



Findings and Results of Root Cause Analysis for Comprehensive Support and Improvement Schools

National Academy Foundation Middle/High School

September, 2019



COLLEGE OF
EDUCATION

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..... 9
- V. Recommendations for Improvement..... 12
- VI. Appendices..... 18

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 Erin Janulis and David Rease Jr., who also co-authored this report.

These resources developed with federal funds, i.e. Title I, are considered open source and made available for use or modification as users or other developers see fit.

I. INTRODUCTION

The purpose of this report is to share the outcomes of a Root Cause Analysis (RCA) conducted to support National Academy Foundation Middle/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). National Academy Foundation Middle/High School was identified as a CSI school due to 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

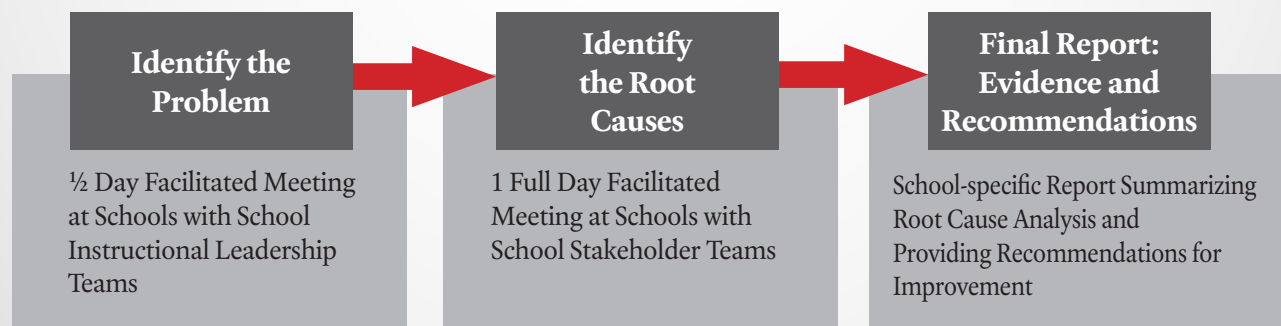
The root cause analysis process translates the successes and challenges identified through the CSI needs assessment into priorities to inform actionable improvement planning. The work with schools was staged in three steps: 1) identify

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.



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: National Academy Foundation Middle/High School
 540 N. Caroline St, Baltimore, MD 21205
 (443) 984-1594

Total teachers: 52

Student Demographics								
Total Students	Asian	Black African Americans	Hispanic/Latino	White	Other	% Economically Disadvantaged	% English Learners	% Students with Disabilities
823	<10	624	171	18	<10	55.13%	17.04%	20.91%

National Academy Foundation Middle School MSDE School Report Card Profile for 6-8							
Academic Progress		School Quality and Student Success		Academic Achievement		Progress in Achieving English Language Proficiency	
Student Growth Percentile in Math	43	Students Not Chronically Absent	49.8%	% Proficient in Math	5.6%	% English Learners Making Progress Toward Learning English	2%
Student Growth Percentile in ELA	50			Average Performance Math	1.7		
Credit for Well Rounded Curriculum N/A	69.5%	Access to Well Rounded Curriculum	1.7%	% Proficient in ELA	11.5%		
				Average Performance ELA	1.8		
Earned Points /30:	14.6/28	Earned Points	1.2/25	Earned Points	4.3/20	Earned Points	2/10
Total Earned Percent:				26%			

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

II. SCHOOL PROFILE

National Academy Foundation 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	6.9%	Students Not Chronically Absent	40.7%	Four-Year Adjusted Cohort Graduation Rate	64.2%	% English Learners Making Progress Toward Learning English	36.6	Credit for Well Rounded Curriculum	96.7%
Average Performance Mathematics	1.7								
% Proficient in English Language Arts (ELA)	4.2%	Access to Well Rounded Curriculum	84.3%	Five-Year Adjusted Cohort Graduation Rate	72%			On Track in Ninth Grade for Graduation	44.9%
Average Performance ELA	1.5								
Earned Points	5.6/30	Earned Points	9.4/25	Earned Points	10/15	Earned Points	3.7/10	Earned Points	7.2/10
Total Earned Percent:				37.8%					

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. National Academy Foundation (NAF) Middle/High School convened on April 1, 2019 for day one of the RCA process. The convening included the school leadership team, consisting of a local school system leader (i.e., principal supervisor, school improvement lead) and other key school staff. 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.

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

The new administrative team at NAF was not able to benefit from a planning summer to learn about the school before a staggered start to the school year. The principal joined the team at the beginning of the school year and was able to hire an assistant principal after her arrival. The teachers and administration spoke transparently about the state of their school. Students and staff had jovial and supportive interactions between class changes. Although everyone expressed concern over how to ensure that students catch up to being on grade level, they had a strong belief that students could improve their academic standing.

The team was in general agreement that the culture of the school would improve if leaders held staff accountable for professional behaviors (attendance, preparation, adherence to policies) and students accountable for respecting the learning environment. The staff was clear about how NAF became a CSI school. Bridging the gap between the expectations of the curriculum and student ability (many are multiple grade levels below their current grade) and supporting ninth graders for promotion to the tenth grade are significant concerns.

III. PROBLEM STATEMENT

Key Data Themes

The group worked in smaller teams to analyze various data sources. Below are each team’s key take-aways:

Data Source	Key Takeaways
Needs Assessment	<ul style="list-style-type: none"> • Less than half of NAF ninth graders are prepared to move on to the next grade level. • NAF desires to improve its ability to sustain talented staff members. • Policies and structures around school climate need reinforcing. • The schoolwide instructional improvement plan needs refinement. • An increased English language learner population has created a need for staff development to support this student group.
Parent Survey	<ul style="list-style-type: none"> • Few parents responded to the survey. • A sharp decrease in parental satisfaction with the school was observed.
Maryland State School Report Card	<ul style="list-style-type: none"> • Data showed overall low performance with pockets of achievement. • High student absences impact learning.

