking. Students were guided to own their learning and take responsibility for their progress. By taking ownership of their learning, students developed academic and social skills necessary to think critically, independently, and develop the ability to work effectively with others.

Students at all LSI partnership schools improved by 7 percent in reading and 3 percent in math over the gain otherwise expected within 162 school days or about 5 months. This translates into an additional 11 days of learning in reading and 6 extra days in math. For schools in their second year of the LSI partnership, students demonstrated a 15 percent improvement in reading and 6 percent improvement in math over the gain otherwise expected in 5 months. This translates into an additional 21 days of learning in reading and 10 extra days in math.

High school students had the largest learning gains, with 37 percent improvement in reading and 26 percent improvement in math over the gain otherwise expected in 5 months. This translates into an additional 61 days of learning in reading and 42 extra days in math.

The most important outcome of all was that LSI partnership schools reduced the achievement gap:

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- The black-white achievement gap narrowed by 7 percent in reading and 6 percent in math.
- The achievement gap between students with disabilities and students without disabilities narrowed by 6 percent in reading and 5 percent in math.
- English Learners narrowed their achievement gap by 6 percent in reading and 4 percent in math.

William D. Moseley Elementary School

William D. Moseley Elementary School in Putnam County, Florida, was a historically low-performing school. In the 2016-2017 school year, Moseley was the fifth lowest performing traditional public school in Florida. The school serves a transient and diverse student population, with 100 percent of students receiving free and reduced meals. Most students enter with skill deficiencies, and 25 percent receive special education services.

Beginning in In September 2017, Moseley began its partnership with LSI. Implementation included the following components:

- **Assessment of school systems through LSI's scientific protocols.** LSI experts performed needs assessments and walkthroughs using evidence-based measurements to determine the root causes of the school's struggles.
- **Professional development and coaching for teachers and school leaders.** With LSI's support, the school established a new vision for instruction where all students can thrive.
- **Academic Teaming implementation.** Teachers shifted to a student-led academic teaming model, a daily instructional process where students collaborate, peer coach, and peer teach while engaged in rigorous, standards-based tasks.
- **Constant tracking of student evidence.** Teachers and leaders consistently tracked progress through LSI's digital suite, the LSI Tracker® which includes: Trend Tracker, Standards Tracker, Growth Tracker.

As shown in Figure 4, Moseley's proficiency on the Florida Standards Assessment (FSA) increased by 20 percent in English Language Arts (ELA) and by 13 percent in mathematics. This improved performance resulted in the school exiting turnaround status for the first time in nine years.

