

Findings of Root Cause Analysis for Comprehensive Support and Improvement Schools

Booker T.
Washington
Middle School

September, 2019







CENTER FOR EDUCATIONAL INNOVATION AND IMPROVEMENT



TABLE OF CONTENTS

I.	Introduction	1
II.	School Profile	4
III.	Problem Statement	6
IV.	Root Cause Analysis of the Problem Statement	8
V.	Recommendations for Improvement	11
VI.	Appendices	15

This report was prepared by the University of Maryland College Park Center for Educational Innovation and Improvement at the College of Education and in partnership with the Bowie State University College of Education and the Morgan State University School of Education & Urban Studies. The Root Cause Analysis process was facilitated by Nicole Tucker-Smith and Dr. Annette C. Anderson, who also co-authored this report.

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I. INTRODUCTION

he purpose of this report is to share to outcomes of a Root Cause Analysis (RCA) conducted to support Booker T. Washington Middle School in identifying underlying causes of school performance problems. The report provides an overview of the RCA process, school profile, problem statement, root cause analysis and recommendations to address the root causes.

The Maryland Every Student Succeeds Act (ESSA) Consolidated State Plan requires schools that have been identified for comprehensive support and improvement (CSI) engage in a root cause analysis process facilitated by a third party. CSI schools are the lowest achieving five percent of Title I schools; high schools that do not graduate one third or more of their students; or schools that have federal school improvement grants (SIG). Booker T. Washington was identified as a CSI school because it is one of the lowest achieving 5 percent of Title I schools. Outcomes of the root cause analysis must be used to inform the development of intervention plans to improve school performance.

CSI schools that were identified in the 2018-2019 school year have three years to exit CSI status. CSI school leaders will receive a leadership coach to support the development and implementation of the intervention plan. CSI principals are also required to participate in the Leading for School Improvement Institute which provides customized professional learning experiences to support school improvement. CSI principals are also required to engage in monitoring visits by the Maryland State Department of Education (MSDE) to ensure that progress is being made toward school improvement goals.

MSDE established a memorandum of understanding with the University of Maryland College Park to facilitate the RCA process. The University of Maryland College Park collaborated with the American Institutes for Research (AIR) to develop RCA tools and train field teams. Field teams consisted of researchers, data analysts, and education practitioners from Morgan State University, Johns Hopkins University, Bowie State University, and other organizations. Field team members worked with all CSI schools to go through an RCA process. MSDE will support each school to engage in a long-term continuous improvement process that includes RCA analyses, recommended interventions, and evaluations of employed interventions. As part of this process, CSI schools were first required to go through a needs-assessment process that was used to drive the RCA work.

I. INTRODUCTION

RCA Process for CSI Schools

A Root Cause Analysis Facilitator Guide was developed to promote consistency in the root cause analysis process. The Facilitator Guide contains protocols designed to engage school leaders and stakeholders in identifying a specific problem and prioritizing root causes for the problem.

There was a four-step process used to facilitate the root cause analysis:

- 1. Craft a Problem Statement Based on Data.
- 2. Brainstorm Causal Factors
- **3.** Analyze Underlying Causes to Identify Root Causes
- 4. Prioritize Root Causes for Intervention

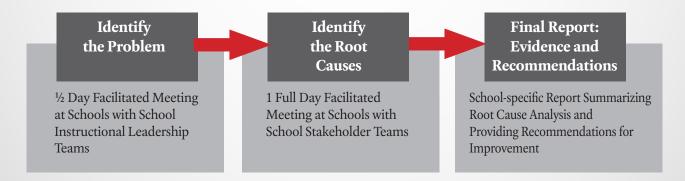
The root cause analysis process translates the successes and challenges identified through the CSI needs assessment into priorities to inform actionable improvement planning. The work with schools was staged in three steps: 1) identify

the problem; 2) identify the root causes; 3) draft a school report with recommendations for improvement.

First, the RCA team worked with school leadership teams to craft a problem statement in a half-day meeting. Using the available school, school system, and state data, the school team selected a problem that relates to their CSI status and provides a direction for the root cause analysis.

Second, the facilitators returned to the school for a full-day meeting with the school's stakeholder team to better understand the root causes of the problem. Once the stakeholders worked through the process of determining the root causes, they prioritized those root causes based on importance, feasibility, and alignment to CSI status.

