Findings of Root Cause Analysis for Comprehensive Support and Improvement Schools

Digital Harbor High School

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MORGAN STATE UNIVERSITY

UNIVERSITY OF MARYLAND 1856

COLLEGE OF EDUCATION

CENTER FOR EDUCATIONAL INNOVATION AND IMPROVEMENT

BOWIE STATE UNIVERSITY 1865

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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 Christine M. Neumerski and Lawrence M. Clark, who also co-authored this report.

I. INTRODUCTION

The purpose of this report is to share to outcomes of a Root Cause Analysis (RCA) conducted to support Digital Harbor High 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). Digital Harbor High School was identified as a CSI school because of low graduation rates. 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:

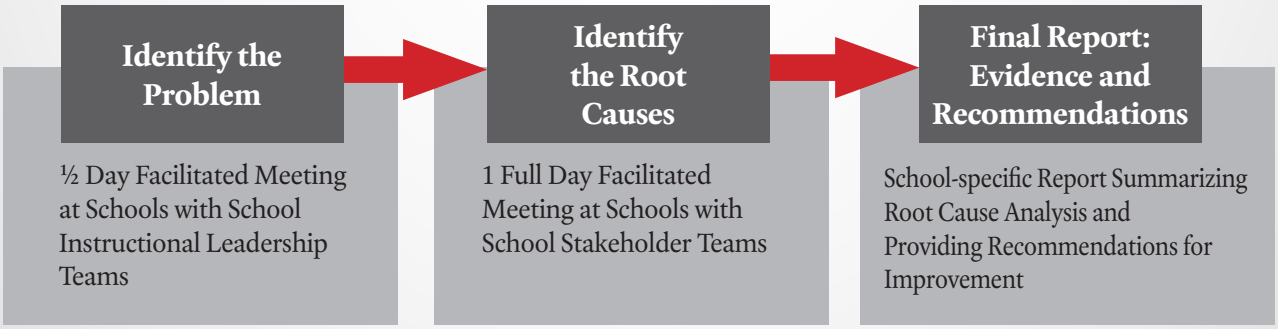
1. Craft a Problem Statement Based on Data
2. Brainstorm Causal Factors
3. Analyze Underlying Causes to Identify Root Causes
4. Prioritize Root Causes for Intervention

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 RCA teams created these school-specific reports with recommendations for addressing the problem and root causes in improvement planning.
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: Digital Harbor High School
1100 Covington St, Baltimore, MD 21230
(443) 984-1256

Student Demographics								
Total Students	Asian	Black African Americans	Hispanic/ Latino	White	Other	% Economically Disadvantaged	% English Learners	% Students with Disabilities
1258	15	851	286	95	<10	52.78%	17.9%	17.99%

Digital Harbor High School MSDE School Report Card Profile for 9-12							
Academic Progress		School Quality and Student Success		Academic Achievement		Progress in Achieving English Language Proficiency	
Student Growth Percentile in Math	4.8%	Students Not Chronically Absent	51.1%	% Proficient in Math	11.6%	% English Learners Making Progress Toward Learning English	54.5%
Student Growth Percentile in ELA	1.9			Average Performance Math	2.1/5.0		
Credit for Well Rounded Curriculum N/A	12.6%	Access to Well Rounded Curriculum	0%	% Proficient in ELA	11.6%		
				Average Performance ELA	2.2/5.0		
Earned Points:	12.5/30	Earned Points:	1/25	Earned Points:	5.4/20	Earned Points:	5.5/10
Total Earned Percent:				32%			

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

II. SCHOOL PROFILE

Digital Harbor High School MSDE School Report Card Profile for 9-12									
Academic Achievement		School Quality and Student Success		Graduation Rate		Progress in Achieving English Language Proficiency		Readiness for Postsecondary Success	
% Proficient in Mathematics	4.8%	Students Not Chronically Absent	24.3%	Four-Year Adjusted Cohort Graduation Rate	64.2%	% English Learners Making Progress Toward Learning English	52.3%	Credit for Well-Rounded Curriculum	100%
Average Performance Mathematics	1.9								
% Proficient in English Language Arts (ELA)	12.6%	Access to Well Rounded Curriculum	70.8%	Five-Year Adjusted Cohort Graduation Rate	69.8%			On Track in Ninth Grade for Graduation	34.3%
Average Performance ELA	2.2								
Earned Points	7.4/30	Earned Points	8.1/25	Earned Points	9.9/15	Earned Points	5.2/10	Earned Points	6.7/10
Total Earned Percent:				41%					

