

INCREASING GRADE-LEVEL PROFICIENCY SCORES OF STUDENTS IN GRADES 3-8 IN  
DURHAM PUBLIC SCHOOLS THROUGH POSITIVE BEHAVIORAL INTERVENTIONS AND  
SUPPORTS

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A capstone project submitted to the faculty at the University of North Carolina at Chapel Hill in partial fulfillment of the requirements for the degree of Master of Public Health in the Leadership in Practice and Health Policy and Management Programs in the Gillings School of Global Public Health.

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## **ABSTRACT**

Alexis Cope, Darrius McMillian, Lauren Parrish, Liisa Smith: Increasing Grade-level Proficiency Scores of Students in Grades 3-8 in Durham Public Schools Through Positive Behavioral Interventions and Supports

(Under the direction of Zunair Ahsan, Kim Truesdale, and Becky Slifkin)

Childhood educational attainment and long-term health outcomes are tightly linked to socioeconomic status. In order to break the cycle of poverty and poor health, Durham County has acknowledged the need to focus on those students at a high risk of failing to realize grade level competency. Here we describe our ambitious goal to increase the reading and math grade level proficiencies for third through eighth-grade students within Durham County Public Schools (DPS), particularly focusing on improving the equity in proficiency achievement. This paper will evaluate the potential effect of the Positive Behavioral Intervention and Supports framework on DPS students by discussing the program, stakeholders, budget, and engagement plan to improve grade level proficiency scores for third to eighth-grade students.

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## LIST OF ABBREVIATIONS

CA	County Administrator
DLIC	Durham Learning and Innovation Committee
DPS	Durham Public Schools
EOG	End-of-Grade
GLP	Grade Level Proficiency
PBIS	Positive Behavioral Interventions and Supports
PSAB	School Advisory Board
SDOH	Social Determinant of Health
SLIC	Student Learning and Innovation Committee

## COMMON PROPOSAL

### Problem Statement and Goals

Grade level reading proficiency is an integral checkpoint for a child's future educational success and a predictor of one's long-term health outcomes (Healthy People 2030). Children who fail to achieve Grade Level Proficiency (GLP) reading by the end of fourth grade characteristically exhibit low scholastic confidence and struggle to attain GLP year after year. At the end of the 2021-2022 school year, the North Carolina state average Composite grade level proficiency was 51% compared to Durham County Composite proficiency of only 41% students (NCDPI, 2022). Subgroup analysis reveals a wide disparity in the Composite grade level proficiency of Black and Hispanic minorities in comparison to White students, 34% and 35% vs. 79%, respectively (NCDPI, 2022). The Durham Public School (DPS) student demographics do not completely reflect those of the county, since only 19% of students are White, 41.6% are Black, and 32.8% are Hispanic (Durham County, 2022; DPSNC, 2022), with several schools having an almost an all-minority student population.

DPS is the eighth largest school district in the state of North Carolina with 31,113 students enrolled during the 2021-22 school year. There are tremendous inequities in reading at GLP by race/ethnicity starting in early elementary school. This disparity in proficiency does not improve over time, for minority/ethnic children fail to reach their White peers by high school graduation (NCDPI, 2019). Data indicates some of these children will never complete high school and, therefore, will be limited to low-wage employment options and are on a path for long-term poor health outcomes (Healthy People 2030). There is a critical need to address GLP in schools across Durham County with a particular emphasis on providing minority and low-income students with the fundamental skills to improve. Our goal is to pilot a policy that will tackle some of the barriers contributing to GLP challenges in DPS.



## **Policy and Programmatic Changes**

Studies have consistently shown negative relationships between the removal of students from the classroom due to behavior and academic success. Positive Behavioral Interventions and Supports (PBIS) is a discipline policy that has been enacted in many states and school districts and is defined as a, “framework that guides school teams in the selection, integration and implementation of evidence-based practices for improving academic, social, and behavior outcomes for all students” (Yaluma et al., 2022).

PBIS utilizes an evidence-based three-tiered with different supports and interventions aimed at various levels of students. It has one tier that addresses all students, a second tier that addresses students at risk of developing behavioral problems, and a third tier that addresses students who already have consistent behavioral problems. (PBIS, 2022). Research has shown that the multi-tiered framework of PBIS has resulted in numerous improvements in student outcomes such as lowering school dropout rates, increased academic progression, and higher student engagement (Van Otterloo, J.L., 2021).

PBIS addresses the need for students to remain in the classroom as that is where education occurs. PBIS not only works to keep students in the room after a behavioral situation has occurred, but also works to prevent them from occurring at all. The majority of the students sent out of the classroom as a disciplinary measure are those of color, this program will help to reduce the racial disparities seen in GLPs by giving them a more equal opportunity for learning. Reducing the racial disparities in education among children will help to reduce the racial disparities in health in the community with each passing generation (Yaluma et al., 2022).

For evaluation, both process and outcome measures will be used. As process measures, the number of students sent out of the classroom as disciplinary action and student’s required quarterly standardized tests will be assessed. The outcome measure will assess the student’s math and reading GLP’s from their End-of-Grade tests.

## **Stakeholders**

There are several stakeholder groups which will provide input and help plan and execute program implementation. These groups include DPS leadership, DPS educators, and Durham County community members and organizations.

DPS leadership includes parties such as the DPS Superintendent, school board members, and a PBIS County Administrator (CA). The PBIS CA will be accountable for the oversight of program implementation across the county. Having full support from the leadership of the county school district will be imperative to approve and successfully execute policy to improve GLP and educational equity.

DPS educators may include principals, vice principals, other school administrators, and teachers. The schools and students across the county are very different. It will be important to give a voice to leaders at various schools across the county to ensure plans will work in different settings. Teachers will be heavily involved in the daily implementation and oversight of the students. Policy to improve student academic success will be directly affected by the willingness of teachers to improve school culture and work within the PBIS tier system.

The Durham County community will also be influential in program success. This group includes DPS students, their families/guardians, and community organizations with interest in education. As students are the focus, without their input, thoughts, ideas, and perspective, their needs will not be sufficiently met. Students from diverse racial, ethnic, and socioeconomic backgrounds, from all over the district should be involved. Parents/guardians of these students should be included in the educational decisions made on behalf of their children. Improving GLPs of students across the county will require community engagement from groups outside the DPS system. Community educational organizations may be an extra source of support in providing resources and funding to the program.

## **Budget**

This program will be funded by the School Climate Transformation Grant, which is commonly used by districts implementing PBIS. The Deputy Superintendent of DPS and the county commissioners will apply for the grant in order to have the money for the PBIS National Forum in October 2023 in Chicago, Illinois.

The Deputy Superintendent and county commissioners will also have to hire a PBIS County Administrator (CA) to run the program within the schools. The CA will start with a salary of \$60,000 the first year and will receive an annual raise of 2.5% for each following year. The CA's benefits have been calculated at 30% of the annual salary. In addition, the CA will have an office in the DPS Central Office location. This will require \$10,000 upfront for all needed equipment and electricity. An additional \$3,000 will be needed each year after.

The 40 DPS elementary and middle schools will need to be trained in PBIS by having representatives attend the National Forum. This will be rolled out in two phases. In phase 1, the 20 lowest performing schools will send six initial representatives. The following year the remaining 20 schools will send their six representatives. Every year following the initial attendance, the schools will each send two staff members for continuing education. The staff who attended will train the rest of the staff at their school during work days throughout the year. The cost for one person to attend the forum is \$350, which equates to attendance costing \$42,350, \$56,350, and \$28,350 for the first three years respectively (PBIS, 2022). Based on the going rate of charter buses, years one and two will cost the county \$13,500 with year three costing the county \$9,000 in travel expenses. The hotels, based on the 2022 rate and allowing for 2.5% inflation, will cost \$23,668, \$32,238, and \$16,728 for each of the three years respectively (PBIS, 2022). Lastly, there will be community engagement expenses, which is crucial for the success of PBIS. Based on other town and county budgets, \$25,000 per year has been allocated for these expenses (Town of Clayton, 2022).

## **Engagement and Accountability Plan**

The first engagement strategy will include interviews of students, teachers, and parents. Interviews will be conducted quarterly throughout the duration of PBIS and will be designed to ensure all voices are heard. This framework focuses on students and the teachers who will be involved in the daily implementation. These groups have the most direct information regarding successes of the framework and what changes are needed. Parents will provide additional insight and provide guidance to the most effective interventions to support their children in the classroom. Questions for teachers and students will seek to ascertain opportunities and barriers to successful implementation of the program. The program will be reviewed over time to prioritize strategies that provide the most educational benefit.

The second engagement strategy will focus on the implementation of an advisory board and innovation committees. The Durham County Public Schools Advisory Board (PSAB) will consist of DPS administrators, teachers, school board members, the PBIS CA, and parents/guardians. The advisory board will oversee decisions and provide a space to share updates, concerns, and improvement opportunities. The PSAB will foster dialogue and work through design, implementation, accountability, and sustainability processes through the duration of PBIS. Meetings will be held monthly under hybrid conditions at times agreed upon by members for the first year, then quarterly. The advisory board will create a PBIS strategy best suited for specified schools within DPS based on needs and resources.

The third engagement strategy is the Durham Learning and Innovation Committee (DLIC). DLIC will be assembled after a successful implementation of PBIS in the phase one rollout. This committee will consist of school administrators, teachers, the PBIS CA, and community education organizations to address the roles the community has in improving education through behavioral support within the county. The DLIC will adapt and expand PBIS strategies on a county level, structuring around the communities where these children reside.

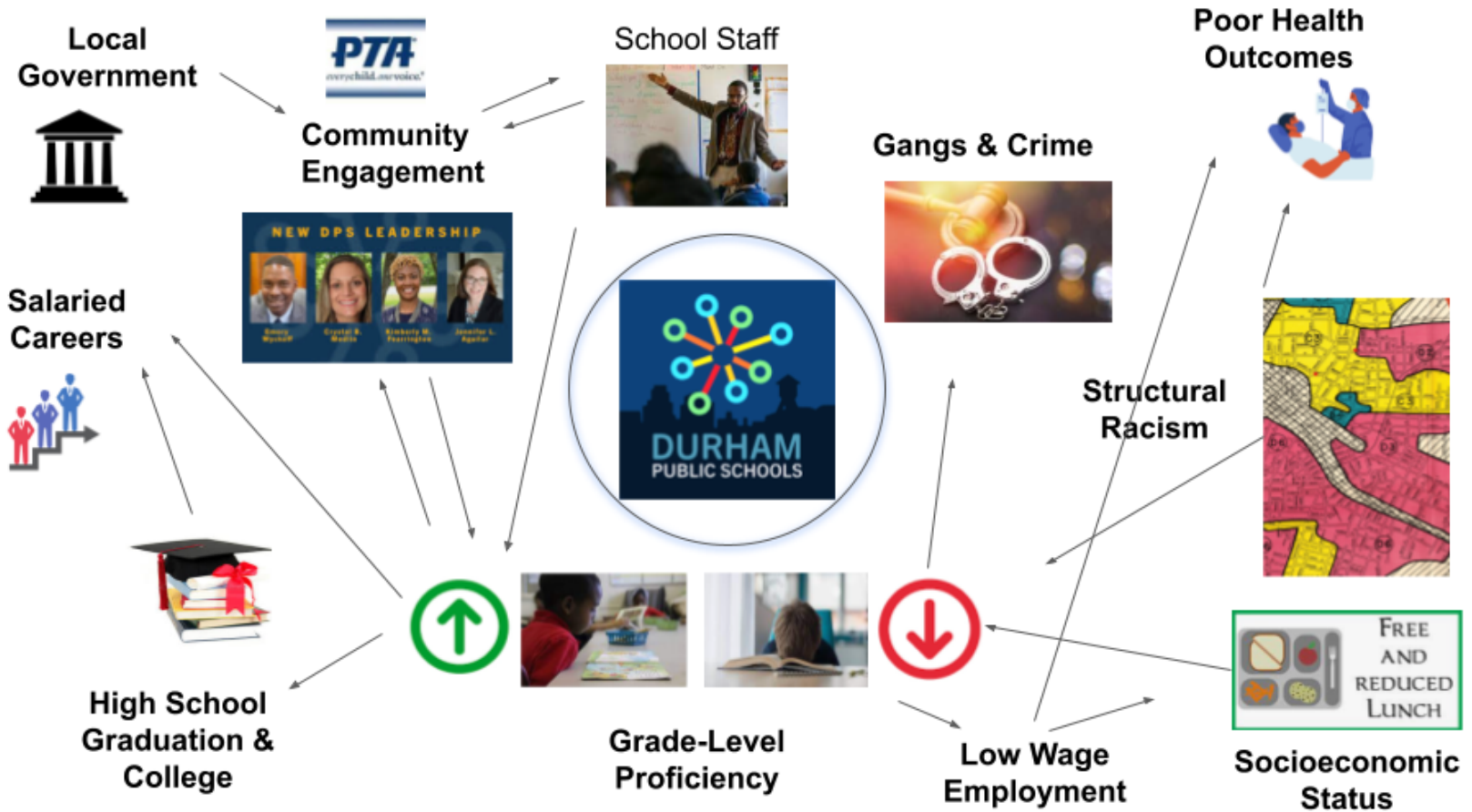
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APPENDIX A: COMMON DELIVERABLES

Figure A1

Rich Picture



The potential effects of grade-level proficiencies on equitable educational opportunities for school-aged children in DPS.

**Table A1**

*RASCI*

<b>RASCI Levels</b>		
<b>Who is...</b>	<b>Policy/Program Transformation</b>	<b>Rationale For Partner Participation</b>
<b>Responsible</b> =owns the project/problem	<ul style="list-style-type: none"> <li>- School Administrators</li> <li>- Teachers</li> </ul>	School Administrators and teachers will be developing individual school PBIS frameworks and will be most involved in the implementation.
<b>Accountable</b> =ultimately answerable for the correct and thorough completion of the deliverable or task, and the one who delegates the work to those responsible	<ul style="list-style-type: none"> <li>- Superintendent</li> <li>- School Board Members</li> </ul>	The school board will ultimately be accountable for the successful implementation of PBIS across the district.
<b>Supported</b> =can provide resources or can play a supporting role in implementation	<ul style="list-style-type: none"> <li>- Community Education Organizations</li> <li>- PBIS County Administrator (CA)</li> </ul>	Community education organizations may contribute resources to the project. The CA will provide guidance in establishing PBIS tiers in individual schools across the county.
<b>Consulted</b> =has information and/or capability necessary to complete the work	<ul style="list-style-type: none"> <li>- Students</li> <li>- Parents/Guardians</li> </ul>	Students have information which will be key to planning effective and transformative PBIS frameworks. Parents/guardians also will have information to share.
<b>Informed</b> =must be notified of results, process, and methods, but need not be consulted	<ul style="list-style-type: none"> <li>- Other community members</li> </ul>	Other participants in the community who are not directly involved in planning or implementation but are interested in the program.

## Figure A2

Group Slides

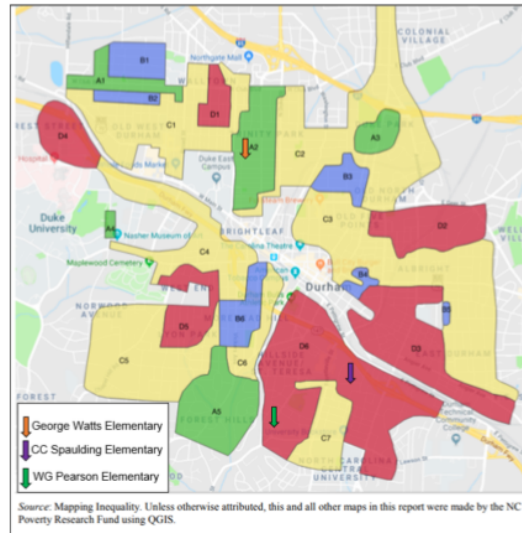
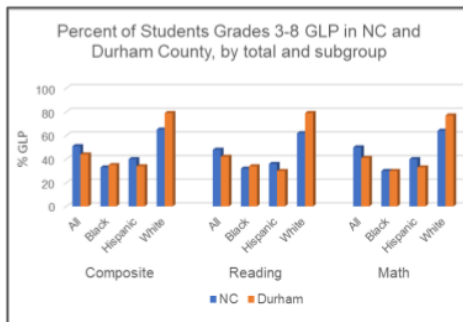
# Increasing Grade-Level Proficiency Scores of Students in Grades 3-8 in Durham Public Schools Through Positive Behavioral Interventions and Supports

Alexis Cope, Darrius McMillian, Lauren Parrish, Liisa Smith

## Overview of Education in Durham County

2021-2022 School year

31,113 students DPS  
 39.8% African American  
 34.2% Hispanic  
 19.1% White  
 1.9% Asian





## Recommended Programmatic Change: PBIS

- Removing students from the classroom due to behavior negatively affects academic success<sup>1</sup>
- Positive Behavioral Interventions and Supports (PBIS)
  - A framework that guides school teams in the selection, integration and implementation of evidence-based practices for improving academic, social, and behavior outcomes for all students<sup>1</sup>
  - A three-tiered framework with different supports and interventions aimed at various levels of students<sup>2</sup>
  - Results in improvements in a wide variety of student outcomes<sup>3</sup>
  - Helps to reduce the racial disparities in student's GLPs<sup>1</sup>

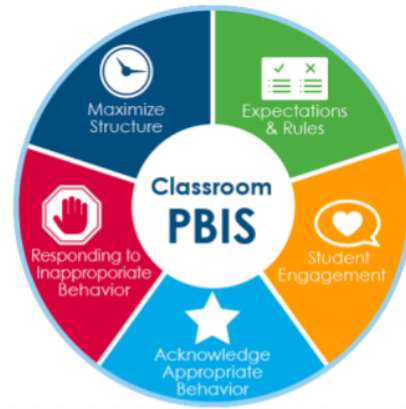


Image: <https://flpbis.cbcs.usf.edu/tiers/classroom.html>

## Stakeholders

- 3 larger stakeholder groups will provide input and assist in making plans for policy implementation

### DPS Leadership

- DPS Superintendent
- School Board Members
- PBIS County Administrator

### DPS Educators

- Principals
- Vice Principals
- Teachers
- Additional School Administrators and Support Staff

