



Advisory Board Meeting

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Sample Information

- There were 771 students in our database from the Pre-K study, and the goal for the newly re-consented sample in 2013 was 500 students.
- The Follow-up Analysis Sample consists of 519 students.

OVERVIEW OF STUDENT DIRECT ASSESMENT & FOCUS GROUP DATA COLLECTION			
Project Title	School Year	Grade Level*	Data Collection Timepoints
Building Blocks	2007-2008	Pre-K	Fall Pre-K
			Spring Pre-K
	2008-2009	Kindergarten	Spring K*
	2009-2010	1 st	Spring 1 st Grade*
"Between Study Years"	2010-2011	2 nd	N/A
	2011-2012	3 rd	N/A
	2012-2013	4 th	N/A
Middle School Follow-Up Study	2013-2014	5 th	Spring 5 th Grade*
	2014-2015	6 th	Spring 6 th Grade*
	2015-2016	7 th	Spring 7 th Grade*
	2016-2017	8 th	Fall 8 th Grade*
			Spring 8 th Grade*
2017-2018	9 th	Spring 9 th Grade*	
High School Follow-Up Study	2018-2019	10 th	Spring 10 th Grade*
	2019-2020	11 th	Fall 11 th Grade*
			Spring 11 th Grade*
2020-2021	12 th	Spring 12 th Grade*	

*Grade level if not retained.

Note. Focus group time points (fall of 8th and 11th grades) are highlighted in yellow.

Student Demographics

- Of the original 519 students:
 - 12 withdrew from the study
 - 1 withdrew from student direct assessments (but allows district-level data collection)
 - 21 were out-of-region for SY 2019-2020
 - 37 were either not located or could not complete a focus group (e.g., home-schooled, DCS custody, dropped out of school, unable to participate due to guardianship change, etc.)
- We restricted our focus group sample to students who attended an MNPS school (public and charter) where a minimum of 5 of our study participants were enrolled, and we did not conduct focus groups at the alternative schools. This eliminated 80 additional students:
 - 60 attended an out-of-county or private school
 - 9 attended a school with fewer than 5 study participants enrolled
 - 11 were enrolled at an alternative school
- Of the remaining 368 “active” students, 251 completed a focus group session.
 - 117 were not available to complete a focus group session (e.g., class schedule conflict, absenteeism, student did not fit into a needed FG category, etc.)

	Overall Sample		Focus Group Sample	
	Freq	Pct	Freq	Pct
Ethnicity				
Black	410	79.0	204	81.3
White	45	8.7	15	6.0
Hispanic	42	8.1	21	8.4
Other	22	4.2	11	4.4
Gender				
Male	227	43.7	110	43.8
Female	292	56.3	141	56.2
ELL Status (from pre-k)				
ELL	47	9.1	21	8.4
Not ELL	471	90.8	229	91.2
Pre-K School System				
Head Start (MAC)	210	40.5	100	39.8
MNPS Pre-K	309	59.5	151	60.2
Experimental Condition				
Building Blocks	317	61.1	163	64.9
Control	202	38.9	88	35.1

Note. 1 student is missing a pre-k ELL designation.

Note. We have documentation that 5 students dropped out of school in 2018-2019. So far this year, we have confirmed that 1 student has dropped out of school.

Focus Group Characteristics

- 67 focus groups were conducted in 20 schools in Davidson County.
 - MNPS = 17 schools
 - Charter = 3 schools
- For the focus group sessions, students were grouped by course level.
 - **Course Group 1** = students who (1) were enrolled in an honors math course, and/or (2) were taking an advanced math course for their grade (e.g., in Integrated Math III as a 10th grade student)
 - **Course Group 2** = students who were in the typical-level class for their grade or below
- When possible, we also grouped students by gender and race (Black or non-Black).