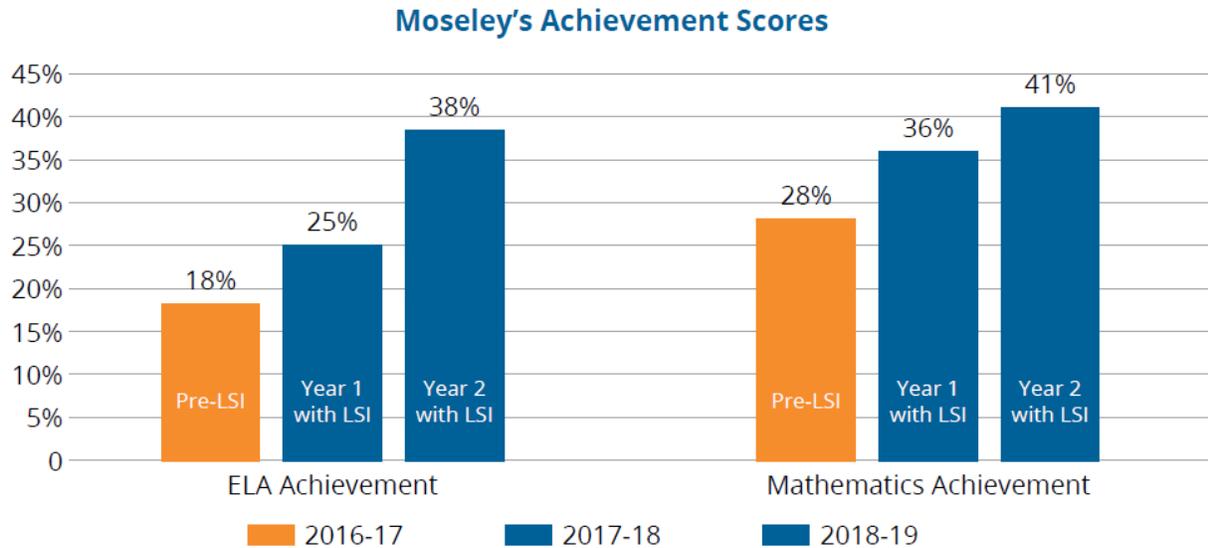


Figure 4: After two years of partnership with LSI, Moseley students' achievement increased in ELA and mathematics

Fairmount Park Elementary School

Like Moseley, Fairmount Park Elementary School in Pinellas County, Florida, had been a “D” or “F” school for nine years straight. Pinellas County Schools collaborated closely with LSI as the school’s External Operator to ensure that Fairmount Park received the support they needed.

After a year of intensive work, Fairmount Park students increased their ELA proficiency by two percent and mathematics proficiency by five percent. As shown in Figure 5, ELA learning gains of the lowest 25percent increased by 34 percent and mathematics learning gains of the lowest 25 percent increased by 30 percent. Fairmount Park rose in the Florida school grade calculations from a “D” to a “C”, exiting turnaround status for the first time in nine years.

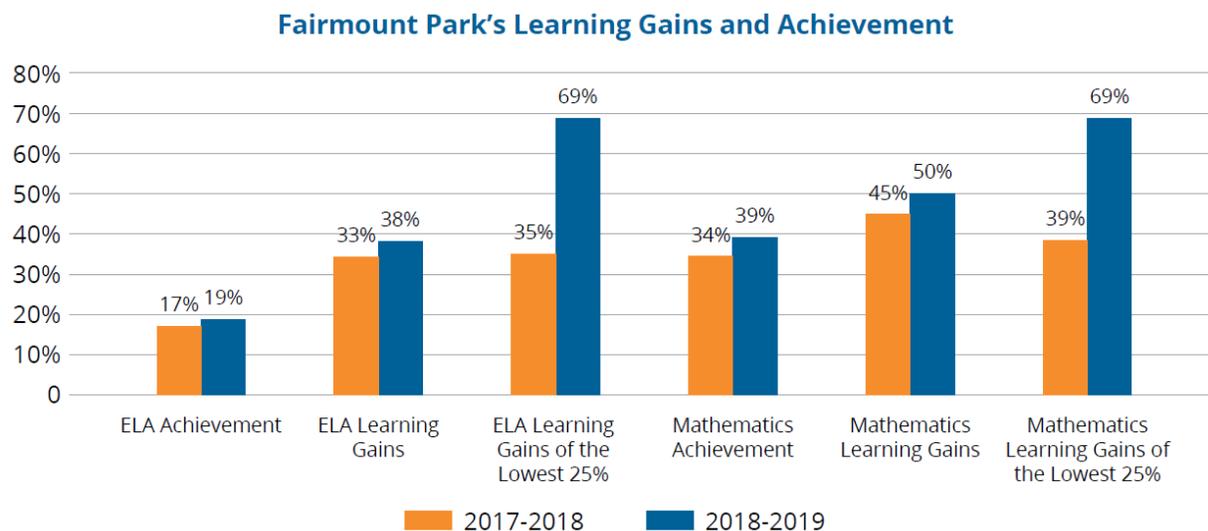


Figure 5: Fairmount Park student achievement in ELA and math increased in one year, resulting in exit from turnaround status.

Lakewood Elementary School

In the 2017-2018 school year, Lakewood Elementary School in Pinellas County, Florida, was the lowest performing traditional public school in the state. By the end of 2018, Lakewood was rated a low F in the Florida school accountability system, with 18 percent reading proficiency, 22 percent math proficiency, and 12 percent science proficiency. Lakewood Elementary School serves a disadvantaged student population, with 100 percent receiving free and reduced meals and 15 percent homeless or in foster care.