As a third and final step, the UMD/BSU/MSU teams created these school-specific reports with recommendations for addressing the problem and root causes in improvement planning.



I. INTRODUCTION

An RCA starts with asking the question: What problem do we face that, if solved or mitigated, would most effectively lead to our desired outcomes (in this case significant improvement in student outcomes that would lead to the school being removed from CSI status)? This "Problem Statement" is then studied and interrogated by a team of stakeholders through the RCA process that answers questions such as:

- Why do we get these outcomes?
- Who are the people involved in this problem?
- What policies, procedures, or rules contribute to this problem?
- What resources are currently engaging with this problem?
- What environmental issues impact this problem?

This process led to a small number of "root causes" to the problem designed to help school stakeholders design strategies and programs that are more likely to lead to significant improvement for students. In addition, the process will include conducting research on the problem and prioritized root causes and recommending evidence-based strategies for improvement.

II. SCHOOL PROFILE

School Name:

Booker T. Washington Middle School 1301 Mcculloh St Baltimore, MD 21217

(410) 396-7734

Student Demographics								
Total Students	Asian	Black/ African Americans	Hispanic/ Latino	White	Other	% Economically Disadvantaged	% English Learners	% Students with Disabilities
220	<10	210	<10	<10	<10	86.54%	<5%	33.18%

Booker T. Washington Middle MSDE School Report Card Profile for 6-8													
Academio	e Progress	School Quality and Student Success		Academic Achievement		Progress in Achieving English Language Proficiency							
Student Growth Percentile in Math	31	Students Not Chronically Absent	Not Chronically 51.1%	% Proficient in Math	0.5%								
Student Growth Percentile in ELA	29			51.1%	Average Performance Math	1.4	% English Learners Making Progress	54.5%					
Credit for Well								Access to		% Proficient in ELA	1.6%	Toward Learning English	
Rounded Curriculum N/A	76.2%	Well Rounded Curriculum	0%	Average Performance ELA	1.4								
Earned Points	8.8/28	Earned Points	1/25	Earned Points	2.9/20	Earned Points	5.5/10						
	Total Earned Percent:				17	7%							

To view this school's full report card, visit www.mdreportcard.org

II. SCHOOL PROFILE

MSDE School Report Card Profile for High School										
Academic Achievement		School Quality and Student Success		Graduation Rate		Progress in Achiev- ing English Lan- guage Proficiency		Readiness for Postsecondary Success		
% Proficient in Math	42	Students Not Chronically Absent	000001100	Students		Credit for well				
Average Performance Math	52		51.1%	cohort graduation rate	51.1%	% English		rounded curriculum:	51.1%	
% Proficient in ELA	0%	Access	Access to Well	00/	Five-year adjusted	00/	Learners Making Progress Toward Learning	54.5%	On track in 9th	00/
Average Performance ELA	12.5	Rounded Curriculum		cohort graduation rate	graduation	English		grade for graduation:	0%	
Earned Points	1/30	Earned Points	1/25	Earned Points	1/15	Earned Points	5.5/10	Earned Points	1/10	
	Total Earned Percent:						17%			

III. PROBLEM STATEMENT

Description of the Process

The first step in the RCA process was to convene a half-day meeting that was facilitated by a two-member RCA team. Booker T. Washington Middle School convened on April 29, 2019 for day one of the RCA process. The primary goal of this meeting was to craft a "Problem Statement" that would drive the root cause analysis. A Problem Statement can be defined as a statement describing a situation, issue, barrier, impediment, or challenge that a school must address to significantly improve students' outcomes related particularly to those outcomes that led to the school being placed on the CSI list.

The goals of the first day were as follows: 1) to determine a problem statement to drive the analysis of the root causes, and 2) to identify stakeholders for day two of the RCA.

The primary data sources reviewed were the MSDE CSI Needs Assessment Report, School Profile Report, the Maryland State School Report Card, and the School Climate Survey data and qualitative data from school stakeholders.

Problem Statement Criteria

Participants arrived at a problem statement by examining how CSI schools were identified; by using data to understand why the school received CSI status; by organizing data trends into themes; by evaluating the feasibility of addressing those themes; and by prioritizing addressable themes to identify the RCA area of focus. The problem statement was crafted based on the following criteria:

- 1. How important is the problem to addressing our needs? Importance is determined by whether student outcomes will be improved, teacher efficacy is increased, and/or organizational systems will be improved.
- **2.** How feasible is it to address this problem? Feasibility is defined by the availability of adequate resources, staff, and capacity, and whether there is sufficient support and buy-in.