Categories	Target # of Groups	# of Completed Groups
Total # of FGs (Overall)	60	67
Total # of Black Females Only (Overall)	10	12
# of High Black Females (Course Group 1)	5	5
# of Not High Black Females (Course Group 2)	5	7
Total # of Black Males Only (Overall)	8	9
# of High Black Males (Course Group 1)	3	2
# of Not High Black Males (Course Group 2)	5	7
Total # of Mixed Gender and Race (Overall)	42	46
# of High Groups (Course Group 1)	9	10
# of Not High Groups (Course Group 2)	33	36

Focus Group Composition

# of Students in Each Group	Total # of Groups	Course Group 1 (Honors or Advanced Math)			Course Group 2 (Typical-Level Math or Below)		
		Black Females Only	Black Males Only	Mixed Gender and/or Race	Black Females Only	Black Males Only	Mixed Gender and/or Race
3	26	1	1	6	2	4	12
4	32	3	1	3	3	3	19
5	9	1	0	1	2	0	5
Total	67	5	2	10	7	7	36

Focus Group Background

Purpose:

The focus groups were designed to gather students' perspectives on their math experiences and identity and their plans for the future. By having targeted subgroups for some of the focus groups, we hope to be able to find interesting and important contrasts in the perspectives of students based on race and gender. We structured these groups to provide an opportunity for students' voices to be heard.

Creating the Protocol and Training Staff:

Five trained facilitators conducted focus groups. The majority of the facilitators were middle-aged white women. One was a middle-aged black woman. Each trained facilitator participated in an extensive reliability process to ensure their preparation to conduct focus groups.

Focus group sessions were conducted in a quiet space within students' schools. Group size ranged from 3-5 students, and each session was led by one trained focus group facilitator. On average, the sessions lasted 30 minutes. Each session was audio-recorded, and after the session ended, the facilitator used a custom-built FileMaker database to record the students in the focus group, as well as notes about group dynamics, participant roles, and any non-verbal cues that the students made during the session.

Focus Group Questions

SECTION I: MATH EXPERIENCES AND ENJOYMENT

1. Let's talk about the last time you enjoyed math. What was it like?

2. Let's talk about your math class this year.

i. Tell me something you enjoy about your math class this year.

ii. What are things you do not enjoy in your math class?

iii. Let's think about what helps you learn math. What kind of math activities help you learn the most in math class?

3. Let's think more about math and being good at math.

i. Are you good at math? How do you know?

ii. How do you know who is good at math in your math class?

iii. Think about people who are good at math outside of school. How can you tell they are good at math?

4. What types of jobs are you interested in doing after you are finished with school?

i. What types of math might you need to know to do these jobs?

ii. How might the math you are learning in school be useful for your future jobs?

SECTION II: TRANSITIONING TO COLLEGE AND CAREERS

5. How are you learning about what you might do after high school?

6. What kinds of things might get in the way of accomplishing your college and career goals?

7. What are you most excited about for your future?

Preliminary Focus Group Observations:

1. Summary of Student Responses from the First 18 Focus Groups
2. Summary of Student Responses from 6 Focus Groups Selected by Subgroup (Honors or Advanced Math vs. Typical-Level Math or Below)
3. Summary of Student Responses from the Perspective of the Facilitators

Math Experiences and Enjoyment

I. Summary of Student Responses from the First 18 Focus Groups

Script Questions	Summary of Students Report
Q1. Let's talk about the last time you enjoyed math. What was it like?	When: Variety of grades (Elementary, Middle, and High School) and some content areas mentioned, like algebra and geometry. Why: <ul style="list-style-type: none"> - Fun - Games - Projects - Different Activities - Easier - Able to Understand - Caring Teacher
Q2. Let's talk about your math class this year. Tell me something you enjoyed about your math class this year.	Students enjoyed the following: <ul style="list-style-type: none"> - Specific content areas mentioned - Understanding what was being taught - Being correct - Rewards (snacks) - Peers - Group work - The teacher - They do not enjoy anything - Accountability
Q2a. What are things you do not enjoy about your math class?	Students did not enjoy the following: <ul style="list-style-type: none"> - Not being able to understand - Teachers' teaching styles (goes too fast, don't relate to us in the right way, they look past us) - Classroom size (too big)
Q2b. Let's think about what helps you learn math. What kind of math activities help you learn the most in math class?	<ul style="list-style-type: none"> - Activities and projects (very common) - Group work - Application to real-world - 1-on-1 teacher interaction (very common)