By the end of the school year, the number of students designated through Response to Intervention (RtI) as at-risk for Tier 3 decreased by 15 percent in reading and 20 percent in mathematics. Behavioral referrals also dropped by approximately 72 percent. Lakewood students' learning gains in ELA increased by 6 percent and in mathematics by 7 percent. Figure 6 shows proficiency growth and learning gains for Lakewood. The school finished the year 2 points shy from increasing their letter grade to a D, but the school now has a strong foundation on which to build for the coming year. We look forward to continuing our work with the school and community to make Lakewood Elementary a school of which everyone can be proud.

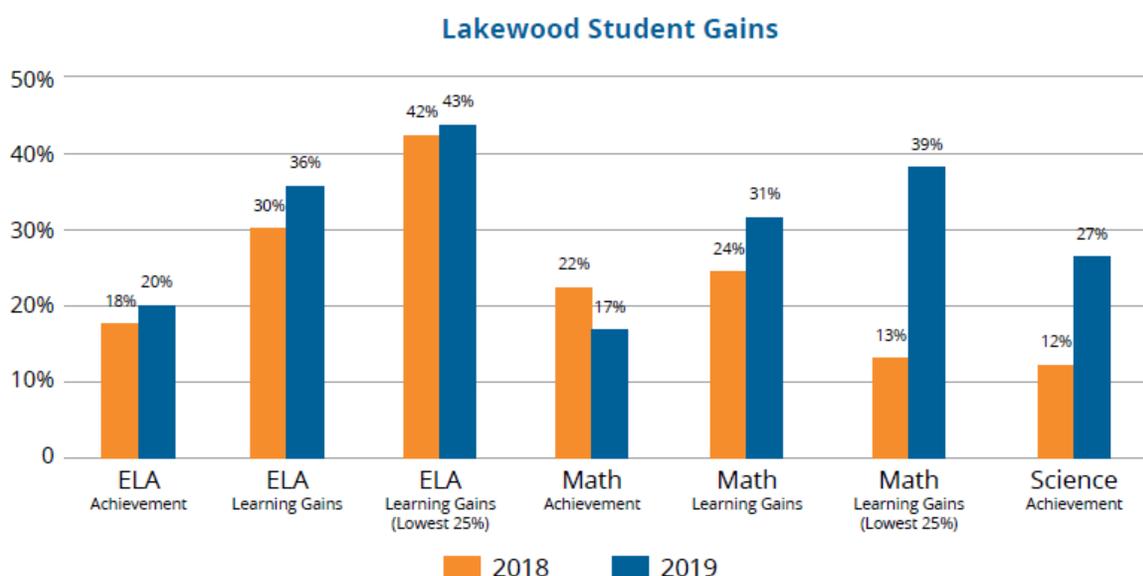


Figure 6: Lakewood increased learning gains and achievement in nearly every category on the Florida Standards Assessment.

Deerwood Elementary School

Deerwood Elementary School in Osceola County, Florida, was a school experiencing a decline in performance. Although the school was not yet in turnaround, the district requested LSI to provide more intensive interventions to reverse the school's trajectory. After one year, the school improved its grade from a D to C in the Florida accountability system. They also made significant gains in proficiency among student subgroups, as shown in Figure 7. Figure 8 shows the school's demographics. This coming school year they are ready to accelerate their growth and achieve their potential to be a high performing school.

