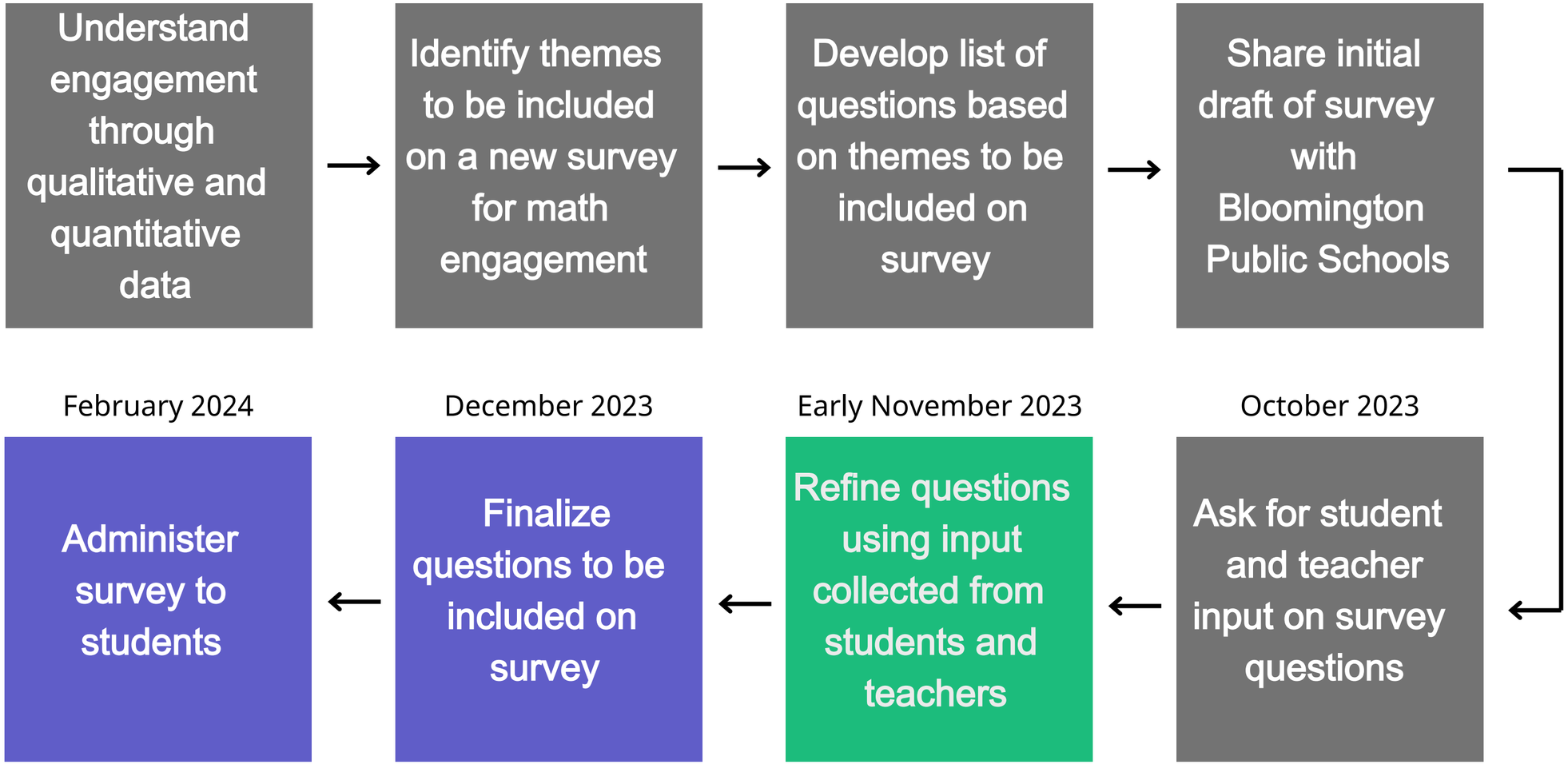
End of Year 1 Wrap Up

Adapted Measure of Math Engagement Research Group, December 12

Agenda & Objectives

- Team Building
- Provide update on dissemination of Spring 2023 findings
- Reflect on work conducted in 2023
- Plan for Spring 2024 data collection

Where are we and why are we here?