### Durham County Community and Organizations

- DPS Students
- Parents/Guardians
- Community Education Organizations
- Larger Durham Community

## Budget

DPSNC Revenues	Year 1: 2023-2024	Year 2:2024-2025	Year 3: 2025-2026	Total
School Climate Transformation Grant	\$192,518	\$210,038	\$164,027	\$566,583
<b>DPSNC PBIS Expenses</b>				
	Year 1	Year 2	Year 3	Total
PBIS County Administrator Salary	\$60,000	\$61,500	\$63,038	\$184,538
PBIS County Administrator Benefits	\$18,000	\$18,450	\$18,911	\$55,361
PBIS County Administrator Office Equipment/Supplies	\$10,000	\$3,000	\$3,000	\$16,000
National PBIS Leadership Forum Fee	\$42,350	\$56,350	\$28,350	\$127,050
National PBIS Leadership Forum Travel	\$13,500	\$13,500	\$9,000	\$36,000
National PBIS Leadership Forum Hotel	\$23,668	\$32,238	\$16,728	\$72,634
Community Engagement Expenses	\$25,000	\$25,000	\$25,000	\$75,000
<b>Total</b>	<b>\$192,518</b>	<b>\$210,038</b>	<b>\$164,027</b>	<b>\$566,583</b>

## Engagement & Accountability Plan

### Individual Interviews

- Students, teachers, parents/ guardians
- Amplify voices of those directly impacted
- Interviews will continue through duration of PBIS, conducted quarterly
- Provide participants an opportunity to be heard/ clarify roles and responsibilities

### Durham County Public School Advisory Board (PSAB)

- School administrators, teachers, teaching assistants, students, PBIS professionals
- Encourage dialogue and ideation between stakeholders
- Separate meetings will be held to develop PBIS tier systems in schools

### Durham Learning and Innovation Committee (DLIC)

- Students, teachers and assistants, school administrators, parents/guardians, DPS superintendent, school board members, community organization, Durham Community members
- Determine how the program may be succeeding and/or failing in meeting the needs of DPS students
- Insight/ oversight

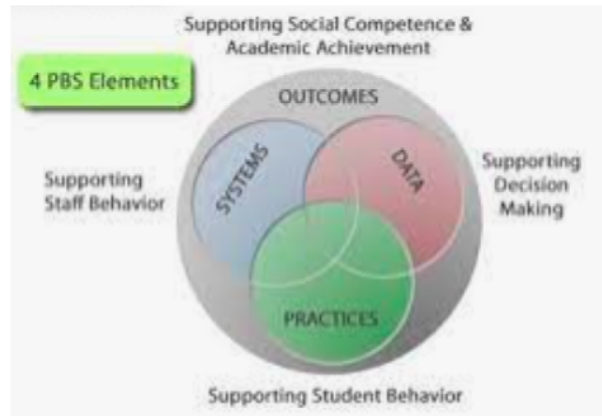
## Evaluation Measures

- Process Measures

- Number of students sent out of the classroom
  - Indicates if teachers are supporting student behavior and the school's are supporting staff behavior
- Student's standardized test scores
  - Used to identify improvements in individual scores and racial disparities

- Outcome Measure

- Student's math and reading GLP's
  - Indicates individual student growth, county-wide growth, and improvements in racial disparities



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## **APPENDIX B: ALEXIS COPE'S INDIVIDUAL DELIVERABLES**

### **Appendix B1: Problem Statement**

#### **Social Determinant of Health**

Education plays a major role in the creation of healthy individuals and communities. As a part of the broader social context, education should not be overlooked when evaluating health disparities and outcomes. Historically, higher levels of education have typically provided people with a greater ability to create and sustain a healthy and fulfilling life. Less education has been linked to the beginning of chronic illness, disability, and deteriorating functional status earlier in life (Fiscella & Kitzman, 2009). There is documented correlation between health disparities and socio-economic inequalities. People experiencing poverty or living at a lower socioeconomic level are less likely to have a high level of education. When comparing adults with higher and lower levels of education, those with higher educational levels were reported to live longer and healthier lives. As for those with lower levels of education, their health status has not improved or even stayed stagnant, it has declined (Zajacova & Lawrence, 2018).

Reading is a critical component of education and provides opportunities for future successes in all facets of life. People with lower levels of literacy have been found to be less likely to access preventative medical care, have uncontrolled chronic illness, be hospitalized more often, and have less health knowledge than their peers (DeWalt & Pignone, 2005). The building blocks for literacy are usually placed before adulthood via school educations. Literacy programs and interventions focused on children and adolescents, especially those of low socioeconomic status, can help them realize the potential long-term health benefits of reading and education.

#### **Geographic and Historical Context**

Durham County is the sixth most populous county in the state of North Carolina. It is home to the City of Durham, which is the fourth largest city in the state (City of Durham, n.d.).

Durham County is also home to Research Triangle Park, a hub for innovation and home to hundreds of science, technology, and various other companies. The City of Durham and the RTP area have experienced much growth as new jobs have been created and attracted highly educated individuals to the area. Though the City of Durham is the most populous area of the county, there are also suburban and rural areas, too. As for the demographics of the county, 54.5 percent of persons are white, 35.9 percent are black, and 13.8 percent are Hispanic or Latino (U.S. Census). The poverty rate in Durham County is 13.5%, which is about equal with the national average (U.S. News, 2022). Despite being a hub for innovative industries, on average, adults in Durham County are not reading at a level considered to be proficient (NCES, 2016). This could impact children in the county as well, because adults with low literacy are more likely to have children who also have a low reading level (Regis College, 2021).

There are a total of 56 schools in the Durham public school system who are responsible for educating over 31,000 students. According to Durham Public Schools (DPS) (2022-a), 41.6 percent of students are African-American, 32.8 are Hispanic or Latino, 19 percent are white, and 6.6 percent are American Indian, Asian, and/or Hawaiian-Pacific Islander. Just over 62 percent of students qualify for free and reduced lunch. Due to the established relationship between socioeconomic status and health disparities, this statistic is especially notable (Zajacova & Lawrence, 2018). The COVID-19 pandemic also affected academic performance among students in DPS. Due to the remote learning which was required over the past several years, overall grade level proficiency experienced a sharp decline from years prior to the pandemic. As in-person learning resumes and students have returned to the classroom, strides have been made to improve the academic success of DPS students. (Durham Public Schools, 2022-b). As they work to improve academic achievement, DPS is also committed to education equity and supporting students of color, who often face disparities in the educational sphere (Durham Public Schools, 2022-c).

## **Priority Population**

As the school system recovered from the COVID-19 pandemic, DPS saw significant improvements in math and science proficiency. A modest increase in fourth grade reading proficiency was also noted. The only subject that did not show improvement was sixth grade reading (Durham Public Schools, 2022-b).

Increasing the percentage of middle school students (grades six, seven, and eight) in Durham County public schools reading at grade level is an important step towards improving literacy. There are nine middle schools across the district, not including two secondary schools which house both middle and high school students. One of the tenets of the DPS Strategic Plan is to increase academic achievement throughout the district. A specific goal of the plan is to have at least 60 percent of DPS students achieve grade level proficiency in reading and math (Durham Public Schools, 2022-c). As stated above, increasing middle school literacy in DPS is in line with the larger goals of the county school system.

## **Measures of Problem Scope**

Data from the 2021 to 2022 End-of-Grade (EOG) reading assessments showed 48 percent of sixth graders in North Carolina were reading at grade level. In comparison, only 42 percent of sixth graders in DPS were reading at grade level. Within DPS, there is a disparity in reading proficiency as black children are reading at an even lower level than the district average. Of black sixth grade students, 34 percent were reading at grade level compared to 79 percent of white students. This stark difference was also observed among eighth grade students, showing this disparity did not lessen over the course of the middle school years (NCDPI, 2022).

Data from DPS illustrates the disparity between socioeconomic status and literacy. Of the middle schools in DPS, two report 80 percent of students qualifying for free or reduced lunch (DPS Operational Services, 2020). These middle schools also report the lowest reading proficiency, at just 23 and 19 percent of students reading at a proficient level (Durham Public

Schools, 2021). Improving the percentage of middle school students reading at grade-level cannot be done without considering the needs of a diverse student population and employing equitable plans.

### **Rationale**

Increasing the percentage of middle school students (grades six, seven, and eight) in Durham County public schools reading at grade level is essential because of the important nature of literacy. Reading is a life skill that opens the door to opportunity and success. Students who are reading at proficient or high levels will be more prepared for high school, and subsequently college. General literacy will also improve a person's health literacy, and will improve their ability to seek preventative care, handle potential acute or chronic illness, and maintain a healthy lifestyle (Fiscella & Kitzman, 2009).

### **Disciplinary Critique**

As a public health leader, addressing student reading proficiency is an important step to give students a brighter future and create change in a system which is ripe with inequity. Students of color and of low socioeconomic status in Durham County are significantly behind their peers in reading. Given the importance of reading, black students could continue to face further inequity and disparities in other facets of life because of a low reading level. Providing these students equitable solutions to improve their reading proficiency should matter to public health leaders because it will change their ability to find success in further schooling and the workforce. Ultimately, these students will be better prepared to live a healthy, productive lifestyle and provide a positive impact on the communities where they live.

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## **Appendix B2: Stakeholder Analysis**

### **Introduction**

Education plays a major role in the creation of healthy individuals and communities, and Durham County, North Carolina, is no exception. Historically, higher levels of education have provided people with a greater ability to create and sustain a healthy and fulfilling life. Less education has been linked to the beginning of chronic illness, disability, and deteriorating functional status earlier in life (Fiscella & Kitzman, 2009). People experiencing poverty or living at a lower socioeconomic level are less likely to have a high level of education and more susceptible to these health challenges. Literacy, specifically, also affects community health. People with lower levels of literacy have been found to be less likely to access preventative medical care, have uncontrolled chronic illness, be hospitalized more often, and have less health knowledge than their peers (DeWalt & Pignone, 2005).

A large portion of middle school students in Durham County Public Schools (DPS) are reading below grade level. There are also notable disparities in education for these students. Data from the 2021 to 2022 End-of-Grade (EOG) reading assessments showed 48 percent of sixth graders in North Carolina were reading at grade-level. In comparison, only 42 percent of sixth graders in DPS were reading at grade-level. Within DPS, there is a disparity in reading proficiency as black children are reading at an even lower level than the district average. Of black sixth grade students, 34 percent were reading at grade-level compared to 79 percent of white students. This stark difference was also observed among eighth grade students, showing this disparity did not lessen over the course of the middle school years (NCDPI, 2022).

Increasing the percentage of middle school students (grades six, seven, and eight) in Durham County public schools reading at grade-level is an important step towards improving literacy. Reading is a life skill that opens the door to opportunity and success. Students who are reading at proficient or high levels will be more prepared for high school, and subsequently college.

## **Policy Transformation**

A policy which could be implemented to address the gaps in grade-level proficiencies and disparities being experienced by these students is the Positive Behavioral Interventions and Supports (PBIS) framework. PBIS is an evidence based, tiered framework focusing on equity, systems, data, practices, and outcomes.

Tier one is a school-wide, positive alignment of expectations. Appropriate social, emotional, and behavioral skills are prioritized and expectations are developed through collaboration between students, families, and educators. Tiers two and three provide more robust and intensive individualized practices to support students who need additional services. In practice, this may look like students receiving additional emotional, behavioral, or academic instruction, increased positive reinforcement, and extra communications between family and school. In tier three, educators, families, and students can be engaged in behavioral assessments and individualized intervention planning (Center on PBIS, 2022).

The purpose of PBIS is to improve outcomes by bringing together students, families, and educators to set goals and achieve them. Implementation of PBIS in other school systems has shown academics, behavior, and even overall school climate can be improved through the use of this framework (Center on PBIS, 2022).

## **Stakeholder Analysis Tool**

Stakeholders were analyzed using a mapping tool (see Appendix B2.1). This tool was utilized to gauge stakeholders' level of interest in and power to influence policy to improve grade-level proficiency and educational equity among middle school students in DPS. Stakeholders who may have greater interest in and power over policy implementation included the DPS superintendent, school board members, community education organizations, and DPS school leaders such as principals and other staff. These leading groups are very engaged in creating successful educational systems, and levy power in making decisions about how that

happens. Community education organizations may provide extra funding and resources, giving them more power than other interested stakeholders.

Stakeholders with a strong interest in transformative change but less power included DPS students, educators (teachers and teaching assistants), and family members of the students. While these groups of stakeholders are very likely to be interested in positive policy which would improve educational equity and achievement, they are not the primary decision makers. However, these groups would be heavily involved in any policy implementation and be in the center of any transformative change which would occur.

### **Stakeholder Analysis**

There are several larger stakeholder groups which belong at the table, providing input and helping to make plans for policy implementation. These groups include DPS leadership, DPS educators, and Durham County community members and organizations.

DPS leadership would include parties such as the DPS Superintendent and school board members. Having full support from the leadership and board of the county school district will be imperative to approve and successfully execute policy to improve the reading grade-level proficiencies and educational equity of DPS middle schoolers. The school board will likely be involved in the decision to implement a new policy. Their buy-in will be important as they will be able to assist in and will be a source of funds and resources. Without the involvement and support of the school board, this policy will not be successfully adopted or implemented.

DPS educators are another critical stakeholder group. This larger group may include principals, vice principals, other school administrators, and teachers. The schools across the county are very different. Some schools are in more urban areas like the City of Durham. Other schools are in more rural areas. Schools may also have different populations, as some schools may have more students of a certain race or socioeconomic status. Reading levels at the schools may vary, as well. It will be important to give a voice to leaders at various schools across the county to ensure a potential policy will be able to work in different settings. Teachers

will be heavily involved in the daily implementation and oversight of the students. Policy to improve student academic success will be directly affected by the willingness of teachers to improve the school culture and work within the PBIS tier system. Teachers also provide support and guidance to the students and play an important role in their daily lives. Teaching assistants provide additional help to teachers in classrooms where it can be difficult to provide each student with the individual attention they may require. Teaching assistants will also be important to implement classroom policy and assist students on a more individual basis.

The Durham County community will also be influential in the success of policy in DPS middle schools. This group includes DPS students, their families/guardians, and community organizations with interest in education. The students are the entire focus of the policy. Without their input, thoughts, ideas, and perspective, any potential program will not adequately meet their needs. It is important to not act upon these students, but to involve them in this effort to improve their reading levels in their schools. Students from varying schools across the district should be involved, from diverse racial, ethnic, and socioeconomic backgrounds. Each student will bring a fresh and important perspective. It is important to recognize that not all parents/legal guardians will have the ability, time, or resources to participate in a PTA organization. Parents of these students should be included in the educational decisions made on behalf of their children. Any policy which is implemented in the district will only be enhanced by the involvement of parents and legal guardians in home settings. Improving the reading level of students across the county will require community engagement from groups beyond the DPS system. Community educational organizations may be an extra source of support in providing resources and funding to the program. They will also be helpful in advocating for the need to implement policy to improve the reading of middle school students in DPS.

PBIS is a collaborative and transformative policy framework, but it can only work to change systems when there is cooperation and teamwork from all stakeholders at every level. To create equitable, transformative change for students in Durham County all stakeholder

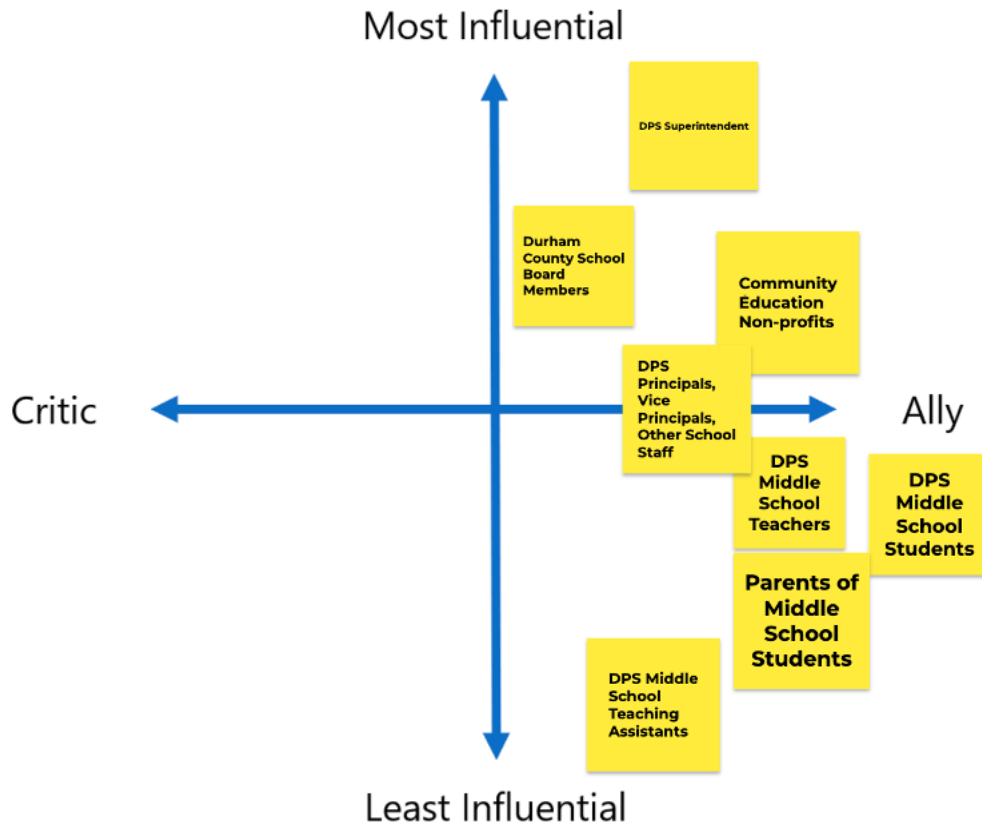
groups must come together to utilize data, evidence-based practices, and knowledge about their own current system to develop the best practices for improvement.

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## Appendix B2.1

### Stakeholder Analysis Tool



Appendix B2.1. Comparing stakeholders according to their support of and ability to influence policy to improve grade-level proficiencies and educational equity among DPS middle school students.