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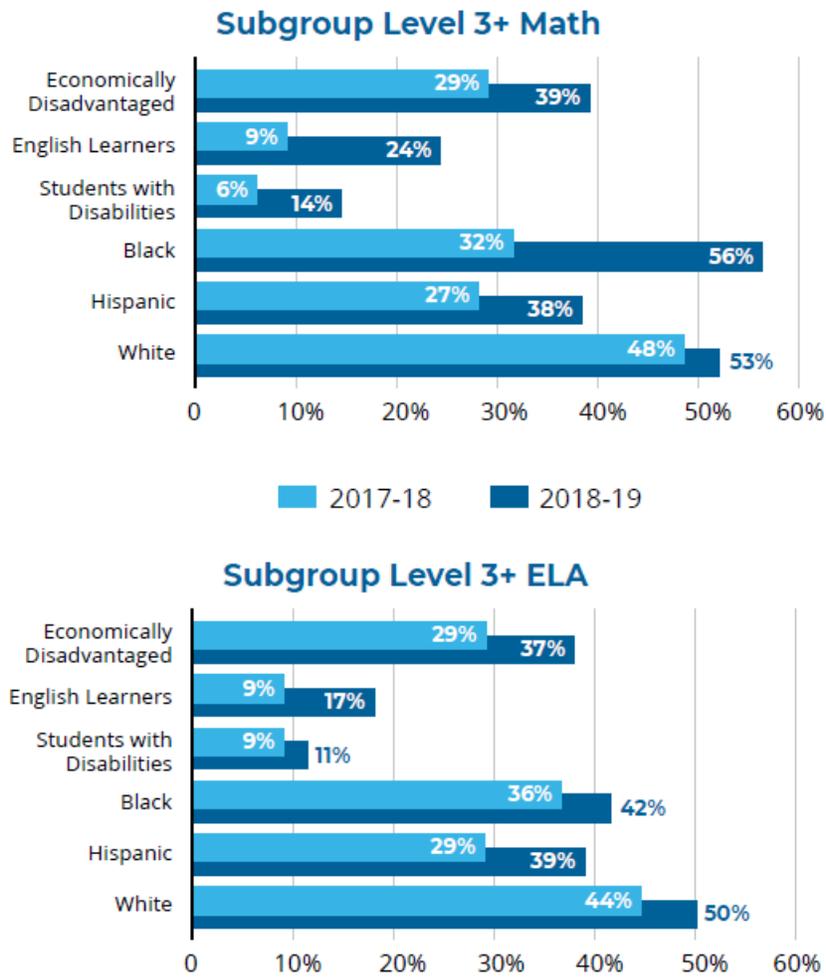


Figure 7: All Deerwood student subgroups attained gains in ELA and mathematics

School	White	Hispanic	Black	Students with Disabilities	English Learners	Economically Disadvantaged
Deerwood ES	10%	68%	19%	17%	26%	66%

Figure 8: Demographics of the student population at Deerwood Elementary School

b. Self-assess the evidence base for the interventions your organization provides using the following Evidence-Based Intervention (EBI) tiers as outlined in ESSA. Which EBI tier best describes your work, and why?

Tier 1 – Strong Evidence	Supported by one or more well-designed and well-implemented randomized control experimental studies.
Tier 2 – Moderate Evidence	Supported by one or more well-designed and well-implemented quasi- experimental studies.
Tier 3 – Promising Evidence	Supported by one or more well-designed and well implemented correlational studies (with statistical controls for selection bias).
Tier 4 – Demonstrates a Rationale	Practices that have a well-defined logic model or theory of action, are supported by research, and have some effort underway by a SEA, LEA, or outside research organization to determine their effectiveness.

LSI’s model of instruction meets Tier 2 EBI criteria.

Our study of the DMPS interventions used What Works Clearinghouse (WWC) design standards to assess effectiveness. A WWC certified reviewer conducted the evaluation to ensure it met WWC Design Standards with Reservations. SFR students were matched to like students in the district served by schools who were not participating in the PD series and who had similar pretest scores in the Fall. All findings presented are statistically significant ($p < .05$).

Quasi-Experimental Design Matching Procedures

Since random assignment was not possible, propensity score matching was used to create a comparable control group by matching SFR students to like students in the district who did not receive the treatment (Thoemmes, 2012). While propensity score matching has its limitations, it is the best method available to match like treatment students to a control in the absence of a true control group. SFR students were matched, using an exact match on grade level and nearest neighbor matching on scale scores for the Fall reading and math NWEA assessments (tolerance $< .20$). Other covariates in the model included gender, race, ethnicity, students with disabilities (SWD), English learner (EL), Free and Reduced (FRL), and gifted status. This study focused on achievement specific to the 2017-18 school year as this was the first-year implementation of the Ignite Core Instruction professional development series.