Themes Across Data Sources (Topics) (1 Being Highest Priority)	Ranking
NAF has the ability to make the school matter more for parents, staff, and students.	1
Scheduling is key. Students must be offered the necessary courses to allow them to graduate on time.	2
Staff are not normed around quality instruction.	3
NAF branding, morale, and pride need to improve. We are NAF!	4
The school needs to increase staff retention.	5
NAF should create and implement policies and structures, and be consistent with the application of these policies and structures.	6
The school must have increased accountability for staff, including staff ownership of data and professional behaviors.	7

III. PROBLEM STATEMENT

Final Problem Statement

Student achievement across all grade levels and graduation rates are below district expectations.

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.

Research suggests that nationally, graduation rates have largely stagnated over the last few

decades, and despite some gains, African American and Hispanic students graduate at lower rates than their white peers (Murnane, 2013). Research also indicates that students who drop out of high school are more likely to experience economic hardship (Campbell, 2015), engage in substance abuse, experience mental health problems, and commit crimes (Maynard, Salas-Wright, & Vaughn, 2015). Because many students at NAF are more than two years below grade level as measured by multiple assessments, determining what school-level factors contribute to the problem was a major goal for the facilitators during the day two visit.

IV. ROOT CAUSE ANALYSIS OF THE PROBLEM STATEMENT

Day Two Summary

NAF convened on April 9, 2019 for day two of the RCA process. Day two was devoted to working with the school's stakeholder team to identify and prioritize the root causes of the problem so that the school's improvement planning efforts could address these causes.

Stakeholders began the day by reviewing the problem statement developed by the instructional leadership team on day one. Following this review, they comprehensively brainstormed causal factors that contributed to the problem using a "Fishbone" activity. Individual causal factors were then organized into themes and a causal factor statement was crafted for each theme. Using the "5 Whys Activity," stakeholders were encouraged to dig deeper into the causal factor statements by asking "why" questions in order to arrive at underlying causes. Underlying causes were then collectively ranked in order to arrive at a prioritized list of root causes.

Specifically, the goals for day two included:

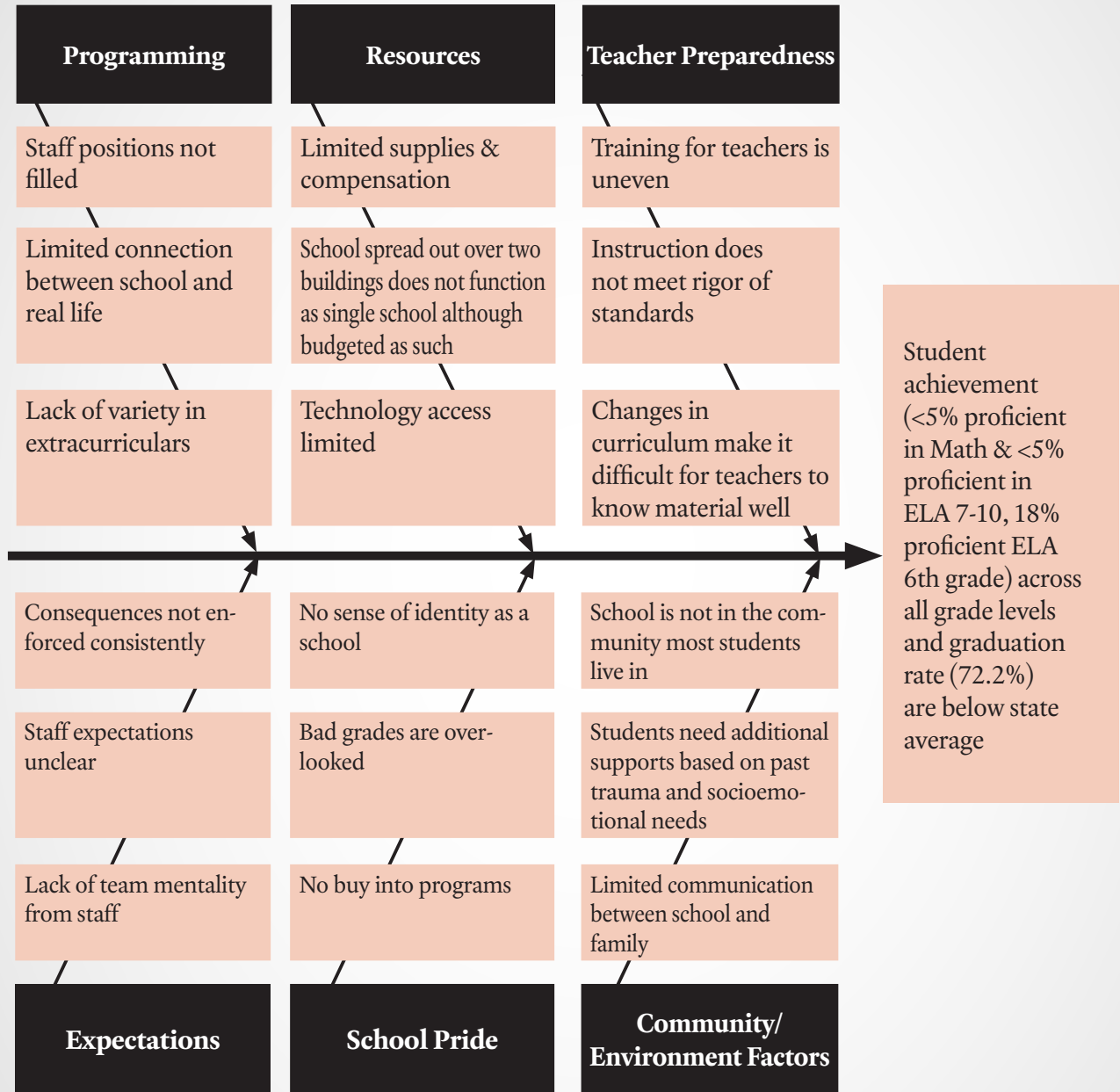
- Determining factors contributing to the problem statement.
- Identifying underlying causes of the problem and determine which underlying causes are primary "root" causes.
- Prioritizing the root causes for the importance of impacting student outcomes and the feasibility of implementing strategies to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