Digital Harbor High School (DHHS) is located in Baltimore, MD, and serves approximately 1,200 students in grades nine through twelve. Digital Harbor is a lottery school, meaning that students apply and are selected through a lottery system. Consequently, students from neighborhoods and communities throughout Baltimore attend Digital Harbor. As suggested by the name of the school, Digital Harbor has an information technology focus, and students can pursue one of six pathways:

- Interactive Media Production
- Information Technology Networking Academy (Cisco)
- Database Academy (Oracle)
- Information Support and Services
- Geographic Information Systems and Remote Sensing
- Computer Science

Through the RCA team's interactions with DHHS Principal, Shannon Mobley, and a subset of DHHS faculty and staff, it became evident that leadership, faculty, and staff are open and committed to exploring a range of strategic efforts focused on improving student performance outcomes.

III. PROBLEM STATEMENT

Description of the Process

The instructional leadership team met with the RCA facilitators for a half-day on April 29, 2019 to examine Digital Harbor's school-level data and to select a problem statement. The leadership team included the DHHS principal, DHHS assistant principals, an academic dean, content area leads, academic content liaisons, and a representative from the Title 1 office (See Appendix A for the full list of participants).

Problem Statement Criteria

Participants arrived at a problem statement by examining how CSI schools were identified; 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

The goals for the first RCA meeting were twofold: 1) to review the school-level data in order to highlight the leading challenges for the school; and 2) to select a priority challenge area and to then craft a problem statement. The primary data sources available for review were the MSDE CSI Needs Assessment Report, Maryland State School Report Card, results from the Parent Climate Survey, and the DHHS School Improvement Plan.

Day one opened with introductions, an icebreaker, and discussion of the purpose of the RCA process. The data review process consisted of providing time for the school's leadership team to review individual data sources and discuss trends and key takeaways. The MSDE CSI Needs Assessment Report was reviewed first, followed by a review of the Maryland Report Card. A discussion about the structure of the Maryland Report Card indicated that team members had some confusion about the ways the report card indicator scores are computed. For example, team members posed multiple questions related to the numerous ways graduation rates can be computed and the process by which progress in achieving English language proficiency is determined. The RCA facilitators indicated that they would research indicator formulas and provide information regarding the report card's indicator formulas and calculations at the subsequent full-day RCA meeting. The leadership team then reviewed and discussed components of the Parent Climate Survey and DHHS School Improvement Plan. The following trends and key takeaways emerged in the discussion of data sources.

The highest ranked concern was the trends related to grade level status of students. Data from the needs assessment indicated that high percentages of students in grades nine (61 percent), ten (53 percent), and eleven (48 percent) did not pass two or more classes in the 2017-2018 school year. These course-failure trends create a cycle of DHHS students simultaneously enrolling in two sets of courses:

courses taken with their grade level cohort and courses taken at grade level status.

As a result of these trends, DHHS students are identified in two ways: grade level cohort and grade level status. For example, students can be considered in the tenth-grade cohort yet have ninth grade level status because of failing one or more ninth to tenth grade promotion requirements. The cycle extends up through the eleventh and twelfth grades (e.g., a student is identified as being in the eleventh-grade cohort but has a ninth or tenth grade level status).

The leadership team engaged in an extended discussion of the DHHS practice of identifying a student at both grade level cohort and grade level status and related data. The discussion resulted in the posing of the question: How many DHHS students are identified as being "not on grade level status"?

On the spot, Principal Shannon accessed promotion data at each grade level cohort and reported the following:

- Class of 2022 (ninth grade cohort): 299 students
- Class of 2021 (tenth grade cohort): 277 students
- 192/277 students on tenth grade status (remainder at ninth grade status)
- Class of 2020 (eleventh grade cohort): 286 students
- 178/286 students on eleventh grade status (75 at tenth grade status, 33 at ninth grade status)
- Class of 2019 (twelfth grade cohort): 214 students
- 167/214 students on twelfth grade status (30 at eleventh grade status, 15 at tenth grade status, 2 at ninth grade status)

The computation explored was as follows:

(Number of tenth, eleventh, and twelfth graders on grade level status) divided by (number of tenth, eleventh, and twelfth graders in grade level cohorts) = 537/777 = 69 percent of DHHS students on grade level status. From this computation, the team determined that 31 percent of DHHS students are not on grade level status.