Update on collecting student and teacher feedback

Every single one of you was so helpful in making all the interviews possible (for example, helped us recruit people, conducted interviews yourself) 🎉

- We collected feedback for all 35 survey questions that we needed feedback on.
- We collected feedback from **35 students from all 5 schools**.
- We collected feedback from **9 teachers from all 5 schools**.
- For each question, we collected feedback from at least 8 people.

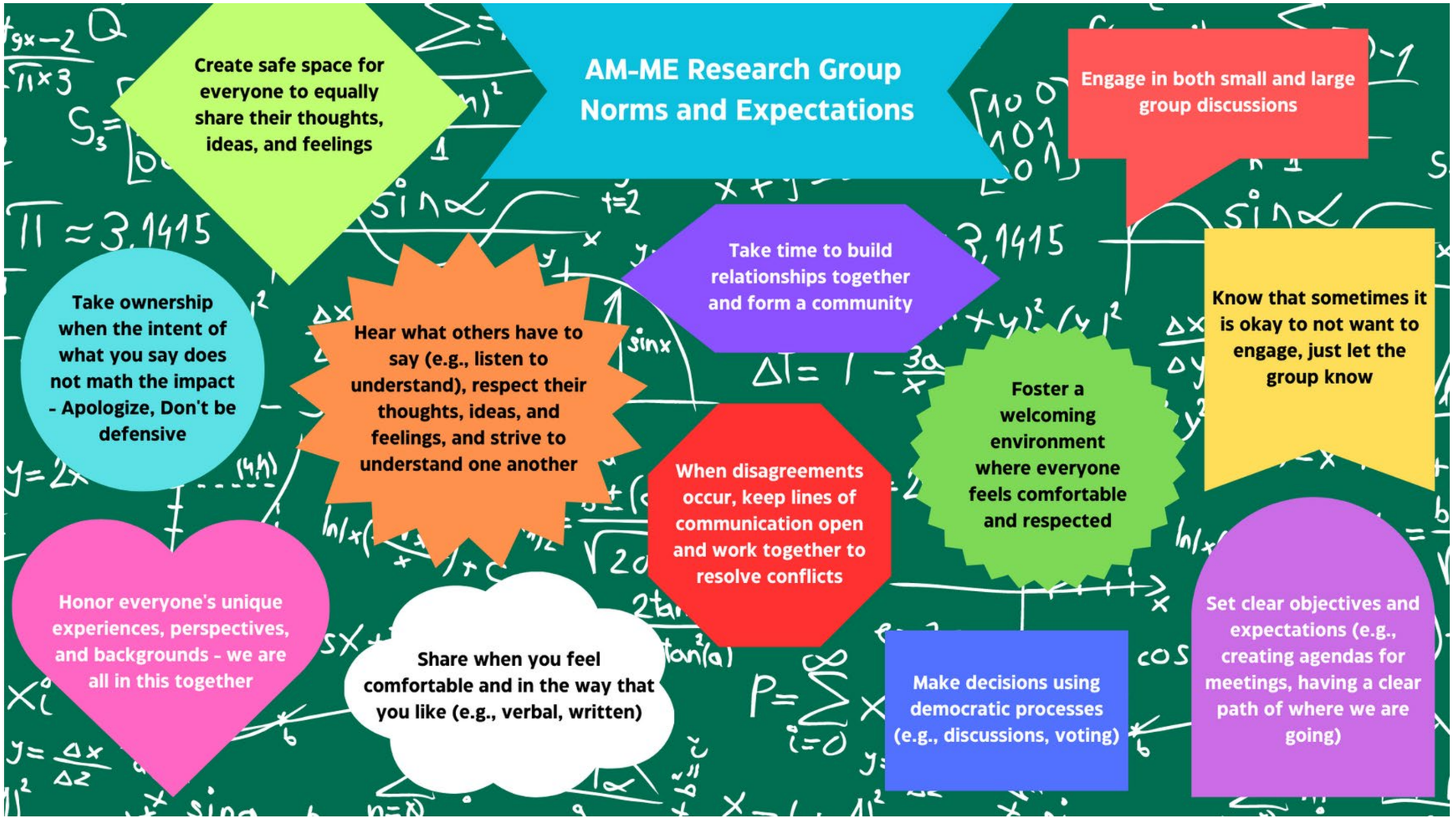
What now?