## **Appendix B3: Engagement and Accountability Plan**

### **Program Rationale**

Social Determinants of Health (SDOH) can be defined as, “the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks” (Healthy People 2030, n.d., para. 1). Inequities and disparities, health related and otherwise, are affected by SDOH. Having access to a quality education is a core SDOH which leads to healthier lifespans and more opportunities for a higher quality of life (Fiscella & Kitzman, 2009; Healthy People 2030, n.d.).

A large portion of middle school students (grades six to eight) in Durham County Public Schools (DPS) are reading below grade-level and facing educational disparities. Data from the 2021 to 2022 End-of-Grade (EOG) reading assessments showed 42 percent of sixth graders in DPS were reading at grade-level. Of black sixth grade students, 34 percent were reading at grade level compared to 79 percent of white students (NCDPI, 2022). Implementing the PBIS framework to equitably increase the percentage of middle school students in Durham County public schools reading at grade-level is essential to improving this SDOH for these children.

The Positive Behavioral Interventions and Supports (PBIS) framework is an evidence based, tiered framework focusing on equity, systems, data, practices, and outcome. It is designed to improve student outcomes by bringing together students, families, and educators to set and achieve goals. Tier one is a school-wide, positive alignment of expectations. Appropriate social, emotional, and behavioral skills are prioritized and expectations are developed through collaboration between students, families, and educators. Tiers two and three provide more robust and intensive individualized practices to support students who need additional services. In practice, this may look like students receiving additional emotional, behavioral, or academic instruction, increased positive reinforcement, and extra communications between family and school. In tier three, educators, families, and students can be engaged in behavioral assessments and individualized intervention planning (Center on PBIS, 2022).

Implementation of PBIS in other school systems has shown academics, behavior, and even overall school climate can be improved through the use of this framework (Center on PBIS, 2022). PBIS framework will be implemented at each middle school within the DPS system to improve reading grade-level proficiencies across the district.

### **Purpose of Engagement Plan**

To involve all stakeholders throughout the program, we aim to implement a multifaceted engagement strategy. Each stakeholder will be involved at an appropriate level based on their interest and involvement in the program. Engaging stakeholders will also provide an opportunity to evaluate the assets and resources they may bring to the project. This will aid in the efforts to determine how to best utilize allocated resources and meet program needs.

The engagement plan will give a voice to all stakeholders and ensure every group is fairly represented, especially those who will be directly involved in program implementation. Stakeholders for this program include the DPS superintendent, school board members, school administrators, teachers, teaching assistants, students, parents/guardians, and community education organizations. One of the main goals of the plan is to amplify the voices of students and other stakeholders who may not be in decision-making roles. It is important to view the issue from the lens of the community and honor the voices of those who are being directly affected. An inclusive and thorough engagement plan will lead to the development of equitable, transformative, and sustainable solutions for students in Durham County Public Schools.

### **Engagement Methods**

There will be four engagement methods which will incorporate both individual and group components. The first method is individual interviews of students, teachers, and parents. Interviews will be conducted at the beginning, mid-point, end of the program. In between these timepoints, interviews will be conducted quarterly throughout the program. These interviews will be conducted to ensure all voices are heard. This framework focuses on students, and the teachers will be most heavily involved in its daily implementation. These groups will have the

most direct and informative information about how successful the framework is and what changes may be needed. Parents may provide additional insight into what can help their students in the classroom. Questions for teachers and students will seek to ascertain what is and is not working well, what would be of most help to teachers and/or students, and what changes have or have not been observed as the program progresses. From parents we would ask what interventions they feel their children would best respond to and what might encourage them to participate positively in the classroom setting.

A second engagement method is school focus groups. Focus groups will be created at each middle school in the district. As each school is unique and serving different student across the county, the PBIS framework should be individualized according to the needs of the students at each school, respectively. Focus groups will be comprised of school administrators, educators, and students. Focus groups will discuss ideas for PBIS application and what the tier structure will look like at their school. They will consider what interventions will be employed for students requiring special assistance. There may be student involvement in some focus groups, but it will not be appropriate for students to be privy to all conversations held by administrators and educators. Student ideas will be brought in via individual interviews, and students may participate in intermittent focus groups to provide continuous feedback. Focus groups will be held weekly until tiered interventions are developed, then bi-weekly for the first three months. The meetings will move to a monthly cadence upon program implementation.

A third engagement method is PBIS Training. As plans are made to implement the PBIS framework tier system, training will need to be implemented for each school. These trainings will familiarize all staff with the new systems and ensure the program is being applied correctly across the school. Training would be attended by school administration, teachers, teaching assistants, and any other school staff who are involved in disciplinary interventions with students. Training will be scheduled to accommodate schedules of the school staff. Two initial

options for training include a one-time, half-day training session to be held on a teacher workday or a week-long lunchtime training series.

The fourth engagement method is the creation of DPS town hall meetings and email newsletters. Community-wide town hall meetings will be held monthly during program start-up and initial implementation, and move to quarterly. These town halls will provide a voice to all members of the community. Updates on program plans, implementation, and progress will be provided. Community input will be collected to re-direct and improve the program as it progresses. This will be the opportunity for all who wish to show support for and be involved in the program to provide feedback, thoughts, and ideas. Email newsletters will be provided on a monthly basis to summarize town hall discussions and provide program updates. It will be an appropriate way to engage larger community groups who are invested in and supporting this program, but may not play a daily role in its implementation. Additional details for all engagement methods are found in Appendix B3.1.

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## Appendix B3.1

### Engagement Methods

Method of Engagement	Stakeholders	Function	Involvement
<p><b>1. Individual Interviews</b></p>	<p>Students, teachers, parents/guardians</p>	<ul style="list-style-type: none"> <li>● To amplify the voices of those who will be most affected by program implementation</li> <li>● Provide a direct path to be heard and share thoughts without pressures of a group setting</li> </ul>	<p>Interviews at the beginning, mid-point, end of program. In between these points interviews to be conducted quarterly throughout the program.</p>
<p><b>2. School Focus Groups</b></p>	<p>School administrators, teachers, teaching assistants, students</p> <p>Students may participate in intermittent focus groups, as appropriate.</p> <p>(Superintendent and school board members may be made aware of focus group results.)</p>	<ul style="list-style-type: none"> <li>● Encourage direct involvement of key stakeholders</li> <li>● A place to share feedback</li> <li>● A place to highlight and solve problems that may arise, pivot in PBIS framework plans/execution</li> </ul>	<p>Private, separate meeting to develop PBIS tier systems and individual school applications.</p> <p>Will be held weekly until tiered interventions are developed, then bi-weekly for first 3 months. Monthly meetings when program is successfully implemented.</p>
<p><b>3. PBIS Framework Training</b></p>	<p>School administrators, teachers, teaching assistants</p>	<ul style="list-style-type: none"> <li>● To train school staff on agreed-upon PBIS framework tiers and how they will be implemented in day-to-day situations</li> </ul>	<p>Educators can choose between the below, depending on their schedule:</p> <ul style="list-style-type: none"> <li>● One-time, half-day training session to be held on a teacher workday</li> <li>● Week-long lunchtime training series</li> </ul>

<p><b>4. DPS Town Hall and Email Newsletter</b></p>	<p>Students, teachers and assistants, school administrators, parents/guardians, DPS superintendent, school board members, community organizations</p>	<ul style="list-style-type: none"> <li>● Determine how the program may be succeeding and/or failing in meeting the needs of DPS students</li> <li>● Sharing of feelings and reactions to the program</li> <li>● Provide a platform for unaddressed perspectives</li> <li>● Keep all stakeholder parties engaged throughout the life of the program via email updates</li> </ul>	<p>Town hall held every month to begin. As the implementation process is further along, quarterly meetings.</p> <p>Email newsletter will be sent monthly throughout the program.</p>
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## **Appendix B3.2**

### Accountability Plan

#### **MEMORANDUM OF UNDERSTANDING**

This Memorandum of Understanding (MOU) is entered into by and between the Durham County Public School System (DPS) and DPS Middle School Principals.

#### **A. Purpose**

The purpose of this MOU is to outline the common vision, values, roles, and responsibilities between the lead agency, DPS, and DPS middle school principals in their joint effort to improve reading grade-level proficiencies among middle school (sixth to eighth grade) students within DPS.

#### **B. Engagement Vision and Values**

Vision: To increase the percentage of middle school students in Durham County public schools who are reading at grade-level, especially among minority students and those of low socioeconomic status.

Values:

1. Create transformative change in DPS middle schools leading to sustained improvement in reading scores.
2. Develop equitable solutions through uncovering biases to address gaps in reading among students of different races, ethnicities, and socioeconomic statuses.
3. Engage students and amplify their voices throughout the life of the program.
4. Be adaptable, flexible, and willing to pivot plans and make changes as necessary to best serve the interest of the students and educators.
5. Engage all stakeholders via a multifaceted approach and allow the community to develop a plan to meet their perceived needs.

#### **C. Roles and Responsibilities**

**DPS** agrees to perform the following roles and responsibilities as outlined below:

1. Accountable for overarching program development and implementation at middle schools in DPS.
2. Provide tools for continuous program evaluation and collection of metrics.
3. Provide support and resources for local school administrators and educators throughout the program.



4. Engage community education organizations to provide additional program support and resources.
5. Engage community stakeholders by planning and hosting DPS Town Hall meetings monthly, then quarterly as the program progresses.
6. Produce Evaluation Report at program completion.

**DPS** Middle School Principals agree to perform the following roles and responsibilities as outlined below:

1. Responsible for individual program planning and implementation at their respective school.
2. Conducts individual interviews and focus groups with support from DPS and community education organizations who are supporting the program.
3. Develops a school-wide PBIS framework utilizing focus groups and reports from individual interviews.
4. Plan and implement program training for all applicable staff.
5. Continuously monitors progress of students and feedback from school staff, students, parents/guardians, and community members.
6. Provides reports to the school board on continuous progress.
7. Adapts program, as necessary.

#### **D. Rationale for Roles and Responsibilities**

DPS is accountable for the successful implementation of the PBIS framework across all middle schools within the district. For this reason, it is ultimately accountable for creating transformational change in its schools and among its students. As the accountable party, DPS should also provide all the necessary tools, resources, and support its administrators and educators will require to successfully plan, implement, and evaluate this program. DPS is responsible for all community relationships and reporting on progress to outside partners and stakeholders (Barrett et al., 2018).

DPS Principals are responsible for the planning and implementation of PBIS frameworks at their individual schools, and as such are required to take on roles which include daily oversight (Barrett et al., 2018). Staff planning meetings, training, and program adaptations fall under this umbrella. Principals will also be responsible for providing progress reports to the school board.

#### **E. Program Milestones and Metrics**

Milestones:

1. Activation of initial stakeholder engagement methods:
  - a. First individual interviews completed and results generated and shared
  - b. Focus groups created and results generated and shared
2. Development of PBIS framework tiers across all middle schools in DPS.
3. Completion of PBIS training across all middle schools in DPS.

4. Initial implementation of PBIS framework across all middle schools in DPS.
5. Evaluation of the first wave of reports on classroom behavior and reading performance across all middle schools in DPS.

**Metrics:**

1. Percentage of middle school students reading at grade-level.
  - a. Broken down by district-level and school-level results
2. Percentage of students who have been engaged in PBIS framework tiers
  - a. District and school-levels, separated by tier level (1-3)
3. Percentage of minority students reading at grade-level
  - a. Broken down by district-level and school-level results
  - b. Broken down by race/ethnicity
4. Percentage of students reading at grade-level who receive free and reduced lunch
  - a. Broken down by district-level and school-level results
  - b. Broken down by race/ethnicity
5. Percentage of educators who feel more empowered in their classrooms
6. Percentage of educators who feel this framework improved the overall culture of their class/school

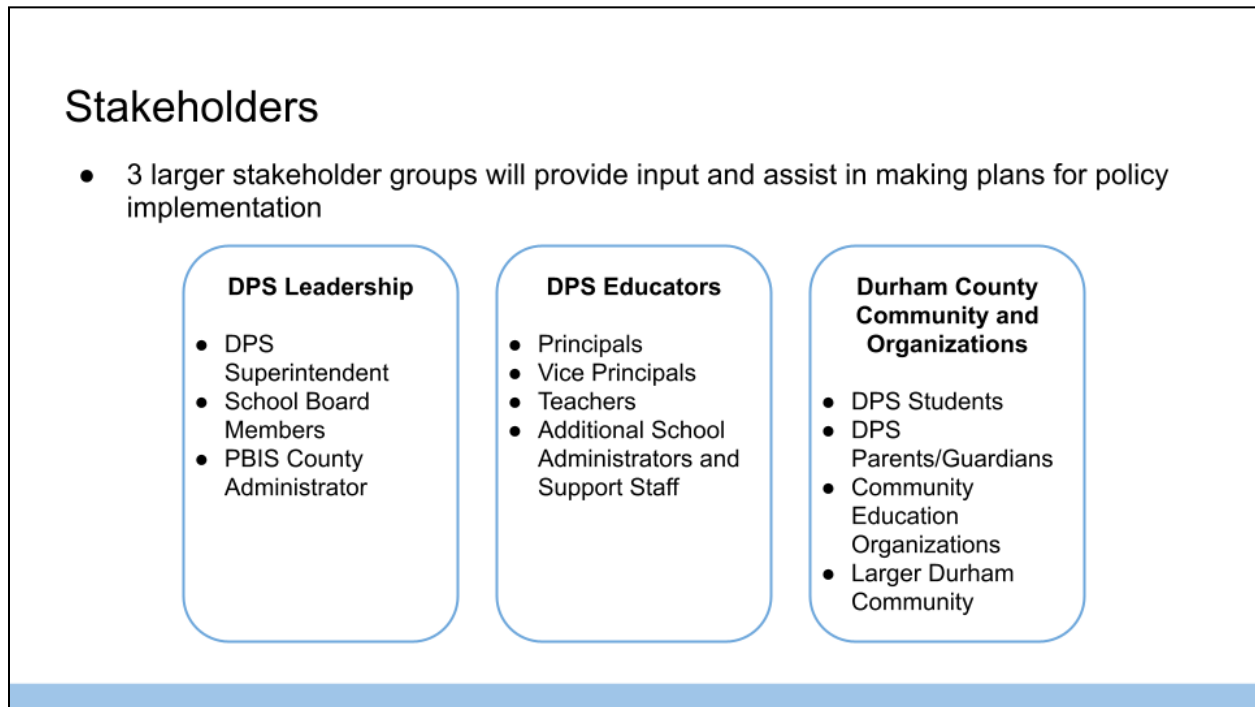
**F. Timeframe**

This MOU will commence on January 1, 2023 and will dissolve on January 1, 2025.

**G. Signatures**

<b>Durham County Public School System</b>	
<b>Authorized Official:</b> _____	_____
<b>Signature and Date</b>	<b>Printed Name and Title</b>
<b>DPS Middle School Principal</b>	
<b>Authorized Official:</b> _____	_____
<b>Signature and Date</b>	<b>Printed Name and Title</b>

## Appendix B4: Individual Slides and Script



There are a multitude of stakeholders who we feel should be involved in this programmatic change. The stakeholders can be identified in 3 larger groups, which are Durham Public Schools leadership, abbreviated DPS here, DPS Educators, and the Durham County Community and Organizations.

DPS leadership includes parties such as the DPS Superintendent, school board members, and a PBIS County Administrator. We know full support from the leadership of the county school district will be essential to successfully implement and execute a program to improve grade level proficiencies and equity in our schools. The PBIS County Administrator is the person who will be accountable for the oversight of the program implementation across the county.

The DPS educators group may include principals, vice principals, other school administrators, and teachers. Across the county, the schools and students are very different. Some are in a more urban environment, like the City of Durham, and others are in a more rural environment. It will be important we give a voice to leaders at various schools across the county to ensure the plans that are developed will work in different settings. We also recognize that teachers will be heavily involved in the daily implementation of the program. Their willingness to improve school culture and work within the PBIS tier system will be one of the most important pieces of program success.

The larger Durham County community will also be influential in program success. This group of stakeholders includes students, their families/guardians, community organizations with an interest in education, and other community members with an interest in the program. We know students are the focus. We feel that without their input, thoughts, ideas, and perspectives, their

needs will not be met. We would like to involve students from diverse racial, ethnic, and socioeconomic backgrounds, from all throughout the district. We also feel the parents and guardians of these students should be included in the educational decisions made on behalf of their children. Community engagement from groups outside of DPS will also help propel the program forward. Community educational organizations may be an extra source of support in providing resources and funding to the program.

Overall, we know improving the grade level proficiencies of third to eighth grade students in Durham Public Schools will require a lot of collaboration and strategic engagement of all stakeholder groups. We feel these are the appropriate groups to bring to the table in order to create change for DPS students.

## **APPENDIX C: DARRIUS MCMILLIAN'S INDIVIDUAL DELIVERABLES**

### **Appendix C1: Problem Statement**

#### **Social Determinant of Health (SDOH)**

Durham county is ranked as one of the healthiest counties in North Carolina (County Health Rankings), but with over 325,000 North Carolinians residing in the county, that also makes it the 6<sup>th</sup> largest county in the state (NCDS). Our objective as public health professionals and providers is to serve entire communities and ensure healthy behaviors and lifestyles. Although Durham County is one of the healthiest counties in North Carolina there is still a small percentage of individuals dealing with a high percentage of violence. The area near Durham Police Headquarters in downtown Durham has experienced the most violence than anywhere else in the county. There were over 400 shootings that occurred in Durham during the first half of 2022 and one fifth of these shootings occurred within this small square mile (Kruger 2022). Another area just south of the Durham Police Headquarters is an affordable housing community, McDougald Terrace public housing complex, that experienced over 30 shootings within the first six months of the year. These two areas only account for 2% of Durham County's population but 16% of gun violence incidents occur in these areas (Kruger 2022). In the area surrounding the Durham Police Headquarters nearly 61% of children under the age of 18 live in poverty; in the area surrounding McDougald Terrace that number increases to 77% (Kruger 2022).