3. How aligned is the problem to our needs?

The problem statement should be related to the reason the school was identified as a CSI school. Also the school should be able to address the problem and its root causes by the effective selection and implementation of evidence-based practices.

Day One Summary

On day one of the RCA process, the two facilitators convened a half-day meeting with the members of the instructional leadership team.

At the start of the meeting, attending team members included the staff from the school: the assistant principal, the education associate, and a community partner. In addition, a Baltimore City Public Schools (BCPS) staff specialist and a representative from the American Institutes for Research (AIR) were in attendance. Ninety minutes into the meeting, the principal arrived and joined the process.

During the initial review of the data, several key issues around academic performance immediately emerged that underscored what the staff anecdotally reported experiencing in school. Few students were academically prepared to perform optimally on state and district assessments. A key corollary issue was the impact of the high staff turnover, which made consistent instruction difficult to maintain. In addition, the high chronic absenteeism and low student achievement rates were cited as factors playing into the culture of the school. The teachers mentioned that the chronic absenteeism rates contributed to teachers feeling as though they were "falling behind" in their academic planning, especially with the introduction of a new language arts curriculum, Wit & Wisdom. Many students are four years below grade level in reading. Further, the academic performance data revealed that the teachers felt that current instructional practices were not fully aligned to the learning needs of the students.

III. PROBLEM STATEMENT

Key Data Themes

Data Source	Key Takeaways
MSDE CSI Needs Assessment Report	At 81.7%, the attendance rate is below the required BCPS threshold of 92.9% and has declined over the past two years from 85.7%. Chronic absenteeism is 65.2%. Enrollment over the past two years has declined by 8% from 258 in 2017 to 237 in 2019. Per the needs assessment, enrollment has dropped from 309 in 2015-2016 to 220 in 2017-2018.
Maryland State School Report Card	Proficiency rates on the state assessments were at 0.5% for mathematics proficiency and 1.6% for reading proficiency.
School Profile	The school has consistent turnover of teachers, with 42% of teachers in years 0-2 of their tenure. Teacher attendance has remained fairly stable over the last two years at around 90%, while the percentage of inexperienced teachers has declined slightly from 32% in 2015-2016 to 29% in 2017-2018, per the needs assessment.
MSDE CSI Needs Assessment Report	In grades 6 and 7, data showed an increase in the percentage of students who tested two or more grade levels below on iReady [®] , but this number declined from 87% to 82% in eighth grade. Sixth grade showed an increase from 87% to 93% at two or more grade levels below in literacy on iReady [®] . In mathematics, grade 6 showed a decline in the percentage of students two or more grade levels below on Achievement Network from 82% to 77%. Grades 7 and 8 held steady at the percentage below grade level at 86% and 90% in mathematics, respectively.

Themes Across Data Sources (Topics) (1 being highest priority)	Ranking
Multiple data sources show that 42% of the teachers are in years 0-2, and 57% have less than five years of experience. Fourteen percent are not teaching in their area of expertise, and 25% of teachers are uncertified.	1
The school has not met the 92.9% attendance benchmark in three years. The highest level of attendance in three years was 85.7%. Chronic absenteeism across the school is at 65.2%.	2
Multiple data sources indicate that a high percentage of students in ELA/mathematics in grades 6-8 are two or more grade levels behind. The total of number students tested between beginning of year and end of year decreased in both mathematics and ELA. State assessments data indicates a high percentage of students who have not met expectations, with an increase between 2017-2018.	3

III. PROBLEM STATEMENT

Final Problem Statement

In grades 6-8, 40% of the teachers are not yet tenured or certified, and 80% of students testing two or more years below grade level in ELA and mathematics.

Evidence Base for Problem Statement

This section represents a brief research summary of the evidence related to the significance and/or impact of the problem statement identified above.

The central challenge that Booker T. Washington Middle School faces is the capacity of teachers, who have had only a few years of experience and may lack certification in their assigned area of teaching, to be able to meet the needs of an overwhelming population of students who are performing below grade level. The leadership

team expressed teacher turnover and burnout as a significant factor. Likewise, principal turnover impacts the school culture and ability to support the teachers' development needs.