- On Wednesday, Diane, Marisa, Mark, and Sammy are meeting to make final decisions on the survey items based on the feedback from the students, teachers, and AM-ME Research Group members.

- On Thursday, Diane will share a document that outlines the final survey questions and the changes made to them based on the feedback.
  - If you disagree with any decisions made, please let us know! The survey can be changed up until ***January 5*** .

- On Friday, Sammy will share the survey with Bloomington Public Schools for feedback.

Group Norms


AM-ME Research Group Norms and Expectations
Create safe space for everyone to equally share their thoughts, ideas, and feelings
Engage in both small and large group discussions
Take time to build relationships together and form a community
Take ownership when the intent of what you say does not math the impact - Apologize, Don't be defensive
Hear what others have to say (e.g., listen to understand), respect their thoughts, ideas, and feelings, and strive to understand one another
Know that sometimes it is okay to not want to engage, just let the group know
Foster a welcoming environment where everyone feels comfortable and respected
When disagreements occur, keep lines of communication open and work together to resolve conflicts
Honor everyone's unique experiences, perspectives, and backgrounds - we are all in this together
Share when you feel comfortable and in the way that you like (e.g., verbal, written)
Make decisions using democratic processes (e.g., discussions, voting)
Set clear objectives and expectations (e.g., creating agendas for meetings, having a clear path of where we are going)

Team Building Activity

Conversation Starters

- What are you most excited to do over winter break?
- When you want to relax, what do you like to do?
- If you could spend the day anywhere, where would it be?
- Is there a holiday that’s special to your family or community? Why is it special?
- If you could spend more time with one person in your life, who would it be? Why?

Highlights and Reflections from Year 1

Highlights

A quick overview of the common themes we heard during our check - in meetings

Reflections

We will create space for you to reflect in small groups about your experiences and what you learned so far.

Top 3 Highlights from the Individual Check -ins

1 Math engagement is complicated!

- More than paying attention and answering questions. It's also about teacher-student relationships, support/working with others, the feelings (e.g., do you even feel comfortable in the classroom), basic resources, etc.
  - Our buckets are much more than what research typically call math engagement.

Top 3 Highlights from the Individual Check -ins

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- Different people engage in different ways (e.g., silence might not mean they are not thinking).

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  - Our buckets are much more than what research typically call math engagement.
- Different people engage in different ways (e.g., silence might not mean they are not thinking).
- Many of these we already know, so how do all the learnings translate to what we need to do?!

Top 3 Highlights from the Individual Check -ins

2 **Curiosity about the focus on Black and Latino students.**

- So far, a lot of what we are seeing seems to be true for all students.
- Is it the case that some things about math engagement (for example, teacher-student relationships) are particularly important for Black and Latino students?

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- Is it the case that some things about math engagement (for example, teacher-student relationships) are particularly important for Black and Latino students?
- Even when we are talking about the same things, are they really the same things?
  - The way survey questions got interpreted/re-worded differently by different students is very eye-opening.