Key Data Themes

Data Source	Key Takeaways
Maryland State School Report Card	• School level proficiency trends are very low. Mathematics proficiency is 4.8 percent and ELA proficiency is 12.6 percent.
MSDE CSI Needs Assessment Report	• The four-year adjusted cohort graduation rate is low at 64.16 percent.
Early Warning System Data for School	• Ninth grade performance and promotion rates are low as evidenced by the following: (1) ninth grade promotion rate is 48 percent, (2) 61 percent of ninth grade students did not pass two or more courses, and (3) ninth graders are arriving at DHHS at a low academic performance level.
MSDE CSI Needs Assessment Report	• Chronic absenteeism is high, and the attendance rate is falling.
MSDE CSI Needs Assessment Report	• Teacher experience is low, and teacher attrition is high. Fifteen percent of teachers are first-year teachers, and one-third of teachers are within their first five years of teaching.
Parent Survey	• A low parental response rate on the survey (7 percent) reflects the low parent engagement.

III. PROBLEM STATEMENT

Themes Across Data Sources (Topics) (1 being highest priority)	Ranking
Overall promotion rates (specifically students' grade level status)	1
Ninth grade performance and promotion	2
Attendance and absenteeism	3
Instructional support for teachers	4

Final Problem Statement

Multiple data sources indicate that 29 percent of students* at Digital Harbor High School are not on grade level status. (*Computation excludes first-time ninth graders.)

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.

Several bodies of interrelated literature are focused on the phenomenon described in the problem statement, but two related research foci appear to be particularly relevant: student failure of specific courses associated with promotion from grade to grade and alternatives to grade retention.

Failure of Specific Courses Associated With Promotion

Logically, failure of specific courses associated with promotion is significantly correlated to the likelihood a student will drop out of high school. Research studies identifying high school dropout factors support this hypothesis. Findings from a longitudinal study of over 23,000 US high school students indicate that the most influential factor related to students leaving school prior to graduation was "getting behind on school coursework or earning poor grades" (McFarland, Stark, & Cui, 2016). Qualitative studies of students who left school prior to graduation support these large-scale quantitative trends. In a 2016 National Education Association interview, Deborah Feldman, author of Why We Drop Out: Understanding and Disrupting Student Pathways to Leaving School, stated the following when asked about common factors identified in her interviews with students regarding their leaving high school prior to graduation (Long, 2016):

In many of their stories there was some kind of academic challenge that undermined their faith in themselves as learners, that then led to helplessness and hopelessness about their ability to be a student, which was their primary job in life. Math, in particular, seemed to be the academic trip wire where they stumbled on and never recovered from. Algebra was often the culprit. They developed an "I'm no good at math" sensibility and when they started believing they weren't able to succeed, they started skipping (p. 36)

An interesting question emerges from Feldman's statement related to students' "skipping" classes. Is a student's failure of specific courses associated with promotion a cause of student

absenteeism (as suggested by Feldman), or an effect of student absenteeism (conventional absenteeism and school failure narrative)? During the leadership team discussion about trends in DHHS students failing two or more classes, there was considerable agreement that most likely the courses DHHS students are failing at high rates are the specific courses associated with promotion to the next grade (further data analysis is needed to determine this empirically). It is apparent, however, that DHHS is engaged in a persistent cycle of far too many students failing two or more courses at every grade level. This cycle is by no means exclusively a DHHS phenomenon. A study of 2008-2009 dropout trends indicated that the cycle of course failure, absenteeism, and, consequently, inadequate credit accumulation are the major drivers of students leaving Baltimore City Public Schools (BCPS) prior to earning a high school diploma (Mac Iver, 2010).

Alternatives to Grade Retention

The general public (and, in many ways, the education research and practice community), view only two options a school can employ when faced with the challenge of students' not passing required grade promotion courses: retention or some alternative to grade retention. The most prominent alternative to retention in the research literature is social promotion–the practice of promoting a child to the next grade level regardless of skill mastery in the belief that it will promote self-esteem. Research suggests that promoting unprepared students does little to increase their achievement or life chances. At the same time, research also shows that the practice of having students repeat a grade—retention—often has negative educational consequences, such as increasing their chances of dropping out of school (Roderick, 1994).

During the RCA process, the team did not use the phrase "social promotion" specifically as a DHHS policy, however, some practices were in place that indicate DHHS engages in a complex promotion process. The first indicator is that, in the RCA discussions, no direct reference was made to a traditional retention practice (or policy). In other words, it did not appear that DHHS students are retained at any particular grade level due to poor academic or course performance. Furthermore, the practice of identifying students as having a grade level cohort and a grade level status indicates that DHHS students are "promoted" from a social perspective, yet may not be on track for graduation in their senior year. This practice likely has a long and varied history in BCPS, and was, in so many words, identified in a recommendation by Mac Iver (2010) in her report of high school dropout trends in BCPS.