The impact of principal turnover

Rapid principal turnover negatively impacts a school, affecting the school culture and student performance. "Taking a coordinated approach to leadership distribution appears to mitigate at least some of the negative consequences of leadership turnover" (Mascall & Leithwood, 2010, pg. 367).

Effects of teacher burnout

The school leadership team described teacher burnout and frustration as a major challenge. Research suggests that a teacher's emotional exhaustion negatively impacts students' autonomous motivation (Shen et al., 2015).

IV. ROOT CAUSE ANALYSIS OF THE PROBLEM STATEMENT

Day Two Summary

The RCA facilitators met with the members of the Booker T. Washington stakeholder team (see Appendix A for a list of members) on May 3, 2019 for the day two meeting to identify and prioritize the root causes of the problem so that the school's improvement planning efforts could address these causes. At the start of the meeting, the attending team members included the staff from the school, three content area leads, a BCPS staff specialist, and a representative from AIR were in attendance.

The day two meeting opened with a review of the problem statement. The content leads brought additional context into the conversation around needs for professional planning and development. Because 42 percent of the instructional staff

had two years or less of experience, a growing consensus developed that the team needed to focus more of its efforts on aligning professional learning with academic planning efforts. For example, few members of the team have spent much time reviewing data to plan for instruction.

Specifically, the goals for Day Two included:

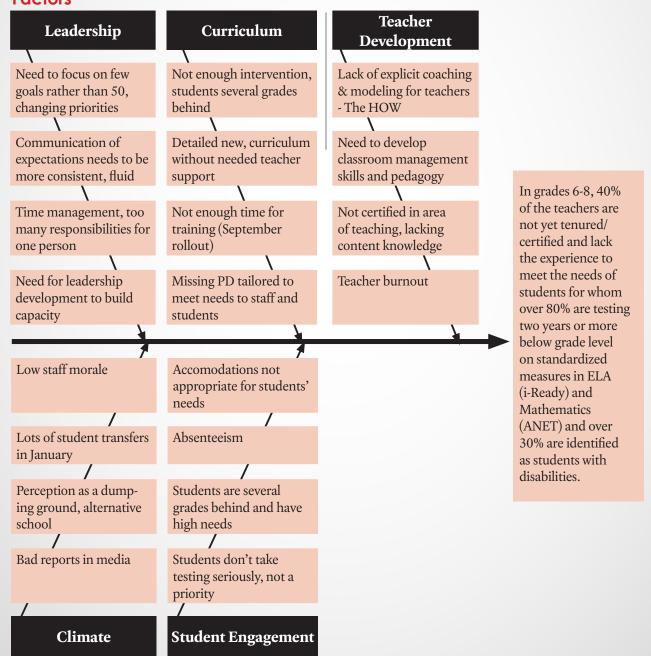
- Determine factors contributing to the problem statement.
- Identify underlying causes of the problem and determine which underlying causes are primary "root" causes.
- Prioritize the root causes for the importance of impacting student outcomes and the feasibility of implementing strategies to address them.

IV. ROOT CAUSE ANALYSIS OF THE PROBLEM STATEMENT

Causal Factors

The "Fishbone" diagram represents the stakeholder group's initial assessment of all of the individual factors contributing to the existence or recurrence of the problem statement.

Booker T. Washington Middle School Casual Factors



IV. ROOT CAUSE ANALYSIS OF THE PROBLEM STATEMENT

Prioritized Root Causes

Following several group exercises, the stakeholder group came to consensus on the priority root causes. These are the causes most critical to addressing the problem based on the criteria of importance, feasibility, and alignment.

Final Output. Prioritized Root Causes:	Ranking
New leaders lack the support needed to help build cohesion and capacity within the school.	1
Curriculum lacks interventions and strategies to meet the needs of the student population, particularly students performing below grade level.	2
Lack of knowledge and professional skills of teachers, especially new teachers, impedes student learning.	3

Evidence Base for Prioritized Root Causes

A wealth of research shows how prepared, equipped school leaders can apply transformational and instructional leadership skills to positively impact school culture and teachers' capacity to improve student outcomes. In The Impact of Leadership on Student Outcomes, the findings show that a school's ability to improve and sustain effectiveness over the long term is not primarily the result of the principal's leadership style, but of an understanding and diagnosis of the school's needs. In addition, the principal must be able to apply clearly articulated, organizationally shared educational values through multiple combinations and accumulations of time and context-sensitive strategies that are "layered" and progressively embedded in the school's work, culture, and achievements (Day, Gu, & Sammons, 2016).