<p>Q3. Are you good at math? How do you know?</p>	<p>Students say yes b/c:</p> <ul style="list-style-type: none"> - I pass - I participate - Grades - Helping others <p>Students say no b/c:</p> <ul style="list-style-type: none"> - I don't understand - Grades - Lack of focus - Too far behind <p>Students are uncertain:</p> <ul style="list-style-type: none"> - This year maybe b/c I paid attention and I get it - Somewhat good - Some things I know and some I don't - Depends on what I'm learning
<p>Q3a. How do you know who is good at math in your math class?</p>	<ul style="list-style-type: none"> - Answer questions first (very common) - Those who participate - Highest grades - Can complete assignments w/o assistance (common) - Help other students (common)
<p>Q3b. Think about the people who are good at math outside of school. How can you tell they are good at math?</p>	<p>Students name the following:</p> <ul style="list-style-type: none"> - Family members - People known outside of family (e.g, family friend, mentor) - Employer <p>How can you tell:</p> <ul style="list-style-type: none"> - Type of job they have (specific jobs are named -- engineer, math teacher, nurse) - Paying bills and budgeting - People who go to college in a math-related field (engineering, math teacher, banking) - People who deal with money
<p>Q4. What types of jobs are you interested in doing after you are finished with school?</p>	<ul style="list-style-type: none"> - Majority mention the healthcare field - Business/marketing related fields - Public service, lawyer - Mortician
<p>Q4a. What types of math might you need to know to do these jobs?</p>	<ul style="list-style-type: none"> - Majority mention basic arithmetic (adding, subtracting, multiplying) - Measurement - Physics - Percentages - Algebra - Geometry - Graphs - Chemistry

Q4b. How might the math you are learning in school be useful for your future jobs?

- Majority replied it will not be useful
- Only basic math

II. Summary of Student Responses from 6 Focus Groups Selected by Subgroup

Questions Grouping	Honors or Adv. Math, Black Females	Typical Math or Below, Black Females	Honors or Adv. Math, Black Males	Typical Math or Below, Black Males	Honors or Adv. Math, Mixed	Typical Math or Below, Mixed
Q1. Let's talk about the last time you enjoyed math. What was it like?	When: • Elementary School, 8th grade, freshman year, this year Students enjoyed: • competition, their teachers, projects	When: • 7th, 8th, 9th, 10th grade, never Students enjoyed: • Teaching style, activities	When: • 7th grade, 9th grade, last year, Students enjoyed: • Teaching style, teacher cared, easiness	When: • Younger grades Students enjoyed: • Easiness	When: • 8th grade, 9th grade, 10th grade Students enjoyed: • Teaching style, easiness	When: • Kindergarten, elementary school, 10th grade, now Students enjoyed: • Activities, games, tricks for test prep, teacher was young and fun
Q2. Let's talk about your math class last year. Tell me something you enjoyed about your math class this year.	• Nothing, snacks, real world math, group work	• People in class, nothing	• Nothing	• Helpful teacher, group work, 1-on-1 time with the teacher	• Teacher is engaged, hands on activities, nothing	• Teacher is fun and holds us accountable, nothing
Q2a. What are things you do not enjoy about your math class?	• Teaching style, the color of the walls	• Teaching style, uselessness of the material, boring videos	• Teaching style	• Doing the same things over and over, taking notes	• Worksheets, teaching style	• Homework, tests, teaching style, not challenging enough
Q2b. Let's think about what helps you learn math. What kind of math activities learn the most in math class?	• Projects, group work, real world examples	• Groups, going slower, motivation, bell ringers, projects, teacher being interested and invested, games	• Slowing down, breaking it down, more examples	• Group work, hands on work, 1-on-1 with teacher	• Games, notes, hands on activities, groups	• Hands on, board work, having time to work through it, games, creative fun activities, being challenged, working with other students, 1-on-1 with teacher