In her 2010 report, Mac Iver states:

A large majority of [BCPS] dropouts are overage for grade by the time they enter ninth grade for the first time. Grade retention patterns within the district (possibly influenced by accountability pressures related to test scores in the elementary and middle grades) could be contributing to the dropout problem and should be examined closely. It is important for alternatives to grade retention to be implemented to prevent the large numbers of overage students in middle and high schools (p 79).

The complex promotion system at DHHS has its advantages in that students are not retained yet are not fully promoted from grade to grade (on-grade level status) unless they complete all grade to grade promotion requirements. Furthermore, this promotion system allows for DHHS students to remain socially connected with their graduation cohort and avoid the stigma of being publicly identified as a student who has "failed" a grade or been retained. This complex promotion system, however, has a number of challenges, including the following:

III. PROBLEM STATEMENT

- Large numbers of students who are not on grade-level status must repeat promotion requirements from one grade level before taking promotion requirements for their current grade cohort (or in some cases, students must take both sets of promotion requirements simultaneously).
- Because of the complexities of scheduling classes and students, students who are not on grade-level status may be grouped together when repeating promotion requirements, resulting in classrooms of students who have all experienced course failure.
- DHHS teachers need to be very skilled at providing differentiated instruction at all grade levels.
- DHHS instructional leadership needs to provide support to DHHS teachers who teach students who are not on grade-level status (planning time, professional learning, instructional resources, etc.).
- DHHS must maintain a strong, flexible, and responsive credit recovery program.

It is evident that a complex promotion system such as the one practiced by DHHS is designed with the best interests of students in mind. Reviews of research on alternatives to grade retention (Protheroe, 2007) should incorporate and maintain the following features:

- Aligning instruction with standards;
- Systematic, ongoing assessment to determine early warning signs that can identify struggling students before they fail promotion requirements;
- Thoughtful and creative grouping practices of students;
- A strong and responsive system of interventions that accelerates learning (i.e., credit recovery);
- Support of teachers to facilitate effective instruction, particularly for struggling students; and
- Extended learning time (after school and summer learning opportunities).

IV. ROOT CAUSE ANALYSIS OF THE PROBLEM STATEMENT

Day Two Summary

The Digital Harbor leadership team met for the second day of the RCA process on May 3, 2019. The team included a number of stakeholders, including the principal; assistant principal; academic dean; content leads; a representative from the Baltimore Teachers Union (BTU), a community partner, and the instructional leadership executive director. Please see Appendix A for the full list of participants on day one and day two.