In order to combat some of these issues that plague Durham County, public health officials must rethink our approach in addressing how we approach community health concerns. Implementing programs that provide equitable educational opportunities to at-risk residents in Durham County would not only provide residents with viable and necessary skills that would benefit them, their families, and their communities, but it will also recharge the Durham economy that will allow residents to introduce new skills and jobs into the community. Education is the cornerstone to creating greater opportunities for yourself and the community in which you live,

and the education level of a community is an integral measurement for the health of those residing in the community. Increasing equitable educational opportunities throughout Durham County, specifically focusing on the areas surrounding the Durham Police headquarters and McDougald Terrace could prove beneficial in increasing the quality of life for residents by decreasing the number of gun related incidents and crimes.

### **Geographic and Historical Context**

The area surrounding McDougald Terrace is predominantly African American with McDougald Terrace being for over 800 people and 300 families (Thomas 2022). Earlier in 2022 the Durham Housing Authority (DHA) was notified by the U.S. Department of Housing and Urban Development (HUD) that they would have to renovate or terminate leasing to residents of the largest and oldest affordable housing complex in Durham (Thomas 2022). McDougald Terrace scored a 34% for their NC public housing score in 2019; a score between 80%-89% is considered a “good score” and the complexes who attain a score within this range will be subject to an inspection every other year. A score below 79% means that the state must inspect the property once a year (2022). Due to these needed improvements, some residents in McDougald Terrace may be forced to relocate by the end of 2022, but since McDougald Terrace is considered public housing, the DHA is required to find housing for residents if they are forced to move. Residents could receive a voucher for public housing options or be transferred to available units in the county that are available.

This completely denudes the control that the residents have over their own futures. Given the fact that McDougald Terrace is one of the oldest affordable housing developments in Durham County, it is imperative to find means to provide this community with educational opportunities for citizens to give back and become productive entities within their community. This is an opportunity for Durham County to retool out thinking and our approach to social determinants of health. We as public officials must understand the nuances of what causes

healthcare inequities and address them by meeting people where they are and providing communities with opportunities to invest in themselves.

### **Priority Population**

The priority population are the residents of McDougald Terrace and the surrounding area. The majority of residents within this square mile are below the 200% FPL with many individuals and families being on a fixed income. Oftentimes the objective is to upgrade or renovate the affordable housing complexes without providing a substantial and sustainable option for residents to change their physical community and attenuate the drivers that destroy the livelihood of residents. The focus surrounding increasing education access and opportunities within this area of Durham County is multifaceted. Not only do we aspire to reduce the number of gun related incidents and crimes within the county, but we must also alchemize the thinking within the community. Creating opportunities for residents to gain skills that will allow them to become productive participants in the communities in which they reside can create a rippling effect within the county. Greater access to affordable/ free educational opportunities can lead to better job opportunities, which can contribute to a better overall quality of life. This concept can contribute to eliminating the number of families in Durham County and North Carolina who live in poverty, suffer from food insecurity, the number of noncommunicable diseases, etc. With inflation at an all-time high and wages remaining the same we must ameliorate methods for individuals who are systematically and demographically underrepresented.

### **Measures and Scope**

The measure for this initiative would evaluate how the number of education opportunities can decrease the number of gun related incidents and increase the livelihood of individuals living in the McDougald Terrace community. This can be measured by evaluating unemployment in the community, SNAP enrollment, and the number of violent crimes committed in the area.

This would require a multi-level collaborative effort. Potential stakeholders may include the Durham County Police Department, DHA, McDougald Terrace community members, and public health professionals just to name a few. Gun violence in Durham was up 8% for the first few months of 2022 and one tool that was incorporated in various communities around the county was the implementation of “Shot Spotter” (Violent Crime in Durham). Shot Spotter is set to go live in Durham County on November 15, 2022 and is a gunfire detection technology that uses acoustics to track gunfire and automatically report incidents to authorities (ShotSpotter). Through one year, Shot Spotter will cost Durham County over \$200,000 and many residents have concerns pertaining to the effectiveness of this new and costly technology (ShotSpotter). Shot Spotter is a step in the right direction but not an end all, be all solution. We must find ways not only to track gunfire in the county, but we must change the mindsets of the residents in Durham with hopes of making Shot Spotter in Durham County obsolete.

### **Rationale and Importance**

When individuals in a community have access to equitable opportunities that enrich their livelihood, they are able to view their communities and themselves in a different lens. Implementing various skills training programs and educational opportunities will have possible positive implications regarding community development, pride, coalition building. Increasing access to these programs at varying levels will not only positively impact Durham County, but the entire state of North Carolina. As health care professionals, community leaders, public officials, etc. it is our responsibility to speak for the voiceless and provide them with the knowledge and skillset to live healthier and safer lives.



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## Appendix C2: Stakeholder Analysis

### Introduction

Durham County is ranked as one of the healthiest counties in North Carolina (County Health Rankings), but with over 325,000 North Carolinians residing in the county, that also makes it the 6<sup>th</sup> largest county in the state (NCDS). Our objective as public health professionals and providers is to serve entire communities and ensure healthy behaviors and lifestyles. Although Durham County is one of the healthiest counties in North Carolina, there are still areas where individuals are dealing with a high percentage of violence. In the area surrounding the Durham Police Headquarters nearly 61% of children under the age of 18 live in poverty; in the area surrounding McDougald Terrace that number increases to 77% (Kruger, 2022). Gun violence has plagued certain areas within Durham County and increasing educational opportunities in these areas for public schools and community members via partnerships and coalition building may mitigate gun related incidences and improve the quality of life for many residents in the county.

In order to address the educational inequities in certain areas of Durham County, public health professionals must work with the community to develop approaches, set goals, and ensure that methods and practices will provide the best positive outcomes for the communities we serve. Implementing policy initiatives like Positive Behavioral Interventions & Supports (PBIS) may benefit schools and communities in Durham County. Founded by the U.S. Department of Education's Office of Special Education Programs (OSEP) and the Office of Elementary and Secondary Education (OESE), PBIS was created to support schools, districts, and states in building and implementing a systems and capacity for a multi-tiered approach to improve social, emotional, and behavioral supports that schools provide students (PBIS 2022). PBIS is a three-tiered evidence-based framework with aims to improve and integrate data, systems, and practices to achieve positive student outcomes in schools. The first tier is proactively focused to support students through various practices and systems while also

preventing undesired behaviors (PBIS, 2022). Tier two is tailored toward supporting students who are at risk for developing problem behaviors before they start and assisting students in developing the skills they need to excel in core school programs (PBIS, 2022). Tier Three provides students with more intensive and individualized support to improve behavioral and academic outcomes (PBIS, 2022). Not only should this policy be considered for Durham County Public Schools (DCPS), but also revised to address some of the issues that impact the Durham community by providing educational and behavioral support to residents in the county. The intention behind this implementation is to not only provide surface level change to this SDOH, but also provide tools that will allow community members to sustain a greater quality of life.

### **Stakeholder Analysis**

When addressing any public health issue, it is imperative to work with a diverse group of stakeholders and partners. Given the dynamic nature of many public health issues, professionals and communities are best served working with internal and external partners to create a culture of transparent dialogue, integration of unique perspectives, and accountability to ensure equitably based decision making in the change process. This means including professionals with varying world views, individuals with lived experiences, and diverse cultural values. The key stakeholders that would benefit from this change process regarding the implementation of PBIS in DCPS and the Durham Community are residents of Durham County, DPS students and teachers, Durham County Public School Board, nonprofits, and PBIS specialists and instructors to name a few. Via co-design efforts and strategies, we will have the ability to gain insight and perspectives from different partners to understand how PBIS can be effectively implemented in the Durham Public School System and eventually adapted at the community level.

Below is a STE(E)P Scan (appendix A) which is used to list stakeholders from different Social, Technical, Economic (and Environmental) and Political contexts that may be viable

contributors in the implementation of PBIS in Durham County. The STE(E)P Scan was included to help organize our stakeholders regarding their specialties and ensure that roles are filled and understood. When undertaking a county level initiative of such high importance, it is imperative that all stakeholders understand their roles and responsibilities. Also Attached below is a stakeholder perspective table (Appendix C2.1) that describes the different stakeholders, their positions, influence, interests, goals and their objectives. This table can be used to assist with decision making and ideation among stakeholders to ensure that our expected outcome is attained and to better address any unintended consequences that are likely to occur within this change process.

### **Stakeholder Summary**

These stakeholders were chosen for this change process because of their professional and technical expertise, varying lived experiences, unique insights, and shared values. The Durham County School Board will work directly with students, teachers and parents, nonprofits and PBIS specialists to find the best means to implement PBIS in public schools and eventually communities within the county. Nonprofits like the Durham Public School Foundation, which was implemented May 11, 2022, launched the Corporate Leaders for Public Education. This is a network of companies that are collaborating with the Foundation and DPS to build strategic corporate partnerships with Durham County public school district (Connelly, 2022). This group of corporate sponsorships will not only provide necessary resources, but they will provide county level strategies that may assist with the expansion of the PBIS infrastructure in sections of Durham County that could benefit from this policy. With the stakeholders provided, the intentions are to create an environment of intersectional collaboration where individuals and communities benefit from the co-design and implementation process.

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## Appendix C2.1: Tables

**Table C2.1a**

*STE(E)P Scan for Stakeholder Identification*

**Table 1: STE(E)P Scan for Stakeholder Identification**

<b>Social</b> <ul style="list-style-type: none"><li>• Community members</li><li>• Parents of DPS students</li><li>• DPS Students</li><li>• DPS teachers</li></ul>	<b>Technical</b> <ul style="list-style-type: none"><li>• Durham County Public School Board(DCPSB)</li><li>• PBIS Instructors</li><li>• DPS school board and administrators</li></ul>
<b>Economic (Environmental)</b> <ul style="list-style-type: none"><li>• Funders (PACs/nonprofit groups)</li><li>• Market/ community data analyst (Public interests)</li><li>• Suppliers (Spaces/Places)</li></ul>	<b>Political</b> <ul style="list-style-type: none"><li>• Durham County Government- local leaders- county level</li></ul>

**Implementing PBIS in Durham County public schools and communities**

**Table C2.1b***Stakeholder Perspectives*

<b>Stakeholder</b>	<b>Position</b>	<b>Influence (0-10)</b>	<b>Interest (0-10)</b>	<b>Goals</b>	<b>Objections to Project</b>
DC School Board	Superintendent	10	High 10	Educated Durham County	Implementation Agenda/ oversight
DCPS students and teachers	Advisors	6	High 10	Educated Durham County/ safer communities	More work for already struggling staff and students but could be beneficial
DCPS parents	Community Members	7	8	To be involved in profile project	Level of influence- will their projects be incorporated
Nonprofits	Program advisor/ donor	8	8	To make sure the students and community needs are understood	None so far
PBIS Specialist	Technical Experts	9	8	Improving education outcomes in Durham County	How will this be communicated? Funding? Differences for poor and those without transportation?

## **Appendix C3: Engagement and Accountability Plan**

### **Program Rationale**

To address the educational inequities in certain areas of Durham County, public health professionals must work with local schools and communities to develop approaches, set goals, and ensure potential methods and practices will provide the best positive outcomes for the communities we intend to serve. Implementing policy initiatives like Positive Behavioral Interventions & Supports (PBIS) may benefit schools and communities in Durham County. Founded by the U.S. Department of Education's Office of Special Education Programs (OSEP) and the Office of Elementary and Secondary Education (OESE), PBIS was created to support schools, districts, and states in building and implementing a systems and capacity for a multi-tiered approach to improve social, emotional, and behavioral supports that schools provide students (PBIS 2022).

PBIS is a three-tiered evidence-based framework with aims to improve and integrate data, systems, and practices to achieve positive student outcomes in schools. The first tier is proactively focused to support students through various practices and systems while also preventing undesired behaviors (PBIS 2022). Tier two is tailored toward supporting students who are at risk for developing problem behaviors before they start and assist students in developing the skills they need to excel in core school programs (PBIS 2022). Tier Three provides students with more intensive and individualized support to improve behavioral and academic outcomes (PBIS 2022). Not only should this policy be considered for Durham County Public Schools (DPS), but also revised to address some of the issues that impact the Durham community by providing educational and behavioral supports to residents in the county. The intention behind this implementation is to not only provide surface level change to this SDOH, but also provide tools that will allow schools and community members to sustain a greater quality of life.



## **Purpose of Engagement Plan**

The purpose of these engagement strategies are to involve stakeholders in a codesign effort to achieve best possible outcomes for middle school students in DPS. These methods will involve both individual and group engagement strategies which will assist schools and leaders with evaluating available resources and available capacity for potential implementation of PBIS in DPS. These strategies are intended to magnify the voices of the individuals and communities who could potentially benefit from PBIS in the classroom and throughout Durham County. There is no quick fix for many public health problems, and the intention is to create strategies and frameworks via a codesign process that can be easily implemented in DPS and adopted by communities in Durham County who are impacted by high crime and low socioeconomic status (SES). Providing opportunities and spaces for all stakeholders to ideate, share updates, and insight will foster environments of collaboration and transparency to help drive implementation and innovation within PBIS in DPS and Durham County.

## **Engagement Methods**

The first engagement strategy would involve engaging middle school teachers, students, and parents. This strategy will be carried out via interpersonal interviews and meetings throughout the span of the PBIS implementation, and these interactions will be conducted to ensure transparent dialogue between all individuals. The framework for this engagement strategy will focus on gathering information from students and teachers regarding best means of approach and implementation, while gathering an understanding of where students and teachers stand regarding the resources and capacity for PBIS interventions. Parents of students would be engaged to share what strategies they feel would best serve their children and other potential intervention strategies that they may have in mind. These interviews/ meetings would also provide time and opportunities for parents, teachers, and students to have direct communication with one another to share updates and progress.

The second engagement strategy will focus on the implementation of an advisory board and innovation committees. The Durham County Public Schools Advisory Board (PSAB) will consist of DPS administrators, teachers, school board members, the PBIS CA, and parents/guardians. The advisory board will oversee decisions and provide a space to share updates, concerns, and improvement opportunities. The PSAB will foster dialogue and work through design, implementation, and sustainability processes of this framework. Meetings will be held monthly under hybrid conditions at times agreed upon by members for the first year, then quarterly. The advisory board will create a PBIS strategy best suited for specified schools within DPS based on needs and resources.

The third engagement strategy would include the Student Learning and Innovation Committee (SLIC), which will also be created to engage stakeholders. SLIC will consist of DPS administrators, teachers, students, and community education organizations. The goal is to better understand causes of poor academic performance among DPS students and how behavioral interventions can contribute to the creation of equitable education. Students will be directly involved in this committee by providing teachers with qualitative information that can be used to implement sustainable and effective PBIS supports. This student-staff dialogue will occur via group and individual interview sessions monthly during the first year, then quarterly. SLIC will also provide opportunities for initial and ongoing staff training and will collaborate with the PSAB to ensure transparency and accountability.

The third engagement strategy is the Durham Learning and Innovation Committee (DLIC). DLIC will be assembled after a successful implementation of PBIS in the phase one rollout. This committee will consist of school administrators, teachers, the PBIS CA, and community education organizations to address the roles the community has in improving education through behavioral support within the county. The DLIC will adapt and expand PBIS strategies on a county level, structuring around the communities where these children reside.

The DLIC will focus on improving positive behavioral outcomes within specific areas of Durham County that experience increased crime or shooting incidences or high levels of poverty.

## REFERENCES

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### Appendix C3.1: RASCI

RASCI Levels		
Who is...	<b>PBIS Implementation Transformation</b>	<b>Rationale For Partner Participation</b>
<b>Responsible</b> =owns the project/problem	-Superintendent -School Board Members	-To improve education and behavioral outcomes in DCPS
<b>Accountable</b> =ultimately answerable for the correct and thorough completion of the deliverable or task, and the one who delegates the work to those responsible	-School Administrators -DCPS parents	-To improve education and behavioral outcomes in DCPS -Provide guidance and insight for the change process -Ideate methods of expansion
<b>Supported</b> =can provide resources or can play a supporting role in implementation	-Teaching Assistants -DCPS parents -Nonprofits -PBIS Specialist	-Improve outcomes for students -Improve behavioral outcomes for students - implementing strategic and transparent means to engage students from various backgrounds
<b>Consulted</b> =has information and/or capability necessary to complete the work	-Nonprofits -PBIS Specialist -DCPS students	-Provide lived experiences and insight -Provide resources
<b>Informed</b> =must be notified of results, process, and methods, but need not be consulted	-DCPS students -Durham County Community Members	-Improve education outcomes among students -Improve behavioral outcomes with students from varying backgrounds

## Appendix C3.2: Engagement Methods

Method of Engagement	Stakeholders	Function	Involvement
<p><b>1. Interpersonal Interviews</b></p>	<p>Students, teachers, parents/guardians</p>	<ul style="list-style-type: none"> <li>● To amplify the voices of those who will be most affected by program implementation</li> <li>● Provide a direct path to be heard and share thoughts without pressures of a group setting</li> </ul>	<p>Interviews at the beginning, mid-point, end of program. In between these points interviews to be conducted quarterly throughout the program.</p>
<p><b>2. Durham County Public School Advisory Board (PSAB)</b></p>	<p>School administrators, teachers, teaching assistants, students, PBIS professionals</p> <p>Students may participate in intermittent focus groups, as appropriate.</p> <p>(Superintendent and school board members may be made aware of focus group results.)</p>	<ul style="list-style-type: none"> <li>● Encourage direct involvement of key stakeholders</li> <li>● A place to share feedback</li> <li>● A place to highlight and solve problems that may arise, pivot in PBIS framework plans/execution</li> </ul>	<p>Private, separate meeting to develop PBIS tier systems and individual school applications.</p> <p>Will be held weekly until tiered interventions are developed, then bi-weekly for first 3 months. Monthly meetings when program is successfully implemented.</p>
<p><b>3. Student Learning and Innovation Committee (SLIC)</b></p>	<p>School administrators, teachers, teaching assistants</p>	<ul style="list-style-type: none"> <li>● To train school staff on agreed-upon PBIS framework tiers and how they will be implemented in day-to-day situations</li> </ul>	<p>Educators can choose between the below, depending on their schedule:</p> <ul style="list-style-type: none"> <li>· One-time, half-day training session to be held on a teacher workday</li> <li>· Week-long lunchtime training series</li> </ul>

<p><b>4. Durham Learning and Innovation Committee (DLIC)</b></p>	<p>Students, teachers and assistants, school administrators, parents/guardians, DPS superintendent, school board members, community organization, Durham Community members</p>	<ul style="list-style-type: none"> <li>● Determine how the program may be succeeding and/or failing in meeting the needs of DPS students</li> <li>● Sharing of feelings and reactions to the program</li> <li>● Provide a platform for unaddressed perspectives</li>   <li>● Provide insight on how various PBIS support can be adopted to help underserved communities in Durham</li> </ul>	<p>Town hall held every month to begin. As the implementation process is further along, quarterly meetings.</p> <p>Email newsletter will be sent monthly throughout the program.</p>
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## Appendix C3.3: Memorandum of Understanding

### **MEMORANDUM OF UNDERSTANDING**

This Memorandum of Understanding (MOU) is entered into by and between the Student Learning and Innovation Committee (SLIC) and Durham Learning and Innovation Committee (DLIC).