Questions Grouping	Honors or Adv. Math, Black Females	Typical Math or Below, Black Females	Honors or Adv. Math, Black Males	Typical Math or Below, Black Males	Honors or Adv. Math, Mixed	Typical Math or Below, Mixed
Q3. Are you good at math? How do you know?	<ul style="list-style-type: none"> • Yes, Because I understand, Because I am in the advanced class 	<ul style="list-style-type: none"> • Yes, because I get good grades, • I do ok, but I need support • I am not good because I get bad grades 	<ul style="list-style-type: none"> • Yes, Because I get good grades, because the teacher tells me 	<ul style="list-style-type: none"> • Not good, I am not feeling it • I do ok because I understand it 	<ul style="list-style-type: none"> • Yes, because I get correct answers • I used to be but not anymore this year, because I don't always understand 	<ul style="list-style-type: none"> • No because I fell behind, I get nervous, I do not like it and cannot focus • Yes because I take notes, study, get good grades
Q3a. How do you know who is good at math in your math class?	<ul style="list-style-type: none"> • They help others, answer all questions, sit up front and raise their hand 	<ul style="list-style-type: none"> • They answer questions, help others, and get done first 	<ul style="list-style-type: none"> • They understand, answer questions 	<ul style="list-style-type: none"> • They answer all questions, sit in the front, and explain to peers 	<ul style="list-style-type: none"> • They get the best grades, and complete assignments w/o much assistance 	<ul style="list-style-type: none"> • They answer all questions, show others how to do it, and get good grades. The teacher also calls on them more.
Q3b. Think about the people who are good at math outside of school. How can you tell they are good at math?	<ul style="list-style-type: none"> • They can do mental math • fast food workers who give change • my dad: he is in real estate and a math teacher • my mom: she works in juvenile 	<ul style="list-style-type: none"> • Those who build things • Business owners • Family members who help them with math 	<ul style="list-style-type: none"> • Banker • Accountant • Chef • You can tell based on their jobs 	<ul style="list-style-type: none"> • Family members who help them with math • Cashiers 	<ul style="list-style-type: none"> • Banker • Electrician • Construction worker • Dr. in math 	<ul style="list-style-type: none"> • Those who can do mental math • Einstein • Construction worker • Scientist • Cashier • Salesperson
Q4. What types of jobs are you interested in doing after you are finished with school?	<ul style="list-style-type: none"> • Lawyer • Nurse * 2 • Surgeon • Forensics • Music producer • Cosmetologist, • Enough to make \$16/hr. 	<ul style="list-style-type: none"> • Hair salon owner • Nurse *2 • Surgeon • Dentist • Pediatrician • Anesthesiologist 	<ul style="list-style-type: none"> • Accountant * 2 • Engineer • Psychologist • Business owner (landscaping, fixing phones, shoe store) • CSI 	<ul style="list-style-type: none"> • Culinary • Studio engineer • Basketball • Real estate agent • Car mechanic • Don't know 	<ul style="list-style-type: none"> • Engineer • Lawyer • Construction • Physical therapist • Businessperson • Marketing • Unsure 	<ul style="list-style-type: none"> • Physical therapist • Zoologist • Child psychologist *2 • Computer science • Nurse • National guard • Contractor