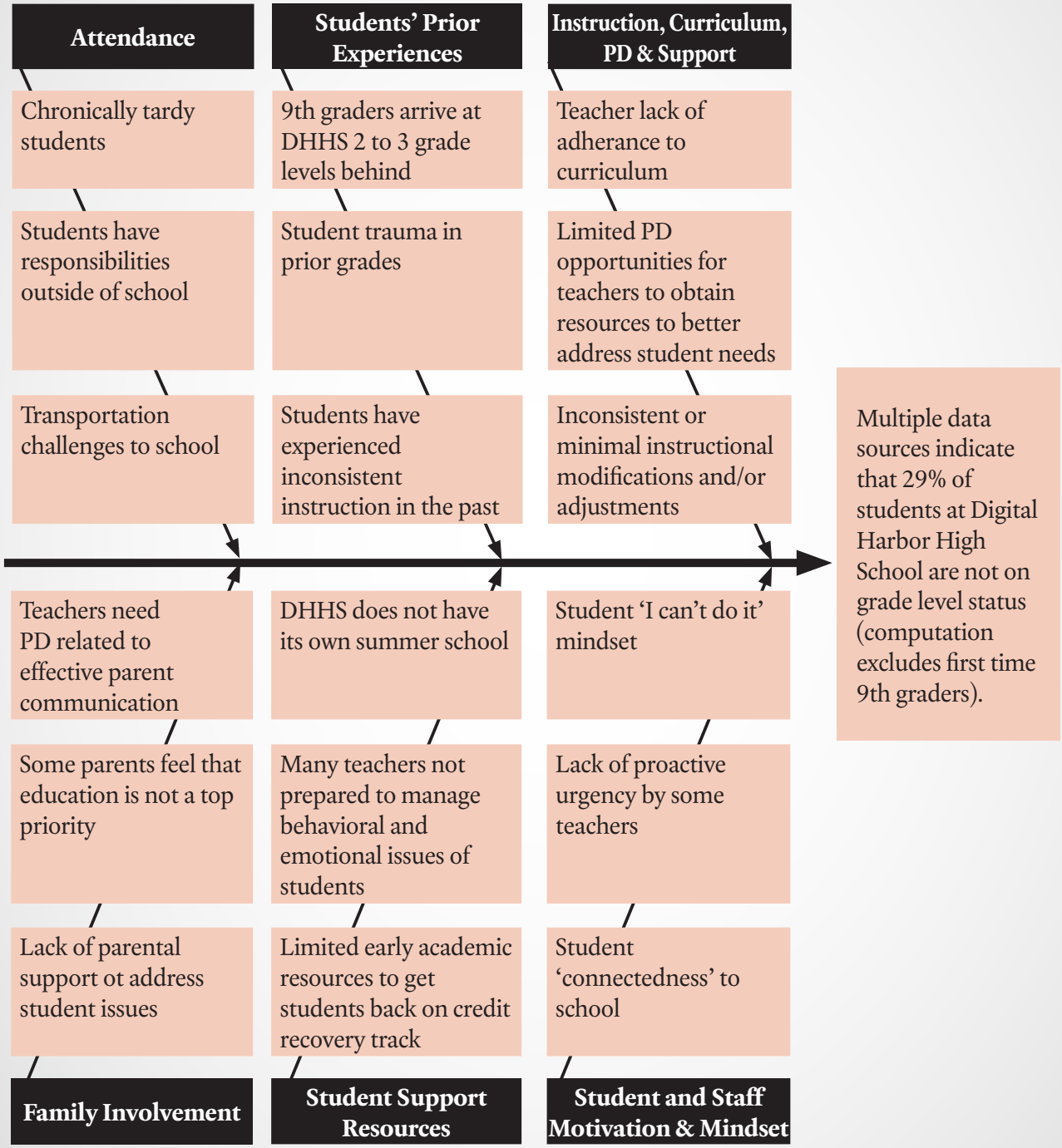
The goals for the second RCA meeting were threefold: 1) to finalize the problem statement, 2) to generate a prioritized list of root causes, and 3) to solicit ideas for improvement. The team started the day by reviewing questions from day one around various data measures. Facilitators directed participants to the MSDE Report Card "Resources" that offer definitions about measures and the ways in which they are calculated. (MSDE Report Card Resources link: http://reportcard.msde.maryland.gov/Definitions/Index). The team then reviewed the draft problem statement and modified it to reflect more accurate data on the number of students by year that are not on "grade level status." The team was able to make these adjustments because the principal created a chart with the most current data regarding grade level status during the time interval between RCA meetings. The problem statement was updated after the team reviewed the new data and went through another set of calculations to get at an accurate number of students not on grade level status.

Casual 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.

IV. ROOT CAUSE ANALYSIS OF THE PROBLEM STATEMENT

Barclay Elementary and 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
Some teachers and staff do not have a deep understanding of standards and curriculum. In addition, some teachers are inexperienced and have not received adequate training to develop their curricular knowledge.	1
Some teachers and staff lack deep knowledge of effective instruction, especially pedagogical knowledge to support improving the performance of struggling students.	2
Some teachers and staff have low expectations of student performance or do not believe their teaching practices influence student performance.	3

Evidence Base for Prioritized Root Causes

Teacher Knowledge of Curriculum and Effective Instruction

The leadership team believed that some teachers at DHHS lacked knowledge of curriculum or knowledge of effective instructional practices, and they saw this as a cause of the grade level status problem. The team described several different kinds of teacher professional knowledge that are needed for effective instruction at DHHS. The complexity of teaching that the stakeholder team described has been studied by many experts. It is not enough for teachers to hold deep content knowledge, but they must also have practical skills of instructional planning and design, as well as the will or motivation to improve student learning (Shulman & Shulman, 2007). For effective instruction to occur, teachers must have "pedagogical content knowledge"– they need to know both what to teach and how to teach it (Hill, Ball, & Schilling, 2008; Shulman, 1986). This research suggests that we cannot separate how to teach content from how to teach effectively; they are interconnected.