Top 3 Highlights from the Individual Check -ins

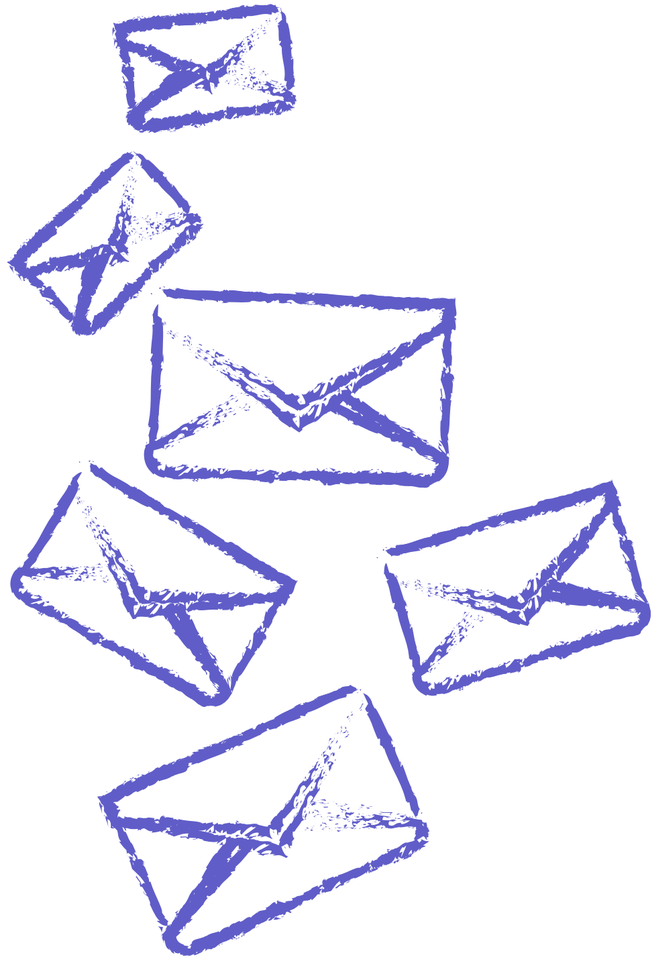
3 Research is a long process!

- So, many, protocols!
- It takes a lot of time to hear from different perspectives (for example, the bucket activity, rewording the survey questions).
- We are only halfway!!

Individual Reflections

5-minute individual activity: Individually, we are going to ask each of you to write a letter to someone you care about. In that letter please share:

- What this project is
- Explain what you have learned
- How this project has been helpful to you
- Why this project is important to you



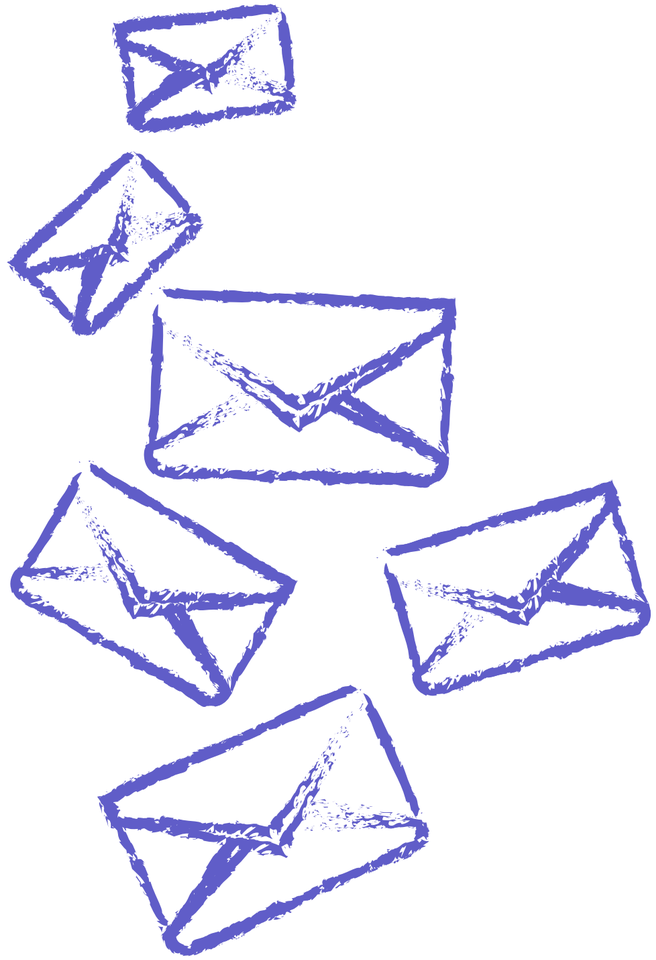
Dear _____,

Letter Tips	Example
Address this letter to someone who is important to you	*Dear grandma*
Start with a short personal greeting	*It has been such a long time, how are you?*
Introduce the AM-ME project	*I want to share with you about this project that I have been a part of this year. The project is about math engagement, and I am working with _____ to _____.* *We did _____.*
Explain what I have learned and how this project has been helpful to you	*Through the I learned _____, which is helpful because _____.* *I also find the project useful because I attend meetings with people from other schools. I think sharing my opinion is probably a good thing to learn and practice.*
Share why this project is important to you	*This project is important because _____.*
Close the letter with why you chose to wrote to this particular person	*Anyway, I thought I'd share all these with you because you always ask me about how school is going and if there's anything fun at school.*
Greetings, Your name	*Happy winter,* *Diane*

Group Reflections

10-minute small group activity: In small groups of two, we want you to share your letter with one another and write down similarities and differences on white board pieces of paper.