Out of 8,270 treatment students who took both the Fall and Spring reading assessments, 97 percent were matched to a similar control student. Out of 10,060 treatment students who took both the Fall and Spring math assessments, 98 percent were matched to a similar control student. WWC requires that Quasi-Experimental Designs demonstrate equivalence of the analytical intervention and comparison groups to Meet WWC Group Design Standards with Reservations. WWC standard is to use Hedges’ g formula to compute effect sizes. It is defined as the difference between the mean outcome for the intervention group and the mean outcome for the comparison group, divided by the pooled within-group standard deviation of

the outcome measure (WWC Procedures Handbook, 2017, p. 18). Hedges’ *g* at baseline indicated equivalence of groups ($g < .25$) on the Fall scale score in reading ($g = .033$) and in math ($g = .024$). To provide more precise estimates of the effects, the Fall scale scores were included in all models to remove any pre-intervention difference between the groups. The outcome of interest used in the analysis was the NWEA Spring scale score.

Students within SFR schools were assigned to the intervention as a group; thus, data for analysis are based on the individuals within clusters. Hierarchical Linear Modeling (HLM) was used to adjust for clustering of students within schools (Raudenbush and Bryk, 2002). Covariates in the model included: Fall scale score, gender, race, ethnicity, students with disabilities (SWD), English learner (EL), gifted, and free and reduced lunch (FRL) status. Additionally, one school-level characteristic was included in the models to control for poverty. Specifically, a Distressed Communities Index was incorporated as a measure of poverty that includes a factor of seven different indices of poverty combined across 5 years (The Economic Innovation Group, 2017). Multicollinearity was investigated, and all correlation coefficients were less than .38. Accordingly, there were not abnormally high intercorrelations among the independent variables which could erroneously weaken or strengthen the statistical power of the models.

Estimating the Magnitude of Effects

Hedges’ *g* was also calculated to assess the magnitude of the intervention effects estimated from the HLM analyses. The equation used was slightly different as the Hedges’ equation noted for baseline equivalence as it incorporates the adjusted group mean difference from cluster analysis divided by the unadjusted pooled within-group standard deviations of the posttest (WWC Procedures Handbook, 2017, p. E-9). All treatment model effect sizes are noted below and ‘ns’ indicates values that were not significant.

	Hedges’ <i>g</i>	
	Reading	Math
All	.030	.022
Year-Two	.063	.038
HS	.054	.046
ES	ns	.031
MS	.039	ns
Black	.046	.046
SWD	.059	.049
EL	.053	.035

Table 1. Hedges’ *g* of Treatment Effects

While there is no inherent substantive meaning to standard deviation units for policy makers, the most common practice is to rely on Cohen’s suggestion that effect sizes of about .20, .50, and .80 standard deviation be considered small, medium, and large. As Bloom and colleagues point out (2008, p. 5-6), these guidelines were not relevant to intervention effects in education,

with Cohen (1988, p. 25) even stating that the suggestions should only be used when there is no better basis for estimating the magnitude of impact. Using Bloom and colleagues (2008) as a guideline, this study creates benchmarks using local norms which can provide more meaningful interpretations of the impact of the program.

Learning Rate Calculations

To create local norms, average student achievement gains were calculated for each grade level using all students in the district who were tested in both Fall and Spring from 1st to 10th grades. Table 2 outlines the average annual gains for reading and math in DMPS from Fall to Spring in 2017-18 school year. Weighted averages are displayed in the last row. Annual gains from the year prior to the treatment would have been optimal; however, not all grade levels were tested in the 2016-17 school year. Consequently, the learning rates calculated in this study may be underestimated because the calculations incorporate a large portion of treatment students.

To calculate the rate of learning in reading for year-two treatment students, an effect size of .063 divided by the average annual gain (.426) equates to a 15 percent learning rate within 162 school days. School days were calculated by taking the first administration of the pretest minus the last day of administration of the posttest and then counting the number of school days within those dates (no weekends). The number of school days gained was calculated by using the ratio of effect sizes compared to the proportion of days between the pretest and posttest.