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

National Academy Foundation Fishbone: Exploring Causes



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
Professional learning does not focus on actionable lessons skills that can be taken into the classroom.	1
Teachers and administrators have not calibrated their understanding and execution of the progressive discipline policy.	2
Students and staff have a lack of information or misinformation about the courses students need to graduate on time.	3

Evidence Base for Prioritized Root Causes

A wealth of research exists supporting the importance of professional learning for school staff connected to a coherent, strategic school-wide professional learning system that allows significant time for staff to learn about high-yield instructional practices (Marzano, 2003; DuFour, 2004; Boudett, City, & Murnane, 2013). Effective learning systems require a solid foundation with key components in place that support a culture of collaboration and learning. These include master schedules, budget alignment (e.g., Title 1), and the school leadership's involvement in and understanding of curriculum, instruction, and assessment (Jensen, Sonnemann, Roberts-Hull, & Hunter, 2016). Ensuring that NAF has the staffing to support a professional learning system is essential and critical.

Nationally, extreme discipline procedures such as suspending and expelling students from school have had a disproportionately negative impact on students from the African American and students who are from Latinx communities (Skiba, Michael, Nardo, & Peterson, 2002). Many scholars and activists point to long-standing racial discrimination, prejudice, and biases (implicit and explicit) that

create cultures where educators have normalized interpreting the actions, behaviors, and habits of the aforementioned groups of students as problematic and deserving of a corrective, punitive reaction or punishment. Furthermore, research suggests that these discipline inequities may be strongly linked to achievement gaps (Gregory, Skiba, & Noguera, 2010). Thus, addressing school discipline systems may produce positive results in graduation rates and achievement as well.

Various school-community partnership models show promise for strengthening an important school goal: to support students with the development of the skills to graduate and find success in their life choices post high school. The existing research supports community-school partnerships as having a positive impact on students. However, research does not necessarily support that these relationships impact students grade point averages and assessment scores. Research on the impact of the NAF Career Academies points to seniors in high school reporting completing more college-level courses while in high school than students who did not attend the academies. Additionally, students attending career academies were more likely to report being admitted to and planning to attend college (Orr, Bailey, Hughes, Kienzi, & Karp, 2007).

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.

Teacher Preparedness:

- Fully staffed by instructional coaches in core subject areas
- Professional learning plan (social emotional learning, special education, pedagogy)
- Focus on data driven professional learning instructions, and time to engage in data teams and data cycles
- Model lessons
- Meaningful professional learning, i.e., lessons and strategies that would be useful to take back into the classroom
- Summer retreat to create these plans and establish these roles

Shared Agreements:

- Coherent plan developed by the administration and teachers to be clear about what the “next steps” are for enforcing expectations
- Revisiting of the expectations and norms mid-year
- Incentives for teachers who are performing up to standards

- Staff meeting accolades
- Rewards or acknowledgement for students who are meeting expectations
- Implementation of restorative practices school wide

Scheduling and Programming

- Cheat sheets or more accessible resources that can be shared with students for their options
- Homeroom class or advisory (or structures) that help support students with college transition and planning (perhaps not in the morning)
- College visits
- Earlier planning with master schedule
- Assessments from the foundation and tapping into their resources
- Application binge-a-thon
- Mentor group
- Communication plan to reach out to enlist students in these projects
- Bringing more entrepreneurs into the building to work with students
- Providing more course offerings outside the core classes
- Creating a pipeline for higher level coursework
- Advisory that offers “mini” courses to expand offerings without “officially” expanding course offerings

V. RECOMMENDATIONS FOR IMPROVEMENT

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:

Teacher Preparedness:

- 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.

V. RECOMMENDATIONS FOR IMPROVEMENT

RECOMMENDATION

Four Domains Domain of Rapid School Improvement¹

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*

V. RECOMMENDATIONS FOR IMPROVEMENT

RECOMMENDATION

Four Domains Domain of Rapid School Improvement¹

Adopt student-centered, active-learning instructional practices across all classrooms.

Instructional Transformation

Although a considerable amount of research literature on effective learner-centered instructional practices, 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).

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>.

V. RECOMMENDATIONS FOR IMPROVEMENT

RECOMMENDATION

Four Domains Domain of Rapid School Improvement¹

3- 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.

Culture Shift

*Turnaround
Leadership*

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, 2006).

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 provides tools to train staff on how to extract and analyze their data.

V. RECOMMENDATIONS FOR IMPROVEMENT

RECOMMENDATION

Four Domains Domain of Rapid School Improvement¹

Expand career-related curricular programming, pathways, and opportunities for students.

Instructional Transformation

NAF Middle/High School was founded as a career-focused school affiliated with the NAF organization. In the past few years the association with this organization has dwindled. During the RCA process, it became clear that many teachers in the building were unfamiliar with the larger organization and its mission. For this reason, the RCA team highly recommends that NAF Middle/High School get in touch with the school's original concept and purpose.

In an effort to make learning more relevant to students, schools should deliberately align curriculum and program offerings to the worlds of work and academics. Effective strategies include career electives, career academies, and more fully developed career pathways or certificate programs (Dynarski et al., 2008; Rumberger et al., 2017; Pyle & Wexler, 2012). Many of the research studies in dropout prevention agree that the integration of career and technical education with academic content is a proven strategy to engage students in school (Loera, Nakamoto, Oh, & Rueda, 2013; Plank, DeLuca, & Estacion, 2008).

The RCA team recommends expanding access to high-quality career and technical education programs such as P-TECH, Apprenticeship Maryland, and NAF academies. More robust partnerships with local businesses should be explored from which the school can then develop collaborative learning experiences, career or resume coaching, job shadowing, and internships and mentorships. Additionally, NAF can expand its career education offerings to include the integration of project-based learning assessments, exposure to a variety of occupational fields, and guided practice opportunities in developing skills that can be applied in vocational settings.