Moreover, principals need support to cultivate their staff's professional learning opportunities. This support should focus on the following key points:

- Improving schoolwide instruction, particularly in helping teachers meet the needs of students performing below grade level
- Creating collegial organizations focused on continuous improvement, including developing distributed leadership structures to guide professional learning teams
- Using data for change to engage in collective inquiry and to identify and address needs (Sutcher, Podolsky, & Espinoza, 2017)

Brainstormed Ideas for Improvement Planning from Stakeholders

At the conclusion of day two, the stakeholders had a brief opportunity to brainstorm ideas and strategies that might help to address the root causes identified. This brainstorming activity asked participants to list any good ideas they have. These ideas were not prioritized or identified as formal recommendations to the school.

Stakeholder Recommendations

- Look at observation data (instructional framework) to identify areas of need and plan for targeted professional learning.
- Develop a consistent structure for looking at data as a team.
- Develop a professional learning plan based on data (new teachers should have a mentor to align support based on specific needs).
- Plan strategies proactively to build morale.
- Make sure processes and structures are consistent.
- Establish consistent and timely staff communication and feedback.
- Have a clear vision about the schoolwide plan.
- Establish clear expectations about what needs to be improved.
- Model expectations and best practices.
- Give focus and prioritize goals with structured conversation, follow through, and support; make prioritized goals visible.
- Institute consistent instructional leadership team meetings with everyone present.
- Build teacher awareness of data and provide guidance on how to interpret and act on the data.
- Provide teachers with a coach who has the capability to observe their instruction (with a growth mindset approach, not punitive).
- Provide coaching for leadership team members

in growth areas with accountability partners present.

Recommendations for Evidence-Based Improvement

Final recommendations for this report have been developed by the University of Maryland College Park in consultation with UMD/RCA facilitators and leaders at MSDE. Recommendations were developed using the following process:

- Reviewing the ideas, notes, and stakeholder perspectives gathered throughout the Root Cause Analysis process;
- Conducting a scan of the research literature related to the problem statement and prioritized root causes identified throughout the process. While a comprehensive research analysis was outside the scope of this project, the team reviewed research using the standards of evidence model outlined in the Every Student Succeeds Act (ESSA) to offer research that had moderate or strong evidence of effectiveness (Level 2 or Level 1 on the ESSA framework);
- Compiling, organizing and categorizing over 150 recommendations submitted by UMD/ RCA facilitators.

These recommendations are offered by the University of Maryland College Park in consultation with MSDE. They represent only a portion of the potential strategies and interventions that will become a part of the school's three-year improvement plan developed in concert with the MSDE Title I office.

Four Domains Domain of Rapid RECOMMENDATION School Improvement 1 Invest in professional learning opportunities and support for Talent Development principal's development as an effective turnaround leader. **Turnaround** The research literature clearly indicates that leadership is important to Leadership student achievement and other school-based outcomes. However, in chronically low-performing schools, a specialized set of leadership skills are required that extend beyond the traditional management role of principals. To engage as an effective leader in the most challenging school conditions, principals must become equipped as transformational, turnaround leaders (Leithwood, Louis, Anderson, & Wahlstrom, 2008; Herman et al., 2017). To become an effective turnaround leader, principals need training and development across a range of skills, including: Setting and reinforcing high expectations of all teachers and staff Distributing instructional leadership responsibilities and opportunities to effective teachers Focusing on goal setting and strategic planning ("Driving for Results") Establishing data collection, monitoring, and analysis Enlisting others in adopting changes to routines, structures, and processes Using adaptive problem-solving Cultivating a school culture and climate conducive for academic success Just as teachers grow best through job-embedded, authentic professional learning supports, so, too, do school leaders. The research on professional learning indicates that collaborative cohorts and coaching are two high leverage strategies through which principals can be supported in acquiring new leadership skills (Sutcher, Podolsky, & Espinoza, 2017). Additionally, there are a variety of evidence-based turnaround leadership frameworks and tools that can be adapted as resources for principals who are developing as effective change agents, including WestEd's Four Domains for Rapid School improvement (https://www.centeronschoolturnaround.org/wpcontent/uploads/2018/03/CST_Four-Domains-Framework-Final.pdf), American Institute for Research's (AIR) District and School Improvement Center (www.air.org/center/district-and-school-improvement-

center), the Public Impact's School Turnaround Core Competencies (https://publicimpact.com/school-turnarounds), and New Leaders' Transformational Leadership Framework (www.newleaders.org).