#### **A. Purpose**

The purpose of this MOU is to outline the common vision, values, roles, and responsibilities between the lead agency, the SLIC, and the DLIC to foster innovative opportunities to adapt the PBIS framework at multiple levels.

#### **B. Engagement Vision and Values**

Vision: To increase the percentage of middle school students in Durham County public schools who are reading at grade-level, especially among minority students and those of low socioeconomic status and adapt those PBIS strategies to effectively engage communities within the county who experience low socioeconomic status.

Values:

1. Create transformative change in DPS public schools leading to sustained improvement in scores (specifically reading scores).
2. Develop equitable solutions through uncovering biases to address gaps among students of different races, ethnicities, and socioeconomic statuses (SES).
3. Engage students and amplify their voices throughout the life of the program.
4. Be adaptable, flexible, and willing to pivot plans and make changes as necessary to best serve the interest of the students and educators.
5. Engage all stakeholders via a multifaceted approach and allow the community to develop a plan to meet their perceived needs.

#### **C. Roles and Responsibilities**

DPS SLIC agrees to perform the following roles and responsibilities as outlined below:

1. Accountable for overarching program development and implementation at middle schools in DPS.
2. Provide tools for continuous program evaluation and collection of metrics.
3. Provide support and resources for local school administrators and educators throughout the program.
4. Continuously monitors progress of students and feedback from school staff, students, parents/guardians, and community members.
5. Develops a school-wide PBIS framework utilizing focus groups and reports from individual interviews.



6. Engage community education organizations to provide additional program support and resources.
7. Engage community stakeholders by planning and hosting DPS Town Hall meetings monthly, then quarterly as the program progresses.
8. Produce Evaluation Report at program completion.

**DPS DLCI** agrees to perform the following roles and responsibilities as outlined below:

1. Responsible for individual program planning and implementation at their respective communities in Durham.
2. Conducts individual interviews and focus groups with support from DPS and community education organizations who are supporting the program.
3. Plan and implement program training for all applicable staff.
4. Provides reports to the community boards on implementation and continuous progress.
5. Adapts program, as necessary.
6. Evaluation of the first wave of reports on classroom behavior and reading performance across all middle schools in DPS.

Metrics:

1. Percentage of middle school students reading at grade-level.
  - a. Broken down by district-level and school-level results
2. Percentage of students who have been engaged in PBIS framework tiers
  - a. District and school-levels, separated by tier level (1-3)
3. Percentage of minority students reading at grade-level
  - a. Broken down by district-level and school-level results
  - b. Broken down by race/ethnicity
4. Percentage of students reading at grade-level who receive free and reduced lunch
  - a. Broken down by district-level and school-level results
  - b. Broken down by race/ethnicity
5. Percentage of educators who feel more empowered in their classrooms
6. Percentage of educators who feel this framework improved the overall culture of their class/school
7. Percentage of crimes in low SES areas in Durham
8. Percentage of new jobs in low SES areas in Durham

## **F. Timeframe**

This MOU will commence on January 1, 2023 and will dissolve on January 1, 2025.

**G. Signatures**

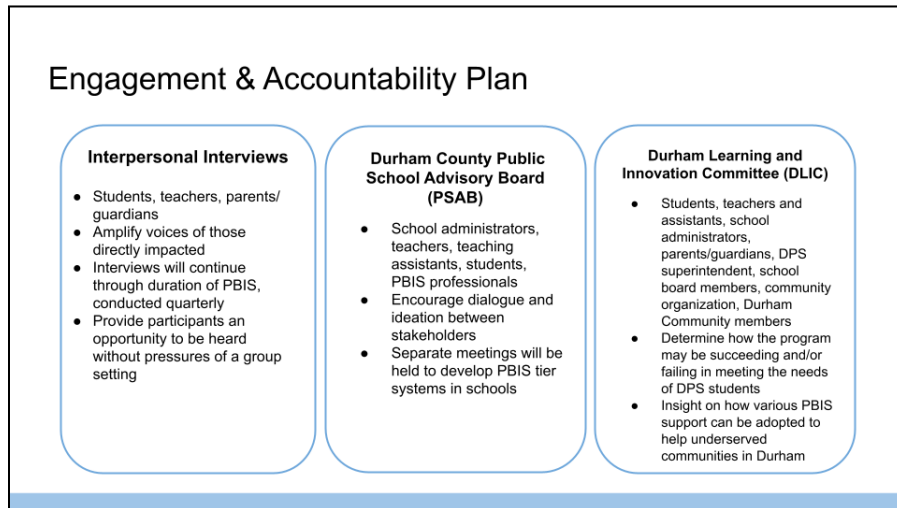
**Durham Learning and Innovation Committee Lead**

**Authorized Official:** \_\_\_\_\_  
Signature and Date Printed Name and Title

**Student Learning and Innovation Committee Lead**

**Authorized Official:** \_\_\_\_\_  
Signature and Date Printed Name and Title

## Appendix C4: Individual Slides and Script



### Script:

**Our engagement plan would consist of three key engagement strategies.**

- Our first engagement strategy supports individual interviews and focus groups w/ students, teachers, and parents or guardians within the Durham Public School System. These interviews will be used to amplify the voices of those who are directly impacted by our proposed policy, and they will continue throughout the duration of PBIS implementation.
- Our second engagement strategy would include a Durham Public School Advisory Board (PSAB): This advisory board will consist of school administrators, teachers, teaching assistants, students, and PBIS pros. The PSAB intends to cultivate and promote dialogue among diverse stakeholders to assist in developing methods and strategies for PBIS tier implementation in schools in Durham County. This advisory board would also encourage co-design and co-creation initiatives among stakeholders and separate meetings will be held weekly to develop PBIS frameworks catered to individual public schools (middle schools) in Durham County. Additionally, this advisory board will meet twice/ month in informal, hybrid settings before and during PBIS development, and then monthly after successful implementation.
- Our third engagement strategy proposes the development of the Durham Learning and Innovation Committee (DLIC): This committee will consist of various community stakeholders to identify what PBIS strategies can potentially be adopted and implemented at a community level within areas of low socioeconomic status (SES) or high crime within the county. This committee would ensure and provide external oversight for the advisory board and encourage coalition building between public schools and community members/ organizations.

**\*This committee will not be initiated until the successful implementation of PBIS in Durham County Public Schools.**

## **APPENDIX D: LAUREN PARRISH'S INDIVIDUAL DELIVERABLES**

### **Appendix D1: Problem Statement**

#### **Social Determinant of Health: Education Access and Quality<sup>1</sup>**

Quality education and access to education is a serious problem in Durham County that can cause negative impacts downstream on the health of the county. Our goal is to increase the equity in educational opportunities for adolescents in grades 3-8 enrolled in Durham County Schools. According to Healthy People 2030, “people with higher levels of education are more likely to be healthier and live longer”. Adolescents who come from families that are low income, adolescents with disabilities, and adolescents who have often experienced social discrimination are more likely to struggle with math and reading and are less likely to become a high school graduate or to attend college. This equates to adolescents who are less likely to grow up to attain safe, high-paying work opportunities. They also have a higher likelihood to develop health problems such as diabetes, heart disease, and depression. Additionally, some adolescents are living in areas with schools that have poor performance and/or have families who are unable to afford to pay for their children’s college. Lastly, the stress related to living in poverty can adversely affect brain development in children. It has been shown that interventions aimed at aiding adolescents' success in school and aiding families to pay for their children’s college can have long-term health benefits (Healthy People 2030, n.d.).

#### **Geographic and Historical Context**

Durham County experienced growth over the last few years. According to Data USA, in 2020, the population in Durham County was 317,665 people. This represents a 1.87% increase from the 2019 population. The five largest ethnic groups in Durham County in 2020 were: 42.6% White, 35.2% African American, 8.26% Hispanic, 4.93% Asian, and 3.21% two or more races. The median age in Durham County was 35.5 years with 90.9% of the residents being US citizens (Data USA).

The economic factors are also important to understanding Durham County. The median household income in Durham County was \$62,812 in 2020. This is compared to neighboring county, Orange, whose median household income was \$74,803 in 2020. In Durham County, 13.5% of residents are living below the poverty level, which is higher than the national average of 12.8% and Orange County's average of 12.4%. Of the 13.5% living below poverty level, 34.7% are African American, 30.6% are White, and 19.7% are Hispanic. Durham County had a 55.4% homeownership rate which is lower than the national average of 64.4% and Orange County's average of 63.8% (Data USA).

### **Priority Population**

Our priority population is adolescents in grades 3-8 who are enrolled in Durham Public School System (DPSNC) with a focus particularly on the African American and Hispanic students due to the great inequities that are currently present in the school system. During the 2021-2022 school year, DPSNC had 31,113 students enrolled. Of those students enrolled, 39.8% were African American, 34.2% were Hispanic, 19.1% were White, 4.8% were two or more races, and 1.9% were Asian (Durham Public Schools, n.d.).

Every year, school districts in North Carolina are required to release accountability data for the previous school year that gets condensed into school performance "grades". DPSNC has 40 elementary and middle schools. Only one of these schools scored an A, four scored a B, eleven scored a C, twenty-one scored a D, and three scored an F. The demographics of the one A school compared to the three F-scoring schools highlights the importance of focusing on the African American and Hispanic populations (shown in Appendix D1.1). The A-scoring school has a 58.1% minority population while the three F-scoring schools have 90.7%, 95.9%, and 96.3% minority populations (US News, n.d.).

### **Measures of Problem Scope**

Proficiency scores in Durham County are lower than that of the state for each grade level 3-8 in both reading and math. Additionally, there are huge gaps in proficiency scores

among ethnicities within the county. As seen in Appendix D1.1, Tables D1.1b and D1.1c, on average, for grades 3-8, white student's reading grade level proficiency (GLP) are 44% higher than African American students, 48.9% higher than Hispanic students, and 21.4% higher than Asian students. Similar data is seen with grades 3-8 math level proficiencies where white students are 47.3% higher than African Americans students, 44.2% higher than Hispanic students, and 16% higher than Asian students (Durham County Public Schools, 2022). Looking at more crude data, we see further problems regarding education and equity within Durham County. For instance, the racial disparity in educational attainment in the county is 0.37, while the NC value is 0.23 and the US value being 0.16 (lower values equate to a smaller difference in high school graduation across racial/ethnic groups) (US News Healthiest Counties).

There are also health problems and disparities facing Durham County as well. In 2019, prior to Covid, the average life expectancy in the county was 80.2 years with differences being seen in white Durham residents (82.4 years) and African American Durham residents (77.1 years). There is also a higher low birth weight disparity index score in Durham County (0.177) compared to the state (0.129) and the US (0.062) (higher scores reflect a greater disparity among racial/ethnic groups). Lastly, Durham County residents are facing disparities in premature deaths with an index of 0.156. This is compared to NC's value of 0.074 and the US value of 0.041 (a lower score indicates a smaller gap) (US News Healthiest Counties).

### **Rationale / Importance**

It has been shown that success in school is a strong indicator for adolescent's overall well-being and is a key determinant and predictor of health outcomes in adults. Additionally, studies have shown that students who receive Ds and Fs the majority of the time compared to those receiving mainly As are twice as likely to feel hopeless or sad and have five times the probability of missing school due to concerns over safety (CDC, 2015). This has even larger implications due to the inequities seen in DPSNC. Based on the data, the GLPs for grades 3-8 in both reading and math are lower in this county compared to the rest of the state. Many

schools in Durham County are underperforming with 24 out of 40 elementary and middle schools receiving grades of either a D or an F. There are extreme equity issues in Durham County regarding education, student performance (Appendix D1.1, Tables D1.1b and D1.1c), school performance (Appendix D1.1, Table D1.1a), and health outcomes / life expectancy (Durham Public Schools, n.d.).

### **Disciplinary Critique**

As a former high school teacher of almost eight years, I can attest that most teachers do not realize how greatly education levels can affect the immediate and long-term health outcomes of their students, particularly the effects of those in poverty or who are minorities. Policies need to be enacted through collaboration with health and education professionals to address and eliminate the inequities in the school system that flow into the community at large. These inequities need to be addressed and the best way to do so is to start when the individuals are young. Developing policies to achieve more equity will improve the education of this priority population and will improve the health and life expectancy moving forward for generations to come. Differences will be seen in each school age group as they graduate, become members of their community, have families, and pass the importance of education and health onto the next generation.

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**Appendix D1.1: Individual Problem Statement Tables**

**Table D1.1a**

*Comparison of the Demographics of Durham County's Top Performing School with the Three Lowest Performing Schools (Elementary and Middle Schools)*

<b>School</b>	<b>Grade</b>	<b>% White</b>	<b>% African American</b>	<b>% Hispanic</b>	<b>% Asian</b>	<b>Total % Minority</b>
Pearsontown Elementary	A	41.9	35.4	9.5	4	58.1
C C Spaulding Elementary	F	3.7	72.5	21.2	1.1	96.3
Lakewood Elementary	F	9.3	35.5	49.1	3.2	90.7
Neal Middle	F	4.1	46.6	45.8	1.0	95.9

U.S. News: Education. (n.d.). *Search K-12 schools* <https://www.usnews.com/education/k12/search>

**Table D1.1b**

*Percent of Durham Public School Students Meeting Reading Grade Level Proficiency (GLP) Scores Compared to NC Statewide GLP Scores (2021-2022)*

	3rd Grade	4th Grade	5th Grade	6th Grade	7th Grade	8th Grade	Composite Grades 3-8
% Total	38.2 (46.4) -8.2	45.2 (51.3) -6.1	38.9 (45.7) -6.8	42.2 (47.5) -5.3	44.9 (48.8) -3.9	44.0 (50.6) -6.6	42.2 (48.4) -6.2
% White	74.1 (59.6) 14.5	82.1 (59.3) 22.8	73.3 (59.9) 13.4	78.7 (60.4) 18.3	85.1 (62.0) 23.1	80.3 (63.6) 16.7	78.7 (60.8) 17.9
% African American	29.6 (31.0) -1.4	35.3 (34.8) 0.5	30.8 (28.4) 2.4	34.4 (31.3) 3.1	36.7 (32.6) 4.1	38.1 (34.4) 3.7	34.3 (32.1) 2.2
% Hispanic	23.9 (32.8) -8.9	32.5 (38.1) -5.6	26.9 (31.8) -4.9	29.8 (34.9) -5.1	34.4 (36.8) -2.4	31.7 (38.4) -6.7	29.8 (35.5) -5.7
% Asian	55.3 (70.6) -15.3	56.5 (74.5) -18.0	48.8 (71.4) -22.6	57.9 (75.7) -17.8	66.7 (78.0) -11.3	58.8 (78.8) -20.0	57.3 (74.8) -17.5

NC DPI. (2022). 2021-2022 Annual Testing Report. <https://www.dpi.nc.gov/2021-22-annual-testing-report>

Key Within Each Block:

Row 1: Durham County Schools Grade Level Proficiency Percents

Row 2: (North Carolina Statewide Grade Level Proficiency Percents)

Row 3: Difference in GLP Percents: Durham County - State

**Table D1.1c**

*Percent of Durham Public School Students Meeting Reading Grade Level Proficiency (GLP) Scores Compared to NC Statewide GLP Scores (2021-2022)*

	3rd Grade	4th Grade	5th Grade	6th Grade	7th Grade	8th Grade	Average
% Total (GLP / CCR)	48.5 (57.1) -8.6	44.2 (49.8) -5.6	40.7 (51.1) -10.4	39.5 (50.3) -10.8	39.5 (48.7) -9.2	34.1 (42.2) -8.1	41.1 (49.9) -8.8
% White	80.5 (69.9) 10.6	79.4 (63.9) 15.5	71.6 (64.8) 6.8	78.6 (65.0) 13.6	82.1 (63.5) 18.6	71.9 (55.9) 16.0	77.3 (63.8) 13.5
% African American	39.4 (39.1) 0.3	29.6 (28.4) 1.2	30.3 (30.3) 0	27.7 (29.2) -1.5	29.1 (27.9) 1.2	24.8 (23.3) 1.5	30.0 (29.7) 0.3
% Hispanic	38.8 (47.4) -8.6	38.8 (40.8) -2.0	33.9 (42.1) -8.2	30.4 (39.8) -9.4	30.2 (38.8) -8.6	26.5 (31.7) -5.2	33.1 (40.1) -7.0
% Asian	65.8 (84.2) -18.4	63.0 (80.9) -17.9	56.1 (81.9) -25.8	68.4 (82.3) -13.9	74.4 (82.9) -8.5	45.1 (78.1) -33.0	61.3 (81.7) -20.4

NC DPI. (2022). 2021-2022 Annual Testing Report. <https://www.dpi.nc.gov/2021-22-annual-testing-report>

Key Within Each Block:

Row 1: Durham County Schools Grade Level Proficiency Percents

Row 2: (North Carolina Statewide Grade Level Proficiency Percents)

Row 3: Difference in GLP Percents: Durham County - State

## **Appendix D2: Policy Analysis**

### **Background Information**

Durham County commissioners are working to improve the health of their residents and are looking upstream to the social determinants of health to do so. Education is a crucial social determinant of health and is a major problem in Durham County. According to Healthy People 2030, “people with higher levels of education are more likely to be healthier and live longer”. Our goal is to increase the reading and math grade level proficiencies (GLPs) for students grades 3-8 within the Durham Public School System (DPSNC), particularly focusing on improving the equity of scores. These are the students who take the statewide End-of-Grade (EOGs) tests at the end of each school year, upon which the GLPs are based.