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, Attainable, Relevant, Timely) 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 April 1, 2019

Name	Position
Sade Bell	<i>English Teacher</i>
Diana Johnson	<i>Mathematics Teacher</i>
Breche' Wells	<i>Science Teacher</i>
Jermaine Wallace	<i>Assistant Principal</i>
Michael Crisp	<i>Social Studies Content Lead</i>
Chevelle Lampkin	<i>Principal</i>
Danielle Smith	<i>ELA Teacher</i>
Imini Newsome	<i>Title I English Teacher</i>

Day 2 April 9, 2019

Name	Position
Sade Bell	<i>English Teacher</i>
Diana Johnson	<i>Mathematics Teacher</i>
Breché Wells	<i>Science Teacher</i>
Jermaine Wallace	<i>Assistant Principal</i>
Michael Crisp	<i>Social Studies Content Lead</i>
Chevelle Lampkin	<i>Principal</i>
Danielle Smith	<i>ELA Teacher</i>
Imini Newsome	<i>Title I English Teacher</i>
Shelton Standley	<i>Mathematics Academic Content Liaison</i>
Andrea Fox	<i>Title I Specialist</i>
	<i>Student</i>
Paul Bolman	<i>Board Member, National Academy Foundation</i>
Philippia Richardson	<i>Higher Education</i>

APPENDICES

Appendix B: Bios of Facilitators

Erin Janulis is a graduate assistant with the Center for Educational Innovation and Improvement and a fourth-year doctoral student in the Education Policy Studies Program in the Department of Teaching and Learning, Policy and Leadership



at UMD. Prior to pursuing her PhD she spent five years teaching middle and high school English and social studies in high poverty schools throughout Colorado. During this time, she served not only as a classroom teacher but also an active member of her schools' response to intervention team, school culture committee, AVID elective teacher, and data team lead. Her research focuses largely on policies and issues related to teacher retention in high poverty schools, particularly the ways school culture, climate, and leadership alter patterns of teacher attrition. She has also worked for the Maryland Equity Project for three years writing policy and data briefs on teacher staffing and school discipline trends in the state of Maryland. Erin received her both a Bachelor of Arts in English and political science and a Master of Arts in communication from the University of Illinois Urbana Champaign, and teaching certification from the University of Denver.

David Rease, Jr.

began his career as a secondary social studies teacher in the Durham Public Schools in North Carolina. From there, he joined the turnaround team for the North Carolina Department of



Public Instruction, supporting school teams across the state with their improvement efforts. Later, he joined McREL International, based in Denver, CO, as a consultant with the systemic improvement team. Rease spent several years supporting the Prince George's County Schools in Maryland (as a consultant for Purse Excellence, LLC and then as the Executive Director of the Systemic Improvement Office) in its efforts to scale an improvement process throughout schools and the district offices. Although Rease has held a variety of professional roles as an educator, he brings specific knowledge about comprehensive needs assessments from his work with schools and districts across North Carolina. In this capacity, he led teams through a multi-day analysis of school data that included interviews with parents, staff, and students; performance and other qualitative data analyses; and report preparation. He holds a Bachelor of Arts from Columbia University, a Master of Arts in Teaching from Duke University, and an EdLD from the Harvard Graduate School of Education.

APPENDICES

Appendix C: Citations of research

Allensworth, E. M., & Easton, J. Q. (2006). *The on-track indicator as a predictor of high school graduation*. Chicago, IL: University of Chicago Consortium on School Research.

Boudett, K. P., City, E. A., & Murnane, R. J. (2013). *Data wise: A step-by-step guide to using assessment results to improve teaching and learning*. Cambridge, MA: Harvard Education Press.

Bridgeland, J. M., Dilulio, J. J., and Morison, K. B. (2006). *The silent epidemic: Perspectives of high school dropouts*. Washington, DC: Civic Enterprises.

Campbell, C. (2015). The socioeconomic consequences of dropping out of high school: Evidence from an analysis of siblings. *Social Science Research*, 51, 108-118.

Dary, T., Pickeral, T., Shumer, R., and Williams, A. (2016). *Weaving student engagement into the core practices of schools: A national dropout prevention center position paper*. Clemson, SC: National Dropout Prevention Center/Network.

DuFour, R. (2004). What is a “professional learning community”? *Educational leadership*, 61(8), 6-11.

Fredricks, J. A., Blumenfeld, P. C., and Paris, A. H. (2004). School engagement: Potential of the concept, state of evidence. *Review of Educational Research*, 74(1), 59-109.

Gregory, A., Skiba, R. J., & Noguera, P. A. (2010). The achievement gap and the discipline gap: Two sides of the same coin?. *Educational Researcher*, 39(1), 59-68.

Jensen, B., Sonnemann, J., Roberts-Hull, K., & Hunter, A. (2016). *Beyond PD: Teacher professional learning in high-performing systems*. Washington, DC: National Center on Education and the Economy.

Larson, R. W., Shernoff, D. J., and Bempoechat, J. (2014). Epilogue: A new paradigm for the science and practice of engaging young people. *National Society for the Study of Education*, 113(1), 323-337.

MacNeil, A. J., Prater, D. L., & Busch, S. (2009). The effects of school culture and climate on student achievement. *International Journal of Leadership in Education*, 12(1), 73-84.

Marzano, R. J. (2003). *What works in schools: Translating research into action*. Alexandria, VA: Association for Supervision and Curriculum Development.

Maynard, B. R., Salas-Wright, C. P., & Vaughn, M. G. (2015). High school dropouts in emerging adulthood: Substance use, mental health problems, and crime. *Community Mental Health Journal*, 51(3), 289-299.

Murnane, R. J. (2013). US high school graduation rates: Patterns and explanations. *Journal of Economic Literature*, 51(2), 370-422.

Orr, M. T., Hughes, K. L., & Karp, M. M. (2003). *Shaping postsecondary transitions: Influences of the national academy foundation career academy*. IEE Brief. New York, NY: Institute on Education and the Economy.

Skiba, R. J., Michael, R. S., Nardo, A. C., & Peterson, R. L. (2002). The color of discipline: Sources of racial and gender disproportionality in school punishment. *The Urban Review*, 34(4), 317-342.

Stewart, E. B. (2008). School structural characteristics, student effort, peer associations, and parental involvement: The influence of school- and individual-level factors on academic achievement. *Education and Urban Society*, 40(2), 179-204.