Questions Grouping	Honors or Adv. Math, Black Females	Typical Math or Below, Black Females	Honors or Adv. Math, Black Males	Typical Math or Below, Black Males	Honors or Adv. Math, Mixed	Typical Math or Below, Mixed
Q4a. What types of math might you need to know to do these jobs?	<ul style="list-style-type: none"> • Addition, subtraction, measuring, basic math, graphs, algebra 	<ul style="list-style-type: none"> • Counting money, determining rent, measuring, subtraction, addition, multiplication, division 	<ul style="list-style-type: none"> • Complicated math, addition and subtraction, measuring, percentages, division 	<ul style="list-style-type: none"> • Measurements, addition and subtraction 	<ul style="list-style-type: none"> • Life math, geometry, simple math, equations for medications 	<ul style="list-style-type: none"> • Basic math, geometry, measuring, chemistry (math + science)
Q4b. How might the math you are learning in school be useful for your future jobs?	<ul style="list-style-type: none"> • It won't. Basic math (2), will learn in college 	<ul style="list-style-type: none"> • It won't 	<ul style="list-style-type: none"> • Everything, it is not 	<ul style="list-style-type: none"> • It won't 	<ul style="list-style-type: none"> • It won't. 	<ul style="list-style-type: none"> • Will only use calculations for money learned in another class

III. Summary of Student Responses from the Perspective of the Facilitators

SECTION I: MATH EXPERIENCES AND ENJOYMENT

1. Let's talk about the last time you enjoyed math. What was it like?

Answers ranged from kindergarten through current year but were not dependent on specific groups. The answers were more dependent on the teacher's engagement and willingness to do 'out-of-the-box' activities (games, competitions, real life math, etc.).

2. Let's talk about your math class this year.

i. Tell me something you enjoy about your math class this year.

The teacher's investment in the class had a big impact on the answers the students gave. All groups cited group work, hands-on-activities, projects and games as the things they most enjoyed.

ii. What are things you do not enjoy in your math class?

Answers were similar among the groups here as well (boring lectures, worksheets, videos). The Typical-Level Math or Below groups cited lack of control in the classroom as an impediment to their learning far more often than the Honors or Advanced Math groups did.

iii. Let's think about what helps you learn math. What kind of math activities help you learn the most in math class?

Overwhelmingly kids said projects, games, group work, and hands-on activities.

3. Let's think more about math and being good at math.

i. Are you good at math? How do you know?

All groups described the same things. The person who raises their hand in class and finishes their test first is good. They make good grades and are happy when they get back their math test.

ii. How do you know who is good at math in your math class?

All groups used the same criteria for determining who is good in math. Grades, understanding, relationship with the teacher, hand raising.

4. What types of jobs are you interested in doing after you are finished with school?

The jobs were not dependent on the groupings. Students in both the "Honors or Advanced Math" and "Typical-Level Math or Below" groups wanted to be doctors, businesspeople, musicians, professional athletes, etc.

i. What types of math might you need to know to do these jobs?

All agreed basic math was all you need.

ii. How might the math you are learning in school be useful for your future jobs?

It won't.

Preliminary Focus Group Observations: Transitioning to College and Careers

IV. Summary of Student Responses from the First 18 Focus Groups

Script Questions	Summary of Students Report
Q5. How are you learning about what you might do after high school?	<ul style="list-style-type: none"> - Family Members - School <ul style="list-style-type: none"> - Principal - Counselors - Regular Teachers <ul style="list-style-type: none"> - Many mentioned career academy/pathway teachers
Q6. What types of things might get in the way of accomplishing your college and career goals?	<ul style="list-style-type: none"> - Stress/anxiety about the future - Self - Other people (hanging out with wrong crowds) - Grades - Money - Criminal records (couple times) - Time management
Q7. What are you most excited about for your future?	<ul style="list-style-type: none"> - Moving out - Living life - Being an adult/independence (common) - Traveling (common) - Success - Being a parent - I don't want to grow up