As the team also noted, the demands on teachers have increased since the implementation of the Common Core State Standards Initiative. The kinds of rigorous, deep teaching and learning that Common Core calls for are complex in nature. Student learning depends on what happens inside classrooms, as teachers and students interact around curriculum. Thus, teachers need to know and be able to do new and different things as curricula and standards become more rigorous under Common Core (Ball & Forzani, 2011). The team was concerned that some teachers at DHHS do not have the knowledge needed to meet these demands. Because the Common Core is intended to both support and push teachers, strong teacher preparation and ongoing support are essential for its success (Marrongelle, Sztajn, & Smith, 2013). Unfortunately, professional learning in the US has tended to be weak and disconnected from teachers' practice, complicating the challenge of the need for new and increased teacher support under the Common Core. To become more

effective, teachers are likely to need targeted, ongoing support that is connected to their practice and the needs of their students.

Teacher Beliefs, Expectations, and Efficacy

The leadership team asserted that some staff members at DHHS did not believe their teaching practices impacted student performance. They saw this disbelief as a major cause of the grade level status problem at their school. Many studies suggest that teachers' sense of efficacy – or confidence about their ability to guide their students to success – is linked to students' performance in mathematics and reading (Goddard, Hoy, & Hoy, 2000). When teachers throughout a school share a confidence in their ability to impact their students' learning, students are more likely to have higher student achievement. Teachers' self-efficacy also impacts other student outcomes, such as motivation (Tschannen-Moran & Hoy, 2000). Teachers' confidence in their teaching practices to improve student learning is thereby of utmost importance.

The team also asserted that teachers' beliefs about their students' abilities and their low expectations for student performance was another significant cause of the grade level status problem at DHHS. A wide body of research suggests that teachers' beliefs about their students impact student academic performance (Delpit, 1995; Rubie-Davies, 2010; Timperley & Phillips, 2002). Some studies have demonstrated a "self-fulfilling prophecy," in which teachers' beliefs that their students are not academically capable leads students to put forth less effort; in turn, teachers give those students less challenging work (McLaughlin & Talbert, 1993; Rosenthal & Jacobson, 1968; Rubie-Davies, 2010). Other studies suggest that this predicament does not only occur because of individual teachers' beliefs, but as part of a larger school context or culture. In fact, Diamond, Randolph, and Spillane (2004) found that when teachers' shared collective responsibility for student learning was higher, student achievement, in turn, was higher.

These belief systems have been found to play out by race, ethnicity, class, and disability status. For example, several studies have demonstrated that teachers' perceptions of students' academic abilities are lower for African American and low-income students, relative to their non-minority and more affluent peers. In schools with high percentages of African American, low-income students, teachers are more likely to see students as having deficits, rather than strengths. Others have noted that teachers are likely to hold lower expectations for other groups of minority students, and that these students may actually be more susceptible to those expectations, potentially widening the achievement gap (Rubie-Davies, Hattie, & Hamilton, 2006). Still other studies have shown that teachers may hold negative expectations of students who have been identified as learning disabled (Gutshall, 2013). Interestingly, when teachers saw their students as having resources and strengths, their sense of responsibility for their students' learning increased. In contrast, when teachers viewed students as "the problem" by having deficits such as a lack of motivation and poor skills, their views actually undermined their abilities to teach well (Diamond et al., 2004).

V. RECOMMENDATIONS FOR IMPROVEMENT

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.

The team generated a number of potential activities and interventions related to the priority causal areas. The majority of the activities and interventions focused on DHHS teacher professional learning, including:

- Provide opportunities for all DHHS teachers to engage in professional learning focused on research-based, effective instruction that is structured to convey:
  - practical skills,
  - practical strategies, and
  - transference to classroom practice.
- Provide opportunities for DHHS faculty to visit high-performing schools.
- Design and implement better measures of instructional practice.
- Provide ample time for faculty to "go deep" on standards by having:
  - sessions on standards mapping, and
  - sessions on understanding what students need to know (prior knowledge) to meet standards.

Recommendations for Evidence-Based Improvement

Final recommendations for this report have been developed by the University of Maryland College Park in consultation with 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 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.