Tyler, J. H., & Lofstrom, M. (2009). Finishing high school: Alternative pathways and dropout recovery. *The Future of Children*, 19(1), 77-96.

Vescio, V., Ross, D., & Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education*, 24(1), 80-91.

INTERVENTION CITATIONS

Akiba, M., & Liang, G. (2016). Effects of teacher professional learning activities on student achievement growth. *The Journal of Educational Research*, 109(1), 99-110.

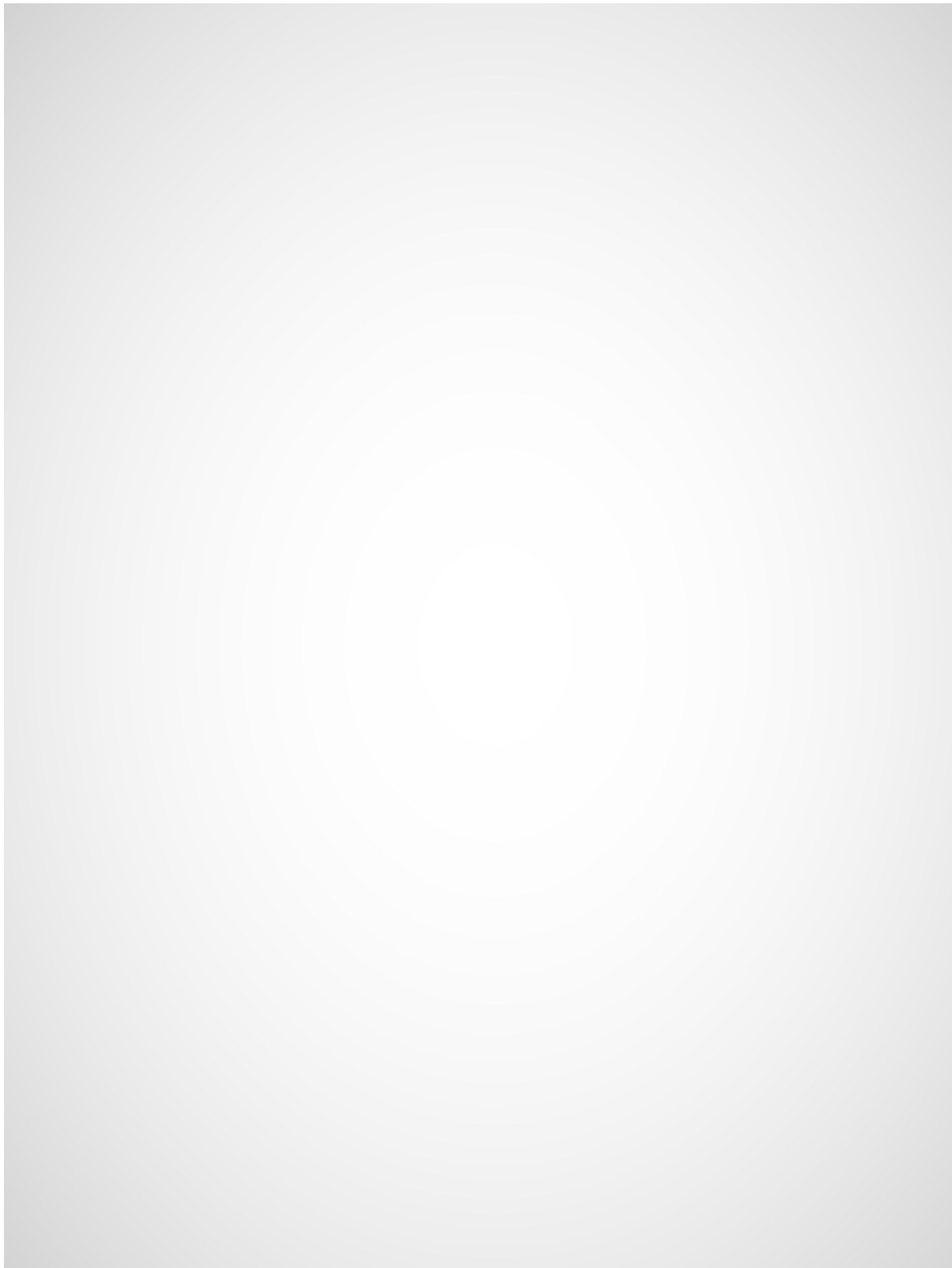
Augustine, C. H., Engberg, J., Grimm, G. E., Lee, E., Wang, E. L., Christianson, K., & Joseph, A. A. (2018). *Can restorative practices improve school climate and curb suspensions? An evaluation of the impact of restorative practices in a mid-sized urban school district*. Santa Monica, CA: RAND Corporation.

Carlson, D., Borman, G. D., & Robinson, M. (2011). A multi-state district-level cluster randomized trial of the impact of data-driven reform on reading and mathematics achievement. *Educational Evaluation and Policy Analysis*, 33(3), 378-398.