RECOMMENDATION

Four Domains Domain of Rapid School Improvement ¹

Provide high-quality differentiated instruction in all general education classes.

Instructional Transformation

Differentiated instruction serves a wide range of student abilities and needs in a single classroom. Studies suggest that differentiated classrooms produce similar or better results in reading compared to traditional classrooms (Connor et al., 2009; Reis, McCoach, Little, Muller, & Kaniskan, 2011; Tieso, 2002).

Research suggests that high-quality differentiated instruction includes the following features: 1) identification of each students' learning needs based on student performance data; 2) whole group instruction with various levels of examples and explanations, and sub-group instruction targeted at individuated students' skill levels with different levels and kinds of explanation and practice; 3) regular (informal and formal) assessment of student learning to identify new needs and goals following initial adjustment of instruction; and 4) continuous responsive adjustment of both what is taught and how it is taught based on the latest student assessment data (Alsalamah, 2017; Prast, Van de Weijer-Bergsma, Kroesbergen, & Van Luit, 2015; van Geel et al., 2019).

Further emphasis should be placed on maintaining rigor while addressing the needs of students who are currently performing below grade level. The following document is a partial list of research-based strategies that can be utilized to meet these goals.

https://www.one ont acsd.org/Downloads/below-grade-level-students-research-based-practices.pdf

Although much differentiation can occur through small and large group instruction in the regular classroom, some instruction may need to be more individualized based on student needs and will lead to pull-out interventions. Toward this end, randomized control trials on Computer Assisted Instruction programs, such as TutorMate, have shown remarkably positive results on elementary students reading performance (Kortecamp, Harper, & Green, 2016).

¹The MSDE uses the Center on School Turnaround at WestEd's Four Domains for Rapid School Improvement: A Systems Framework as a framework for continuous improvement. The framework identifies four areas as central to rapid and significant improvement: turnaround leadership, talent development, instructional transformation, and culture shift. The recommendations in this report are aligned to the four domains as a way to organize and frame the improvement efforts. For more information: https://centeronschoolturnaround.org.

RECOMMENDATION

Four Domains Domain of Rapid School Improvement

Maximize professional learning focused on planning, instruction, and improving learning conditions for students.

Establish or significantly strengthen a school-wide cycle of professional learning—coaching, modeling, observations, and team planning—that includes an aligned focus across core instructional activities. Several studies link teacher professional learning with improvements in instruction and quality of learning environments (Vescio, Ross, & Adams, 2008). Professional learning opportunities are most effective when they are part of coherent school-wide efforts that link content, assessments, and reflection, rather than episodic professional workshops (Akiba & Liang, 2016). Two effective professional learning strategies include professional learning communities and job-embedded professional learning.

Professional Learning Communities: Teachers need time spent planning and learning with colleagues in collaborative planning time and/or professional learning communities (PLCs) that are focused on teaching and learning, not on administrative or organizational demands. Research shows that PLCs are most successful when they are designed and supported with specific attention to leadership, group dynamics, trust, and respect (Vangrieken, Meredith, Packer, & Kyndt, 2017). PLCs can form around topics that teachers can explore together, plan for, and build upon together using peer observations and deeper capacity-building on areas of need, such as social emotional learning or trauma-informed teaching. Authentic PLCs include the following features:

- Dedicated time for the PLC
- Teacher-led and based on specific needs of students
- Supported by school leaders with training and development activities

Job Embedded Professional Learning: Research emphasizes the importance of professional learning that emphasizes explicit strategies for conducting active teaching, modeling, assessment, observation, and reflection rather than just abstract discussions (Darling-Hammond & Richardson, 2009).