Grade	Reading	Math
1	1.281	1.333
2	.938	.977
3	.611	.913
4	.482	.763
5	.408	.574
6	.397	.472
7	.243	.374
8	.231	.298
9	.179	.192
10	.112	.162
Wt. Avg.	.426	.626

Table 2. Average Fall to Spring Gains

Subgroup Gap Calculations

Due to the large sample sizes available for Black, SWD and EL treatment subgroups, treatment effect sizes for the selected subgroups were calculated using the same procedures outlined in Quasi-Experimental Design Matching Procedures section. More specifically, each Black treatment student was matched to a Black control student in the same grade level and who had similar Fall scale scores using all other covariates in the model. To satisfy WWC baseline

equivalence requirements the pretest was included in all models to adjust for any differences in groups at baseline. Table 3 shows the matching results with corresponding baseline Hedges' g for the analytic samples.

	Reading			Math		
	Treatment Students with Pre/Post	Percent Matched or Included	Baseline Hedges' g	Treatment Students with Pre/Post	Percent of Treatment Students Matched	Baseline Hedges' g
Black	1,599	94%	.033	1,948	97%	.010
SWD	1,573	93%	.052	1,734	93%	.027
EL	2,199	100%	.013	2,800	100%	.065

Table 3. Results of Matching Procedures with Hedges' g

Out of 1,599 Black SFR students who took both the Fall and Spring reading assessments, 94 percent were matched to a similar Black control student. Out of 1,948 Black SFR students who took both the Fall and Spring math assessments, 97 percent were matched to a similar Black control student. Hedges' g at baseline indicated equivalence of the treatment and control groups on the Fall scale score in reading ($g=.033$) and in math ($g=.010$). Propensity score matching was not used for the EL analyses, as the analytic sample satisfies the baseline equivalence requirement without matching if the models incorporate a statistical adjustment and they did. Treatment effect sizes for each subgroup were then calculated as noted in Estimating the Magnitude of Effects section.

Subgroup gap benchmarks were calculated by taking the mean difference in the Fall to Spring achievement for each subgroup/counterpart divided by the standard deviation for each grade level for all tested students (Bloom et al., 2008, p. 20). Table 4 shows the average Fall to Spring Subgroup Performance Gaps for the 2017-18 school year. To obtain how much SFR black students closed the achievement gap, an effect size of .046 for Black treatment students divided by the average Black-white gap (-.701) equates to a 7 percent closure in the black-white reading gap within 162 school days. All other subgroup rates were calculated in the same manner.

Grade	Reading			Math		
	Black-White Gap	SWD-Non-SWD Gap	EL-Non-EL Gap	Black-White Gap	SWD-Non-SWD Gap	EL-Non-EL Gap
1	-.501	-.736	-.441	-.725	-.627	-.580
2	-.618	-.904	-.664	-.721	-.842	-.640
3	-.721	-.978	-.818	-.804	-.891	-.769
4	-.664	-1.083	-.849	-.717	-1.021	-.799

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5	-0.738	-1.036	-0.985	-0.728	-0.958	-0.884
6	-0.739	-1.037	-0.907	-0.796	-1.082	-0.863
7	-0.622	-1.091	-0.995	-0.760	-1.133	-0.947
8	-0.669	-0.949	-1.105	-0.756	-1.019	-1.053
9	-0.758	-0.927	-1.261	-0.834	-0.963	-1.207
10	-0.820	-0.675	-1.321	-0.890	-0.754	-1.205
Wt. Avg.	-0.701	-0.968	-0.935	-0.770	-0.930	-0.881

Table 4. Average Fall to Spring Subgroup Performance Gaps

Part V: References

For management partners, turnaround leader development providers and stakeholder engagement specialists, submit the name and contact information for the last three schools or districts your organization contracted with.

School District	Contact Name	Email	Telephone
Pinellas County Schools	Dr. William Corbett, Deputy Superintendent	CORBETTW@pcsb.org	(727) 588-6022
Putnam County School District	Mr. Jonathan Hinke, Director of School Improvement	jhinke@my.putnamschools.org	(386) 329-0532 ext. 503
School District of Osceola County	Dr. Scott Fritz, Chief of Staff, Teaching, Leading & Learning	Scott.Fritz@osceolaschools.net	407-870-4600