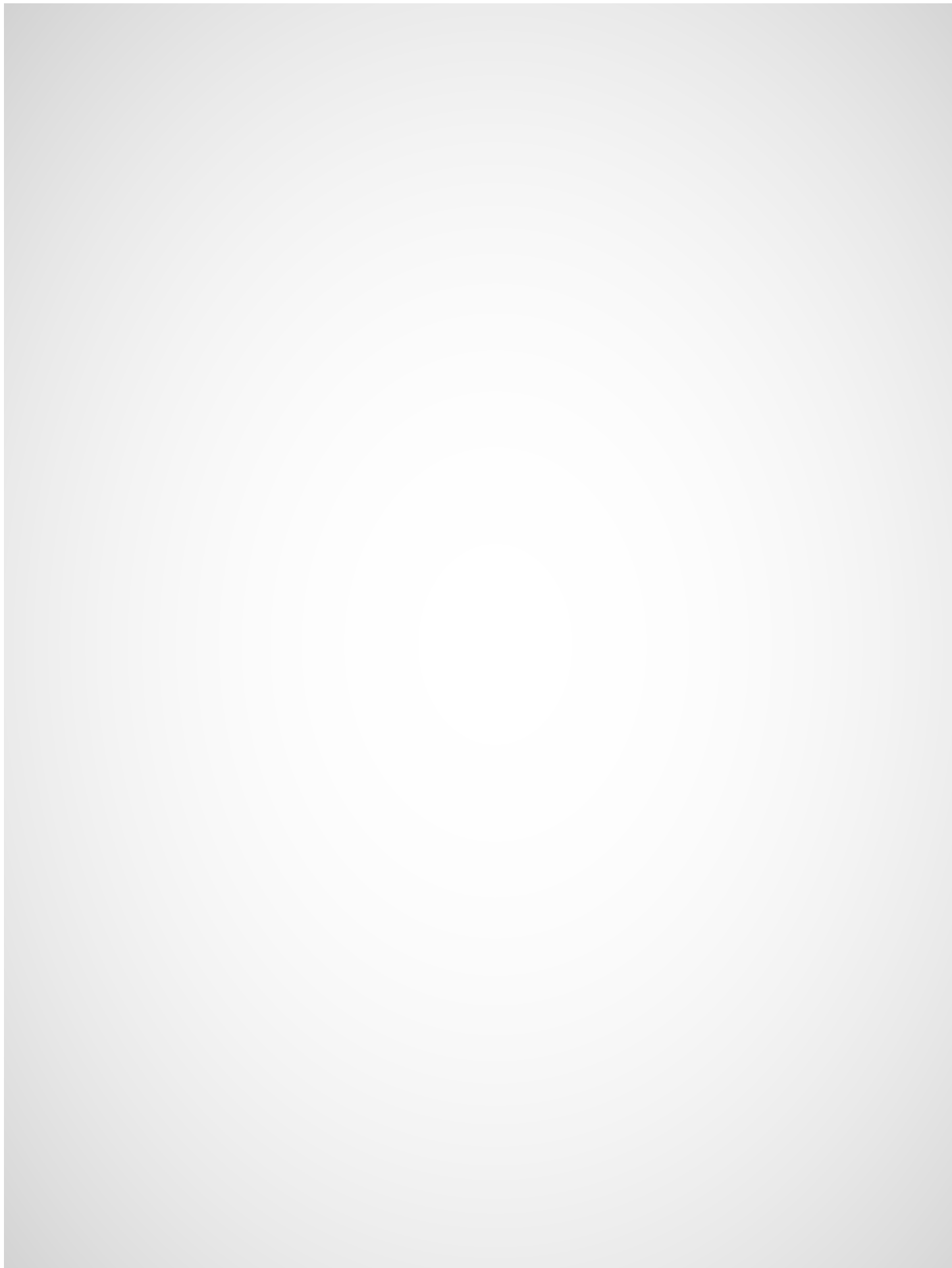
APPENDICES

- Darling-Hammond, L., & Richardson, N. (2009). Research review / teacher learning: What matters? *Educational Leadership*, 66(5), 46-53.
- Dynarski, M., Clarke, L., Cobb, B., Finn, J., Rumberger, R., and Smink, J. (2008). *Dropout prevention: A practice guide* (NCEE 2008-4025). Washington, DC: National Center for Educational Evaluation and Regional Assistance (NCEE), Institute of Education Sciences, US Department of Education.
- Epstein, M., Atkins, M., Cullinan, D., Kutash, K., & Weaver, R. (2008). *Reducing behavior problems in the elementary school classroom: A practice guide* (NCEE 2008-012). Washington, DC: National Center for Education Evaluation and Regional Assistance (NCEE), Institute of Education Sciences, US Department of Education.
- Gallimore, R., Ermeling, B. A., Saunders, B., & Goldenberg, C. (2009). Moving the learning of teaching closer to practice: Teacher education implications of school-based inquiry teams. *Elementary School Journal*, 109(5), 537-553.
- Loera, G., Nakamoto, J., Oh, Y. J., & Rueda, R. (2013). Factors that promote motivation and academic engagement in a career technical education context. *Career and Technical Education Research*, 38(3), 173-190.
- McNeely, C. A., Nonnemaker, J. M., & Blum, R. W. (2002). Promoting school connectedness: Evidence from the national longitudinal study of adolescent health. *Journal of School Health*, 72(4), 138-146.
- Plank, S., DeLuca, S., & Estacion, A. (2008). High school dropout and the role of career and technical education. *Sociology of Education*, 81, 345-370.
- Pyle, N., & Wexler, J. (2012). Preventing students with disabilities from dropping out. *Intervention in School and Clinic*, 47(5), 283-289.
- Rumberger, R., Addis, H., Allensworth, E., Balfanz, R., Bruch, J., Dillon, E., Duardo, D., Dynarski, M., Furgeson, J., Jayanthi, M., Newman-Gonchar, R., Place, K., & Tuttle, C. (2017). *Preventing dropout in secondary schools* (NCEE 2017-4028). Washington, DC: National Center for Education Evaluation and Regional Assistance (NCEE), Institute of Education Sciences, US Department of Education.
- Taylor, L., & Parsons, J. (2011). Improving student engagement. *Current Issues in Education*, 14(1), 1-31.
- US Department of Education. (2019). *A parent and educator guide to school climate resources*. Washington, DC: US Department of Education, Office of Elementary and Secondary Education.
- Vangrieken, K., Meredith, C., Packer, T., & Kyndt, E. (2017). Teacher communities as a context for professional development: A systematic review. *Teaching and Teacher Education*, 61, 47-59.
- Yazzie-Mintz, E. (2006). *Voices of students on engagement: A report on the 2006 HSSSE*. Bloomington, IN: Center for Evaluation and Education Policy.

[The text in this section is extremely faint and illegible. It appears to be a large block of text, possibly a list or a series of paragraphs, but the characters are too light to transcribe accurately.]