Proficiency scores in Durham County are lower than that of the state for each grade level 3-8 in both reading and math. Additionally, there are huge differences in proficiency scores among races within DPSNC, with Hispanic and African American students performing exponentially lower than their white and Asian counterparts. The data at the school level shows similar findings. See Appendix D1.1, Tables D1.1b and D1.1c for the comparisons of scores among ethnicities at the county level and Appendix D2.1, Table D2.1a for the comparison among the top-rated school and the three lowest-rated schools in DPSNC (Durham County Public Schools, 2022).

### **Policy Options**

Two policy options have been identified to aid in the improvement of educational equity seen in student’s GLPs. The first is to implement a county-wide Positive Behavioral Interventions and Supports (PBIS) framework. Studies have consistently shown that the removal of students from the classroom due to behavioral problems is associated with lower academic success. PBIS is a framework teachers and administrators can use to address behavioral issues while still keeping the student in the classroom (Yaluma et al., 2022). The

second policy option is to increase the number of teacher assistants in the classrooms. Teacher assistants are a crucial part of the classroom performing numerous roles and allowing the teacher to have more time for instructional planning and activities (Ladd et al., 2022). In 2019, there were roughly 1 teacher assistants for every 3.7 elementary and middle school teachers in Durham County (a number that has increased since Covid-19) (NCES, n.d.). This policy would require two teacher assistants for every one elementary and middle school teacher.

The policies will be assessed using five evaluation criteria with varying weights using a ranking system from 1 (not favorable) to 5 (highly favorable). The evaluation criteria include (1) cost to the county [x2] - how much will the implementation of the policy cost the county, (2) impact [x3] - the total number of students grades 3-8 that will see an increase in their math and reading GLPs, (3) political feasibility [x1] - how the policy will be accepted by the county commissioners and the general public, (4) ease of implementation [x1] - how easy will it be to implement the policy across the elementary and middle schools in the county, (5) equity [x3] – how well the policy decreases the racial disparities seen in students math and reading GLPs. Appendix D2.1, Table D2.1b shows the Policy Evaluation Matrix with subsequent rankings for each policy.

## **Policy Analysis**

### *Policy Option 1: Positive Behavioral Interventions and Supports (PBIS) framework*

Studies have consistently shown negative relationships between the removal of students from the classroom due to behavior and academic success. Most of the cases where students are removed from the classroom are for minor and non-violent actions/situations. Additionally, it has been seen that teacher’s cultural misreadings and biases often lead to unequal disciplinary administration among the races, that further widens the racial disparities in academic performance. PBIS is a discipline policy that has been enacted in many states and school districts and is defined by the Ohio Department of Education as a “framework that guides school

teams in the selection, integration and implementation of evidence-based practices for improving academic, social, and behavior outcomes for all students” (Yaluma et al., 2022).

PBIS utilizes an evidence-based three-tiered framework. Tier 1 works to create a strong groundwork of consistent and proactive support while staving off undesirable behaviors. This is applied to all students universally. Tier 2 is used to provide support for students who are at risk of developing serious behavioral problems before those problems start. Tier 3 provides much more intensive and personalized support to specific students to aid in the improvement of their behavioral and academic outcomes. (PBIS, 2022). Research has shown that the multitiered framework of PBIS has resulted in numerous improvements in student outcomes such as lowering school dropout rates, increased academic progression, and higher student engagement (Van Otterloo, J.L., 2021).

PBIS would rank highly (5) in regards to the cost to the county. The county would need to be trained on the framework and have ongoing evaluations to assess the fidelity of implementation and success of the program. The county would have to initially pay for select staff members (administration and department heads) to attend the PBIS Leadership Forum. These teachers would then take the information they learned and conduct presentations during teacher workdays to educate the other staff members on the framework. They would also need to pay each year to send select staff back for continuing education at the Forum. This is the standard process followed by schools implementing a new program. Impact would rank in the middle (3) as this is not a policy that directly affects the pedagogy and instead aids in increasing test scores as a side effect. Political feasibility would also fall in the middle (2) as some of the stakeholders in the community (ie, parents and community members) may think the schools are being too “soft” on the students and not providing the necessary discipline. The teachers may also be resistant to PBIS as it is another new program they will have to be trained on and with some teachers also being responsible for conducting training on top of their already immense workload. The administrators and school board however would think highly of it as they are

always looking for new ways to improve both behavior and test scores. Ease of implementation ranks in the middle (3) as it is important that it is implemented with high fidelity, as it is required that all staff fully participate. Lastly, equity ranks very highly (5) as it is a framework that has been shown to improve behavior and scores most among ethnic minorities and has the tiered programs that focus on individual students.

*Policy Option 2: Increase the Number of Teacher Assistants in Elementary and Middle Schools*

Across the US, TAs make up about 12% of the elementary and secondary labor force and are a crucial part of the classroom. They are responsible for getting classroom activities prepared, working with individuals and small groups who are struggling, helping with the management of student behavior, and aiding in the evaluation of student work. Having TAs perform these tasks allows teachers more time to focus on the actual teaching and makes it easier to offer more specialized and focused instruction in the classroom. Unfortunately, TAs are often undervalued and are the first to go when budget cuts are initiated, which happened during the depression around 2008 in NC (Ladd et al., 2022). Evidence has consistently shown the positive effects of TAs on student outcomes, particularly in math and reading. Further, evidence has shown larger positive effects of teacher assistants on academic outcomes for students of color and those in schools with high poverty (Hemelt et al., 2012).

Teacher assistants would rank low (1) on the cost to the county criteria. It would be a great financial burden to hire additional staff members and may require funds from the state as well. This would rank highly on impact (4) as it offers more individualized student learning and because studies have shown the correlation between more TAs and increased math and reading test scores. The TA policy would rank highly (5) on political feasibility. Parents and teachers would be glad to have additional support in the classrooms (teachers because they have extra help with instruction and discipline and parents because there are more teachers available to help their children). The commissioners and school board members may be opposed due to the cost of adding teacher assistants. Ease of implementation ranks low (2) as it

is already hard to find regular teachers in the post-covid education system, much less assistants who often take the brunt of many various responsibilities while receiving low pay. Lastly, equity would rank highly (4) as this allows for individualized learning based on the students most at-risk and has been shown to have larger positive outcomes on students of color and high poverty schools.

### **Policy Recommendation**

Based on our policy analysis, we would recommend implementing the PBIS framework in DPSNC elementary and middle schools (high schools are outside of the scope of our goal and are thus not included in this policy). PBIS addresses the need for students to remain in the classroom as that is where education occurs. PBIS not only works to keep students in the room after a behavioral situation has occurred, but also works to prevent them from occurring at all. Since the majority of the students who are sent out of the classroom as a disciplinary measure are those of color, this program will best help to reduce the racial disparities seen among math and reading GLPs in DPSNC students grades 3-8 by giving them a more equal opportunity for learning.

To determine the effectiveness of this program, we will look at both process and outcome measures. As a process measure, we will assess the number of students (total and separated by race) who are sent out of the classroom as a disciplinary action. We will look at previous year's reports and continue to keep documentation. Each quarter, the numbers will be assessed to see if the PBIS supports are working and if teachers are following it by using proper interventions and disciplinary actions for behavioral problems within their classrooms. As another process measure, we will be monitoring the students' standardized test grades they are required to take at various times throughout the year looking for improvements in student's individual scores and improvements in racial disparities on the tests. Our main outcome measure will be to assess the students' math and reading GLPs at the end of the year. Again,



we will be looking for individual student growth, county-wide growth, and improvements in racial disparities.

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<https://doi-org.libproxy.lib.unc.edu/10.1177/0895904821999838>

**Appendix D2.1: Individual Policy Analysis Tables**

**Table D2.1a**

*Comparison of the Demographics and GLP's of Durham County's Top Performing School with the Three Lowest Performing Schools (Elementary and Middle Schools)*

<b>School</b>	<b>Grade</b>	<b>% Minority</b>	<b>% Economically Disadvantaged Students</b>	<b>% Math Proficiency</b>	<b>% Reading Proficiency</b>
Pearsontown Elementary - 775	A	58.1	20	63	67
C C Spaulding Elementary - 269	F	96.3	99	12	12
Lakewood Elementary - 375	F	90.7	99	23	21
Neal Middle - 831	F	95.9	100	18	26

U.S. News: Education. (n.d.). *Search K-12 schools* <https://www.usnews.com/education/k12/search>

**Table D2.1b***Matrix of Policy Options*

Policy Option	Evaluation Criteria					
	Cost to the County 2x	Impact 3x	Political Feasibility 1x	Ease of Implementation 1x	Equity 3x	Total Score
<b>PBIS</b>	(5 x 2) 10	(3 x 3) 9	(2 x 1) 2	(3 x 1) 3	(5 x 3) 15	<b>39</b>
<b>Teacher Assistants</b>	(1 x 2) 2	(4 x 3) 12	(5 x 1) 5	(2 x 1) 2	(5 x 3) 15	<b>36</b>

## **Appendix D3: Financial Oversight: Program Budget**

### **Summary**

Positive Behavioral Interventions and Supports (PBIS) allows for students to have fewer behavioral issues due to prevention methods and provides disciplinary action that allows students with non-violent behavioral problems to remain inside the classroom. Studies have consistently shown that the removal of students from the classroom due to behavioral problems is associated with lower academic success (Yaluma et al., 2022). PBIS is a three-tiered framework. Tier 1 creates a strong groundwork of consistent and proactive support while staving off undesirable behaviors. This is applied to all students universally. Tier 2 provides support for students who are at risk of developing serious behavioral problems before those problems start. Tier 3 provides much more intensive and personalized support to specific students to aid in the improvement of their behavioral and academic outcomes (PBIS, 2022).

Schools implementing PBIS support students via a continuum of evidence-based strategies; co-create culturally adept practices by engaging students, families, and the community; consistently assess the effectiveness of practices; guide implementation by using teams instead of individuals; utilize data to determine strengths, identify needs, and regularly check student progress; formulate content expertise via training and regular professional development.

Staff members from Durham Public Schools (DPSNC) have to be trained in PBIS, which occurs at the National PBIS Leadership Forum in Chicago, IL. In DPSNC, the training will be rolled out in two phases since there are 40 total middle and elementary schools within the county. In phase 1, six representatives (at least one administrator and the school department heads) from each of the 20 lowest performing middle and elementary schools will be sent to the Forum. In phase 2, occurring the following year, the remaining 20 schools will send six representatives for their initial training. Every year following the initial training, schools will send

two staff members to the Forum for continuing education. The PBIS County Administrator (CA) will attend the Forum each year as well. The staff members who attend the Forum will be responsible for conducting seminars and trainings to educate the rest of the staff. These will occur routinely throughout the school year during teacher workdays and are a normal part of the teaching job.

### **3 Year Budget Narrative**

#### *Funding*

The funding for this program will come from the School Climate Transformation Grant. The Deputy Superintendent, Nakia Hardy, in conjunction with the county commissioners will be responsible for applying for the grant so the school's will have the money to send representatives to the National Forum in October 2023. This grant has been used for districts implementing PBIS prior. The awards range from \$100,000 and \$750,000 per year for up to 5 years with an average award being around \$500,000. Our proposed budget is much less than that for each year.

#### *Expenses - County Administrator*

The county will have to hire a CA to oversee, run, and conduct evaluations of the program. This individual will start with a base of \$60,000 with an annual raise of 2.5%, which is the average annual raise for most public education employees. I used the standard 30% of the salary to calculate the cost of the CA's fringe benefits. The CA will have an office in the DPSNC Central Office location. This will require \$10,000 upfront for all needed equipment, electricity, and heating. An additional \$3,000 will be needed each year after.

#### *Expenses - PBIS Training*

The cost for one person to attend the Forum is \$350. The first year, there will be 6 staff members from each of the 20 phase 1 schools and the CA. In year two, there will be six staff members from each of the 20 phase 2 schools, two staff members from each of the 20 phase 1

schools, and the CA. In year 3, each of the 40 total schools will each be sending 2 staff members for continuing education, along with the CA.

The schools will be taking buses to Chicago, which will be three days. According to National Charter Bus, the per day rate for one bus can range between \$1,100 and \$1,900. I took the average of this and assumed that each day would be \$1,500 for one bus. Each bus can hold 55 people. Year 1 (121 people attending) and year 2 (161 people attending) will each need three buses for three days. Year 3 will only have 81 people in attendance, which equates to two buses needed for three days.

The staff members will stay in Chicago for two nights. According to the National PBIS Leadership Forum website, each hotel room costs \$194/night. I accounted for 2.5% inflation each year in hotel prices. Two people will room together, except the CA who will have their own room. Year 1 (121 people attending) will need 61 rooms at \$194 per night for two nights. Year 2 (161 people attending) will need 81 rooms at \$199 per night for two nights. Year 3 (81 people attending) will need 41 rooms at \$204 per night for two nights.

#### *Expenses – Community Engagement*

One of the important aspects of PBIS' effectiveness relates to the engagement of the students, parents, and community members. There will be events aimed at bringing the community together, educating the parents and community on PBIS and how to incorporate the framework outside of school, and offering the students fun yet safe opportunities to gather together outside of school hours. These events will include a county-wide Holiday Parade / Festival in December that includes students from various sports, clubs, and extra-curricular activities from each school. Since Durham is a large county, this will also include more local events in four or five different areas around the county. These would be things such as Food Truck Rodeos, Fall Festivals, etc. There will be \$25,000 per year allocated for these events. This number was based on the Town of Clayton's special events budgetary line which has

ranged from \$15,400 to \$23,840 over the past four years (Town of Clayton, 2022). The allocation for Durham County is higher since we are working with a county versus a town.



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### Appendix D3.1: Budget Spreadsheet

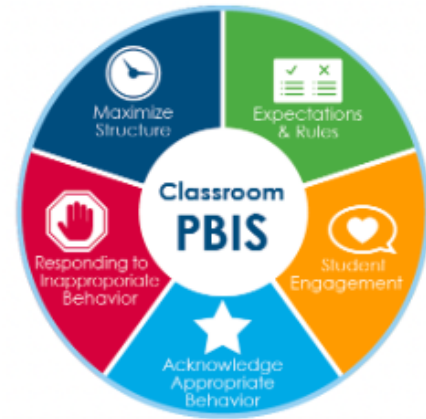
#### Durham County PBIS Framework Budget Proposal, School Years 2023-2026

DPSNC Revenues	Year 1: 2023-2024	Year 2:2024-2025	Year 3: 2025-2026	Total
School Climate Transformation Grant	\$192,518	\$210,038	\$164,027	\$566,583
DPSNC PBIS Expences	Year 1	Year 2	Year 3	Total
PBIS County Administrator Salary	\$60,000	\$61,500	\$63,038	\$184,538
PBIS County Administrator Benefits	\$18,000	\$18,450	\$18,911	\$55,361
PBIS County Administrator Office Equipment/Supplies	\$10,000	\$3,000	\$3,000	\$16,000
National PBIS Leadership Forum Fee	\$42,350	\$56,350	\$28,350	\$127,050
National PBIS Leadership Forum Travel	\$13,500	\$13,500	\$9,000	\$36,000
National PBIS Leadership Forum Hotel	\$23,668	\$32,238	\$16,728	\$72,634
Community Engagement Expenses	\$25,000	\$25,000	\$25,000	\$75,000
<b>Total</b>	<b>\$192,518</b>	<b>\$210,038</b>	<b>\$164,027</b>	<b>\$566,583</b>

## Appendix D4: Individual Slides and Script

### Recommended Programmatic Change: PBIS

- Removing students from the classroom due to behavior negatively affects academic success<sup>1</sup>.
- Positive Behavioral Interventions and Supports (PBIS)
  - A framework that guides school teams in the selection, integration and implementation of evidence-based practices for improving academic, social, and behavior outcomes for all students<sup>1</sup>
  - A three-tiered framework with different supports and interventions aimed at various levels of students<sup>2</sup>
  - Results in improvements in a wide variety of student outcomes<sup>3</sup>
  - Helps to reduce the racial disparities in student's GLPs<sup>1</sup>



- Studies have shown negative relationships between the removal of students from the classroom due to non-violent behavioral problems and academic success.
- Due to this, Durham Public Schools will adopt the Positive Behavioral Interventions and Supports Framework, or PBIS.
- PBIS is a discipline policy that has been enacted in many states and school districts
- PBIS utilizes an evidence-based three-tiered framework. It has one tier that addresses all students, a second tier that addresses students at risk of developing behavioral problems, and a third tier that addresses students who already have consistent behavioral problems.
- Research has shown that it has resulted in lowering school dropout rates, increased academic progression, and higher student engagement
- Since the majority of the students who are sent out of the classroom as a disciplinary measure are those of color, this program will help to reduce the racial disparities seen in student's math and reading GLPs. Reducing the racial disparities in education among children will help to reduce the racial disparities in health in the community with each passing generation.