- Reflection questions for small group activity:
  - How did you describe this project in your letter? What activities did you write about?
  - What have you learned through this project?
  - How has this project been helpful to you?



For Your Information

This “write a letter” activity is inspired by an experiment called the Utility-Value Intervention that shows students learn more and are more motivated to learn math when they write a letter to others/themselves explaining why math is useful.

BREAK

Year 1 Dissemination Updates

Sharing our progress

We will spend this time letting the larger group know what we've worked on over the last two months.

Data takeaways

Together, we will refresh ourselves on the types of data we've collected and walk through the four major themes we've unearthed.

Dissemination Updates

October Recap

In our initial meeting, we narrowed down our target audiences and products:

- Audiences
  - Teachers and support staff
  - School administrators
  - Broader community
- Products
  - Professional development slide deck
  - Infographics of varying lengths

The November Recap

Here's the broad strokes of what happened:

- We decided we want to make sure students are considered as an audience for the infographic.
- We realized we didn't have the data we need to be truly comparative across schools.
- We did more digging to find what we want to share within these materials after Claire drafted an outline.

December Recap, So Far

Here's what we've been working on recently:

- We reviewed the work that had happened between meetings.
- We discussed the four main themes that popped out to us across our qualitative and quantitative work.
- We reviewed a one-page preview of our dissemination.
  - Heads up, you're about to do this too!

So...

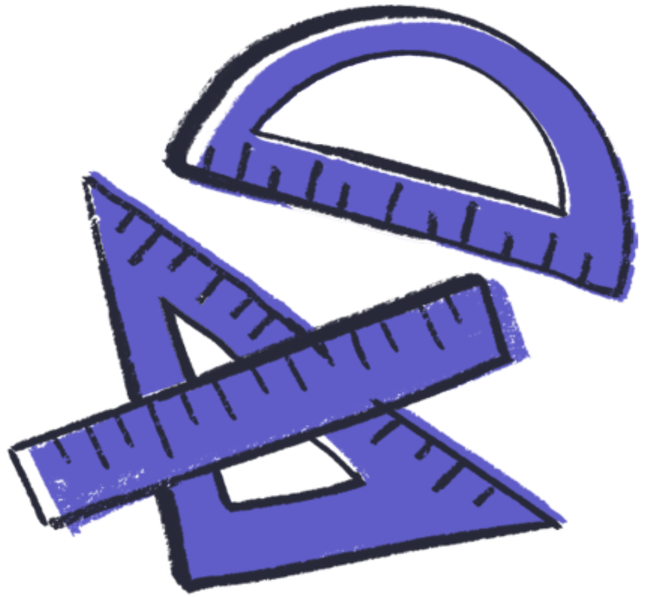
it’s felt a little like this.

Data Takeaways

The Data Analysis Recap

Our goal was to combine the qualitative and quantitative data into major themes for our products. Here's the Spring 2023 data we pulled from:

1. Math teacher interviews (n=8)
2. Student focus groups (n=9)
3. Student survey (n=2,000)



Student -Teacher Relationships

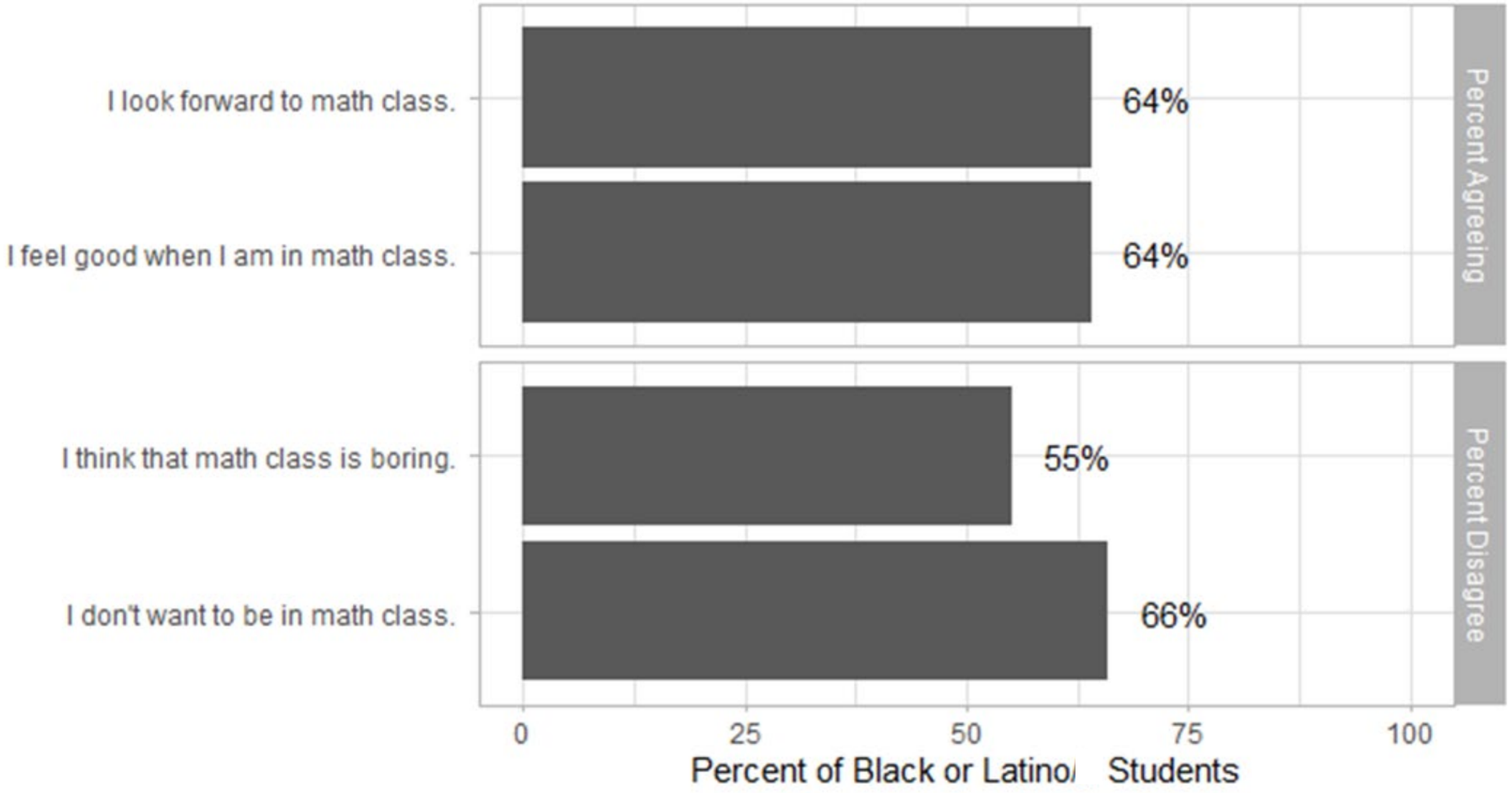
Definition: This theme refers to experiences and perceptions of interactions between teachers and students within the math classroom.

Qualitative Finding: This theme was mentioned 180 times (more than any other theme).

- “I just try my best. I try to support them. I try to be there for them as a human first.” - Meg, a middle school teacher

Quantitative Finding: We consider four questions from the survey to be most related to this topic - they are shown on the next slide in a graph.

Quantitative Data for Relationships



Note: We decided on 12/4 to present our findings like this

NOT like this!