V. RECOMMENDATIONS FOR IMPROVEMENT

RECOMMENDATION LANGUAGE AND CITATIONS	Four Domains Domain of Rapid School Improvement[1]
Adopt student-centered, active-learning instructional practices across all classrooms. Although a considerable amount of research literature on effective learner-centered instructional practices is available, two leading researchers who represent the current field are Deborah Ball and Robert Marzano. Both Ball's "High-Leverage" practices and Marzano's spotlighted strategies are research-vetted frameworks that could be useful starting points with teachers. The first strategy for improvement is the elevation of instructional practices across classrooms to engage students as active agents of their own learning. Researchers highlight the importance of activating students' "voice" and "choice" in enlivened classroom learning and engagement, as well as designing and delivering lessons that reflect students' cultural knowledge and experiences and are connected to their adolescent lives (Dary, Pickeral, Shumer, & Williams, 2016; Pyle & Wexler, 2012; Bridgeland, Dilulio, & Morison, 2006). Examples of such instructional strategies include student goal-setting, student-led discussions, and student voting (www.marzanoresearch.com; www.teachingworks.org). Other research-based engagement strategies include the following: project-based learning, inquiry-based learning that allows students time to delve deeply into questions and content, relevance-making connections to the real world outside of school, high expectations through rigorous content, students engaged in their own progress monitoring, and students exercising choices (Taylor & Parsons, 2011). A study by Timperley and Phillips (2002) demonstrated that six months of professional learning had a sustained, positive impact on both teachers' expectations for their students and teachers' beliefs that they could impact students' learning. When teachers increased their sense of self-efficacy, they were more likely to attend to their teaching practice and take responsibility for student learning. This approach to professional learning was multi-faceted and iterative: 1) teachers saw students achieving more than they expected they could, which led them to raise expectations for students; 2) teachers were challenged to see the connection between teaching and student learning; and 3) teachers were given support around how to teach higher-level tasks and help students meet new expectations. DHHS may want to provide sustained professional learning that employs a multi-faceted approach to changing teachers' beliefs, expectations, and sense of efficacy.	*Instructional Transformation*

V. RECOMMENDATIONS FOR IMPROVEMENT

RECOMMENDATION LANGUAGE AND CITATIONS	Four Domains Domain of Rapid School Improvement[1]
Adopt a school-wide progress monitoring system that uses data to track key academic indicators in order to identify students who are at risk of falling off track. Monitoring and integrating multiple aspects of student data that can be used for direct implementation of student support strategies is an essential foundation for an effective progress monitoring system. Often schools establish inquiry teams and monitoring cycles to address monitoring needs, such as attendance, student performance at progress reporting periods, and on-track status for graduation (Gallimore, Ermeling, Saunders, & Goldenberg, 2009). A comprehensive and well-coordinated monitoring system of multiple indicators helps produce a complete picture of a student's progress that can then help predict student failure before it occurs. The following steps should be considered in establishing an effective data management system: • Analyze attendance data to identify students who are at risk of chronic absenteeism. Create a school-wide attendance action plan that establishes a set of prescribed interventions and actions for teachers when students are absent and provides incentives for students with favorable attendance records. • Establish a team to monitor the four-year graduation cohort list for each grade level and identify those students at risk of not graduating on time. Fully utilize an early warning system and develop an action plan to address all students who are off track for on-time graduation, and any students who are listed on the cohort but are non-attending. Research shows that identifying potential high school dropouts through an early warning data system can have a positive impact on graduation rates. The University of Chicago Consortium on School Research suggests that staying on track in ninth grade is a predictor of graduating in four years. Ninth graders who end the year on track are four times more likely to graduate than their off-track peers (Allensworth & Easton, 2005). The Institute of Education Sciences (IES) Regional Educational Laboratory Program (see: https://ies.ed.gov/ncee/edlabs/projects/data_use.asp) provides tools that would help the school staff adopt a data-driven culture and provide tools to train staff on how to extract and analyze their data.	*Culture Shift* *Turnaround Leadership*

[1]*The 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.*

V. RECOMMENDATIONS FOR IMPROVEMENT

RECOMMENDATION LANGUAGE AND CITATIONS	Four Domains Domain of Rapid School Improvement[1]
Provide credit recovery to ensure opportunities for students to get back on track after failing a course. Academic course failures, especially during ninth grade, are associated with notable declines in four-year graduation rates. Research suggests that students who fail even one core class their ninth-grade year English, mathematics, science or social studies are four times less likely to graduate from high school on time (Roderick, Kelley-Kemple, Johnson, & Beechum, 2017). To get back on track, students who fail classes, especially core classes, need opportunities to recover credits and to help them avoid falling further behind in school. Credit recovery courses may be made available to students using a variety of strategies, locations, settings, and schedules. Some options include traditional classrooms during school hours; self-paced learning using an online platform; evening, weekend, and summer school; at-home or learning centers; and student-teacher correspondence (Powell, Roberts, & Patrick, 2015). Research shows no significant differences between students taking an online credit recovery course compared to students taking an in-person credit recovery course in their likelihood of on-time graduation (Rickles, Heppen, Allensworth, Sorensen, & Walters, 2018). Therefore, schools should invest in a delivery strategy that will have the greatest advantage to their students.	*Instructional Transformation*