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Image: <https://flpbis.cbcs.usf.edu/tiers/classroom.html>

## Budget

DPSNC Revenues	Year 1: 2023-2024	Year 2:2024-2025	Year 3: 2025-2026	Total
School Climate Transformation Grant	\$192,518	\$210,038	\$164,027	\$566,583
<b>DPSNC PBIS Expenses</b>				
	Year 1	Year 2	Year 3	Total
PBIS County Administrator Salary	\$60,000	\$61,500	\$63,038	\$184,538
PBIS County Administrator Benefits	\$18,000	\$18,450	\$18,911	\$55,361
PBIS County Administrator Office Equipment/Supplies	\$10,000	\$3,000	\$3,000	\$16,000
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Community Engagement Expenses	\$25,000	\$25,000	\$25,000	\$75,000
<b>Total</b>	<b>\$192,518</b>	<b>\$210,038</b>	<b>\$164,027</b>	<b>\$566,583</b>

- This program will be funded by the School Climate Transformation Grant, which is commonly used by districts implementing PBIS. The grant will need to be applied for immediately in order to have the money for the PBIS National Forum in October 2023 in Chicago, Illinois.
- A PBIS County Administrator (CA) will need to be hired to run the program within the schools. The CA will start with a salary of \$60,000 the first year and will receive an annual raise of 2.5% for each following year and benefits accounting for 30% of the salary. The CA will have an office in the DPS Central Office location that will require funds for equipment and electricity. It will require more the first year to set everything up.
- There are 40 elementary and middle schools in DPS that will all have to be trained in PBIS by attending the National Forum. This will be rolled out in two phases. In phase 1, the 20 lowest performing schools will send six initial representatives. The following year the remaining 20 schools will send six their representatives. Every year following the initial attendance, the schools will each send two staff members for continuing education.
- The cost for one person to attend the forum is \$350.
- The representatives will travel by Charter Bus to Chicago for three days. The going rate for a charter bus is approximately \$1500 per bus per day. Based on attendance, three buses will be needed for years 1 and 2 while only one bus will be needed for year 3.
- For lodging, two staff members will share a hotel room for the two nights of the forum. The hotel cost was based on the 2022 price of \$189 per night and I have allowed for 2.5% inflation over the next two years.
- Lastly, there will be community engagement expenses, which is crucial for the success of PBIS. Based on other town and county budgets, \$25,000 per year has been allocated for these expenses

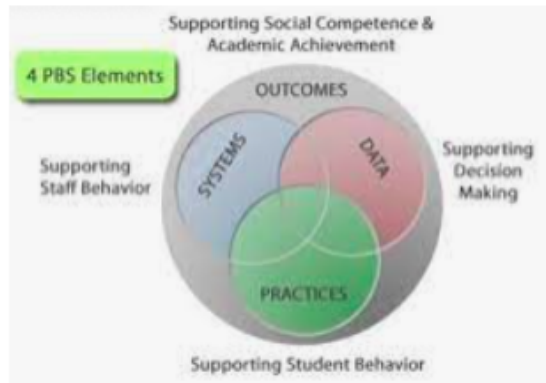
## Evaluation Measures

- **Process Measures**

- Number of students sent out of the classroom
  - Indicates if teachers are supporting student behavior and the school's are supporting staff behavior
- Student's standardized test scores
  - Used to identify improvements in individual scores and racial disparities

- **Outcome Measure**

- Student's math and reading GLP's
  - Indicates individual student growth, county-wide growth, and improvements in racial disparities



- As a process measure, we will assess the number of students (total and separated by race) who are sent out of the classroom as a disciplinary action. We will look at previous year's reports and continue to keep documentation.
  - Each quarter, the numbers will be assessed to see if the PBIS supports are working and if teachers are following it by using proper interventions and disciplinary actions for behavioral problems within their classrooms. This shows if staff and student behaviors are being supported.
- As another process measure, we will be monitoring the students' standardized test scores. Schools are required by the state to administer standardized test various times throughout the year.
  - We will be looking for improvements in student's individual scores and improvements in racial disparities on the tests. This can aid in supporting decision making and allows for alterations to be made as needed throughout the school year.
- Our main outcome measure will be to assess the students' math and reading GLPs at the end of the year. Again, we will be looking for individual student growth, county-wide growth, and improvements in racial disparities.

Image from: <https://pbisca.org/elements-of-pbis>

## **APPENDIX E: LIISA SMITH'S INDIVIDUAL DELIVERABLES**

### **Appendix E1: Problem Statement**

#### **Social Determinants of Health**

The public school system is failing to equip our children with the basic foundational literacy competencies necessary to exhibit grade level proficiency. In 2019, the North Carolina average fourth grade reading proficiency was 57.2% (State of NC, 2019). Subgroup analysis reveal disparities in the reading proficiency of black and Hispanic minorities compared to their white peers, 40.5% and 44.3% vs. 70.7%, respectively (State of NC, 2019). This grade reading level proficiency imbalance is also observed in the majority-minority Durham County.

#### **Priority Population**

During the 2019 school year, Durham County was below the state average with only 48.5% of 4<sup>th</sup> graders at the grade level proficiency. Unfortunately, when population demographics are dissected, vast educational disparities by race and ethnicity become glaringly evident. On average only 40% of black and Hispanic children were 4<sup>th</sup> grade level proficient compared to 81.9% of their white classmates (Appendix E1.1: Figure 1, NCDPI, 2019). This disparity is more evident when corrected for poverty level. Indeed, children identified as economically disadvantaged were only 36.2% proficient at 4<sup>th</sup> grade reading (NCDPI, 2019). The impact on reading proficiency is in part due to stress of living in poverty and associated impact on brain development (Williams-Shanks & Robinson, 2013). This disparity in proficiency has not improved over time, the Durham County public school system has simply failed to address the issue by providing the necessary educational interventions.

#### **Rationale and Importance**

Grade level reading proficiency in 4<sup>th</sup> grade is an integral checkpoint for a child's future and educational success. Children who fail to achieve grade level proficiency reading by the end

of 4<sup>th</sup> grade characteristically exhibit low scholastic confidence and struggle to attain grade level proficiency year after year (Olshansky et al., 2012). Data indicates some of these children will never complete high school; consequently, they will be limited to low-wage employment options, and are on a path for long-term poor health outcomes, including, but not limited to depression and heart disease (Healthy People 2030). There is a critical need to address reading proficiency in elementary schools across Durham County with a particular emphasis on providing minority and low-income communities with the fundamental skills to improve. This is not only an educational objective, but one that will address a public health problem.

### **Geographic and Demographic Context: Durham County**

Durham County is found in the central Piedmont region of North Carolina, next to Wake and Orange Counties. Durham County is mostly urban, where the majority of residents live in the only incorporated municipality in the county, the city of Durham. The 2022 residential demographics of Durham County is 35% black, 13.7% Hispanic and 43.3% white (Durham County, 2022). While diverse, the county overwhelmingly relies on its educated residents to contribute to the medical and health-care businesses located within Durham County (SCOTCH Report, 2021). Durham County is home to Duke University, Duke Cancer Institute and Durham is known as the "City of Medicine" (Durham County Community Health Assessment [DCCHA], 2021). Research Triangle Park (RTP) is partially located in Durham County, which is home to about 140 pharmaceutical and biotechnology companies (DCCHA, 2021).

Unfortunately, Durham is still trying to repair the racial/ethnic inequities that developed from redlining and urban renewal programs that occurred in the 1930s, 1940s and 1960s. Redlining segregated the county and corralled the black residents into the least desirable parts of the county by unfavorable lending practices based on race (DeMarco & Hunt, 2018). Urban renewal projects displaced thousands of black residents from their houses and into housing projects and forced hundreds of black-owned businesses to close never to reopen (DeMarco & Hunt, 2018). Blacks and Hispanic Durham residents are less likely to own a home and are

two-three times as likely to live in poverty compared to white Durham residents (DCCHA, 2021). This continues to exasperate the socioeconomic racial/ethnic disparities that have yet to be remedied by the county.

Durham is a young County, the median age is 35 (SCOTCH, 2021). One third of children in public school live with a single mom and one half live in their own home (ACS Stats, 2022). There are 19.9% of students who live below the poverty level and 24.5% on SNAP (ACS Stats, 2022).

### **Problem of Scope: Durham County Schools**

Durham Public Schools (DPS) is the eighth largest school district in the state with 31,333 students enrolled during the 2021-22 school year. The DPS student demographics do not completely reflect those of the county, since only 19% of students are white, 41.6% are Black, and 32.8% are Hispanic (Durham Public Schools, 2022). Two of the worst performing DPS elementary schools, CC Spaulding Elementary and WG Pearson Elementary, are located in historically redlined areas D6 (Appendix E1.1: Figure 2) are almost exclusively enrolled with minority students, 96% and 99% respectively. This area of Durham has remained low-income, subsequently all of the students at both elementary schools qualify for the free lunch program, and a majority of them are classified as economically disadvantaged (Table 1, Statistical Profile, 2022). Conversely, a top performing DPS elementary school, George Watts Elementary, is located in A2 (Figure 2), a majority white area due to the residential zoning policies set forth in the 1930s. This section of Durham has maintained higher property values evident by George Watts Elementary having very few economically disadvantaged students (Table 1, Statistical Profile, 2022). Importantly, performance cannot be attributed to school funding as low performing schools were allocated more funding per pupil (Table 1). These data suggest that the performance correlated with demographics and the educational curriculum and opportunities provided by these schools.



## Disciplinary Critique

Addressing the grade level reading proficiency inequities in Durham County elementary schools could potentially alter the long-term health outcomes and age of mortality for these children. Between 2010-2017, the average of age mortality decreased among those without a 4-year college degree, while increasing among adults with one (Sasson & Hayward, 2019). Most recently, COVID-19 proved to be particularly harsh to those individuals with low-education attainment, poor English proficiency and racial/ethnic minorities (Samuel, et.al., 2021). Unfortunately, these attributes increased the rate of hospitalization and mortality for those with COVID-19. While the COVID-19 pandemic is just one example, education attainment consistently shows to have a major impact on access to health care, employment and subsequent long-term health outcomes. Action needs to be taken to stop the cycle of low education attainment, poverty and poor health.

**Table 1.** Comparison of the demographics and socioeconomics between George Watts Elementary, W.G. Pearson Elementary and C.C. Spaulding.

	George Watts Elementary	W G Pearson Elementary	C C Spaulding Elementary
<b>Race/Ethnicity (%)</b>			
Hispanic	25	35	21
Black	12	60	73
White	54	1	4
Asian	1	1	1
2 or more	7	3	1
<b>Socioeconomics (%)</b>			
Eligible for Free lunch	17	99	99
Eligible for Reduced Lunch	2	-	-
Economically Disadvantaged	20	55.6	63.3
<b>Test Scores (%)</b>			
Reading GLP (2019)	62.5	36.8	22.5
Per Pupil Funding Total (\$)	14,759	16,904	18,023

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## Appendix E1.1: Figures

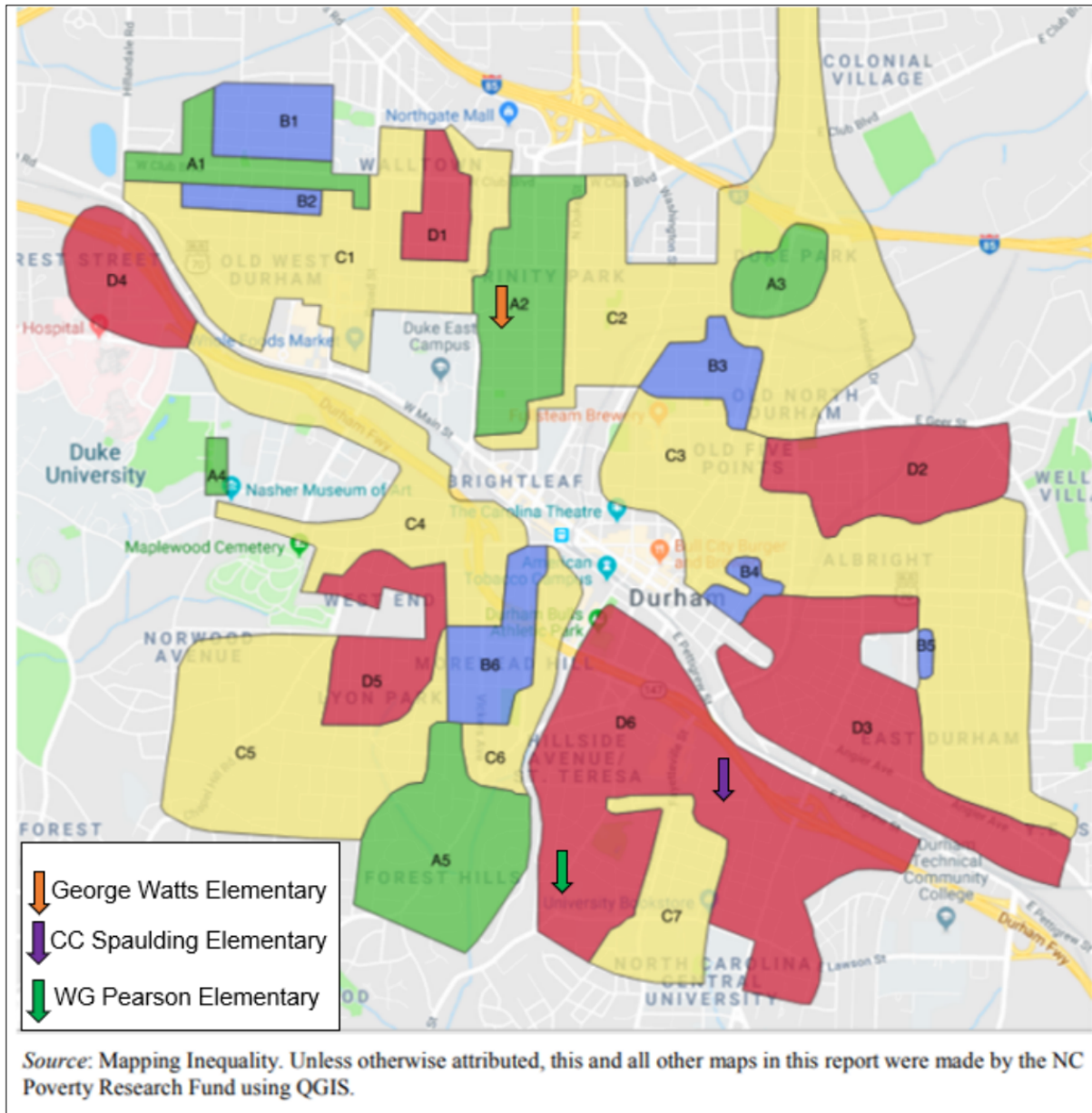
**Figure 1**

*Percentage of fourth grade students grade level proficient (GLP) in reading by subgroups in 2018-2019 in Durham Public Schools.*



**Figure 2**

*Durham Redlining Map Transposed Over Google Maps*



D6 was Hyati, once called “Capital of the Black Middle Class” due to the once thriving black businesses and flourishing black communities in the area. However, by the 1950s, Hyati had become overcrowded and due to redlining was targeted by the re-urbanization efforts. Construction of the Durham Highway through the middle of Hyati, decimating the area by dislodging over 4,000 families to public housing and closing 500 black businesses. Redlined areas separate areas out of high poverty, these areas mainly comprised of black and Hispanic communities. The two lowest performing schools are located in what was Hyati (D6) (DeMarco & Hunt, 2018).

## **Appendix E2: Stakeholder Analysis**

### **Program Overview**

Grade level reading proficiency is a Healthy NC 2030 (HNC) priority, where on average, only 4 out of 10 minority children in North Carolina read at grade level. The reading proficiency levels are even lower for minority children enrolled in Durham public schools compared to the NC state average. In Durham County, there are marked educational disparities by race and ethnicity for only 40% of Black and Hispanic children were 4<sup>th</sup> grade level proficient compared to 81.9% of their White classmates (NCDPI, 2019). In order to achieve our goal of improving grade level reading proficiency, we plan to implement the evidence-based reading curriculum, Systematic Instruction in Phonologic Awareness, Phonics and Sight Words (SIPPS; Collaborative Classroom, 2022). This structured, phonics and sight-word based reading program has been used with great success by Oakland REACH, and Black Mothers Forum. These Black and Latinx parent run community groups were able to save their children from inequities in the school system by tutoring them using the SIPPS program (CPRE, 2021). Introduction of a new reading curriculum to address the lagging reading proficiency among the minority children is a sensitive and complex issue. Therefore, there are three community engagement principles that we will aim to prioritize above the rest, which will aim to build trust with the community, be knowledgeable of the cultures, and respect diversity. These three principles will underpin our stakeholder engagement strategy and enable program implementation. The overarching goal will be that all stakeholders feel empowered to participate, are represented fairly throughout the course of our program, and are supportive of our ambitious implementation plan.

### **Stakeholder Analysis**

The goal for our stakeholder group is to engage during the development of an implementation plan, define near and long-term objectives, focus on diversity and inclusion, and advise on this new program curriculum that meets the needs of the 4<sup>th</sup> grade students in CC

Spaulding and WG Pearson Elementary Schools. A local team built from administrators, educators, advocates, parents, and students, is best positioned to act and finally address the literacy issues in Durham County which will catalyze educational awareness and improve health outcomes for decades to come. In order to successfully utilize our stakeholders' expertise, we needed to identify who among the team has the most influence across the group and community. Additionally, it is essential to know who would have the greatest interest in helping to see the program succeed. Plotting each stakeholder by power and interest provides guidance on the utilization of the best engagement strategy approach with each of them.

### **Relevant Stakeholders**

Critical to the success of our program will be participation of key stakeholders across the education continuum, including school administrators, educators, parents, and most importantly our students. In order to ensure proper implementation and assessment of the program, these stakeholders will need to be invested in improving the quality of education for minorities in Durham County. Included in our stakeholder group will be the Durham County Equity Officer who will be charged with providing insight on both the potential assets and needs of the community. This individual will provide the necessary background and perspective on the county-specific prevalence and incidence of the health topic.

Early in the process, we plan to engage the principals of CC Spaulding and WG Pearson Elementary to ensure they are onboard. Their participation is necessary for asset use and to serve as an advisory function. More importantly, the principals of each school will help with curriculum outputs and support educators as they implement a new learning plan. Moreover, their engagement and support of the program will help motivate participation from the teachers and other school officials. Principals will have a low interest in this project due to demands of their job, but their role also provides them influence.

To ensure our approach is appropriate and implemented for our specific youth population from the literacy perspective, we will include 4<sup>th</sup> grade reading and English as Second Language

(ESL) teachers as members of the stakeholder group. Their elementary education training and skill set, as well as their experience working with this diverse population will be indispensable. We will empower the teachers to define steps towards full program implementation and rely on them for assessment on program effectiveness. They will be provided educational freedom to respond to questions or concerns from students and parents, and refine the educational curriculum to maximize the success of the program. These teachers will have a high interest in seeing their students succeed, be in a position to influence the implementation of the educational approach, but low influence in choices made at the school or system level.

Critical to the overarching goal of the program will be engagement of parents from CC Spaulding and WG Pearson Schools. These stakeholders have a high interest in a new approach to increase the reading proficiency of their child. Their involvement will provide a unique perspective on the current reading curriculum at their child's school, while also serving as partners toward effective implementation of the new program. Importantly, parents who are influential stakeholders will serve as advocates for their children and will be empowered to share their experience, identify any barriers to success, and respond to challenges from a program or cultural perspective. Engagement will need to be thoughtful, tactful, and build trust, allowing parents to speak on behalf of their children with transparency and without fear of retribution.