Working With Friends or Peers

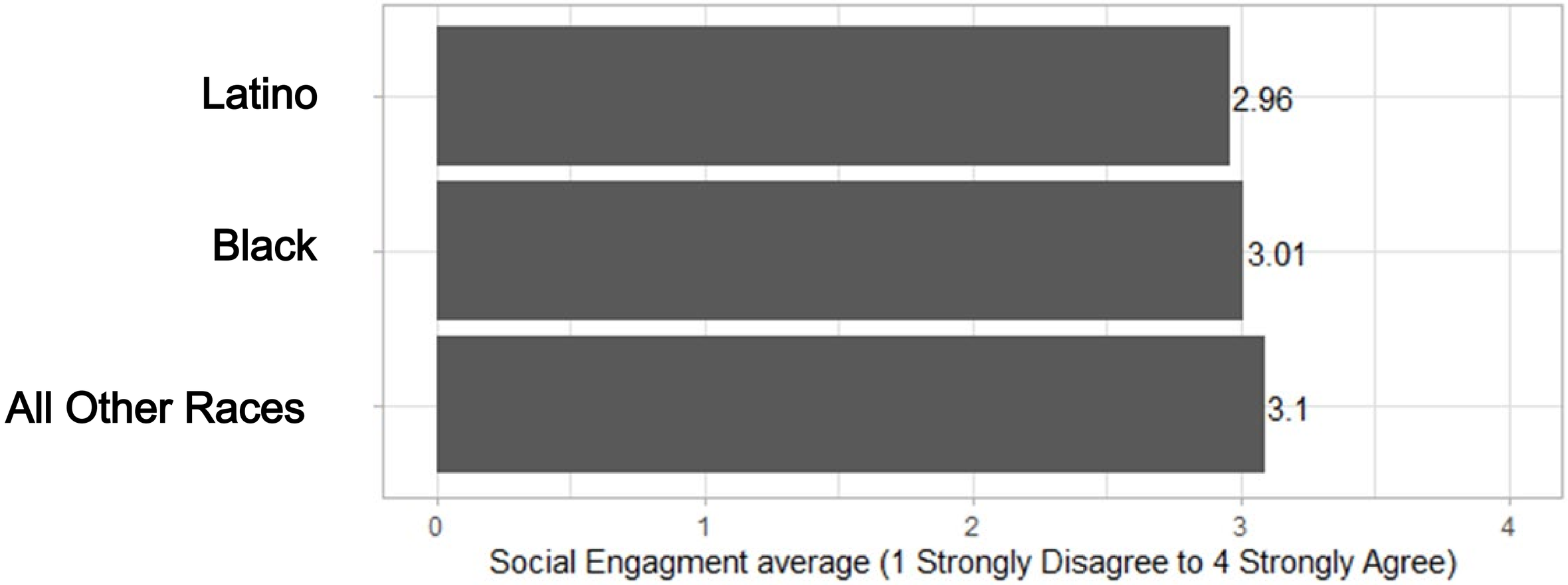
Defintion: Refers to students working with their peers (usually in a classroom context) or friends (either in or out of the classroom) on math.

Qualitative Finding: This theme was mentioned 110 times (tied for the second most mentioned theme).

- “I feel like we can help each other when we don't know–like, if one of us doesn't know a problem, but the other one does, you can help each other understand it or try to, like, learn how to do it together.” - London, a high school student who identifies as African American and female

Quantitative Finding: This is measured in the “social engagement” scale. There are two ways of showing this result: (1) individual questions or (2) a “scale score.” The next slide illustrates this in a graph.

Social Engagement Scale



Understanding Math

Definition: Refers to when students share that they understand or have mastered (or not) math lessons, problems, or tasks.

Qualitative Finding: This theme was mentioned 110 times (tied for the second most mentioned theme).

- “Last year, math, like, really clicked for me…I had, like, a really, really high A, like, really close to 100%. And I was, like, really engaged in it, not just, like, doing it but, like, almost, like, being excited to, like, finish the problem, you know, like—I know how this is going to be done. So I just want to do it 'cause, like, I know how to do it. So knowing how to do problems really well really, like, engages me personally because, like, then it's, like, a reason to, like, do it.” - Bob, a high school student who identifies as Hispanic/Latino and male

Understanding Math

Quantitative Finding: In the survey data, this was one of the items that students agreed with most strongly.