Talent Development

Instructional Transformation

VI. CONCLUSION AND NEXT STEPS

Collaboratively with the Local School System (LSS) and stakeholders, Comprehensive Support and Improvement (CSI) school teams will develop intervention plans that identify SMART (Specific, Measurable, Achievable, Realistic, Time-bound) intervention goals with measurable annual outcomes and progress indicators that will guide schools toward meeting annual targets and exit criteria in three years. The outcomes of the root cause analysis must be used to inform the development of the SMART intervention goals

and identification of evidence-based strategies included in the intervention plan. Any evidence-based strategy must meet the Every Student Succeeds Act (ESSA) evidence requirements (level 1, 2, or 3). Intervention Plans will be approved by the school, LSS, and the Maryland State Department of Education (MSDE), and monitored annually by staff from the LSS and the MSDE. Additional information and resources are available on the MSDE Resource Hub. https://www.marylandresourcehub.com/

APPENDICES

Appendix A: List of Stakeholders

Day 1	Name Misha Scott Nakia Jones Gregory Thomas Kavon Smith Nicole Scruggs	Principal Assistant Principal Director, PRIDE Program Education Associate CSI Specialist/Baltimore City Public Schools Office of Assessment ぐ Accountability
Day 2	Name Tami James Gregory Thomas Nakia Jones Kavon Smith Robin Lewis Bruce Stahl Nicole Scruggs Jasmine Ward Catherine Jacques	Position Literacy Coach Director, PRIDE Program Assistant Principal Education Associate 6th-8th Grade Self-Contained Special Education Teacher Educational Associate / Individualized Education Plan Chair CSI Specialist/Baltimore City Public Schools Office of Assessment ⋄ Accountability 7th Grade English Language Arts Teacher American Institutes for Research, Observer

APPENDICES

Appendix B: Bios of Facilitators

Nicole Tucker-Smith, is cofounder and Chief Executive Officer of Lessoncast, an online platform for capturing, measuring, and sharing effective teaching and learning practices. She consults with schools, districts, states, organizations, and teacher



preparation programs to help educator communities put professional learning into practice and document evidence of its impact. Applying her experience as a turnaround school administrator, she works with schools to employ customized tools that facilitate a rapid improvement cycle by ensuring fidelity of implementation, evaluating pre and post data, guiding teacher reflection, and helping educators make adjustments as needed.

Nicole has served as an elementary and middle school teacher in Alexandria City, VA, and Baltimore City schools. In Baltimore County, she served as Supervisor of Parent Support Services, Assistant Principal, and Coordinator of Systemwide Professional Development and Training. She also led state-level initiatives for Johns Hopkins University (JHU) Center for Technology in Education and currently teaches in the JHU School of Education, School Administration and Supervision program. Nicole is an international presenter on Universal Design for Learning (UDL), a member of the CAST UDL Cadre, and she provides her professional learning expertise to support implementation of UDL in Prekindergarten-12 and higher education learning environments. In addition, she has presented at national convenings for the Council of Chief State School Officers, ASCD (formerly Association for Supervision and Curriculum Development), Learning Forward, International Society for Technology in Education, Association for Middle Level Education, Council for Exceptional Children, American Association of Colleges for Teacher Education, and Common Ground (Maryland Society for Educational Technology).

Annette C. Anderson, is a native of Baltimore and a graduate of BCPS, an experience that left an indelible mark on her career interests in educational equity and adequacy. Besides her research pursuits, she has served in a variety of school-based



positions, including classroom teacher, teacher leader, curriculum coordinator, and assistant principal.

Annette served as the Founding Chief Executive
Officer/Principal of Widener Partnership Charter
School, the first university-assisted charter school
in the Commonwealth of Pennsylvania. The school
quickly became known to state and local education
officials as a successful model for university-public
school partnerships.

As Program Director for the School Administration and Supervision program at the JHU School of Education, she advises master's degree and graduate certificate candidates in leadership for public schools, as well as for independent schools. She also advises doctoral students with an interest in educational leadership. Her current research interests include educational leadership, leadership for community schools, entrepreneurial urban school leadership, the principal pipeline, and educational leadership for international schools. Besides a master's degree and PhD from the Graduate School of Education at the University of Pennsylvania, Annette earned a bachelor's degree from Syracuse University and a second master's degree in public policy from Georgetown University.

APPENDICES

Appendix C: Citations of research

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