V. RECOMMENDATIONS FOR IMPROVEMENT

RECOMMENDATION LANGUAGE AND CITATIONS	Four Domains Domain of Rapid School Improvement[1]
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, 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, assessment, observation, and reflection rather than just abstract discussions (Darling-Hammond & Richardson, 2009).	*Talent Development* *Instructional Transformation*

APPENDICES

Appendix A: List of Stakeholders

Day 1
April 29, 2019

Name	Position
Erica H. Gravette	*Title 1*
Dr. Shawnette Williams	*Assistant Principal, Ninth Grade Administrator*
Jeri Somerville	*Academic Dean, English Department Lead*
Shannon Mobley	*Principal*
Nicole Veltre-Luton	*Science Content Lead, ESL Biology*
Tonya Carter	*Literacy Academic Content Liaison*
Margo Berish	*Mathematics Accreditation Content Liaison*
Emmanuel Ramos	*Mathematics Content Lead*
Rudean Harris	*Assistant Principal*
Jonathan Smith	*Assistant Principal*

Day 2
May 3, 2019

Name	Position
Emmanuel Ramos	*Mathematics Content Lead*
Shannon Mobley	*Principal*
Kathleen Callaghan	*English as a Second Language Lead and Teacher*
Jacqueline Okpala	*BTU Representative and Teacher*
Nicole Veltre-Luton	*Science Content Lead, ESL Biology*
Sherina Bonaparte-LaTorre	*Community Partner*
Jeri Somerville	*Academic Dean; English Department Lead*
Dr. Shawnette Williams	*Assistant Principal, Ninth Grade Administrator*
Margo Berish	*Mathematics Accreditation Content Liaison*
Rudean Harris	*Assistant Principal*
Tonya Carter	*Literacy Academic Content Liaison*
Jacque Hayden	*Instructional Leadership Executive Director*

APPENDICES

Appendix B: Bios of Facilitators

Christine M. Neumerski began her career as a middle school teacher in Washington, DC. The challenges she faced as a classroom teacher led her to pursue a doctoral degree in Educational Administration and Policy from the University of Michigan, where she studied the structural, cultural, and institutional barriers and opportunities that low-income students face in school. Christine also worked as a teacher educator, mentoring and supervising student teachers in their field placements, teaching practicum courses, and helping to redesign and lead a course on multicultural education. She has been a researcher at Vanderbilt University's Peabody College of Education and at the University of Michigan's School of Education, working on several large-scale qualitative and mixed methods studies. She is currently part of a multi-year research project to investigate how different types of school systems approach instructional improvement. Christine studies the improvement of high-poverty urban schools and school systems, focusing specifically on instructional leadership as a lever for reform. Her work centers on increasing learning opportunities for marginalized and traditionally underserved students in urban schools.

Lawrence M. Clark is an Associate Professor of Mathematics Education at the University of Maryland Center for Mathematics Education. He obtained his Bachelor's Degree in mathematics from Hampton University, and MEd and PhD degrees from Emory University. Prior to joining the UMD faculty, Clark was a postdoctoral research fellow at the Center for Proficiency in Teaching Mathematics at the University of Michigan. While at the University of Michigan, Clark was a member of the research team for BIFOCAL, a professional development project designed to enhance middle grades teachers' capacity to select and facilitate cognitively demanding mathematics tasks. Prior to his appointment at the University of Michigan, Clark served as the National Director of Mathematics for Project GRAD USA, a national reform initiative in several urban school districts. Clark is currently the principal investigator (PI) of the National Science Foundation (NSF)-funded University Noyce Math Scholars districts. Clark is also currently a Research and Development Fellow for the NSF-funded TheMAT project (Dan Chazan and Patricio Herbst, Pls). Clark has experience as a mathematics educator in the US, Ethiopia, Ecuador, and Kenya. From 1992-2000, Clark taught middle school mathematics in Atlanta, GA. Clark's research interests focus primarily on examining and exploring influences on teachers' mathematics instructional practice in schools with a history of low-achievement. These influences include teachers' mathematical knowledge, teachers' beliefs, and teachers' explicit and implicit biases. Clark has also written four book chapters and journal articles focused on the role of African American mathematics in the lives of African American mathematics learners.

APPENDICES

Appendix C: Citations of research

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