- 95% of Black or Latino students agreed that “I want to understand what we are learning in class.”
- 93% of Black or Latino students agreed that “I put effort into learning.”

Familial Support

Definition: Refers to the ways that family (for example, parents, primary caregivers, siblings, extended family) support (or not support) their student's math engagement.

Qualitative Finding: This theme was mentioned more than 103 times (the third most mentioned theme).

- "My dad actually–when I was in second grade, I was, like, failing math…He would, like, get these reports that I was getting below average. And then he would be like, 'Why are you getting below average? You know, we went over this. You do math at school, and I teach you math at home.' And so, in the summer, he made me, like, do, like, hardcore studying…I wasn't getting punished or anything, but he was teaching me how to do it." - Carmen, a middle school student who identifies as Mexican and female

Familial Support

Quantitative Finding: This was not measured in the Spring 2023 survey. This is a major priority for the 2024 survey!

Instigating Change

Instigating Change at BPS

10-minute small group activity: Using notes from the letter writing activity and the data just shared, we will discuss and write on poster board paper the answers to the following questions in small groups 10 minutes:

- How would you describe this project to your fellow math teachers and students?
- What are two of the most important things you have learned about Black and Latino student math engagement through this project?
- What are two actions Bloomington Public Schools should take to better support Black and Latino student math engagement?

Looking to the Future

- We will use your notes to shape how we communicate about this project in the products and the recommendations for change.

- Products will be previewed to receive feedback during January drop-in meetings.

Planning for Spring 2024 Data Collection

Review timeline of activities for Spring 2024

We will overview the data collection activities that will be happening in Spring 2024.

Plan for data collection in Spring 2024

We will begin planning for data collection in Spring 2024, starting with the surveys!

Data Collection in Spring 2024

Similar to Spring 2023, we have a **minimum of two major data collection events** that will be occurring in Spring 2024:

1. Administering the initial AM-ME survey to students and
2. Concluding focus groups with students.

The goal of these data collection events is to:

- Test the survey we created (conducting analysis to understand how items work together and capture engagement), and
- Further understand Black and Latino students' math engagement to further refine the survey and identify effective practices for teaching and learning.

Data Collection in Spring 2024

The current timeline for data collection is as follows:

- **February:** Administer the initial AM-ME survey to students
- **March:** Share findings with the AM-ME research group and plan for qualitative data collection.
- **April:** Collect qualitative data
- **May:** Share findings with AM-ME research group and make changes to the survey
- **June:** Prepare for Year 2 dissemination

Right now, our plan is that the AM-ME Research Group *will not* meet over Summer 2024.

Data Collection in Spring 2024

- Today, in middle and high school small groups, we are going to plan for the February dissemination of the survey.

- We will plan for qualitative data collection after we have the survey data, as this data will inform our choices.

- The central question for today is: **How will we recruit students to take the survey?**

Survey Administration

- The survey will happen between **February 5 -16**.
- The survey will be administered through Google Classroom.
- Each student will receive a **$10 gift card** after completing the survey (gift card emailed to their parent's email).
- In order for the survey to be within **10 minutes**, we'll have **at least 6** different *randomized* forms.
- Last year, survey recruitment happened during math class and schoolwide flyers.

Survey Administration

Using learnings from what you did last year, we will strategize **how we will recruit students to take the survey this year** in two small groups for 10 minutes. Notes will be taken on poster board paper.

- Strategizing questions:
  - What encourages you to take a survey?
  - What worked well last year to recruit students in your schools?
  - What could we do this year to recruit more students?

Closing

Next Meeting

January virtual drop -in meetings to provide feedback on the Year 1 dissemination products.

Feedback for Us

Let us know what you liked and what you hope is changed for the next meeting.

Dates on the Horizon

- **January**
  - Virtual drop-in meetings to provide feedback on Year 1 dissemination products, which week is better: January 22 or January 29?

- **February**
  - 02/05-02/16: AM-ME Survey Window

- **March**
  - 03/18/24: AM-ME Research Group Meeting

- **April**
  - Conducting qualitative data collection

Stay Connected

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Learn more about the Adapted Measure of Math Engagement at https://www.childtrends.org/project/adapted-measure-of-math-engagement.