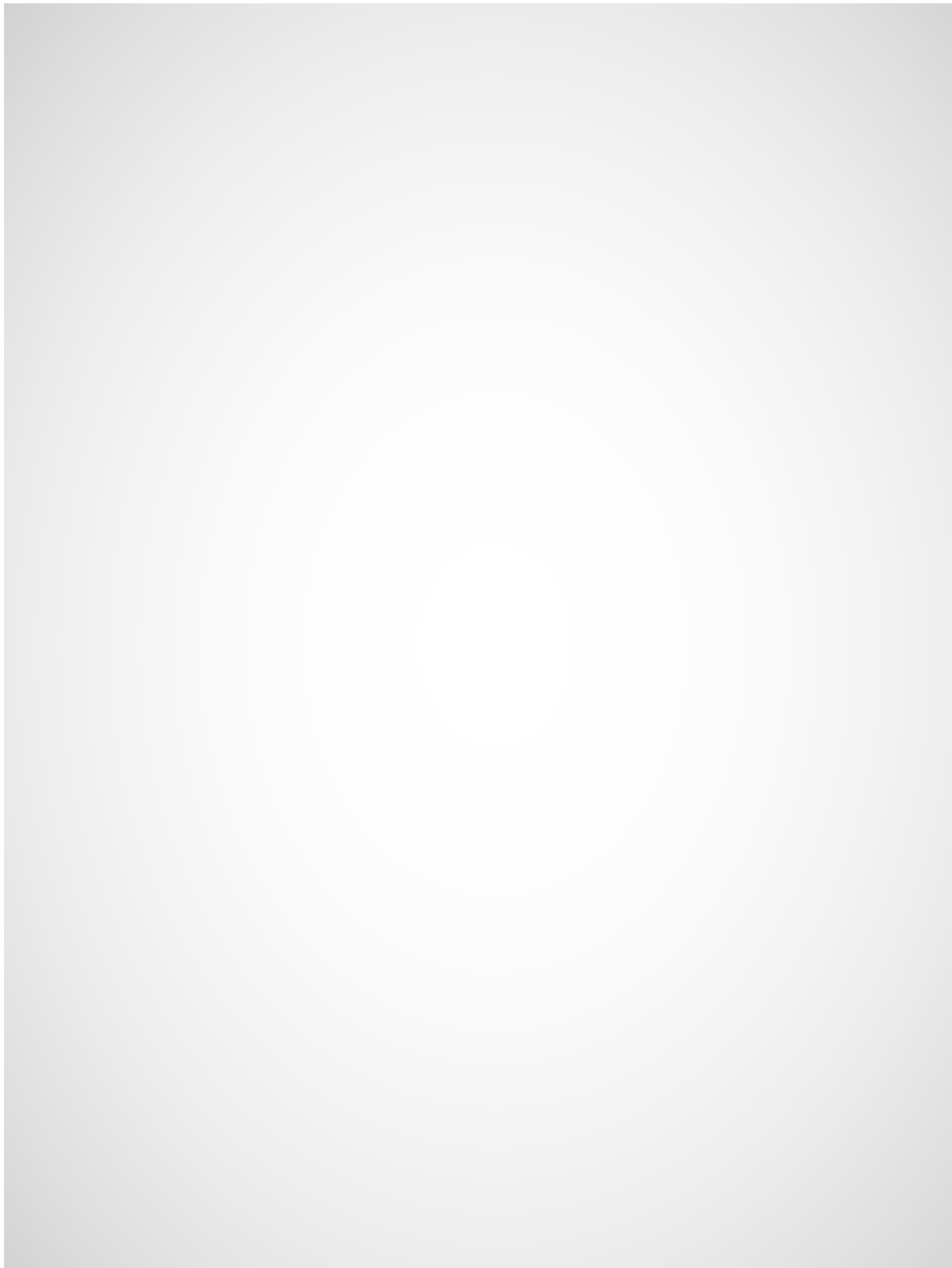
...the first of these is the fact that the ...
...the second is the fact that the ...
...the third is the fact that the ...
...the fourth is the fact that the ...
...the fifth is the fact that the ...
...the sixth is the fact that the ...
...the seventh is the fact that the ...
...the eighth is the fact that the ...
...the ninth is the fact that the ...
...the tenth is the fact that the ...
...the eleventh is the fact that the ...
...the twelfth is the fact that the ...
...the thirteenth is the fact that the ...
...the fourteenth is the fact that the ...
...the fifteenth is the fact that the ...
...the sixteenth is the fact that the ...
...the seventeenth is the fact that the ...
...the eighteenth is the fact that the ...
...the nineteenth is the fact that the ...
...the twentieth is the fact that the ...
...the twenty-first is the fact that the ...
...the twenty-second is the fact that the ...
...the twenty-third is the fact that the ...
...the twenty-fourth is the fact that the ...
...the twenty-fifth is the fact that the ...
...the twenty-sixth is the fact that the ...
...the twenty-seventh is the fact that the ...
...the twenty-eighth is the fact that the ...
...the twenty-ninth is the fact that the ...
...the thirtieth is the fact that the ...
...the thirty-first is the fact that the ...
...the thirty-second is the fact that the ...
...the thirty-third is the fact that the ...
...the thirty-fourth is the fact that the ...
...the thirty-fifth is the fact that the ...
...the thirty-sixth is the fact that the ...
...the thirty-seventh is the fact that the ...
...the thirty-eighth is the fact that the ...
...the thirty-ninth is the fact that the ...
...the fortieth is the fact that the ...
...the forty-first is the fact that the ...
...the forty-second is the fact that the ...
...the forty-third is the fact that the ...
...the forty-fourth is the fact that the ...
...the forty-fifth is the fact that the ...
...the forty-sixth is the fact that the ...
...the forty-seventh is the fact that the ...
...the forty-eighth is the fact that the ...
...the forty-ninth is the fact that the ...
...the fiftieth is the fact that the ...
...the fifty-first is the fact that the ...
...the fifty-second is the fact that the ...
...the fifty-third is the fact that the ...
...the fifty-fourth is the fact that the ...
...the fifty-fifth is the fact that the ...
...the fifty-sixth is the fact that the ...
...the fifty-seventh is the fact that the ...
...the fifty-eighth is the fact that the ...
...the fifty-ninth is the fact that the ...
...the sixtieth is the fact that the ...
...the sixty-first is the fact that the ...
...the sixty-second is the fact that the ...
...the sixty-third is the fact that the ...
...the sixty-fourth is the fact that the ...
...the sixty-fifth is the fact that the ...
...the sixty-sixth is the fact that the ...
...the sixty-seventh is the fact that the ...
...the sixty-eighth is the fact that the ...
...the sixty-ninth is the fact that the ...
...the seventieth is the fact that the ...
...the seventy-first is the fact that the ...
...the seventy-second is the fact that the ...
...the seventy-third is the fact that the ...
...the seventy-fourth is the fact that the ...
...the seventy-fifth is the fact that the ...
...the seventy-sixth is the fact that the ...
...the seventy-seventh is the fact that the ...
...the seventy-eighth is the fact that the ...
...the seventy-ninth is the fact that the ...
...the eightieth is the fact that the ...
...the eighty-first is the fact that the ...
...the eighty-second is the fact that the ...
...the eighty-third is the fact that the ...
...the eighty-fourth is the fact that the ...
...the eighty-fifth is the fact that the ...
...the eighty-sixth is the fact that the ...
...the eighty-seventh is the fact that the ...
...the eighty-eighth is the fact that the ...
...the eighty-ninth is the fact that the ...
...the ninetieth is the fact that the ...
...the ninety-first is the fact that the ...
...the ninety-second is the fact that the ...
...the ninety-third is the fact that the ...
...the ninety-fourth is the fact that the ...
...the ninety-fifth is the fact that the ...
...the ninety-sixth is the fact that the ...
...the ninety-seventh is the fact that the ...
...the ninety-eighth is the fact that the ...
...the ninety-ninth is the fact that the ...
...the hundredth is the fact that the ...