V. Summary of Student Responses from 6 Focus Groups Selected by Subgroup

Questions Grouping	Honors or Adv. Math, Black Females	Typical Math or Below, Black Females	Honors or Adv. Math, Black Males	Typical Math or Below, Black Males	Honors or Adv. Math, Mixed	Typical Math or Below, Mixed
Q5. How are you learning about what you might do after H.S.?	<ul style="list-style-type: none"> The counselor when you have time, academy (multiple students mentioned it) 	<ul style="list-style-type: none"> Academy (multiple students mentioned it), family members, mentors 	<ul style="list-style-type: none"> Internet, academy teachers, parents 	<ul style="list-style-type: none"> Academies, internet, family members, teachers at school 	<ul style="list-style-type: none"> Teachers, parents, KIPP's college/career course, KIPP to College office 	<ul style="list-style-type: none"> College prep classes, experiences outside of school, family members, credit recovery teacher and test prep teacher
Q6. What types of things might get in the way of accomplishing your college and career goals?	<ul style="list-style-type: none"> Self, hanging with the wrong crowd 	<ul style="list-style-type: none"> Grades, bad behavior, procrastination, boyfriends, parents 	<ul style="list-style-type: none"> Failures, bad choices, personal life, money, criminal record 	<ul style="list-style-type: none"> Peer pressure, grades, bad vibes 	<ul style="list-style-type: none"> Trouble, peers, stress, apathy, anxiety 	<ul style="list-style-type: none"> Self, lack of motivation, depression, no plan, dropping out, not coming to school, not caring, slacking, giving up
Q7. What are you most excited about for your future?	<ul style="list-style-type: none"> Money, experiences, getting out of TN, jobs, independence, having own home and family 	<ul style="list-style-type: none"> Making money, success, graduation, leaving Nashville, getting a diploma 	<ul style="list-style-type: none"> New experiences, new opportunities, success 	<ul style="list-style-type: none"> Seeing what it's like, getting an apartment, making money, becoming a father, seeing my mother 	<ul style="list-style-type: none"> Graduation, new life, reaching goals and doing better than the last generation 	<ul style="list-style-type: none"> Moving out, dream job, making family proud, be the first one to go to college in my family, successful nurse, going into the FBI

VI. Summary of Student Responses from the Perspective of the Facilitators

SECTION II: TRANSITIONING TO COLLEGE AND CAREERS

5. How are you learning about what you might do after high school?

Because the groups were conducted in the first semester of junior year, many of the students initially had no idea what they were being asked. Most of the Honors or Advanced Math groups had a better sense of where to get help and cited family, family friends, college prep classes and outside sources. Academies were only mentioned in schools that are 'academy strong'. Counselors were sometimes mentioned. No one is helping was not an unusual answer. The "Typical-Level Math or Below" groups, if probed, sometimes mentioned a counselor or coach.

6. What kinds of things might get in the way of accomplishing your college and career goals?

The Honors or Advanced Math groups tended to choose things that indicated that they themselves could get in their own way (discipline, bad scores/grades, money). The Typical-Level Math or Below groups leaned more toward "others" getting in their way (family trouble, drugs, and teacher assigning bad grades).

7. What are you most excited about for your future?

Universally we heard independence, freedom, being able to do what I want. The Honors or Advanced Math groups of students had a more expansive notion of future and talked more about new experiences, success, and obtaining goals. The Typical-Level Math or Below groups were more focused on tangible things like apartments, cars, and helping their families.

Appendix

Family Income Information for Focus Group Participants

- During the 2018-2019 school year, members of our research team completed phone interviews with participating students' parents. This enabled us to collect updated SES information on all families who completed the interview.

To the best of your knowledge, what was the approximate total income of all persons living in CHILD's household over the past year?

Income Category	Overall (N = 251)		High Group (N = 62)		Not High Group (N = 189)	
	Freq	Pct	Freq	Pct	Freq	Pct
Less than \$20,000	52	20.7	9	14.5	43	22.8
\$20,000 - \$34,999	54	21.5	14	22.6	40	21.2
\$35,000 - \$49,999	42	16.7	10	16.1	32	16.9
\$50,000 - \$64,999	18	7.2	7	11.3	11	5.8
\$65,000 - \$79,999	10	4.0	3	4.8	7	3.7
Over \$80,000	14	5.6	6	9.7	8	4.2
I don't know	8	3.2	2	3.2	6	3.2
Prefer not to answer	6	2.4	1	1.6	5	2.6
Missing	47	18.7	10	16.1	37	19.6