As the focus of the reading program, minority students, both Black and Hispanic, from CC Spaulding and WG Pearson Elementary Schools who are not reading at grade level will be the most influential stakeholders. It will be essential to make these students feel comfortable and supported to speak, as youth are usually a forgotten voice in community engagement projects. As essential stakeholders, we plan to engage them throughout the process. Their feedback will be crucial for program evaluation and redesign, methods will be needed for continual student engagement since students will have low interest in the program. Additionally, students need to feel heard as their success is dependent on a curriculum that is tailored to their



educational needs, their cultural background, and their support outside of the classroom.

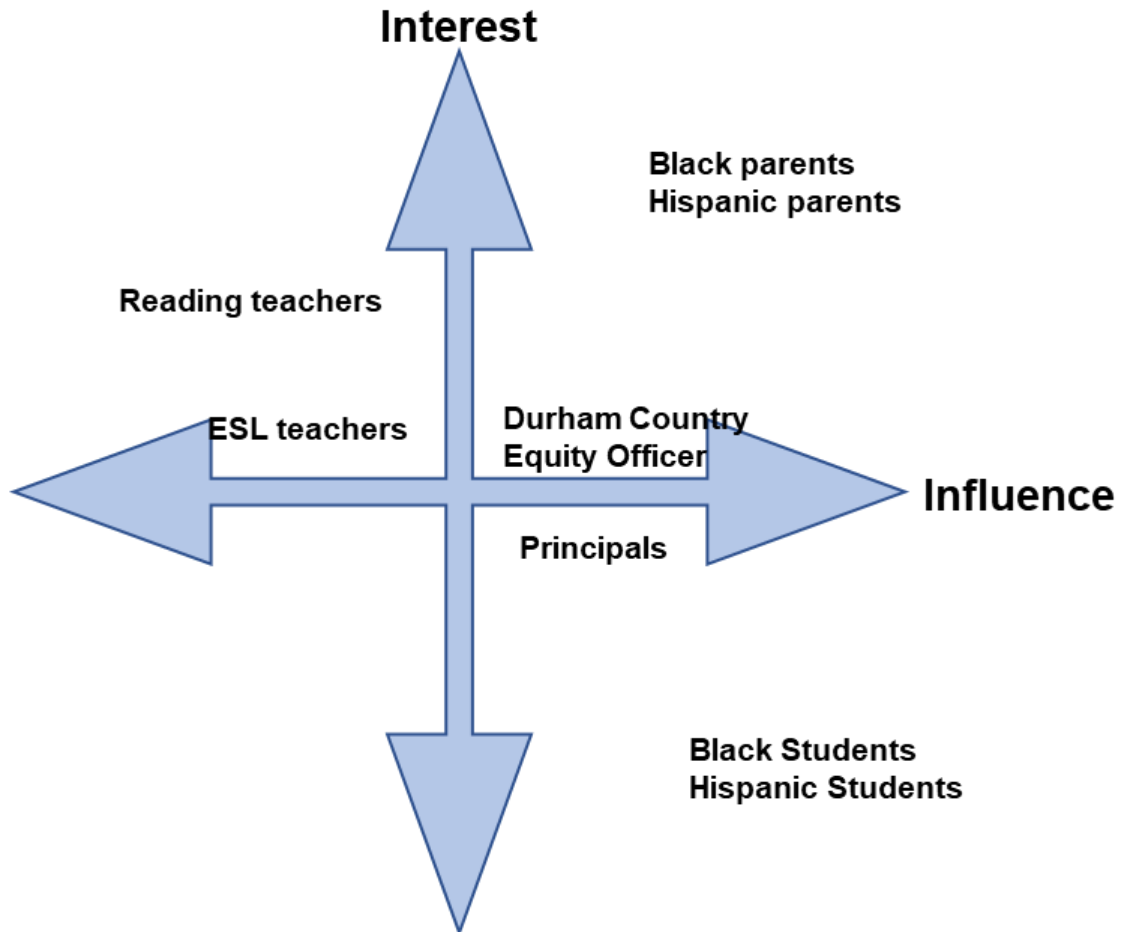
Students will be relied upon to share their perspective on wins and challenges associated with the program.

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## Appendix E2.1: Stakeholder Map

*Mapping of stakeholders based on interest in the project and influence in the project. The stakeholders with the most interest will be the ones most invested in helping the project succeed.*



## **Appendix E3: Engagement and Accountability Plan**

### **Engagement Plan**

In the minority-majority Durham County, the engagement plan outlined in Appendix E3.1 will give voice to groups usually not represented in decision-making measures, hopefully increasing trust, engagement, and participation. It is essential to engage and empower racial/ethnic students and their parents, and school leaders in order to execute on a pilot program to address the endemic of poor reading proficiency among minority students in Durham County. Both group and individual engagement strategies will be used over the two years the program is active. Focus groups, an advisory board and emailed surveys will be enlisted with the selected stakeholders.

### **External Stakeholders**

Several stakeholders possess a high interest in novel methods to address the adversities many children face learning to read in Durham Public Schools. To effectively enact change, it is essential to utilize stakeholders appropriately. Of the eight stakeholders identified, six are considered high influence – the Durham County Equity Officer, Black and Hispanic parents and students from CC Spaulding and WG Pearson Elementary, and the respective principals of each elementary school (Appendix E3.1). The two stakeholders designated as low influence are English as a Second Language (ESL) teachers and the Reading teachers from each elementary school. The stakeholders were categorized as being highly influential due to relationships among their peers and their potential ability to influence change on a sustainable level. They will be heavily affected day-to-day by this program, so baseline and routine feedback on the reading program is needed. In contrast, the stakeholders in the lower influence group, while they are immersed within the students daily, do not have as much power as the other identified stakeholders. Their insight is encouraged and welcomed, but less frequent and less weighted.

## **Engagement Methods**

### **Focus Groups**

Hispanic and Black parents of students from each school will be asked to participate in focus groups at the beginning of the pilot program. Engaging parents as co-designers will distribute more power to them, fostering a collective buy-in to the pilot and increasing student support at home (Wolff, 2017). Parental participation and input from the beginning will enable a transformative change in the 4<sup>th</sup> grade reading curriculum at CC Spaulding and WG Pearson Elementary Schools (Foster-Fishmen, 2007). Parent focus groups can be held at local schools, and/or at the local churches. All questions will be racially and culturally sensitive and will be asked by a bilingual individual, if needed. Parents will be asked about their current experience with their child's education- what they think is going well, what is frustrating and what they would change. They will be asked about their comfort level approaching the teacher and assisting their child with school work. These questions will be open ended to encourage discussion among the group. Additionally, finding commonality in their shared experiences should embolden parents to speak honestly and freely. The group responses will be written on white boards, in a brainstorming style to be collected and incorporated into the program.

This focus group should appeal to both minority cultures, which are generalized by trusting interpersonal relationships more than institutions or constructs. Additionally, there is a cultural preference for social groups and to be among family (Horna-Guerra, 2013; Carter-Edwards, 2013). However, each minority group will meet separately to reflect and vocalize how they feel structural racism has impacted the educational disparities in Durham County. Only by addressing their experiences, proposing innovative solutions, and incorporating the ideas into the program, will the role structural racism plays in reading disparities be negated (Wolff, 2017).

### **Program Advisory Board (PAB)**

The principal from CC Spaulding Elementary, the principal from WG Pearson

Elementary, a reading teacher and an ESL teacher from each school and the Durham County Equity Officer, all will be asked to participate on the PAB. Their respective experience working in the county will help aid in the program implementation in the school system. Additionally, their expertise will assist with the pilot assessment prior to the end of year testing. from concept design through program implementation. The Equity Officer will serve as the voice of the community highlighting additional community assets that can be utilized and identifying partnerships that would bring value to the program. Different team engagement strategies will be utilized, such as six hats thinking or storyboards, that provide creative ideas from the community lens. The school principals will ensure this pilot program is still meeting the basic reading requirements set forth by the state and can identify other school assets available if needed. Throughout the course of the program, it is suggested that the advisory board meetings occur at a monthly cadence. These meetings will be an opportunity for all stakeholders to communicate barriers and wins encountered since the last meeting and to disseminate any program updates

### **Surveys and Questionnaires**

The program will be continually evaluated through surveys. This engagement strategy allows for an easy qualitative data assessment that can quickly determine if the program needs to be modified in any particular area (Issel & Wells, 2017). Surveys will be shared with 4<sup>th</sup> grade parents via printed form and/or email on a monthly basis to assess the effectiveness of the reading curriculum. Questions will gauge the change from baseline in their child's at-home reading progress, and if they are completing their daily required reading. Gift card incentives will be offered to complete the surveys monthly in order to ensure consistent response rates. At the beginning of the program students will be asked to fill out a questionnaire with the help of their parents. These questions are created to assess the student's feelings while being taught to read throughout the previous school year. Surveys will also seek to understand what parents think would make reading easier for them and their child, and what they find exciting or fun.

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### Appendix E3.1: Engagement Plan

External Stakeholder		Impact		Project Phase		
Role	Location	Influence	Interest	Expectations	Engagement	Frequency
Durham County Equity Officer	Durham, NC			Keep Informed Design-Evaluation	Email Advisory Board	As Needed Monthly
Hispanic Parents	CC Spaulding Elementary			Design Phase Implementation & Evaluation Phase	Focus Group Survey- phone	Once 1x/phase
Black Parents	CC Spaulding Elementary			Design Phase Implementation & Evaluation Phase	Focus Group Survey- phone	Once 1x/phase
ESL Teacher	CC Spaulding Elementary			Design-Evaluation	Advisory Board	Monthly
Reading Teacher	CC Spaulding Elementary			Design-Evaluation	Advisory Board	Monthly
Principal	CC Spaulding Elementary			Design-Evaluation	Advisory Board	Monthly
Hispanic Students	CC Spaulding Elementary			Design & Evaluation Phase	In-person interview	1x/phase
Black Students	CC Spaulding Elementary			Design & Evaluation Phase	In-person interview	1x/phase
Hispanic Parents	WG Pearson Elementary			Design Phase Implementation & Evaluation Phase	Focus Group Survey- phone	Once 1x/phase
Black Parents	WG Pearson Elementary			Design Phase Implementation & Evaluation Phase	Focus Group Survey- phone	Once 1x/phase
ESL Teacher	WG Pearson Elementary			Design-Evaluation	Advisory Board	Monthly
Reading Teacher	WG Pearson Elementary			Design-Evaluation	Advisory Board	Monthly
Principal	WG Pearson Elementary			Design-Evaluation	Advisory Board	Monthly
Hispanic Students	WG Pearson Elementary			Design & Evaluation Phase	In-person interview	1x/phase
Black Students	WG Pearson Elementary			Design & Evaluation Phase	In-person interview	1x/phase

Impact heat map: green implies “yes” and red “no”



**Appendix E3.2: Memorandum of Understanding**

**MEMORANDUM OF UNDERSTANDING**

**BETWEEN**

**CC Spaulding Elementary School Principal**

**AND**

**Durham County Reading Improvement Pilot**

**Purpose:**

The purpose of this MOU agreement is to outline the roles and responsibilities between the CC Spaulding Elementary School Principal and the Durham County Reading Improvement Pilot (DCRIP).

**Durham County Reading Improvement Pilot Vision and Values:**

The vision of the Reading Pilot Program is to increase the 4<sup>th</sup> grade reading proficiency levels by implementing SIPPS in CC Spaulding Elementary School. SIPPS is a phonics-based reading curriculum that has been shown to be a successful reading strategy for minority/ethnic students.

DCRIP values the community, health, education and innovation. These are the backbone of DCRIP and these are the guiding principles of the pilot.

**Responsibilities of Parties:**Durham County Reading Improvement Pilot:

Responsible for the following activities during the term of the MOU agreement:

- Communicate and collaborate with all stakeholders
- Ultimately responsible for design, implementation and evaluation of program
- Lead Program Advisory Board meetings - monthly
- Provide training to 4<sup>th</sup> grade reading teachers and ESL teachers
- Lead Focus Groups with Parents
- Responsible for sharing the results of the surveys with the Program Advisory Board for program evaluation and improvement.
- Overall fiscal responsibility of pilot funding

CC Spaulding Elementary Principal:

Responsible for the following activities during the term of the MOU agreement:

- Participate in Program Advisory Board meetings - monthly
- Support 4<sup>th</sup> grade reading teachers and ESL teachers in the trainings related to the DCRIP
- Assist with completion of any paperwork required to allow program to operate in their school
- Inform DCRIP if any issues arise at the school pertaining to the 4<sup>th</sup> grade that could impact the program
- Provide program curriculum oversight, ensuring it maintains all State requirements.
- Provide updates to DCRIP on program progress at monthly meeting
- Assist with Program with access to school resources or facilities, (including Focus Group meetings, rooms for child care during the Focus Groups meetings)

**Evaluation:**

1. Surveys - parents (37) will be emailed – monthly
  - a. Qualitative assessment of reading at home (1-5)
  - b. Doing their 15 min/day (yes/1; no/2)
2. In - class reading assessment – quarterly
  - a. Increase in number of sight words: # increase over baseline 40 words/quarter
3. Grade Level Proficiency (GLP) score – end of year test
  - a. Increase in % GLP score from 3<sup>rd</sup> grade: 20% increase in GLP

**Financial Agreements:**

Both parties agree to the reimbursement allowances that have been outlined in the submitted grant budget.

**Data Ownership:**

Both parties agree to share any publication resulting from this program.

**MOU Term:**

The term of this MOU Agreement between CC Spaulding Elementary School and DCRIP will be for TWO years. The term begins November February 1 2023 and ends January 31 2025.

**Modifications and Termination:**

The MOU may be modified, revised, or renewed by written agreement and executed by both parties.

Either party may terminate participation in the MOU. Intent to terminate must be provided to the other party in writing 14 days prior to end of participation.

If a decision between the two parties is unable to be resolved, DCRIP has the final decision.

**Signatures:**

\_\_\_\_\_

Print

\_\_\_\_\_

Signature

Date

\_\_\_\_\_

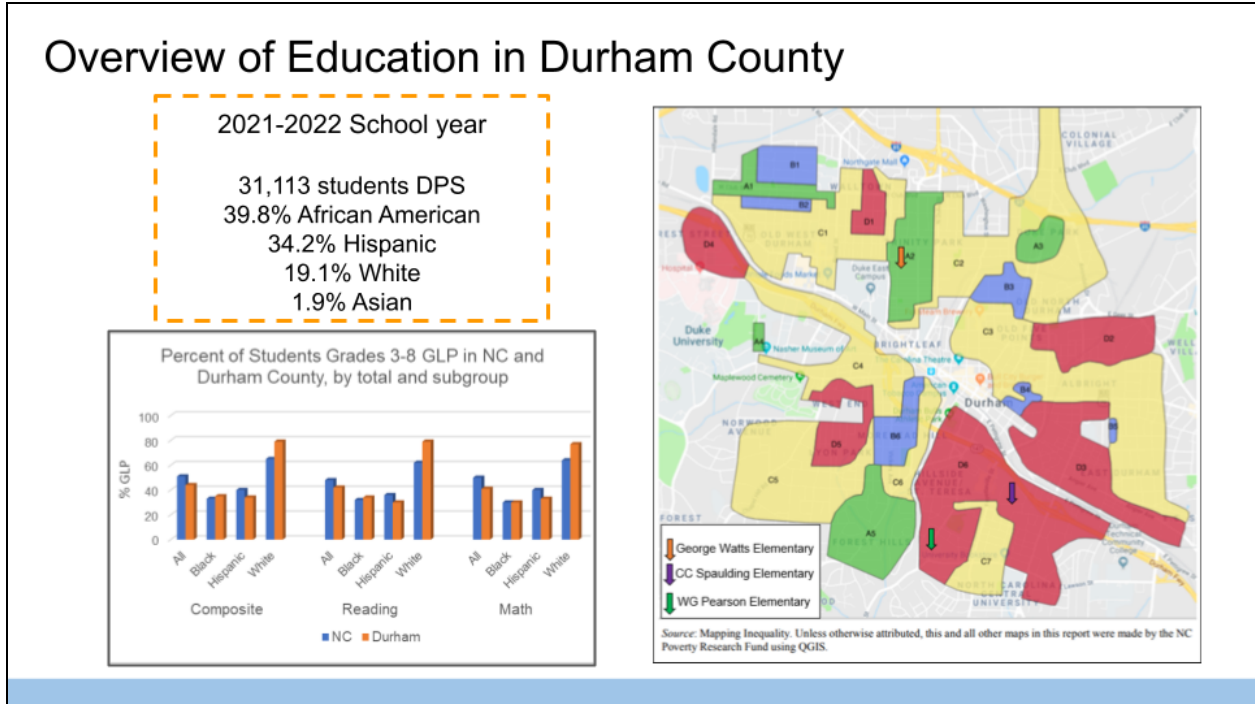
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Signature

Date

## Appendix E4: Individual Slides and Script



**Script:** Durham County is located in Central NC, it is one of the few majority-minority counties in the US, where only 43% of the residents are white. However, of the 31,000 students in Durham Public Schools only 19% students are White. Durham is still struggling from policies in the 1930s- redlining and in the 1960s/70s- urban redevelopment- that left a lot of the black residents in public housing and impoverished. Today that is still evident in the public schools.

As shown on the map to the right, I put in 2 examples of the worst performing elementary schools (green and purple arrows) CC Spaulding and WG Pearson Elementary; they are located in redlined areas. They are 100% minority and 100% economically disadvantaged. In contrast, one of the best schools (orange arrow), George Watts Elementary, is located up in this green area, which was coded for white borrowers. At this school, only 20% of the students are economically disadvantaged and a 46% minority student body. Many think that is a financial issue, however, the poorer performing schools have more money invested per student suggesting the student performance is related to money spent.

Durham is focused on improving grade level proficiency as a public health initiative because academic performance has been correlated with low paying jobs and poor overall health. If you look at the graph on the bottom left, I broke out the grade level proficiency scores by black, hispanic, and white- for both reading and math. As you can see, there are substantial racial/ethnic disparities in grade level proficiency. If something isn't done now, black and hispanic children will continually be left behind.