The first part of the text discusses the importance of maintaining accurate records in a laboratory setting. It emphasizes the need for clear labeling and organization of samples and equipment. The author notes that proper record-keeping is essential for ensuring the reliability and reproducibility of experimental results. This section also touches upon the importance of safety protocols and the role of documentation in incident investigations.

The second part of the text delves into the specifics of data collection and analysis. It describes various methods for gathering data, including direct observation, measurements, and the use of specialized instruments. The author discusses how to design experiments to minimize errors and maximize the quality of the data. This section also covers the process of analyzing the collected data, including the use of statistical methods to identify trends and patterns.

The final part of the text focuses on the communication of research findings. It discusses the importance of writing clear and concise reports that accurately represent the results of the study. The author provides guidelines for structuring a report, from the introduction to the conclusion. This section also touches upon the importance of peer review and the role of scientific journals in disseminating research findings to the broader community.



...the first of these is the fact that the ... the second is the fact that the ... the third is the fact that the ... the fourth is the fact that the ... the fifth is the fact that the ... the sixth is the fact that the ... the seventh is the fact that the ... the eighth is the fact that the ... the ninth is the fact that the ... the tenth is the fact that the ... the eleventh is the fact that the ... the twelfth is the fact that the ... the thirteenth is the fact that the ... the fourteenth is the fact that the ... the fifteenth is the fact that the ... the sixteenth is the fact that the ... the seventeenth is the fact that the ... the eighteenth is the fact that the ... the nineteenth is the fact that the ... the twentieth is the fact that the ... the twenty-first is the fact that the ... the twenty-second is the fact that the ... the twenty-third is the fact that the ... the twenty-fourth is the fact that the ... the twenty-fifth is the fact that the ... the twenty-sixth is the fact that the ... the twenty-seventh is the fact that the ... the twenty-eighth is the fact that the ... the twenty-ninth is the fact that the ... the thirtieth is the fact that the ... the thirty-first is the fact that the ... the thirty-second is the fact that the ... the thirty-third is the fact that the ... the thirty-fourth is the fact that the ... the thirty-fifth is the fact that the ... the thirty-sixth is the fact that the ... the thirty-seventh is the fact that the ... the thirty-eighth is the fact that the ... the thirty-ninth is the fact that the ... the fortieth is the fact that the ... the forty-first is the fact that the ... the forty-second is the fact that the ... the forty-third is the fact that the ... the forty-fourth is the fact that the ... the forty-fifth is the fact that the ... the forty-sixth is the fact that the ... the forty-seventh is the fact that the ... the forty-eighth is the fact that the ... the forty-ninth is the fact that the ... the fiftieth is the fact that the ... the fifty-first is the fact that the ... the fifty-second is the fact that the ... the fifty-third is the fact that the ... the fifty-fourth is the fact that the ... the fifty-fifth is the fact that the ... the fifty-sixth is the fact that the ... the fifty-seventh is the fact that the ... the fifty-eighth is the fact that the ... the fifty-ninth is the fact that the ... the sixtieth is the fact that the ... the sixty-first is the fact that the ... the sixty-second is the fact that the ... the sixty-third is the fact that the ... the sixty-fourth is the fact that the ... the sixty-fifth is the fact that the ... the sixty-sixth is the fact that the ... the sixty-seventh is the fact that the ... the sixty-eighth is the fact that the ... the sixty-ninth is the fact that the ... the seventieth is the fact that the ... the seventy-first is the fact that the ... the seventy-second is the fact that the ... the seventy-third is the fact that the ... the seventy-fourth is the fact that the ... the seventy-fifth is the fact that the ... the seventy-sixth is the fact that the ... the seventy-seventh is the fact that the ... the seventy-eighth is the fact that the ... the seventy-ninth is the fact that the ... the eightieth is the fact that the ... the eighty-first is the fact that the ... the eighty-second is the fact that the ... the eighty-third is the fact that the ... the eighty-fourth is the fact that the ... the eighty-fifth is the fact that the ... the eighty-sixth is the fact that the ... the eighty-seventh is the fact that the ... the eighty-eighth is the fact that the ... the eighty-ninth is the fact that the ... the ninetieth is the fact that the ... the ninety-first is the fact that the ... the ninety-second is the fact that the ... the ninety-third is the fact that the ... the ninety-fourth is the fact that the ... the ninety-fifth is the fact that the ... the ninety-sixth is the fact that the ... the ninety-seventh is the fact that the ... the ninety-eighth is the fact that the ... the ninety-ninth is the fact that the ... the hundredth is the fact that the ...